State/EPA Workgroup on Work Prioritization

"Top 10 opportunities for greater efficiency or reduced burden without compromising public health"

May 2014

1. Monitoring

a. Operate an expanding air monitoring system and continue to get complete quality assured data.

In the past two years, the USEPA has issued rules that will require States to add new monitoring sites and monitors to their current Pb, SO2, NO2 and CO networks. Changes to the ozone and PM NAAQS are also on the horizon. USEPA has also changed the traditional scope of the NAAQS rules in their recent revisions by requiring special purpose monitoring such as source specific monitoring for Lead, changing siting criteria in the case of NO2 and CO and have changed compliance demonstration methodology in the case of SO2. New monitoring mandates must be accompanied by significant increases to our current funding and staffing levels if USEPA is to expect that collected data will remain fully quality assured and defensible.

Response: EPA's Office of Air Quality Planning and Standards (OAQPS) is committed to working closely with the individual states, NACAA, and EPA regional offices to review finalized and proposed monitoring revisions to identify opportunities to reduce burden while preserving key monitoring objectives, such as NAAQS compliance.

Next Steps: EPA reached out to the following organizations to discuss monitoring issues and related state concerns. We met with the following organizations to communicate the latest information about monitoring:

- LADCO (September 7, 2011)
- CENSARA (October 17, 2011)
- NESCAUM (October 19, 2011)
- NACAA Monitoring Steering Committee (October 25, 2011)
- MARAMA Monitoring Committee (November 30, 2011)
- WESTAR (January 11, 2012)
- MARAMA Air Directors (February 14, 2012)

Additionally, OAQPS briefed key EPA monitoring staff, first-line managers, and Regional Air Directors to ensure a complete understanding of revised monitoring requirements as well as recommendations for handling state requests for monitor discontinuation.

EPA expects that these discussions will be ongoing in future years as network investments (e.g., near-road monitoring, lead source monitors) are completed and potentially decreasing pollutant levels (e.g., PM10) allow targeted reductions in

monitoring burden.

b. Monitoring requirements should take into account state resources - research monitors should be funded under section 103 or special grants

In its new Pb, NO2 and CO regulations, USEPA has asked States to perform monitoring as a mechanism to research potential air issues. These research requirements such as the impact of lead emitted from aviation sources on airport properties and monitoring of concentrations of NO2 along roadsides expand the original intent of the NAAQS rules and increase the expectations of the ambient air monitoring network beyond the demonstration of compliance with NAAQS standards. This policy ignores the role that the Office of Research and Development has traditionally played, and if these monitoring efforts are to continue, they must be funded with 103 dollars that are commensurate with the effort and timelines involved. Funding through Section 105 grants requires state match dollars that in many cases are simply no longer available.

Response: EPA will continue to advocate for the use of Section 103 funds for the development of new monitoring networks and other unique monitoring approaches. The recent airport lead (Pb) and NO2 near-road work has been funded 100% with Section 103 grants, recognizing that such work is more atypical than the other types of monitoring programs usually funded under Section 105.

The monitoring programs for lead and near-road NO2 are regulatory, not research, requirements. The network designs promulgated as part of the respective NAAQS revisions directly address the intent of the NAAQS revisions and afford an appropriate path to implement each NAAQS. These network designs and requirements support the NAAQS in the same fundamental manner that other state monitoring requirements operate.

EPA promulgated a rule that implements the near-road NO2 network via a phased approach. The new network completion deadlines begin January 1, 2014 and are staggered through 2017, which are intended to more closely reflect the projected level of STAG funding. The NO_2 monitoring rule that finalized the phased implementation approach was signed on March 7, 2013 and published on March 14, 2013. The final rule can be found at http://www.epa.gov/oaqps001/nitrogenoxides/actions.html.

To support the near-road NO2 network, EPA has provided section 103 funding for Phase I of the network (i.e., an initial set of 52 sites – one each in cities > 1M beginning January 1, 2014) and a Technical Assistance Document (see http://www.epa.gov/ttnamti1/nearroad.html). EPA is also currently working with its Regional Offices to provide funding for Phase II of the network (i.e., second monitoring site in cities > 2.5M beginning January 1, 2015).

May 2014

Fifty-two percent (52%) of the Phase II grants have been awarded. Thirty-nine percent (39%) are being processed and we expect them be awarded by June 1st.

EPA is waiting on revised applications for the remainder of the awards.

c. **Rationalize and streamline requirements to reduce low priority existing monitoring (e.g. CO in many maintenance areas) and add the highest priority new monitoring.**

Many low priority monitoring efforts are linked to regulatory requirements that will not allow States to curtail them. These requirements include CO monitoring for maintenance plans, PAMS monitoring at non-attainment areas no longer designated as serious and PM10 monitoring at areas that have demonstrated they are well below standards. The USEPA must recognize the net impact that such requirements have upon State programs, work to eliminate those requirements that are antiquated, accept monitoring network reductions based on historic data demonstrating compliance and prioritize those that remain against new mandates.

Response: EPA agrees that this is an area where there is great potential for states to optimize their existing monitoring capacity, allowing them to manage new requirements at the same or lower costs. Even considering the revised monitoring requirements for initiatives such as near-road NO2, states currently operate hundreds of monitors for pollutants such as SO2, NO2, CO, and PM10 that could potentially be terminated. Since monitoring requirements were simplified and decreased in the 2006 monitoring revisions, EPA has been working with states and regional offices to review their networks and identify lower value monitors for termination. EPA recognizes that technical, policy, and political considerations can impact the ability to discontinue monitors. Given this reality, EPA and states need to work together to weigh resources in light of revised monitoring requirements, and make appropriate judgments to divest of monitoring assets viewed as low-value.

In the specific example of CO monitoring, EPA Region 1 worked with its states and demonstrated that some monitors linked with maintenance plans can be terminated. A presentation on this issue was provided to the NACAA Monitoring Steering Committee in May 2011. We believe this approach has merit and can be applied in other regions. With regard to PM10, a quick review of the national network demonstrates that some states have almost completely divested of PM10 monitoring while other states continue to maintain larger networks in areas where PM10 concentrations are unlikely to be of concern. EPA would like to work closely with states to review existing networks and bring some equality to this process and reduce unnecessary monitoring where feasible.

EPA is currently leading a reassessment of the entire PAMS program; a meeting with the CASAC Ambient Monitoring and Methods Subcommittee on this topic was held in May, 2011. EPA's workgroup on PAMS includes regional and state/local representatives. EPA will work with states on this issue as well as the potential regulatory and/or statutory options for relieving former ozone nonattainment areas of PAMS obligations, where appropriate.

Through briefings at meetings of multi-jurisdictional organizations, EPA will encourage state and local agencies to work with the regional offices to implement the recommendations from the most recent network assessments completed in 2010 so that scarce resources can be made available for the highest priority problems affecting our large and small communities.

Next Steps: EPA regions continue to review Annual Monitoring Network Plan submissions on an annual basis.

2. Mobile Source Issues

a. Tier 3 Vehicle & Fuel Standards. EPA should propose and finalize the Tier 3 Vehicle and Fuels Standards. In doing so, the Agency should provide a clear path forward to state and local air agencies with respect to boutique fuels including a streamlined SIP approval process.

Response: EPA plans to propose a Tier 3 Fuels Standard this fall. EPA is committed to working with states and local air agencies on a streamlined SIP approval process. EPA would recommend putting this agenda item on the SIP reform workgroup's list of areas to focus on as the Tier 3 rule is finalized.

Next Steps: EPA will propose a Tier 3 Fuels Standard in the fall of 2011. EPA's expects to finalize the rule in late 2012. This workgroup will refer the streamlined SIP approval process to the SIP reform workgroup.

April 2013
The Tier 3 Vehicle and Fuel Standard proposal was signed on March 29. EPA will hold/has held two public hearings: April 24 in Philadelphia and April 29 in Chicago. The comment period for the proposal will end on June 13.

July 2013
The comment period has closed and the comments received are being evaluated.

November 2013
EPA received over 200,000 comments during the public comment period, which closed in July. EPA is currently working to finalize the Tier 3 rule as expeditiously as possible. EPA currently intends to issue the final rule in February 2014. EPA will make a decision with regard to the start date of the program in the final rule, but the agency's adjusted schedule does not preclude a 2017 start date for the program, as proposed.

February 2014
OMB began review of the final Tier 3 rulemaking on January 24, 2014. EPA still intends to issue the final rule before the end of February 2014.

March 2014
On March 3, EPA announced the final Tier 3 vehicle and engine standards. The Tier 3 program is part of a comprehensive approach to reducing the impacts of

motor vehicles on air quality and public health. The program considers the vehicle and its fuel as an integrated system, setting new vehicle emissions standards and lowering the sulfur content of gasoline beginning in 2017. The vehicle standards will reduce both tailpipe and evaporative emissions from passenger cars, light-duty trucks, medium-duty passenger vehicles, and some heavy-duty vehicles. The gasoline sulfur standard will enable more stringent vehicle emissions standards and will make emissions control systems more effective.

April 2014
The Tier 3 final rule published in the Federal Register on April 28 and will become effective on June 27, 2014.

b. Heavy duty diesels: Support Clean Construction programs that expand heavy-duty (HD) diesel retrofit, replacement and repowering programs, and accelerate HD fleet turnover (including funding such as CMAQ and DERA).

Response: EPA, with its partners, has established a number of initiatives to reduce diesel emissions through the National Clean Diesel Campaign and the Regional Diesel Collaboratives. While the level of federal grant funding available will be decided by Congress, there are programs that EPA, state and local agencies can work on to continue to reduce diesel emissions, especially in urban areas. EPA has tools available to help state agencies and local communities and will continue to make those tools available through the National Campaign and regional diesel collaboratives. These include clean construction specifications for equipment, rebate and financing programs through awarded grants, state and local tax incentives, idling reduction incentives and technical assistance.

Next Steps: Through the National Clean Diesel Campaign, and the regional collaboratives, EPA will continue to promote clean diesel programs, and to work with state, local and private partners to find new strategies to reduce emissions from the legacy fleet.

March 2013: EPA launched a pilot program to give rebates directly to private and public fleets in November, 2012, as authorized by Congress in January, 2011. The first target fleet for the $2 million DERA Rebate program is older school buses and the rebates will incentivize the scrappage of older diesel buses within a specific model year band and the purchase of model year 2012 buses. Over 1000 applicant fleets applied for the rebate for up to 5 buses. A random selection process was conducted for eligible fleets and 30 fleets have been selected to move forward. The winners and wait list and program guide are here: http://www.epa.gov/cleandiesel/dera-rebate.htm Fleets must order their new buses within 90 days and take delivery within six months and scrap their old buses. EPA's DERA Program will be evaluating the efficacy and cost-effectiveness of this new tool for encouraging early fleet turnover and controlling pollution through aftermarket technologies.

April 2013: EPA released the DERA Second Report to Congress on April 29. The Diesel Emissions Reduction Act (DERA) legislation contains an evaluation and reporting requirement that EPA must submit a Report to Congress outlining the results of the program every two years. The report documents that EPA awarded nearly $470 million, using FY 08, FY 09, FY 10 and ARRA appropriations, to more than 350 grantees in the 50 states and the District of Columbia to retrofit, replace, or repower more than 50,000 vehicles and pieces of equipment.

In addition, EPA will release a Request for Proposals (RFP) for FY2013 DERA funds on April 30, 2013. In the RFP, EPA will announce the availability of $9 million in grant funding to establish clean diesel projects aimed at reducing emissions from the nation's existing fleet of diesel engines. EPA anticipates awarding between 10 and 20 non-tribal assistance agreements and up to four tribal assistance agreements through the DERA program. Projects may include school buses, transit buses, heavy-duty diesel trucks, marine engines, locomotives, and other diesel engines. Applicants may submit proposals for 45 days after the RFP is publicly posted. The evaluation and selection process will be completed by August and EPA anticipates that awards will be made in September and October of 2013.

November 2013: The Request for Proposals (RFP) for FY2013 DERA funds closed in early June and EPA has finished evaluating proposals and will soon be announcing awards. EPA received 70 applications requesting about $40 million for an available $9 million of funding. EPA will award 24 non-tribal assistance agreements and two tribal assistance agreements. Selected projects include those that focus on children's health, clean up construction equipment, and reduce emissions in areas of poor air quality, such as near ports or railyards. EPA is developing another sector-specific RFP focusing on ports, for approximately $4 million of funding.

In early 2013, EPA began working with selected school districts and fleet owners who had been randomly chosen to receive a rebate for school bus replacements. Over nine months, the selectees replaced and scrapped older buses and ordered new ones. This fall, twenty-eight school districts and fleet owners will receive their rebates for replacing nearly eighty buses. EPA is developing options for a second rebate pilot focusing on nonroad equipment.

February 2014

In November 2013, EPA launched a rebate program with $2 million in available funding for engine replacements and Diesel Particulate Filter (DPF) installations on nonroad construction equipment. Public and private construction fleet owners submitted applications until the end of January and EPA anticipates funding eligible applications in February.

EPA released a Request for Proposals (RFP) for FY2013 DERA funds on December 11, 2013. This RFP announced $4 million in available funding to establish clean diesel projects to improve air quality at ports. EPA anticipates

awarding between two and five assistance agreements to public port authorities to install retrofit or idle reduction technologies or replace or repower engines on drayage trucks, marine vessels, locomotives, and non-road vehicles used for cargo handling. EPA will accept proposals until February 13, 2014, and anticipates announcing the awards in spring 2014.

April 2014: EPA released a Request for Proposals (RFP) for FY2013 DERA funds on December 11, 2013. This RFP announced $4 million in available funding to establish clean diesel projects to improve air quality at ports. In April, 2014, EPA awarded six assistance agreements to public port authorities to install retrofit or idle reduction technologies or replace or repower engines on drayage trucks, marine vessels, locomotives, and non-road vehicles used for cargo handling. Information is located here: http://www.epa.gov/otaq/ports/ports-dera-rfp.htm

May 2014: EPA released a Request for Proposals (RFP) for FY2014 DERA funds on May 1, 2014. In the RFP, EPA announced the availability of $9 million in grant funding to establish clean diesel projects aimed at reducing emissions from the nation's existing fleet of diesel engines. EPA anticipates awarding between 10 and 20 non-tribal assistance agreements and up to four tribal assistance agreements through the DERA program. Projects may include school buses, transit buses, heavy-duty diesel trucks, marine engines, locomotives, and other diesel engines. Applicants may submit proposals for 45 days after the RFP is publicly posted. The evaluation and selection process will be completed by August and EPA anticipates that awards will be made in September and October of 2014.

In addition, EPA anticipates releasing a Tribal-only RFP for clean diesel projects for a total of $1 million. It will open on or about May 12, 2014 and close in late July, 2014. The Agency anticipates awards 2-5 tribal cooperative agreements that will focus on reducing diesel exhaust from diesel vehicles and equipment and vessels on tribal lands/waters.

c. Stage 2 Vapor Recovery: Ensure that EPA moves ahead with the Widespread Use Determination rulemaking, and provides clear guidance for states that want to keep or sunset their programs.

Response: On May 9, 2012 (77 FR 2872), EPA issued a final rule which determined that on-board refueling vapor recovery (OVRV) systems would be in widespread use as of the publication date of the rule in the Federal Register (i.e., May 16, 2012). States now have a choice on whether to remove any existing Stage II vapor recovery requirements as a result of the rule. On August 7, 2012, EPA issued guidance for states on methods and tools for removing Stage II vapor recovery programs from their SIPs and for assessing comparable measures. The guidance document provides methodologies to demonstrate compliance with

specific CAA provisions in sections 110(l) and 193 governing EPA approval of SIP revisions. The document also includes new technical and policy guidance, updating that previously issued by EPA in 1995, for areas of the Ozone Transport Region (OTR) on implementing measures under CAA section 184(b)(2) that achieve emissions reductions comparable to those achieved by Stage II controls. Prior to issuing the guidance, EPA distributed a draft guidance document to a number of affected states and air management agencies for review and comment, and addressed their comments in the final document.

3. Training and Outreach

a. The growing complexity of air quality management increases the need for training, outreach and education; however, budget pressures often lead these areas vulnerable to reductions. Look for ways to provide training in the most cost effective manner, including webinars, websites with concise public information materials, train the trainer sessions, etc. Continue to work with RPOs and to leverage existing training programs, such as those run being discussed by the NACAA Training Committee and the EPA Outreach division.

Response: EPA shares the concern raised by states on this issue.

Next Steps: EPA is working with the NACAA Training Committee and the MJOs (MARAMA, WESTAR, Metro4/SESARM, LADCO, CENSARA and NESCAUM) to (1) implement a learning management system to improve the administration and delivery of classroom and web-based training, (2) update self-instructional courses into a web-based format, and (3) develop curricula to facilitate the training of state and local air pollution agency staff on both introductory and more advanced SIP development. In addition, we are expanding our use of training webinars, and expect to continue with web-based videos, website development, and other available means to support training and outreach for state and local agencies. We intend to continue to record and post all of our training on EPA's Air Pollution Training Institute website (http://www.epa.gov/apti/) as on-going training tools.

The new learning management system, APTI-Learn (www.apti-learn.net) went live November 1, 2012, and states and multi-jurisdictional organizations (MJOs) are using it for scheduling and managing training courses. The overall response to the system has been positive. Minor revisions to improve convenience and functionality of the system are ongoing. Initial training sessions for states and multi-jurisdictional organizations with administrative responsibilities for APTI-Learn have been completed. Outreach to state and local agencies to promote APTI-Learn continues on an as-needed basis.

February 2013

EPA is reviewing revisions to self-instructional and classroom courses, with the objective of making the courses available for state and local air pollution agency staff training. EPA has also purchased software for converting self-instructional

course content into Sharable Content Object Reference Model (SCORM)-compliant courseware which can be installed on the Learning Management System (LMS). SCORM is a set of technical standards developed for eLearning software products that determines how online learning content and LMSs communicate with each other.

March 2013
EPA continues to make minor adjustments to APTI-Learn (the new learning management system) to make the system more user-friendly for learners and administrators. Use of APTI-Learn by state and local agency staff continues to increase. EPA is experiencing technical challenges in making training videos accessible on APTI-Learn, and is researching ways to resolve these challenges. In the meantime, the videos are still available for viewing on the original APTI website.

August 2013
EPA is working to make training videos accessible on the APTI-Learn website. More detailed modifications to the website to facilitate learning and administration of training are being discussed with multijurisdictional organizations.

November 2013
EPA and the multijurisdictional organizations are finalizing a list of APTI-Learn website improvements that will facilitate administration and delivery of training. These will be included in an upcoming contract modification. Development of several electronic-learning courses is ongoing, along with work to transfer training videos to the APTI-Learn website.

February 2014
A contract modification was issued to implement several improvements to the APTI-Learn website that will facilitate administration and delivery of training. A solution to technical issues preventing the use of training videos on APTI-Learn was identified, and should be implemented within the next month. Work continues on revisions to classroom courses, and self-instructional courses which are being converted to an e-learning format.

March 2014
The contractor began making enhancements to improve the appearance and user experience of the APTI-Learn website as well as facilitate training administration and delivery. Training videos are being formatted for transfer to the APTI-Learn website. Options and estimates for "quick" conversion of several self-instructional course content for e-learning are being developed. Revisions to other classroom and self-instructional courses are ongoing.

b. Coordinate among EPA, states and locals when releasing information to the public so that all parties can be prepared to respond to questions and concerns.

Response: **S**haring information with our state and local partners in a timely way is of critical importance to EPA. This remains challenging in many cases, given the significant timeframe constraints upon which some of our proposals and final regulations are prepared. A number of our actions are on very tight court-ordered deadlines and often undergo inter-agency review right up to the court-ordered deadline. In these cases it is not possible to provide advanced notice about the details of a rule.

Next Steps: We are interested in ways to improve our interactions with state and local governments, and would welcome the opportunity to meet with NACAA and ECOS to discuss ways to improve the current coordination approach.
The EPA and NACAA partnered to redesign the Airshare.info website. This website is a portal for sharing air quality program information and resources. It provides the air quality community a place to collaborate and leverage ideas to overcome air quality challenges. The site administrator conducted a webinar walk through of the site with NACAA's Public Education Subcommittee on Thursday, December 13, 2012 and with the National Ozone Advance Workgroup on Thursday, January 10, 2013.

4. NSR/PSD Implementation

a. Develop consistent and clear national implementation rules and guidance for NSR/PSD permitting to protect air quality, streamline implementation and ensure consistency among regions. In conjunction with implementation guidance, EPA should develop modeling requirements and guidance that are clear, concise, and that go through public notice and comment, perhaps through a comprehensive update to 40 CFR 51 Appendix W to put the necessary information in one place, eliminating the likelihood of conflicts between different guidance documents.

Response: We agree, and to this end we issued several guidance documents on policy and modeling aspects of assessing source impacts on the 1-hour NO_2 and SO_2 NAAQS, and also on modeling requirements for the $PM_{2.5}$ NAAQS. Also, we have agreed to undertake a series of regulatory reconsiderations aimed at improving key areas of the program.

Next Steps: EPA intends to obtain input on these issues through the NACAA permitting committee, and the reconsiderations we pursue will go through notice and comment to seek additional formal input.

With respect to 40 CFR 51 Appendix W, we regularly evaluate the need for amendments to the modeling framework, including the issuance of periodic guidance to provide clarification of Appendix W guidelines.

EPA will continue to coordinate with state and local agencies, and interested stakeholders, through public meetings (e.g., 10th Modeling Conference held in March 2012), and AWMA Specialty Conference held in March 2013), meetings with state and local agencies (e.g., 2012 Regional, State, and Local Modelers'

Workshop held in May 2012, and 2013 Regional, State, and Local Modelers' Workshop to be held in April 2013), and periodic calls with its Technical Modeling Workgroup.

March 2013
The Draft Guidance for PM 2.5 Permit Modeling was released on March 4. The comment period will close on May 31, 2013.

April 2013
The comment period for the Draft Guidance for PM 2.5 Permit Modeling (released on March 4) has been extended from April 17 to May 31, 2013.

August 2013
We are currently reviewing comments on the Draft Guidance for PM2.5 Permit Modeling and anticipate issuing final guidance later this year.

May 2014
We intend to issue the revised Guidance for PM2.5 Permit Modeling in May.

b. Provide reasonable grandfathering or transition provisions to allow for smooth transitions to new requirements in the PSD permitting program whenever a new NAAQS is established.

Response: We agree it is extremely important to provide timely guidance and transitional assistance to states and local governments when new NAAQS are established in order to ensure a smooth permitting transition.

Next Steps: We will continue to engage with states and other stakeholders to evaluate the need for such assistance prior to setting new standards. For upcoming NAAQS regulations we intend to clarify transitional requirements in the NAAQS rule, and supplement, as necessary, the PSD/NSR requirements in the NAAQS implementation rules.

The final 2012 PM NAAQS rule included a grandfather provision for certain PSD permit applications for sources of $PM_{2.5}$. In accordance with the provision, grandfathered sources would be exempt from any new requirements associated with the revised NAAQS. The rule provides that a permit application will be grandfathered if either:

- The permitting agency has deemed the application complete on or before December 14, 2012 (the date of signing of the rule); or
- The public notice for a draft permit or preliminary determination has been published prior to the date the revised PM standards become effective (60 days after publication in the Federal Register).

EPA did not take final action on a surrogate approach for conducting PSD air quality impact analyses associated with the proposed distinct secondary $PM_{2.5}$ visibility index standard. The need for such approach was negated by the fact that the final rule did not adopt the distinct secondary $PM_{2.5}$ visibility index standard.

c. Recognize primacy of SIP-approved states in issuing PSD permits.

Response: EPA has long observed a respect for state primacy in permitting. States and their sources have extensive experience working together in the SIP-approved PSD programs to successfully process permit applications and issue permits that comply with the requirements of the Clean Air Act and relevant EPA regulations. Where states are operating SIP-approved programs, EPA sees its main role as providing adequate oversight and guidance to ensure a level playing field as states make the various required permitting decisions. The Clean Air Act requires EPA to step in to take action in individual cases if the PSD permit does not conform to the SIP requirements. However, historically, this kind of situation has arisen very rarely.

5. SIP Reform

a. Continue the SIP reform process through the NACAA/ECOS/EPA workgroup, which will report to this group on issues discussed and progress made.

Response: EPA is committed to continuing its discussions with the NACAA/ECOS/EPA SIP Reform workgroup and additional internal efforts are being pursued through EPA's lead region for SIP reform. The representatives from these workgroups will continue to keep the State/EPA workgroup on work prioritization informed about issues discussed and progress made such as was done after the release of the April 2011 memo from Janet McCabe. The April 2011 memo revised a number of procedural requirements in the SIP Process to reduce burden and save money, including eliminating the need to hold public hearings where no members of the public are in attendance, expensive advertisements in newspapers, and generation and shipment of multiple hard copies of documents.

Next Steps: The state/EPA workgroup met November 7, 2012, and agreed to staff two subgroups to develop work plans for implementing agreed upon tools and processes needed for successful implementation of the PM2.5 NAAQS. The Technical Issues Subgroup will develop workplans for: 1) base year emissions inventories and inventory projections and 2) modeling guidance for attainment demonstrations. The Process Issues Subgroup will develop workplans for: 1) model SIP templates, 2) SIP checklists and templates to reduce process burdens with SIP development/submittals, 3) standardized protocols for EPA review of draft SIPs, 4) electronic submission of SIPs, and 5) Federal Register examples/templates.

The EPA/NACAA/ECOS SIP Reform Work Group established parameters for sub-group composition and communication with the Work Group. The two sub-groups were staffed and held their first kick-off meetings in mid-December 2012. They expect to set time-frames for deliverables by March.

February 2013

On January 23, EPA shared an update of actions taken on the list of 13 with the SIP Reform WG. EPA suggested some items could be listed as completed or on hold. We are awaiting ECOS/NACAA response on this to see if there is agreement that some of the items are essentially completed and others are on hold. The two subgroups have convened to address SIP processing and technical issues raised in the Full Cycle Analysis Project (FCAP) process. Internally, OAQPS and Region 7 are redrafting the Strategic Plan for managing SIP Reform and preparing it for senior management review.

April 2013

Expected products and workplans from the Full Cycle Analysis Project (FCAP) subgroup was discussed at the 3/20 workgroup meeting. The next workgroup meeting on 5/1 will focus on work being done to reduce the SIP backlog. EPA recently shared the status of pending guidance documents for the states.

May 2013

EPA, ECOS and NACAA discussed the use of best practices and other approaches to address the SIP backlog and prevent future SIPs from becoming backlogged. The workgroup is discussing the development of a joint strategy or strategic planning document to guide future actions to address backlogged SIPs. The next work group call is scheduled for June 19th.

August 2013

The last call with the NACAA/ECOS SIP Reform work group was held July 17th. In advance of the call EPA provided an example report that included certain fields from the regional AirTrax SIP processing tracking systems and a draft SIP Backlog Reduction Plan. On the call, the states provided a high level summary of recommendations to improve the data that EPA provided in order to help inform how to address the SIP backlog. Specifically, the states felts that the information was very useful, and in terms of providing the data needed for assessing and resolving the backlog, it was a good first step.

NACAA and ECOS requested a few additional pieces of information which EPA provided to the work group. NACAA and ECOS indicated that they will meet separately to make recommendations to EPA (planned for August 7). NACAA and ECOS will send feedback to EPA. The NACAA/EPA/ECOS workgroup will reconvene in August and EPA will indicate what recommendations can be acted upon.

The SIP Reform workgroup was provided a report out and recommendations from two sub-groups on improving SIP processing and providing timely modeling and monitoring guidance. The workgroup has been requested to provide feedback to the sub-groups on their findings and recommendations.

November 2013

The SIP backlog and data sharing was discussed at the EPA/NACAA ECOS SIP Reform WG (SRWG) call on September 18. EPA shared a flowchart of the SIP process. States continue to request more transparency and want EPA to expand the steps in the completeness review. Becky Weber, EPA Region 7, shared

Region7's 4-year SIP workload management plan to the September 26 Regional Air Division Directors meeting and a summary of the discussions of the SRWG call. At the next SRWG meeting, the air agencies will provide feedback to the workgroup on reports and recommendations from two sub-groups on improving SIP processing and providing timely modeling and monitoring guidance.

February 2014

Over the past few years, the EPA/NACAA/ECOS SIP Reform Work Group has made significant progress and strides to address SIP reform related concerns. This collaboration has been productive in providing both EPA and air agencies a much better understanding of the challenges we collectively face when implementing the NAAQS and steps we can each take to meet those challenges.

Our collaboration identified actions EPA and air agencies can take to:

- Develop rules and guidance schedules to optimize engagement opportunities with air agencies and timing to enable air agencies to plan and develop SIPs.
- Improve communication and transparency related to SIP processing and reducing the SIP backlog.
- Develop tools and best practices to enable more efficient and effective SIP development and processing.
- Develop a strategy and planning process between EPA Regional Offices and air agencies to mutually identify priority SIPs and focus efforts onto those backlogged SIPs.

Representatives from EPA, NACAA and ECOS are very close to an agreement on mutual commitments and best practices to eliminate the current SIP backlog and prevent the backlog from reoccurring. We are pleased to have accomplished so much and are ready to begin implementing the practices, tools and strategies we've identified to improve the way we work together and will periodically check-in with you to provide updates about our progress.

March 2014

In a letter dated February 5, 2014, representatives from EPA, NACAA and ECOS conveyed an agreement to Janet McCabe on mutual commitments and best practices to eliminate the current SIP backlog and prevent the backlog from reoccurring. In response, Janet McCabe sent the representatives from NACAA and ECOS a letter thanking them for their efforts and said "I endorse and am very supportive of the commitments and best practices developed by the workgroup. I look forward to working together with you and our other partners at the state and local levels to begin implementing the practices, tools and strategies captured in this document."

May 2014

As part of the February 5, 2014 agreement and mutual commitments between representatives from EPA, NACAA and ECOS, EPA regions and their states will develop 4-year plans to eliminate the current SIP backlog. EPA regions and states have been working on these plans which are expected to be completed this month.

b. Streamline the NAAQS redesignation process.

Response: EPA shares state and local governments' interest in working together to streamline the development and review of state implementation plans (SIPs), including the maintenance plans required for redesignation.

Next Steps: Streamlining of the NAAQS redesignation process is one of the issues being addressed in FCAP process described in the response to item 5a.

6. Ozone Implementation

a. Look for opportunities to streamline and simplify the requirements for implementing the new ozone NAAQS, including assessing opportunities to use Subpart 1, since it provides more flexibility and avoids some mandatory measures that are no longer effective.

Response: We share your interest in exploring ways to streamline and simplify implementation policies, and have met many times with state and local agencies through NACAA to obtain early input. In looking to streamline and simplify implementation, EPA will continue to consider all the available options that are allowed by the statute. A proposed SIP Requirements Rule for the 2008 ozone NAAQS has been prepared which addresses the complete set of Clean Air Act requirements while maintaining flexibility and minimizing burden.

February 2013
The proposed SIP Requirements Rule package is awaiting OMB review.

April 2013
The SIP Requirements Rule proposal should go to the Administrator for signature within the next few weeks.

May 2013
The SIP Requirements Rule proposal was signed on May 29th. The proposed rule and fact sheet can be found at http://www.epa.gov/airquality/ozonepollution/implement.html.

August 2013
A public hearing on the proposed rule was held on June 25. The public comment period closed on August 5.

November 2013
The public comment period was extended by 30 days and concluded on September 4th. EPA is currently reviewing and responding to the comments that were received during the comment period.

February 2014

We anticipate the SIP Requirements Rule to be finalized around October 2014. As proposed, the 1997 ozone NAAQS remains in place until publication of the SIP Requirements Rule in the *Federal Register*. EPA will work with states to address any issues that arise as a result of two ozone NAAQS being in place. The 1997 ozone NAAQS has been revoked for purposes of transportation conformity (pending outcome of a court case).

March 2014
We continue to anticipate the SIP Requirements Rule will be finalized around October 2014.

b. Look at Transport Rule 2 in a more expansive manner – include all large stationary sources (not just power plants), including those in the West.

Response: We are currently assessing all of our approaches for moving forward on transport in light of the August 2012 Court decision on EPA's Cross-State Air Pollution Rule. We also recognize in assessing our options that other source categories, besides power plants, are contributing to transported ozone, and there may be a need to address transport for regions in the West.

February 2013
EPA intends to move forward to implement the interstate transport requirements of the Clean Air Act in accordance with the court's decision, and early on engage with states in this effort, through conference calls and face-to-face meetings, as appropriate. On February 22, we held a call with states to announce our plans to work with states in the coming months on a path forward to address interstate transport.

April 2013
On April 8 and 17, we held two face-to-face meetings with states (one in RTP, NC, and one in Denver) to obtain input on key technical and policy questions regarding our shared responsibility under the Clean Air Act to address interstate transport of air pollution. Additional discussions with states are planned, including a session at the May 2013 NACAA meeting.

May 2013
We participated in an additional discussion at the May NACAA meeting to obtain more in depth input on transport issues.

August 2013
On June 24, the Supreme Court granted EPA's petition to review the D.C. Circuit Court of Appeals which vacated the Cross-State Air Pollution Rule. While we continue to pursue the Supreme Court appeal, EPA will also continue moving forward with states to address interstate transport. On July 25, we briefed states on EPA's planned approach on transport with a focus on the eastern half of the U.S. and the 2008 ozone standard.

November 2013

EPA intends to issue the proposed rule by the summer of 2014. The extensive engagement EPA has had with states on policy and technical aspects of this effort has been very productive and helpful. EPA is working on some of the technical details that will support the proposed rule, including base case emission inventory and air quality modeling. EPA is preparing to publicly release the emission inventory portion of the 2011 modeling platform for public review.

February 2014
EPA intends to issue a proposed rule by the summer of 2014. EPA continues to work on the technical details that will support the proposed rule, including base case emission inventory and air quality modeling. The 2011 emission modeling platform was released in November 2013 for public comment. The comment period closes on March 31, 2014. The 2018 base year emission modeling platform was released on January 14, 2014 for public comment. The public comment period closes on June 30, 2014.

March 2014
We continue to move towards a goal of issuing a proposed rule by the summer of 2014.

May 2014
On April 29, 2014, the Supreme Court reversed the DC Circuit opinion and remanded it back to the appeals court for further proceedings. The decision can be accessed at http://www.supremecourt.gov/opinions/13pdf/12-1182_bqm1.pdf.

c. Adopt strong national VOC and NOx emission standards for source categories that significantly affect attainment and maintenance of the NAAQS, including: electric generating units, boilers, cement kilns, Tier 3 vehicle and fuel standards, locomotive engines, ocean going marine engines, and aircraft. Focus on controls that achieve the greatest NOx and VOC reductions, taking into consideration geographic variations in the country which may affect whether or not certain anthropogenic VOC reductions are truly effective control measures.

Response: EPA is moving ahead to adopt strong VOC and NOx emission standards for the stationary source and vehicle and fuel source categories. We are very aware of the geographic considerations associated with the effectiveness of NOx and VOC controls, and intend to continue to pursue flexible approaches to address this issue, to the extent allowed by statute, as we move ahead with the ozone implementation program.

7. SO_2 Implementation

Look for opportunities to streamline the requirements for implementation of the SO_2 NAAQS. Look for cost effective strategies to address the largest sources of SO_2 that are most likely to impact the most people. Explore the potential for

synergies between SO_2 implementation and the EGU and Boiler MACTs. EPA should consider including alternative emission limits that meets MACT and can be used in SO_2 modeling.

Response:
On April 12, 2012, EPA sent letters to state commissioners outlining our next steps for designations and expectations for the June 2013 infrastructure SIP Submittals. We also announced that we were planning stakeholder outreach meetings to further discuss our implementation approach for the 1-hour SO2 standard.

On May 30, 2012 through June 1, 2012, EPA conducted stakeholder outreach meetings with environmental, state and local governments, and industry groups to obtain additional input on issues related to the implementation of the 1-hour SO2 NAAQS. The comments/feedback from those meetings is posted to the SO2 implementation website at http://www.epa.gov/airquality/sulfurdioxide/implement.html. EPA also issued a White Paper prior to the stakeholder outreach meetings, which consisted of options for implementing the 1-hr SO2 NAAQS and provided a comment period that ended on June 29, 2012.

On July 27, 2012, EPA published a Federal Register notice extending the deadline for area designations for up to one year (i.e., by June 2013). In that notice, EPA noted that it intends to make its best efforts to promulgate final designations for areas with monitored violations by the end of CY2012, subject to resolving issues related to nonattainment boundaries.

February 2013
In early February, EPA Regional Administrators (RAs) sent letters to governors informing them of the Agency's intended nonattainment designations for areas with existing monitored violations. States have 120 days to work with EPA and provide additional information before the Administrator makes final decisions for these areas in early June 2013. Also, the letters referenced information on how EPA intends to implement the standard for the rest of the country, including plans to establish future initial designations for these other areas. Specifically, that information identified which sources and areas would be addressed, how air quality would be characterized for those sources and areas, and when key steps would be taken in the overall process. On February 13, we held a webinar for state and local agencies to describe these plans and answer clarifying questions.

April 2013
On March 25, EPA published a Federal Register notice to reopen the comment period through April 8. EPA is currently assessing comments for a draft response. In addition, EPA plans to release draft modeling and monitoring guidance for how air quality would be characterized for other areas and sources by the end of April or early May.

May 2013

EPA provided draft Monitoring and Modeling Technical Assistance Documents for comment on May 22, 2013. The two draft documents provide technical assistance for states implementing the 2010 health-based, sulfur dioxide (SO2) standard. These documents provide technical advice on the use of modeling and monitoring to determine if an area meets the 2010 SO2 air quality standard. EPA will accept comment on these documents for 60 days and plans to update them after the comment period.

August 2013

EPA completed the initial round of SO2 Nonattainment Designations by designating parts of 16 states as nonattainment for the 2010 sulfur dioxide standards. The Federal Register notice was published on 8/5/13. EPA will address the designations for all other areas in separate action in the future.

November 2013

SO2 nonattainment area designations for 29 areas became effective October 4, 2013. Three deadline lawsuits have been filed, challenging EPA's failure to designate all portions of the country. For designated nonattainment areas, State Implementation Plans (SIPs) are due in April 2015. EPA's draft SO2 nonattainment area SIP guidance is under review by the states and will be finalized shortly, after addressing comments received. Consistent with EPA's February 2013 SO2 implementation strategy paper, EPA has developed a draft SO2 data requirements rule proposal which will be sent for OMB review shortly. The rule describes an orderly process by which states will be required to characterize 1-hour SO2 concentrations in areas near large SO2 sources, using either modeling or monitoring techniques for each particular source. With these data, EPA would conduct two additional rounds of designations in 2017 and 2020.

EPA is reviewing comments received on the draft Monitoring and Modeling Technical Assistance Documents. The revised draft TAD's should be available in early 2014.

February 2014

Several deadline lawsuits have been filed, challenging EPA's failure to designate all portions of the country. Three petitions for reconsideration have also been filed requesting that the EPA reconsider its designation decisions for certain areas. EPA continues to have discussions with the parties to the litigation.

For designated nonattainment areas, State Implementation Plans (SIPs) are due in April 2015. EPA received comments from 22 states and tribes on the draft SO2 nonattainment area guidance. EPA is addressing these comments and plans to issue the final guidance shortly. The draft SO2 data requirements rule proposal was accepted by OMB in mid-December. The rule describes an orderly process by which states will be required to characterize 1-hour SO2 concentrations in areas near large SO2 sources, using either modeling or monitoring techniques for each particular source. With these data, EPA would conduct two additional rounds of designations in 2017 and 2020. EPA also issued revised versions of the draft Monitoring and Modeling Technical Assistance Documents in late December and they are available on the SO2 implementation website.

March 2014
EPA is finalizing the draft SO2 nonattainment area guidance with plans to issue the guidance in the spring of 2014. The draft SO2 data requirements rule proposal was accepted by OMB in mid-December.

May 2014
The Guidance for the 1-Hour SO2 Nonattainment Area SIP was signed on April 24, 2014.

8. Particulate Matter Implementation

a. Adopt strong national standards for residential wood heating (including wood stoves and outside hydronic heaters)

Response: EPA has had numerous consultations with States on this issue. EPA is developing revisions to the New Source Performance Standards for New Residential Wood Heaters. These would apply to manufacturers of new residential wood stoves, pellet stoves and single burn rate stoves. In addition, we are developing new standards of performance for other residential wood burning devices that are not covered by the current rule, including New Residential Hydronic Heaters and Forced-Air Furnaces, and New Residential Masonry Heaters.

January 2013
On November 8-9, 2012, Regional Planning Organizations hosted a stakeholder meeting (~100 attendees) in Minneapolis. MN. The meeting included NESCAUM, WESTAR, LADCO, CENSARA, MARAMA, states, local agencies, industry, labs, environmental groups, health organizations, neighbors, and EPA. Although there was resistance from industry on the ECOS and MJO recommendations for strong standards as soon as possible, we are preparing to brief EPA senior management on potential changes to the draft proposal that would be responsive to the ECOS and MJO recommendations.

February 2013
EPA is considering the recent recommendations from ECOS and MJOs. We plan to have a proposal package ready for internal EPA review by March 2013.

April 2013
Efforts continue to prepare a proposal package.

May 2013
We expect the proposal package will be sent to OMB in June 2013.

August 2013
The proposal package was officially accepted by OMB on July 26, 2013. Once interagency review is complete, EPA will issue a proposal and the public will

have the opportunity to review and provide comment. We are anticipating proposal later this year.

November 2013

Numerous groups have met with OMB to provide input during the interagency review of the draft proposal. Once the interagency review is complete, then EPA will move forward with a proposed rule. Because of delays due to the government shutdown, we are now anticipating proposal of the rule early in 2014. On October 9, 2013, the states of New York, Connecticut, Maryland, Massachusetts, Oregon, Rhode Island and Vermont, as well as the Puget Sound Clean Air Agency, filed a deadline suit in U.S. District Court in Washington, D.C. to ask the court to order EPA to promptly review, propose and adopt necessary updates to the NSPS for residential wood heaters. Likewise, the American Lung Association, the Environmental Defense Fund, the Clean Air Council, and Environment and Human Health, Inc., have filed a similar deadline suit. EPA is reviewing both filings and is drafting responses.

February 2014

On January 3rd 2014, EPA proposed standards for the amount of air pollution that can be emitted by new woodstoves and heaters, beginning in 2015. The agency's proposal would make the next generation of stoves and heaters an estimated 80 percent cleaner than those manufactured today, leading to important air quality and public health improvements in communities across the country. The proposal would affect a variety of wood heaters manufactured beginning in 2015 and will not affect heaters and stoves already in use in homes or currently for sale today.

EPA will take comment on the proposal until May 5th, 2014. The agency will hold a public hearing Feb. 26, 2014 in Boston. EPA expects to issue a final rule in 2015. For more information, visit: http://www2.epa.gov/residential-wood-heaters.

March 2014

The February 26, 2014 public hearing had over 100 attendees and testimony from 59 presenters. NACAA's testimony welcomed the proposal and was very supportive. Numerous states and environmental and health organizations and citizen action groups expressed their support and a few noted that the proposal is too stringent. The majority of presenters were manufacturers and their support varied.

b. Develop national funding strategies to replace existing residential wood heating devices, modeled after the diesel retrofit programs

Response: EPA is working with the Environmental Finance Center at the University of North Carolina at Chapel Hill, the Puget Sound Clean Air Agency (PSCAA) and others to develop a wood burning appliance replacement financing assessment tool. The tool was used to help the PSCAA in their decision-making process as they evaluated what types of wood burning appliance replacement

incentive programs to develop and implement. Although the tool was developed for PSCAA, EPA believes the tool, with some refinement, could be useful to other locations evaluating wood burning incentive funding options. EPA continues to encourage other federal agencies (e.g. HUD, DOE, CDC) to include wood stove replacement as part of their respective grant programs, particularly when it pertains to health and safety.

Next Steps: EPA is currently evaluating options for further refining and building on the wood burning appliance replacement financing assessment tool and documenting the lessons learned from the work with PSCAA. Once EPA has completed this evaluation, we plan to share the results with air agencies.

November 2013

EPA recently completed an assessment of options to reduce PM2.5 from residential wood stoves in the Tacoma, WA area. These options included an on-bill utility burn ban subsidy program and a wood stove replacement loan program. An Excel spreadsheet tool, which could be modified and used by other air agencies was developed and is available at www.epa.gov/burnwise, along with a webinar that summarizes the partnership effort.

EPA is also working with the Environmental Defense Fund, the Hearth, Patio and Barbecue Association and the U.S. Department of Agriculture to spearhead an effort to more rapidly change out old technology wood burning appliances and promote cleaner burning practices. The plan is to bring together key stakeholders (e.g., state, locals, and federal agencies) for a Roundtable meeting in early 2014 to identify opportunities, overcome barriers, share information and plan for future cooperation.

February 2014

EPA continues to work with key stakeholders to plan a Roundtable discussion on options for more rapidly replacing existing wood burning appliances and promoting cleaner burning practices. We are currently planning for this Roundtable meeting to occur in the fall of 2014.

EPA is also developing a resource document that compiles federal agency, organization and group funding opportunities for state, tribal and local wood smoke reduction programs. The resource document should be completed by the spring of 2014.

c. Engage with federal and tribal land managers on forest health initiatives to reduce the risk of wildfires and promote alternatives to prescribed burning

Response: Federal land management (FLM) agencies (e.g., National Forest Service, Bureau of Land Management) have primacy over forest health initiatives. They are the appropriate agencies to address this recommendation, and we would be happy to assist in setting up such a discussion. We agree that it is important to

collaborate with federal and tribal land managers on policies to reduce air quality and human health impacts from wildfires and prescribed burning, and EPA has been working on this in various regions of the country.

The Agency recognizes the need and use of prescribed burning as a land management tool. We also recognize the need to discuss with states, federal agencies, and the burning community several issues related to balancing the need for prescribed fire with minimizing air quality impacts. In addition, we are working with the states on the treatment of emissions from wildfires under the Exceptional Events policy (see response to d. below).

d. Complete update of the natural and exceptional events policy to streamline the process of flagging monitoring data.

Response: Based in large part on concerns raised in discussions with state and local agencies, EPA has developed interim t guidance documents to address Exceptional Events Rule (EER) implementation issues. The "Interim Guidance to Implement Requirements for the Treatment of Air Quality Monitoring Data Influenced by Exceptional Events" was issued on May 10, 2013 – see http://www.epa.gov/ttn/analysis/exevents.htm. This guidance, which consists of an overview memorandum, a Q&A document, and a high winds events guidance document, incorporates comments received from numerous interested parties during a 2012 public comment period (and a 2011 informal comment period), and is intended to assist state, local and tribal governments in managing air quality data recorded during "exceptional events." The guidance will provide implementation assistance while EPA is undertaking a notice and comment rulemaking process to finalize important changes to the 2007 Exceptional Events Rule. EPA intends to complete the rulemaking process in early 2015.

November 2013

When EPA issued the Interim Exceptional Events Implementation Guidance in May 2013, we simultaneously announced our intent to pursue revisions to the 2007 Exceptional Events Rule and to develop exceptional event implementation guidance to address wildfire-related events that may affect ozone concentrations. EPA anticipates proposing rule revisions in early 2014 and finalizing rule revisions in early 2015. We anticipate following a parallel schedule for the wildfire guidance by issuing draft guidance in early 2014 and final guidance in early 2015. In August, EPA hosted two outreach opportunities, Exceptional Events Listening Sessions in Advance of Anticipated Rule Revisions, to listen to and consider feedback from interested parties as EPA works toward rule changes:

- August 26, 2013 – public session
- August 28, 2013 – state, tribal, and local co-regulators

Most participants in these calls provided verbal feedback, although a few also provided written comments. We are still open to receiving specific ideas regarding the rule revisions.

March 2014

Due to the schedule for the exceptional event rulemaking and the ozone-wildfire guidance, we have initiated two pilot efforts which we hope will result in the better tools to produce more focused, streamlined demonstrations.

OAR/OAQPS has initiated collaborative pilot efforts with Region 6 /Rudy Husar (Exceptional Event Decision Support System focusing on PM and winds) and Region 8/WESTAR (DEASCO tool focusing on ozone and wildfires). In both of these efforts, a cross-functional subteam of experts will use publicly available tools to develop components of exceptional events documents (e.g., demonstrations, technical support/review documents, or other supporting evidence) in an effort to identify each tool's technical capabilities and limitations. It is EPA's intent to incorporate the results of these pilots into both the exceptional event rule revisions and the ozone/wildfire guidance document and to promote the use of these publicly available tools to produce more focused and streamlined demonstrations.

9. Finish Key MACT Regulations

- **MATS**
- **Boiler MACT**
- **Cement Kiln MACT**

Response: We agree and have completed, and are moving to complete, these and other key MACT regulations.

Next Steps:

Mercury and Air Toxics Standards, MATS

On May 3, 2011, EPA proposed the Mercury and Air Toxics Standards (MATS), establishing power plant emission standards for mercury, acid gases and non-mercury metallic toxic pollutants. The final standards were published on February 16, 2012 (77 FR 9304). On July 20, 2012, EPA announced it would review new technical information that is focused on new power plants under MATS. This reconsideration does not cover the standards set for existing power plants.

February 2013

The reconsideration proposal was published in the Federal Register on Friday, November 30. 2012 (77 FR 71323). The public comment period closed on Monday, January 7, 2013.

April 2013

On March 28, 2013, the Administrator signed the final rule that updated emission limits for new power plants under the MATS. The updates only apply to future power plants, do not change the types of state-of-the-art pollution controls that they are expected to install and will not significantly change costs or public health benefits of the rule. A Federal Register publication date of 4/24/13 has been scheduled.

May 2013
The final rule was published on Wednesday, April 24, 2013 (78 FR 24073).

August 2013
On June 25, 2013, the EPA announced that it was reopening the public comment period for the MATS reconsideration issues related to startup and shutdown (78 FR 38001). The comment period will close on August 26, 2013.

February 2014
The EPA is reviewing comments received from the public comment period that closed in August 2013.

May 2014
On April 15, 2014, the U.S. Court of Appeals for the District of Columbia Circuit issued a favorable decision in *White Stallion Energy v. EPA*, which involved challenges by industry, states, unions and environmental groups to EPA's Mercury and Air Toxics Standards (MATS) rule which established emissions standards for mercury and other toxic air emissions from coal- and oil-fired electric utility steam generating units (EGUs) under section 112(d) of the Clean Air Act.

Industrial Boiler MACT rules
Following completion of EPA's March 2011 final Industrial Boiler MACT rules, we determined it appropriate to reconsider aspects of the rulemakings to allow an opportunity for additional data to be submitted and considered. In addition, on May 18, 2011, EPA issued a stay of the Boiler MACT and CISWI rules. EPA issued reconsideration proposals on December 2, 2011.

February 2013
Final reconsideration amendments to rules issued on March 21, 2011, to reduce emissions of air pollutants from existing and new boilers at major and area source facilities, and from commercial and industrial solid waste incinerators (CISWI) were signed on December 20, 2012. The final amendments to the Boiler Major Source rule were published in the Federal Register on January 31, 2013, with the final amendments to the Boiler Area Source rule published in the Federal Register on February 1, 2013. Information regarding the boiler rules can be accessed at http://epa.gov/airquality/combustion.

April 2013
Petitions for reconsideration of the amendments to the Boiler rules issued on January 31, 2013, and February 1, 2013, were received. Nine petitions for reconsideration on the amendments to the Boiler MACT (Boiler Major Source Rule) were received from Sierra Club, CIBO, API, Sugar Cane Growers Cooperative of Florida, UARG, AF&PA Coalition, Eastman Chemical, New Hope Power and the Florida Sugar Industry. In addition, 11 petitions for judicial review of the Boiler MACT were received from JELD-WEN Inc., Eastman Chemical Co., American Chemistry Council, U.S. Sugar Corp., Auto Industry

Forum, American Petroleum Institute, Utility Air Regulatory Group, Louisiana Environmental Action Network, Council of Industrial Boiler Owners, American Forest and Paper Association and Coalition for Responsible Waste Incineration. Petitions for reconsideration and for judicial review were also received on the Boiler Area Source Rule.

August 2013

On August 5th, EPA issued letters granting reconsideration on several issues to provide additional opportunities for public comment.

March 2014

In a motion filed Feb. 28, 2014, EPA asked the U. S. Circuit Court of Appeals for the District of Columbia to give the agency time to update a small set of standards that apply to less than one half of one percent of all existing boilers and incinerators as well as some standards that affect new incinerators and boilers. The agency has also asked the court for 60 days to further explain, and thus strengthen, the technical analysis used to support certain other aspects of the 2013 rules.

EPA intends to leave the boiler and incinerator standards in place during the agency's review. Any updates EPA proposes to make to the standards will be available for public comment through the agency's normal, open and transparent rulemaking process.

In making these requests, the agency is proactively seeking to address issues raised in a recent court decision involving similar standards the agency issued for incinerators that handle sewage sludge. For more information please visit epa.gov/airquality/combustion.

Portland Cement

On September 9, 2010, EPA issued the final Portland Cement Manufacturing MACT rule. On May 17, 2011, EPA denied, in part, and granted, in part, petitions for reconsideration of the final NESHAP and NSPS. The EPA granted reconsideration of certain aspects of the final rule, including the regulations for open clinker piles and coal mills, the particulate matter limit for modified sources, the affirmative defense for malfunctions and some of the compliance demonstration requirements. The reconsideration of these issues should have minimal impact on emissions.

In the same action, EPA denied the request for a stay of these rules. On December 9, 2011, the Circuit Court of Appeals for the District of Columbia Circuit remanded EPA's decision to deny reconsideration of the emission standards of the NESHAP, so that EPA could account for the effects of the Non-Hazardous Secondary Materials (NHSM) rule, on the status of certain cement kilns used to calculate the MACT floors.

July 2012

In response to a federal court ruling and data from industry, the U.S. Environmental Protection Agency (EPA) is proposing changes to its 2010 air standards for the Portland cement manufacturing industry. The proposal would

continue the significant emission reductions from the 2010 standards while providing industry additional compliance flexibilities, including more time to implement the proposed updates by extending the compliance date for existing cement kilns from September 2013 to September 2015. EPA will finalize the rule by December 20, 2012.

March 2013
The Portland Cement NESHAP and NSPS final amendments were signed on December 20, 2012. The amendments published in the Federal Register on February 12, 2013. Information regarding the final amendments can be accessed at http://epa.gov/airquality/cement.

April 2013
On April 5, 2013, Earthjustice filed a petition for judicial review of the December 20, 2012, final amendments. At the same time, they also filed a petition for administrative review and request for a stay.

May 2013
On April 15, 2013, Earthjustice filed a motion with the DC Circuit for a stay of the December 20, 2012, final amendments. EPA denied the Earthjustice request for an administrative stay on April 22, 2013.

August 2013
Oral Arguments are scheduled for October 24, 2013, to challenge the 2013 Portland cement amendments discussed above. The issues raised in the Earthjustice brief are the changes to the PM limits, the compliance date for existing sources, and affirmative defense.

March 2014
Oral Arguments occurred on October 24, 2013. We are still waiting for the court decision.

May 2014
On April 18, 2014, the U.S. Court of Appeals for the District of Columbia Circuit issued a mostly favorable decision in *NRDC v. EPA,* which involved a challenge by environmental groups to aspects of EPA's 2012 revised emission standards for hazardous air pollutants emitted by Portland cement kilns. Specifically, the environmental petitioners challenged whether EPA had established the most expeditious compliance date practicable for EPA's standards for certain hazardous air pollutants emitted by existing kilns, whether EPA should have adopted a more stringent standard for particulate matter and whether EPA had authority to promulgate an affirmative defense to civil penalties for violations resulting from malfunctions.

The D.C. Circuit upheld the new compliance date for the MACT standards for existing cement kilns. EPA established a September 2015 compliance date for these standards when it amended the level of the standard for particulate matter. The court held that setting a new compliance date was reasonable

considering that EPA had revised the standard. The court also upheld EPA's particulate matter standard, finding that EPA properly rejected a more stringent standard based on cost considerations, including cost-effectiveness. Finally, the court held that EPA had no legal authority to promulgate an affirmative defense to civil penalties for violations resulting from malfunctions. The court found that the authority under the Clean Air Act to determine penalty amounts lies exclusively with federal District Courts.

10. Inspection and Enforcement

Inspect the majority of our air pollution sources on a regular basis to make sure they are meeting all their requirements. Offer compliance assistance whenever possible. Allow states flexibility to assure compliance through a risk-based inspection strategy that provides for an enforcement presence while freeing inspection resources for higher risk facilities, and work to ensure that the penalty strategy is complementary to provide an effective deterrent.

Response: EPA's CAA Stationary Source Compliance Monitoring Strategy (CMS) issued September 2010 provides national consistency in developing stationary source compliance monitoring programs, while allowing states the flexibility to address local air pollution and compliance problems. Although the CMS provides for recommended minimum evaluation frequencies, states are allowed to implement, with regional approval, alternative CMS plans which deviate from such frequencies. In addition, the CMS states that while the focus of the national strategy is on federally enforceable requirements for Title V major sources and a subset of synthetic minor sources (SM-80s), EPA recognizes states perform additional compliance monitoring activities beyond those addressed by the strategy. Therefore, in proposing an alternative CMS plan, states may provide a rationale for substituting an evaluation of specific major and SM80 facilities for other source categories. In developing an alternative plan, the CMS process allows for an ongoing dialogue between the EPA regional office and state to take into account the state's individual circumstances, including the state's priorities, potential environmental risks, facility locations, inspection frequencies, inspection types (e.g. partial compliance evaluations, self-monitoring, and off-site evaluations), and source compliance histories.

Next Steps: EPA welcomes the opportunity to continue a dialogue with the states on CMS flexibilities and, if desired, to provide training for the states in this area.

Progress (Dec. 1, 2011):
OECA held a workshop with Region 1 for the New England States to discuss the CMS for all media and the flexibilities currently available. The meeting was well attended with all the New England states represented for all media. The work shop included a plenary session during which were provided overall presentations on the CMS for air, water and RCRA as well as discussions of the flexibilities

that are currently provided within the guidance. Breakout sessions for each media followed during which there were further detailed discussions on the current flexibilities and a dialogue with the states regarding new flexibilities that they would like to seek. The work shop concluded with a report back from the programmatic breakout sessions. Next steps are now being discussed by senior management both at EPA HQ and in Region 1.

April 2012:

On March 15, OECA conducted a webinar for state and local agencies as well as EPA Regions during which we presented information on the compliance monitoring strategies for the CAA, CWA, and RCRA media programs. The flexibility provided within each strategy was highlighted. The webinar was entitled "Media Program Compliance Monitoring Strategies (CMS) and Their Programmatic Flexibility." The states/locals were thereafter provided an opportunity to discuss examples of new flexibilities being sought.

In addition, at the recent ECOS Spring Meeting, the director of OECA had an opportunity to further discuss the flexibilities provided in the compliance monitoring strategies and continue the collaboration by participating in a session of the ECOS Compliance Committee entitled "Dialogue with OECA on Opportunities for New Compliance Assurance Strategies and Measures."

October 2012:

1) On October 23, the Office of Compliance conducted training for Region 3 state and local agencies on the CAA CMS Policy. The training included an in-depth discussion on the flexibilities provided in the policy, including the opportunity to implement an approved alternative CMS Plan. Delaware, Virginia, West Virginia, Maryland, and Philadelphia participated. OECA also provided similar training for the District of Columbia DOE in August. In addition to the Region 3 delegated agencies participating in the training, several representatives from the New Jersey DEP also attended.

2) Certain states have proposed alternative CMS plans for implementation starting in FY 2013. The Regional Offices and the Office of Compliance are currently in discussions with these states to ensure that the plans are sufficiently using the flexibility of CMS to address local compliance problems/priorities and specific circumstances (e.g., public health/environment, non-compliance, temporary resource constraints) while still being consistent with the overall policy goals. To have an efficient process for negotiating alternative plans, the Regions and states are encouraged to hold initial discussions at a sufficiently high managerial level to consider overall strategic issues/choices and thereafter to provide regional/state staff the needed direction with which to develop a detailed alternative plan that would be appropriate for implementation.

April 2013

States and Regions were able to work together to finalize the alternative CAA CMS plans that were proposed for FY’13.

February 2014

OECA/Office of Compliance (OC) is revising the CAA Stationary Source Compliance Monitoring Strategy (CAA CMS) to expand upon the flexibility provided to state, local and tribal agencies when conducting compliance monitoring activities to further promote the use of a wide variety of techniques for determining compliance and to address local air pollution and compliance concerns. As an outcome of the national dialogue on the flexibility provided in the CMS, the definition of what constitutes compliance monitoring is being expanded to incorporate new technologies and innovative compliance monitoring approaches such as infrared cameras, fenceline monitors, sensor network-based leak detection systems, mobile methane monitors, and photoionization detectors. The revised CAA CMS is scheduled to be issued in FY 2014.

At the request of ECOS, OC is developing a template/guideline for state, local, and tribal agencies to use as reference when developing and submitting CMS Alternative Plans. This template will provide an overview of what is expected to be included in a proposed alternative plan as well as additional details on the review and approval process for submitted alternative plans. OC will soon be sharing a draft template with the ECOS Compliance Committee to obtain feedback.

ORAL ARGUMENT NOT YET SCHEDULED

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

No. 12-1238

CENTER FOR BIOLOGICAL DIVERSITY, *et al.*,
Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

Petition for Review of Final Administrative Action of the
United States Environmental Protection Agency

FINAL OPENING BRIEF FOR PETITIONERS

Charles McPhedran
Earthjustice
1617 JFK Boulevard, Suite 1675
Philadelphia, PA 19103
(215) 717-4521
cmcphedran@earthjustice.org

David S. Baron
Earthjustice
1625 Massachusetts Ave., NW
Suite 702
Washington, DC 20036
(202) 667-4500
dbaron@earthjustice.org
Counsel for Center for Biological Diversity, Clean Air Council, and National Parks Conservation Association

Kassia R. Siegel
Kevin P. Bundy
Center for Biological Diversity
351 California Street, Suite 600
San Francisco, CA 94104
(415) 436-9682 ext. 313
ksiegel@biologicaldiversity.org
kbundy@biologicaldiversity.org
Counsel for Center for Biological Diversity

Dated: May 20, 2013

PETITIONERS' CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

In accordance with Circuit Rules 27(a)(4) and 28(a)(1), petitioners hereby certify as follows:

(A) Parties and Amici

(i) Parties, Intervenors, and Amici Who Appeared in the District Court

This case is a petition for review of final agency action, not an appeal from the ruling of a district court.

(ii) Parties to This Case

Petitioners:

The Petitioners are the Center for Biological Diversity, Clean Air Council, and National Parks Conservation Association.

Respondents:

The Respondents are the United States Environmental Protection Agency and Lisa P. Jackson, Administrator (collectively, "EPA").

Intervenors:

The Utility Air Regulatory Group and American Petroleum Institute are intervenors on the side of Respondents.

(iii) *Amici* in This Case

As yet, there are no *amici curiae*.

(iv) Circuit Rule 26.1 Disclosures for Petitioners

Petitioners incorporate by reference the Rule 26.1 Disclosure Statement below.

(B) Ruling Under Review

Petitioners seek review of the final action taken by EPA at 77 Fed. Reg. 20,218 (April 3, 2012) and titled "Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur."

(C) Related Cases

Petitioners are unaware of any related cases.

RULE 26.1 DISCLOSURE STATEMENT

Center for Biological Diversity: Center for Biological Diversity has no parent companies, and there are no publicly held companies that have a 10 percent or greater ownership interest in Center for Biological Diversity.

Center for Biological Diversity, a corporation organized and existing under the laws of the State of California, is a not-for-profit organization focused on the preservation, protection, and restoration of biodiversity, native species, ecosystems, public lands and waters, and public health.

Clean Air Council: Clean Air Council has no parent companies, and there are no publicly held companies that have a 10 percent or greater ownership interest in Clean Air Council.

Clean Air Council, a corporation organized and existing under the laws of the Commonwealth of Pennsylvania, is a not-for-profit organization focused on the protection of public health and the environment.

National Parks Conservation Association: National Parks Conservation Association has no parent companies, and there are no publicly held companies that have a 10 percent or greater ownership interest in the National Parks Conservation Association.

National Parks Conservation Association, a corporation organized and existing under the laws of the District of Columbia, is a national nonprofit organization dedicated to protecting and enhancing America's National Parks for present and future generations.

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GLOSSARY OF ACRONYMS AND ABBREVIATIONS

Pursuant to Circuit Rule 28(a)(3), the following is a glossary of acronyms and abbreviations used in this brief:

μeq/L	microequivalents per liter
AAI	Aquatic Acidification Index
CAA	Clean Air Act
ANC	Acid neutralizing capacity
EPA	U.S. Environmental Protection Agency and Lisa P. Jackson, Administrator
ISA	Integrated Science Assessment
JA	Joint Appendix
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
NPCA	National Parks Conservation Association
NAAQS	National Ambient Air Quality Standards
PA	Policy Assessment
REA	Risk and Exposure Assessment
CASAC	Clean Air Scientific Advisory Committee
SO_2	sulfur dioxide
SO_x	oxides of sulfur

JURISDICTIONAL STATEMENT

(A) Agency. Respondents U.S. Environmental Protection Agency and Lisa P. Jackson, Administrator (collectively, "EPA" or "the agency") have jurisdiction to revise primary (health-protective) and secondary (welfare-protective) national ambient air quality standards ("standards" or "NAAQS") for oxides of sulfur and nitrogen under the Clean Air Act (also called "the Act" or "CAA") § 109, 42 U.S.C. § 7409.

(B) Court of Appeals. Pursuant to 42 U.S.C. § 7607(b)(1), this Court has jurisdiction to review the final EPA actions, taken at 77 Fed. Reg. 20,218 (Apr. 3, 2012) ("Final Rule") (JA0078), challenged in this proceeding.

(C) Timeliness. The petition for review was timely filed within the 60-day window of Clean Air Act § 307(b)(1), 42 U.S.C. § 7607(b)(1), on June 1, 2012.[1]

STATUTES AND REGULATIONS

Pertinent statutes and regulations appear in an addendum to this brief.

STATEMENT OF ISSUES PRESENTED

Whether EPA acted illegally and arbitrarily in:

1. Failing to specify a level of air quality and set a new secondary national ambient air quality standard that is requisite to protect the public welfare

[1] Petitioners are Center for Biological Diversity, Clean Air Council, and National Parks Conservation Association (collectively, "Petitioners").

from severe harm to fish, forests, and other natural resources caused by deposition of sulfur and nitrogen compounds in air pollution, despite having concluded that existing secondary standards are not requisite to protect the public welfare from these harms;

2. Failing to revise secondary national ambient air quality standards for oxides of sulfur and oxides of nitrogen to protect against aquatic acidification and other adverse welfare effects, in disregard of the sound scientific basis developed by EPA's own staff and science advisors for revising the standards; and

3. Failing to adequately explain its decision not to revise secondary national ambient air quality standards for oxides of sulfur and oxides of nitrogen, particularly where this decision contradicted the advice and conclusions of EPA staff and scientific advisors.

FACTUAL AND STATUTORY BACKGROUND

I. The Ecological Impacts of Sulfur and Nitrogen Deposition

Acid rain from air pollution kills fish and other aquatic life in many of the nation's rivers and lakes. In the Adirondack Mountains, many lakes are so acidic that they are lethal to fish species such as brook trout, and contain only half the fish species that would otherwise be present. *See, e.g.*, Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur; Proposed Rule, 76 Fed. Reg. 46,084, 46,094/1-3-46,095/1 (Aug. 1, 2011) ("Proposed Rule") (JA0014,

0024-25); EPA, Policy Assessment for the Review of the Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Oxides of Sulfur ("PA"), EPA-HQ-OAR-2007-1145-0177 at 6-13 (JA0263). Likewise, in the Shenandoah Mountains, most streams are so acidic that many fish species have been eliminated. *Id.* at 6-13 (JA0263); s*ee also* Final Rule at 20,236/2-3 (JA0096). On land, acidification kills trees like red spruce and sugar maple by stunting their growth and increasing their susceptibility to disease. *See, e.g.*, Proposed Rule at 46,093/2-3 (JA0023); PA at ES-2, 3-17 (JA0198, 0261).

Nitrogen and sulfur pollution have adverse effects beyond acid rain. As every backyard gardener knows, nitrogen is a powerful fertilizer. When deposited on land and in water, nitrogen compounds disrupt the natural nutrient balance of ecosystems, altering the composition, richness, and diversity of species present. Final Rule at 20,227/1-2 (JA0087). Sulfur deposition also has been linked to increased mercury methylation, a chemical change which allows this potent neurotoxin to be absorbed more easily by the tiniest forms of life and further concentrated as it moves up the food chain. *Id.* at 20,228/2 (JA0088).

The problem is caused by air pollution. Combustion of fuels, whether for energy, industrial uses, or in motor vehicles, produces oxides of nitrogen and

sulfur.[2] These chemicals form acidic compounds in the atmosphere that are then deposited on land via acid rain ("wet deposition"), fog or clouds, or in particulate or gaseous form ("dry deposition"). *See id.* at 20,224/3-20,225/1 (JA0084-85). Those compounds then pass into soils, streams, and lakes, where their effects range from killing fish like trout and salmon to disruption of the breeding and distribution of birds like goldeneye ducks and loons. *See, e.g.*, Proposed Rule at 46,092/2-46,093/2 (JA0022-23); PA at ES-2, 3-10 to 3-16 (JA0198, 0254-60).

The sensitivity of an area to acid deposition depends on the ability of a particular ecosystem to neutralize the acid—that is, the ecosystem's "acid neutralizing capacity" ("ANC"), which varies with local geology, soil characteristics, and plant life. Deposition of these pollutants can cause lakes, streams, and soils to become increasingly acidic. Final Rule at 20,225/1-2 (JA0085). New England, the Adirondack Mountains, the Appalachian Mountains, the mountainous West, and the Upper Midwest contain the lakes and streams most sensitive to aquatic acidification. *Id.* at 20,225/3 (JA0085). The nation's most at-risk forests include those in the Adirondack Mountains of New York, Green Mountains of Vermont, White Mountains of New Hampshire, the Allegheny

[2] Unless otherwise specified, references in this brief to "sulfur and nitrogen pollution," "oxides of sulfur and nitrogen," "sulfur and nitrogen oxides," and similar formulations refer collectively to all sulfur and nitrogen compounds that cause or contribute to acidification and nutrient enhancement when deposited on land or in water.

Plateau of Pennsylvania, and high-elevation forest ecosystems in the southern Appalachians and mountainous regions in the West. *Id.* at 20,226/1-2 (JA0086). Several ecosystems, including the coastal sage scrub ecosystems of Southern California, chaparral regions of the Sierra Nevada Mountains, and alpine ecosystems in Colorado's Front Range, are especially sensitive to damage by nutrient enrichment. *Id.* at 20,227/2 (JA0087).

The effects of sulfur and nitrogen in air pollution—acidification of aquatic and terrestrial ecosystems, nutrient enrichment, and contributions to mercury toxicity—cause extensive ecosystem damage and adversely affect the public welfare. *See* Armistead Russell and Jonathan M. Samet, CASAC Comments on the Policy Assessment for the Review of the Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Oxides of Sulfur (May 17, 2011) ("Russell and Samet 2011"), EPA-HQ-OAR-2007-1145-0174 at 10 (JA0359) ("There is clear evidence that such adverse effects are occurring in sensitive ecosystems in the United States as a result of anthropogenic acidic deposition.").

II. Statutory Framework

The Clean Air Act requires EPA to set national ambient air quality standards for pollutants that "cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare," and which are emitted "from numerous or diverse mobile or stationary sources." 42 U.S.C. §

7408(a)(1)(A), (B). The Act requires two sets of standards—"primary" and "secondary"—for each such pollutant. The primary standard must be set at a level "requisite to protect the public health." 42 U.S.C. § 7409(b)(1). The secondary standard:

> shall specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator . . . is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air.

42 U.S.C. § 7409(b)(2). EPA's duty to determine this "requisite" level of protection is mandatory. *Am. Farm Bureau Fed'n v. EPA*, 559 F.3d 512, 530 (D.C. Cir. 2009). The secondary standard must be set at a level necessary to protect against the pollutant's adverse effects without regard to the cost of implementing the standard. *Whitman v. Am. Trucking Ass'ns, Inc.*, 531 U.S. 457, 471 n.3 (2001) ("EPA may not consider implementation costs in setting the secondary NAAQS").

In setting a standard, EPA must take into account air quality "criteria" documents prepared by EPA staff as well as the recommendations of the agency's Clean Air Scientific Advisory Committee (Scientific Advisory Committee, or "CASAC"). *See* *Am. Farm Bureau Fed'n*, 559 F.3d at 516 (citing 42 U.S.C. § 7409(d)(2)). Standards must be reviewed, using the same procedures, at least once every five years. *See* 42 U.S.C. § 7409(d)(1).

Secondary standards—the standards at issue here—must protect against the effects of air pollution on "welfare," which Congress has defined very broadly. Welfare effects include:

> effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.

42 U.S.C. § 7602(h). The scope of this definition encompasses "all conceivable forms of harm from air pollution . . . ." David R. Wooley and Elizabeth M. Morss, Clean Air Act Handbook § 1:3 (21st ed. 2011). Thus, EPA must set secondary standards that are requisite to protect the public welfare from this wide range of effects.

III. History of the Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur

EPA first set secondary air quality standards for nitrogen dioxide (NO_2) and sulfur dioxide (SO_2) in 1971. Final Rule at 20,219/2-3 (JA0079). These standards were "not directed toward depositional effects," *id.* at 20,240/1 (JA0100), but rather were set "to protect against direct effects of gaseous oxides of nitrogen and sulfur." *Id.* at 20,239/2 (JA0099). Over the next four decades, the scientific evidence mounted rapidly that these standards do not adequately protect lakes, streams, forests, and other sensitive ecosystems from acid deposition. During that

same period, scientists and regulators developed a sound scientific basis for effectively addressing acid deposition through secondary air quality standards. Yet today, after forty years of studying the problem, the EPA has still not strengthened the standards set in 1971.

EPA completed its most recent prior review of the secondary standard for oxides of nitrogen in 1996, leaving the existing standard in place. *Id.* at 20,219/3 (JA0079). In 1988, EPA proposed not to revise the secondary standard for sulfur dioxide. *Id.* at 20,220/2 (JA0080). EPA has taken no further action to strengthen the secondary standard for oxides of sulfur. *Id.* (JA0080)

IV. Title IV and the Acid Rain Program

Amid mounting concern over acid rain, Congress added the Acid Rain Program to Title IV of the Clean Air Act in 1990. 42 U.S.C. §§ 7651-7651o. The program aimed to reduce some of the emissions of sulfur and nitrogen oxides from a limited group of large power plants, but did not address emissions from other sources. 42 U.S.C. § 7651(b). Recognizing that these reductions might not be sufficient to address the welfare effects of acid deposition, Congress also directed EPA to report on the feasibility of establishing further standards "to protect sensitive and critically sensitive aquatic and terrestrial resources." Clean Air Act Amendments of 1990, Pub. L. 101-549, § 404, 104 Stat. 2399, 2632 (1990), 42 U.S.C. § 7651 note. Congress further ordered the National Acid Precipitation

Assessment Program, first established in 1980, to continue assessing and reporting on the Acid Rain Program's effectiveness. *See* 42 U.S.C §§ 7403(j), 8901-8906.

EPA completed its study of the feasibility of an acid deposition standard in 1995. It projected that a substantial percentage of lakes and streams in sensitive regions throughout the eastern United States (especially the Adirondacks and southern Blue Ridge Mountains) would remain vulnerable to damage, even after full implementation of the 1990 Clean Air Act Amendments. *See* EPA, EPA 430-R-98-001a, Acid Deposition Feasibility Study Report to Congress 114-16 (1995) (JA0484-86).

Ten years later, the 2005 National Acid Precipitation Assessment Program report concluded that despite some improvement due to emissions reductions under Title IV and other Clean Air Act programs, those reductions were "insufficient to achieve recovery or to prevent further acidification in some regions," and that further pollution cuts would be needed to protect sensitive areas from the ongoing harms of acid deposition. Douglas A. Burns, et al., National Acid Precipitation Assessment Program Report to Congress: An Integrated Assessment ES-3 (2005) (JA0479).

V. EPA's Current Review

A. EPA's Delay in Reviewing the Standards

Although the Clean Air Act requires EPA to review both primary and secondary air quality standards at least every five years, 42 U.S.C. § 7409(d)(1), the agency ended its last previous review of the standards for sulfur oxides in 1988, and of the nitrogen oxides standards in 1996. Final Rule at 20,219/2-3-20,220/1-2 (JA0079-80). In 1999, seven Northeastern states petitioned the EPA to promulgate secondary standards to address the ongoing impacts of acid deposition in New York and New England. *Id.* at 20,220/3-20,221/1 (JA0080-81). In addition, in 2000, the Secretary of the Interior requested that the EPA initiate a rulemaking to protect the country's national parks from the impacts of air pollution, including acid deposition. *Id.* at 20,221/1 (JA0081). The EPA sought comment on these requests, but took no further action upon them. In 2005, petitioner Center for Biological Diversity and four other plaintiffs filed suit against EPA for violation of its statutory duty to conduct timely reviews of the air quality standards for sulfur and nitrogen oxides. *Id.* at 20,221/3 (JA0081). A 2007 consent decree resolving the litigation set a schedule for completion of the reviews, EPA-HQ-OAR-2007-1145-0173 (JA 0133), which the parties extended in 2009.

After EPA finally began its review of the existing secondary standards, EPA prepared an Integrated Science Assessment ("ISA") building on past research and incorporating new scientific information on nitrogen and sulfur oxides, a Risk Exposure Assessment ("REA") evaluating these pollutants' ecosystem effects, and

a Policy Assessment ("PA") setting forth staff's conclusions as to the inadequacy of the current standards and proposing a new, ecologically relevant standard. *See* Final Rule at 20,221/2-3 (JA0081). As noted by the EPA, "[t]he ISA, REA, and PA all conclude that the current standards are not adequate to protect against the adverse impacts of aquatic acidification on sensitive ecosystems." *Id.* at 20,236/3 (JA0096). These three key documents also all conclude that "the current standards are not adequate to protect against the adverse impacts of terrestrial acidification on sensitive ecosystems." *Id.* at 20,237/2 (JA0097). In addition, the Risk and Exposure Assessment concludes that the current standards "are not adequate to protect against anticipated adverse impacts from [nitrogen] nutrient enrichment in sensitive ecosystems." *Id.* at 20,238/1 (JA0098).

The Scientific Advisory Committee reviewed each document and provided additional advice and recommendations. *Id.* at 20,221/2-3 (JA0081); *see generally* Russell and Samet 2011 (JA0350). The Scientific Advisory Committee reached consensus on the conclusion that "[t]he levels of the current NOx and SOx secondary NAAQS are not sufficient, nor the forms of those standard appropriate, to protect against adverse depositional effects; thus a revised NAAQS is warranted." Final Rule at 20,239/1 (JA0099); Russell and Samet 2011 at 1-2 (JA0350-51).

B. The Proposed Rule and the Aquatic Acidification Index

EPA issued a proposed rule in August, 2011. Proposed Rule at 46,084 (JA0014). The agency proposed a "joint review" of existing secondary standards because nitrogen and sulfur oxides are "linked from an atmospheric chemistry perspective, as well as from an environmental effects perspective." *Id.* at 46,089/1 (JA0019). The Proposed Rule explained that after reviewing in detail the scientific evidence linking nitrogen and sulfur deposition to acidification, nutrient enhancement, and other harmful effects, the EPA Administrator had concluded

> that current levels of oxides of nitrogen and sulfur are sufficient to cause acidification of both aquatic and terrestrial ecosystems, nutrient enrichment of terrestrial ecosystems and contribute to nutrient enrichment effects in estuaries that could be considered adverse, and the current secondary standards do not provide adequate protection from such effects.

Id. at 46,111/1 (JA0041).

In light of this conclusion, the Administrator proposed consideration of a new "ecologically relevant" standard to protect rivers and lakes from harmful acid deposition. *Id.* at 46,111/1-3 (JA0041). The standard would be set in the form of an Aquatic Acidification Index ("AAI"), a measure of the impact of sulfur and nitrogen air pollution on the acid neutralizing or buffering capacity of rivers and lakes. *Id.* at 46,112/1 (JA0042).

Unlike traditional clean air standards, a higher Aquatic Acidification Index is more protective than a lower one because it reflects greater protection from

acidification. Acid deposition from sulfur and nitrogen pollution lowers the ability of rivers and lakes to neutralize acid (their "acid neutralizing capacity," or "ANC"), so higher levels of sulfur and nitrogen air pollution translate into a lower actual Aquatic Acidification Index.[3] EPA staff recommended an Aquatic Acidification Index standard in the range of an acid neutralizing capacity of 20 (least protective) to 75 (most protective) μeq/L (microequivalents per liter), to be achieved as a 3 to 5 year average. The stringency of the standard is also reflected in the percentage of waters in each region that would be protected from exceeding the Aquatic Acidification Index standard. Staff recommended consideration of a range from 70th percentile (least protective) to 90th percentile (most protective) for this purpose. *See* PA at 7-39 to 7-40, 7-52 to 7-53, (JA0287-88, 0300-01); Russell and Samet 2011 at 2, 9 (JA0351, 0358).

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[3] Acid neutralizing capacity is correlated with pH, and is expressed numerically in terms of microequivalents per liter ("μeq/L"). Ecosystem damage increases as acid neutralizing capacity levels decrease. In lakes and streams, acid neutralizing capacity levels above 100 μeq/L are generally safe for living creatures, and are associated with a peak in fish species diversity. EPA, Final Risk and Exposure Assessment Report for Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Oxides of Sulfur ("REA"), EPA-HQ-OAR-2007-1145-0064 at 4-6 (JA0488). Between 100 μeq/L and 50 μeq/L, the health of sensitive species, such as brook trout and zooplankton, begins to decline. *Id.* (JA0488). Acid neutralizing capacity concentrations below 50 μeq/L generally kill or harm sensitive species, while acid neutralizing capacity concentrations below 20 μeq/L kill or harm all living things in a water body. *Id.* (JA0488). When acid neutralizing capacity concentrations remain below 0 μeq/L, all fish and most other aquatic life are killed, resulting in "dead" lakes. *Id.* at 4-7 (JA0157).

The new standard is "defined in terms of the same basic elements that are used to define any NAAQS—indicator, form, averaging time, and level." Proposed Rule at 46,111/2 (JA0041). The standard's atmospheric indicators are total reactive oxidized nitrogen ("NO_y") and sulfur oxides ("SO_x")—indicators that capture a broad range of pollutants (and their atmospheric products) known to contribute to acidification. *Id.* at 46,111/3, 46,112/1-2 (JA0041, 0042). The form of the standard is the Aquatic Acidification Index. *Id.* at 46,113/2-3 (JA0043). Finally, the standard includes a multi-year averaging time and a level—expressed as a "single, national target ANC value"—that in the context of the Aquatic Acidification Index would identify maximum ambient NO_y and SO_x concentrations. *Id.* at 46,112/1 (JA0042).

The Aquatic Acidification Index would enable EPA to set a single national standard that nonetheless accounts for regional variations in acid sensitivity, emission and deposition patterns, and atmospheric chemistry. The Aquatic Acidification Index is expressed as a mathematical equation, the terms of which are four "factors" quantifying relative ecosystem acid sensitivity, the acidifying potential of reduced nitrogen compounds, and deposition of nitrogen and sulfur oxides at particular atmospheric concentrations. *Id.* at 46,118/1-3 (JA0048).

EPA staff determined relative ecosystem sensitivity by dividing the contiguous United States into 84 "ecoregions" and assessing the "critical load" of

acidifying pollutants (i.e., the acid neutralizing capacity level that would protect against ecosystem damage) in each region. *Id.* at 46,121 (JA0051); PA at 7-32 to 7-36 (JA0280-84). EPA staff then calculated the Aquatic Acidification Index for acid-sensitive ecoregions, based on ecosystem-specific values for each factor of the Aquatic Acidification Index equation, under different "form" and "level" combinations ranging from the least to the most protective. Proposed Rule at 46,122/1-46,123/1, 46,124/1-3 (JA0052-53, 0054); PA at 7-56 to 7-59 (JA0304-07) (Tables 7-1a to 7-1d). All relatively non-acid-sensitive ecoregions would meet the proposed standard under any combination of form and level, while between eight and 25 acid-sensitive regions would not meet the standard, depending on the form and level chosen. PA at 7-60 to 7-61 (JA0308-09).

The Scientific Advisory Committee found the Policy Assessment's approach "appropriate for use in determining a secondary standard to help protect aquatic ecosystems from acidifying deposition of oxides of sulfur and nitrogen." Russell and Samet 2011 at 2 (JA0351). The Scientific Advisory Committee lauded EPA's "commendable job" in developing the Aquatic Acidification Index and expressed support for the "potential choices/ranges" presented by EPA staff on the indicators, form, averaging time, and level that should be considered in setting a standard. *Id.* (JA0351). The Scientific Advisory Committee found the Policy Assessment's assessment of ecoregion sensitivity reasonable, and concluded that the Policy

Assessment's proposed ranges for the form and level of the standard "provide[d] the Administrator with a broad but reasonable range of minimally to substantially protective options" from which to choose. *Id.* at 9 (JA0358).

Although the Scientific Advisory Committee acknowledged remaining uncertainty and identified areas of further research and potential future improvement, *see id.* at 11-12 (JA0360-61), nothing in the Scientific Advisory Committee's consensus comments stated—or even suggested—that uncertainties were so great as to preclude setting any standard at all. In sum, the Aquatic Acidification Index and the range of standards recommended by EPA staff represented a carefully tailored and reasoned solution to a problem with which scientists and regulators had wrestled for forty years.

In the Proposed Rule, however, the Administrator declined to choose an Aquatic Acidification Index-based standard from within the ranges proposed in the Policy Assessment and affirmed by the Scientific Advisory Committee. Rather, the Administrator asserted that remaining uncertainties stemming from observational data gaps and the use of atmospheric modeling, Proposed Rule at 46,130-32 (JA0060-62), were "of such nature and degree as to prevent her from reaching a reasoned decision such that she is adequately confident as to what level and form (in terms of a selected percentile) of such a standard would provide any particular intended degree of protection" for public welfare. *Id.* at 46,135/1

(JA0065). The Administrator proposed instead to add secondary standards "identical to the NO_2 and SO_2 primary 1-hour standards set in 2010"—even though this "[would] not add secondary standards of an ecologically relevant form to address deposition-related effects." *Id.* at 46,135/2 (JA0065). Finally, the Administrator proposed to gather additional data through a "field pilot program" and additional ambient monitoring. *Id.* at 46,135/3 (JA0065).

C. Comments on the Proposed Rule

Numerous organizations and individuals, including petitioners here, submitted comments criticizing the Administrator's failure to propose ecologically relevant standards, especially in light of the agency's well-supported conclusion that the existing 1971 standards are inadequate to protect public welfare. *See, e.g.*, U.S. Dept. of Interior Comments (EPA-HQ-OAR-2007-1145-0149) (JA0410); National Park Service Comments (EPA-HQ-OAR-2007-1145-0183) (JA0404); State of New York Comments (EPA-HQ-OAR-2007-1145-0130) (JA0406); National Parks Conservation Ass'n ("NPCA") et al. Comments (EPA-HQ-OAR-2007-1145-0131) at 2-3 (JA0414-15); Center for Biological Diversity Comments (EPA-HQ-OAR-2007-1145-0140) at 8-16 (JA0454-62).

The National Park Service also provided detailed comments on the Policy Assessment supporting a standard even more protective than proposed by EPA staff in order to protect the sensitive lakes, streams, and forests in the nation's

national parks. Specifically, the Park Service supported an acid neutralizing capacity of 100 μeq/L "to protect against adverse impacts to overall aquatic ecosystem health," and urged EPA to protect 95 percent of streams and lakes. EPA-HQ-OAR-2007-1145-0082 at 2, 5 (JA0159, 0162). In subsequent comments on the Proposed Rule, the National Park Service observed that the scientific basis for the Aquatic Acidification Index "is sound and well supported," disagreed with EPA's proposal not to set a new secondary standard, and specifically disagreed with the Administrator's assertion "that uncertainties prevent EPA from understanding the level of protection afforded by a specific level and form of the standard." EPA-HQ-OAR-2007-1145-0183 (JA0404). The New York State Department of Environmental Conservation similarly noted that acid deposition "has been one of the significant issues facing New York and other states for the last three decades," that it "disagrees with the Administrator's decision not to follow CASAC's recommendations to propose an ecologically-relevant secondary standard for NOx and SOx at this time," and that it "believes that a new multi-pollutant ecologically based secondary standard should be set." EPA-HQ-OAR-2007-1145-0130 at 1-2 (JA0406-07). New York further noted that it "believes that the EPA has ample evidence to support a new, more relevant ecologically-based standard and that the process proposed in the PA for a combined NOx and SOx standard is reasonable and scientifically defendable." *Id.* at 3 (JA0408).

D. The Final Rule

EPA published its Final Rule in the Federal Register on April 3, 2012. Final Rule at 20,218 (JA0078). In the Final Rule, EPA summarized the effects of nitrogen and sulfur deposition that continue to occur under existing secondary standards, including degradation of lakes and streams which "affects recreational fishing and tourism," decreased forest growth "affecting red spruce and sugar maple timber production, sugar maple syrup production, hiking, aesthetic enjoyment and tourism," nutrient enrichment "affecting fish production, swimming, boating, aesthetic enjoyment and tourism," and harm to "ecosystem services" affecting biodiversity, endangered species, fire control, and other values. Final Rule at 20,234/1 (JA0094).

The Final Rule also confirmed EPA's conclusions that the existing standards do not use an ecologically relevant averaging time or appropriate atmospheric indicators, improperly consider nitrogen and sulfur impacts separately instead of concurrently, and fail to take into account variations in ecosystem sensitivity. *Id.* at 20,234/3-20,235/2 (JA0094-95). In particular, the Administrator found that current standards "do not provide adequate protection for ecosystems that are sensitive to aquatic acidification and that effects to these ecosystems are ongoing from ambient deposition" of nitrogen and sulfur oxides, and further found "sufficient evidence to conclude that ambient deposition under the current

secondary standards is causing or contributing to terrestrial acidification [and] nutrient enrichment in sensitive ecosystems." *Id.* at 20,240/1 (JA0100). Indeed, ***"[t]here are expansive data to indicate that the levels of deposition under the current standards are not sufficient to prevent adverse effects in ecosystems***." *Id.* at 20,240/1-2 (JA0100) (emphasis added). The Administrator thus reiterated her conclusion that

> current levels of oxides of nitrogen and sulfur are sufficient to cause acidification of both aquatic and terrestrial ecosystems, nutrient enrichment of terrestrial ecosystems and contribute to nutrient enrichment effects in estuaries that could be considered adverse, and ***the current secondary standards do not provide adequate protection from such effects***.

Id. at 20,241/3-20,242/1 (JA0101-02) (emphasis added).

Despite this conclusion, however, the Administrator refused to adopt a standard that would provide requisite protection against the adverse effects she conceded would persist under existing standards. Citing remaining uncertainties discussed in the Policy Assessment and the Scientific Advisory Committee review, the Administrator asserted that these uncertainties were "of such a significant nature and degree that sufficient information does not exist for the EPA to make a reasoned judgment" concerning a level of protection requisite to protect public welfare. *Id.* at 20,256/1 (JA0116). She reached this conclusion notwithstanding the Policy Assessment's identification of ranges of values for the form and level of a standard that would provide specific, quantified degrees of protection, based on

the known ecosystem effects of acidic deposition, and the Scientific Advisory Committee's conclusion that the Policy Assessment provided an appropriate and reasonable basis for setting a standard. The Administrator's conclusion thus directly contradicted findings by EPA staff and the Scientific Advisory Committee —findings echoed and endorsed by the National Park Service and the State of New York—that such an approach was scientifically sound and appropriate despite remaining uncertainty.

The Administrator also withdrew her proposal to set secondary standards at the level of the 2010 one-hour SO_x and NO_x primary standards. *Id.* at 20,263/3 (JA0123). Instead, the Administrator found "that it is not appropriate under Section 109(b) to set any new secondary standards at this time to address potentially adverse deposition-related effects associated with oxides of nitrogen and sulfur." *Id.* (JA0123) The Administrator left the existing standards in place, but only to "address direct effects of gaseous NO_2 and SO_2 on vegetation." *Id.* at 20,263/3-20,264/1 (JA0123-24). The Administrator's decision thus once again leaves fish, wildlife, and forests in sensitive ecosystems across the country without any standard whatsoever to protect against ongoing harm from deposition of nitrogen and sulfur pollution.

STANDARD OF REVIEW

At issue is whether the Administrator's action was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 42 U.S.C. § 7607(d)(9). For statutory interpretation, "[i]f the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." *Chevron U.S.A., Inc. v. Natural Res. Defense Council*, 467 U.S. 837, 842-43 (1984). If the statute is ambiguous, under *Chevron* step two, a reasonable agency interpretation of the statute is given deference. *Id.* at 843. Unless otherwise expressly indicated, references in this brief to "unlawful" agency action address both violation of congressional intent under *Chevron* step one and unreasonable agency interpretation under step two.

Agency action is arbitrary and capricious if, for example, the agency "entirely failed to consider an important aspect of the problem," *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983), reached a conclusion unsupported by substantial evidence, *Ass'n of Data Processing Serv. Orgs., Inc. v. Bd. of Governors Fed. Reserve Sys.*, 745 F.2d 677, 683-84 (D.C. Cir. 1984), or failed to "identif[y] and explain[] the reasoned basis for its decision," *Transactive Corp. v. U.S.*, 91 F.3d 232, 236 (D.C. Cir. 1996). In setting a NAAQS, EPA "has the heaviest of obligations to explain and expose

every step of its reasoning." *Am. Lung Ass'n v. EPA*, 134 F.3d 388, 392 (D.C. Cir. 1998).

SUMMARY OF ARGUMENT

The Administrator concluded in the Final Rule that acidic deposition caused by nitrogen and sulfur compounds in air pollution is damaging sensitive ecosystems, disrupting the aquatic food chain, killing fish (including trout and salmon) and suppressing aquatic life in acidified lakes and streams, and contributing to disease and dieback in forests of red spruce and sugar maple. The Administrator also concluded that existing secondary standards for oxides of nitrogen and sulfur are inadequate to address these adverse effects on the public welfare. Yet the Administrator chose to retain those standards—thus allowing known and anticipated adverse effects to the public welfare to continue. In so doing, the Administrator violated her statutory duty to identify a requisite level of protection for the public welfare and to set ambient air quality standards for nitrogen and sulfur oxide air pollution necessary to achieve and maintain that level of protection. As decades of Clean Air Act case law make clear, scientific uncertainties do not excuse EPA from this duty; rather, the statute affirmatively requires EPA to act in the face of uncertainty.

Further, the Administrator's stated rationale—that uncertainty is so great as to prevent any reasoned judgment as to the "requisite" level of protection for

public welfare—has no support in the law, the record, or EPA's own explanations. Contrary to the Administrator's claims, the agency's own staff and scientific advisors provided an ample scientific basis for setting a standard requisite to protect against aquatic acidification. Other agencies of government—including the National Park Service and the State of New York—echoed these recommendations. Yet the Administrator unlawfully, arbitrarily, and without reasoned explanation failed to adopt a requisite standard. The Final Rule must be vacated.

STANDING

Petitioners are non-profit membership organizations dedicated to the protection of America's air, parks, forests, fish and wildlife, and the ecosystems on which they depend. As shown in the attached declarations, Petitioners have members who regularly use and enjoy rivers, lakes, forests and wildlife that have been and will continue to be damaged by acidification and nutrient enrichment caused by deposition of nitrogen and sulfur compounds in air pollution. Petitioners' members' use and enjoyment of these resources has been and will continue to be adversely affected by acidification of forest and aquatic ecosystems caused by levels of nitrogen and sulfur air pollution allowed by the decision challenged here. *See, e.g.*, Decl. of John Davis; Decl. of Mollie Matteson; Decl. of Gregory Gorman; Decl. of Elizabeth Norcross.

EPA's decision to retain and not to revise existing, inadequate secondary standards for oxides of nitrogen and sulfur will prolong exposure of rivers, lakes, forests and wildlife that Petitioners' members use and enjoy to deposition from nitrogen and sulfur air pollution associated with a variety of adverse welfare effects, including death and injury to fish, disruption of breeding and distribution patterns in waterfowl, unsightly damage to trees and forests, and other serious effects as described herein and throughout the record. As shown in the attached declarations, these effects impair and threaten to impair Petitioners' members' use and enjoyment of these resources and deprive them of welfare protections the Act guarantees.

Further support for Petitioners' standing appears in the materials cited in this brief, in the record for EPA's final action, and in the attached declarations. Accordingly, Petitioners have standing to maintain this action. *See, e.g.*, *Friends of the Earth, Inc. v. Laidlaw Envtl. Servs. (TOC), Inc.*, 528 U.S. 167, 183 (2000) (environmental group has standing where members aver that they use affected area and that their aesthetic and recreational interests are impaired by the challenged actions); *Natural Res. Defense Council v. EPA*, 489 F.3d 1364, 1370-71 (D.C. Cir. 2007) (environmental group has standing to challenge adequacy of national EPA emission standards for plywood plants where members state that their enjoyment of outdoor activities is diminished by emissions from such plants); *Nuclear Energy*

Institute, Inc. v. EPA, 373 F.3d 1251, 1266 (D.C. Cir. 2004) (environmental groups have standing to challenge EPA failure to adopt more protective standards for radionuclide releases that could impact members' water supply).

ARGUMENT

Secondary standards must be "requisite to protect the public welfare." 42 U.S.C. § 7409(b)(2). EPA agrees that adverse effects to public welfare—including the death of fish in sensitive lakes and streams, disruptions of the aquatic food chain, and harm to red spruce and sugar maple forests—are occurring under current secondary standards for nitrogen and sulfur oxides. *Supra* at 10-12; 19-21. In light of the Administrator's own conclusion that current standards are not "requisite" to protect against these effects, the agency violated a clear statutory duty in failing to set a new, "requisite" standard, and instead deciding to retain standards it concedes are not requisite. Moreover, the Administrator's claim that it lacked any reasoned basis for adopting a requisite standard was arbitrary, capricious, and unsupported by an adequate explanation. The Final Rule must be vacated and EPA must be ordered to set a secondary standard requisite to protect the public welfare.

I. EPA Violated the Clean Air Act in Failing to Specify a Level of Air Quality Requisite to Protect Public Welfare and Instead Retaining Standards it Found are Not Requisite to Provide Such Protection

A. The EPA Failed to Specify a Level of Air Quality Requisite to Protect the Public Welfare as Mandated by the Act

In the Final Rule, the Administrator concluded that current secondary standards for oxides of nitrogen and sulfur are not requisite to protect the public welfare because they "are neither appropriate nor adequate to protect against deposition-related effects." Final Rule at 20,242/1 (JA0102). In particular, the extensive scientific review and analysis conducted in the Integrated Science Assessment, Risk and Exposure Assessment and Policy Assessment, and the advice of the Scientific Advisory Committee, led the Administrator to conclude that

> current levels of oxides of nitrogen and sulfur are sufficient to cause acidification of both aquatic and terrestrial ecosystems, nutrient enrichment of terrestrial ecosystems and contribute to nutrient enrichment effects in estuaries that could be considered adverse, and the **current secondary standards do not provide adequate protection from such effects**.

Id. at 20,241/3-20,242/1 (JA0101-02) (emphasis added).

In her final decision, the Administrator chose to leave those secondary standards in place to protect plants from direct gaseous exposure to SO_2 and NO_2—that is, for the same reason those standards were originally adopted in 1971. *See id.* at 20,239/2, 20,263/32-20,264/1 (JA0099, 0123-24). However, despite the Clean Air Act's clear requirement that secondary standards be adopted at a level "requisite" to protect *all* aspects of the public welfare, the Administrator failed to

identify *any* requisite level of protection or set *any* standard to address acidification or nutrient enhancement from nitrogen and sulfur deposition. *Id.* at 20,263/3 (JA0123) (declining "to set any new secondary standards at this time to address potentially adverse deposition-related effects").

The Administrator's decision violated the express terms of the statute. Section 109(b)(2) of the Act requires that "any" secondary standard "*shall specify a level of air quality* the attainment and maintenance of which in the judgment of the Administrator…*is requisite to protect the public welfare from any known or anticipated adverse effects* associated with the presence of such air pollutant in the ambient air." 42 U.S.C. §§ 7409(b)(2) (emphasis added); 7409(d)(1) (requiring any revision of the NAAQS to be "in accordance" with section 7409(b)). The Administrator has refused to "specify a level of air quality . . . requisite to protect the public welfare," 42 U.S.C. § 7409(b)(2), and has instead opted to retain standards that she concedes do *not* provide requisite protection against acknowledged harm from deposition of air pollutants. The agency's violation of the statute could not be clearer.

This Court's opinion in *Am. Farm Bureau Fed'n* is directly on point. In that case, EPA declined to identify a specific secondary standard for fine particulate matter requisite to protect the public welfare from visibility impairment. 559 F.3d at 529. EPA argued that it need not identify a level of visibility protection

requisite to protect public welfare due to uncertainty, specifically the inability of visibility studies to identify "the precise level or percentage of days of visibility impairment" at which adverse effects occurred. *Id.* The Court flatly rejected EPA's argument:

> EPA's assertion that it need not determine what level of visibility protection is requisite to protect the public welfare fails under the plain language of the statute. . . . *The EPA's failure to identify such a level when deciding where to set the level of air quality required by the revised secondary fine PM NAAQS is contrary to the statute and therefore unlawful*. Furthermore, the failure to set any target level of visibility protection deprived the EPA's decisionmaking of a reasoned basis.

Id. at 530 (emphasis added).

The same analysis holds here. The Administrator has an unambiguous statutory duty to set secondary standards for nitrogen and sulfur deposition that provide requisite protection "from *any* known or anticipated adverse effects" on the public welfare. 42 U.S.C. § 7409(b)(2) (emphasis added). The expansive term "any" embraces effects "of whatever stripe," *see Massachusetts v. EPA*, 549 U.S. 497, 528-29 & n.25 (2007), and thus necessarily includes all "known or anticipated" welfare effects related to acid deposition. Given the Administrator's conclusion that existing secondary standards are *not* in fact requisite to protect the public welfare from acidification and nutrient enhancement caused by a range of sulfur and nitrogen compounds, she plainly could not satisfy her duty under the

Clean Air Act by simply leaving in place 40-year old standards that protect only against direct exposure to gaseous NO_2 and SO_2.

Further, the Administrator did not follow *Am. Farm Bureau Fed'n's* directive that the agency first identify the requisite level of protection for the affected welfare value and then set the secondary NAAQS to achieve that level of protection. 559 F.3d at 529-30. Here, the Administrator met neither requirement. She refused to identify requisite levels of protection for aquatic life and forests from the adverse effects of nitrogen and sulfur deposition, and failed to specify a standard to achieve such levels of protection.

Accordingly, the Administrator's action contradicts the plain text of the statute, and thus fails at "Step 1" of the *Chevron* analysis. *See Am. Farm Bureau Fed'n*, 559 F.3d at 530 ("EPA's assertion that it need not determine what level . . . is requisite to protect the public welfare fails under the plain language of the statute."). In light of this clear legal error, therefore, the Court need not even reach the Administrator's claim regarding remaining scientific uncertainty. Final Rule at 20,262/3-20,263/1 (JA0122-23). *See Am. Farm Bureau Fed'n*, 559 F.3d at 530 (EPA's failure to "identify any target level" for welfare protection made it unnecessary to determine whether EPA's rejection of target recommended by staff and CASAC was reasonable in light of uncertainty).

B. The Clean Air Act Requires EPA to Set Secondary Standards Despite Remaining Uncertainty.

In the Final Rule, the Administrator claimed that the Clean Air Act does not require adoption of a secondary standard where scientific uncertainty "is of such a significant nature and degree that sufficient information does not exist for the EPA to make a reasoned judgment" as to whether the standard "would satisfy the criteria of Section 109(b)." Final Rule at 20,256/1 (JA0116). Yet, as decades of case law in this Court have established, the Administrator cannot evade her duty to set standards requisite to protect the public welfare by claiming that uncertainty or gaps in data make selection of the required standard difficult.

It is well settled that setting or revising a NAAQS requires EPA to act in the face of uncertainty. In *Am. Petroleum Institute v. EPA*, 684 F.3d 1342 (D.C. Cir. 2012), for example, the Court found EPA justified in revising the primary sulfur oxides NAAQS in light of statistically significant information about health effects, "even if the agency did not know the precise dose-response relationship" involved. *Id.* at 1350-51. The Court similarly upheld EPA's extrapolation "from known to unknown harm levels" in updating the NAAQS for lead, recognizing in the process "that 'by its nature the finding of risk is uncertain and the Administrator must use his [or her] discretion to meet the statutory mandate' of the particular Clean Air Act provisions involved." *Coal. of Battery Recyclers Ass'n v. EPA*, 604 F.3d 613,

621 (D.C. Cir. 2010) (quoting *Natural Res. Defense Council v. EPA*, 824 F.2d 1146, 1165 (D.C. Cir. 1987) (en banc)). And in *Am. Trucking Ass'ns, Inc. v. EPA*, 283 F.3d 355, 369-370 (D.C. Cir. 2002), this Court held that the Clean Air Act *requires* EPA to establish a NAAQS "even where, as here, the pollutant's risks cannot be quantified or precisely identified as to nature or degree." *Id.* at 369 (quotation marks omitted).

Indeed, the line of cases recognizing the necessity of establishing air quality standards despite scientific uncertainty extends, unbroken, all the way back to the early days of the Clean Air Act. *See, e.g.*, *Am. Lung Ass'n*, 134 F.3d 388; *Natural Res. Defense Council, Inc. v. Adm'r, United States EPA*, 902 F.2d 962, 968-69 (D.C. Cir. 1990), *vacated in part on other grounds*, 921 F.2d 326 (D.C. Cir. 1991); *Lead Indus. Ass'n, Inc. v. EPA*, 647 F.2d 1130, 1154-1155 (D.C. Cir. 1980); *see also Ethyl Corp. v. EPA*, 541 F.2d 1, 25, 27-28 (D.C. Cir. 1976).

Put simply, in setting a NAAQS EPA cannot wait for certainty before choosing a "requisite" standard. *Am. Trucking Ass'ns, Inc.*, 283 F.3d at 369. The statute does not limit EPA's standard-setting duty to situations where data are complete and uncertainties eliminated. *Lead Indus. Ass'n*, 647 F.2d at 1155. Rather, EPA must use its best judgment to specify, based on its review of the relevant factors and advice from the Scientific Advisory Committee, a standard that meets the statutory mandate *despite* remaining uncertainty. *Coal. of Battery*

Recyclers, 604 F.3d at 621. Thus, EPA cannot justify a complete refusal to identify a level of protection requisite to protect public welfare on the basis of residual uncertainty.

The Administrator attempts to find support for her inaction in a novel reading of a single sentence of *Massachusetts v. EPA*, 549 U.S. 497. *See* Final Rule at 20,256/1 (JA0116). In that case, the Supreme Court *rejected* EPA's argument that scientific uncertainty justified the agency's refusal to determine whether greenhouse gas emissions from cars and trucks endanger public health and welfare. *See Massachusetts v. EPA*, 549 U.S. at 534. According to the Administrator, however, *Massachusetts v. EPA* stands for the proposition that the agency can evade its clear and mandatory statutory duty simply by proclaiming that scientific uncertainty is "so profound that it precludes the EPA from making a reasoned judgment." Final Rule at 20,256/1 (JA0116) (quoting *Massachusetts v. EPA,* 549 U.S. at 534).

The Administrator's reliance on *Massachusetts v. EPA* is misplaced. The Clean Air Act provision at issue in that case required EPA to determine in the first instance whether emissions of pollutants from cars and trucks cause or contribute to air pollution that endangers health and welfare, as a prerequisite to setting limits on those emissions. *See Massachusetts v. EPA*, 549 U.S. at 532-34; 42 U.S.C. § 7521(a). The Clean Air Act provision at issue here, in contrast, affirmatively

requires EPA to "specify a level" of requisite protection from pollutants *already* identified as dangerous to health and welfare by virtue of having been listed as "criteria" pollutants. *See* 42 U.S.C. § 7409(b). These two provisions of the Act differ markedly.

Indeed, as *Am. Farm Bureau Fed'n* makes clear, the plain language of Section 109 requires EPA first to identify a requisite level of protection for the affected welfare value and then to set the secondary standard to achieve that level of protection.[4] 559 F.3d at 529-530. The Administrator failed to take either of these legally mandated steps here. Moreover, *Am. Farm Bureau Fed'n* makes clear that uncertainty is simply not a lawful excuse for such failures. *Id.* at 530 ("Because the EPA failed to identify any target level, we need not decide whether it was reasonable for the agency to reject the target recommended by the Staff Paper and the [Scientific Advisory Committee] because it was based on uncertain subjective evidence.").

II. EPA's Failure to Revise Existing Secondary Standards Here was Arbitrary and Irrational

[4] Even if *Massachusetts v. EPA* were applicable here, it would not support EPA's failure to act. As the Supreme Court held: "That EPA would prefer not to regulate greenhouse gases because of some residual uncertainty . . . is irrelevant. The statutory question is *whether sufficient information exists* to make an endangerment finding." 549 U.S. at 534 (emphasis added). As demonstrated below, there was more than sufficient information to establish a secondary air quality standard to protect against acid deposition.

Even if EPA could lawfully rely on uncertainty to evade its duties under section 109, the agency's failure to set new secondary standards here would be arbitrary and irrational. By claiming that the nature and degree of uncertainty here is such as to prevent any reasoned judgment whatsoever as to the "degree of protectiveness" provided by the standard, *see* Final Rule at 20,262/3 (JA0122), the Administrator is seeking to avoid the clear and unambiguous requirements of Section 109. In analogous circumstances, this Court has held that EPA's "burden of justification . . . is especially heavy." *Alabama Power Co. v. Costle*, 636 F.2d 323, 359 (D.C. Cir. 1979) (discussing standards for evaluation of agency's argument that statutory compliance may be avoided where administratively impossible). The Administrator has failed to carry any such burden here.

Indeed, the record does not support the Administrator's excuse at all. The range of forms and levels recommended in the Policy Assessment and endorsed by the Scientific Advisory Committee provided a reasoned basis for choosing both a requisite level of protection and a standard to achieve it. Moreover, the Administrator has failed even to adequately explain, much less demonstrate, that the data gaps and modeling uncertainties mentioned in the Final Rule are so profound as to render any choice of a level and standard inherently irrational.

The Administrator cannot claim she had no reasoned basis for judgment without completely ignoring the facts in front of her. This is the very definition of arbitrary and capricious action.

A. EPA Staff and the Scientific Advisory Committee Provided the Administrator with an Ample Basis for Reasoned Judgment as to the Form and Level of a Requisite Secondary Standard

Put simply, the Administrator's excuses cannot be squared with the fact that the Scientific Advisory Committee and EPA's own staff explicitly laid out, in great detail, an ample basis for setting a standard providing requisite protection from aquatic acidification. A standard based on the considered advice of these authorities plainly would have a reasoned basis sufficient to withstand judicial review. In fact, this Court has ruled that EPA **must** follow the Scientific Advisory Committee's advice unless EPA provides a reasoned explanation for rejecting it. *Am. Trucking*, 283 F.3d at 378-79. Though the Administrator might prefer greater certainty, the record flatly contradicts her extreme claim that there is "no" reasoned basis for setting a standard providing requisite protection.

EPA staff in the Policy Assessment laid out specific, quantitative values for levels and forms of the standard that, in combination, would offer a range of minimal to substantial protection from acidic deposition. Specifically, EPA staff developed two related ranges from which the Administrator could choose in setting an Aquatic Acidification Index-based standard: a "form" that would protect

between 70 and 90 percent of an acid-sensitive ecoregion's water bodies from exceeding a specified critical load, and a national acid neutralizing capacity "level" ranging from 20 to 75 μeq/L. Proposed Rule at 46,126/2-46,127/1 (JA0056-57); PA at 7-39 to 7-40 (JA0287-88) (discussing basis for selecting a percentage of water bodies for protection), 7-44 to 7-53 (JA0292-301) (discussing basis for selection of level, including ecological effects associated with different levels offering minimal to substantial protection).

The Staff's recommended range of acid neutralizing capacity between 20 to 75 μeq/L was based on an analysis of known ecological impacts that occur at different acid neutralizing capacity levels.[5] *See* PA at 7-47 to 7-48 (JA0295-96). Choosing to protect more water bodies would lead to a more protective standard, as would choosing a higher acid neutralizing capacity level.

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[5] As noted above, a higher level of acid neutralizing capacity provides greater protection. Thus, selecting an acid neutralizing capacity of 100 μeq/L would provide near-complete protection for all living things, while a level between 100 μeq/L and 50 μeq/L would allow some decline in the health of sensitive species. REA at 4-6 (JA0488). A level in the range of 75 μeq/L, moreover, would provide protection against "episodic" acidification (for example, when snow melts, releasing accumulated acidic precipitation into sensitive aquatic habitats, and acid neutralizing capacity temporarily dips to lower and more harmful levels). *See* PA at 7-49, 7-53 (JA0297, 0301). A level below 50 μeq/L would allow death or harm to sensitive species, while a level below 20 μeq/L would allow death or harm to all living things in a water body. REA at 4-6 (JA0488); *see also* PA at 7-46 to 7-48 (JA0294-96).

In order to test the effectiveness of the proposed ranges, EPA staff analyzed the results for acid-sensitive regions at four alternative levels between 20 and 75 μeq/L and in five different forms aiming to protect between 70 and 90 percent of a region's water bodies. PA at 7-56 to 7-59 (JA0304-07) (Tables 7-1a to 7-1d). Depending on the level and form chosen, between eight and 25 acid-sensitive regions would not meet the standard. PA at 7-60 to 7-61 (JA0308-09). EPA staff concluded that, "[a]s expected," fewer regions would meet the more stringent standards in the range. PA at 7-60 (JA0308). Moreover, the ecosystems known to be the most sensitive—such as the Appalachian and Shenandoah mountains, the lake regions of the Upper Midwest, and the high Rockies—would exceed all or most expressions of the standard, indicating that the new standard reflected observed data as to the effects of acid deposition. *See* PA at 7-60 to 7-61 (JA0308-09).

The Scientific Advisory Committee wholeheartedly endorsed staff's approach. In the Scientific Advisory Committee's unanimous, consensus view, the final Policy Assessment "clearly sets out the basis for the recommended ranges for each of the four elements (indicator, averaging time, level and form) of a potential NAAQS that uses ambient air indicators to address the combined effects of oxides of nitrogen and oxides of sulfur on aquatic ecosystems, primarily streams and lakes." Russell and Samet 2011 at 2 (JA0351). The Scientific Advisory

Committee also found that the Policy Assessment "describes the implications of choosing specific combinations of elements and provides numerous maps and tabular estimates of the spatial extent and degree of severity of NAAQS exceedances expected to result from possible combinations of the elements of the standard." *Id.* (JA0351). Accordingly, the Scientific Advisory Committee concluded that "this final PA is appropriate for use in determining a secondary standard to help protect aquatic ecosystems from acidifying deposition of oxides of sulfur and nitrogen," congratulated EPA staff on a "commendable" job in developing the aquatic acidification index, and expressed support for the potential ranges and choices presented by staff. *Id.* (JA0351); *see also id.* at 9 (JA0358) (concluding that Policy Assessment "provide[d] the Administrator with a broad but reasonable range of minimally to substantially protective options" from which to choose). Even the Administrator herself recognized that the Aquatic Acidification Index standard's structure is "well-grounded in the science" underlying the relationships between ambient air pollution, deposition, and aquatic acidification. Final Rule at 20,260/3-20,261/1 (JA0120-21). She further acknowledged the conclusion of the Policy Assessment and the Scientific Advisory Committee that "there is a strong scientific basis" for developing a standard based on the Aquatic Acidification Index, and that the equation "generally performs well." *Id.* at 20,261/1 (JA0121).

State and Federal agencies lent further support to staff's approach and urged EPA to choose specific standards they thought requisite to protect against aquatic acidification. For example, New York opined "that [an acid neutralizing capacity] value of 50 μeq/L . . . would be appropriate." EPA-HQ-OAR-2007-1145-0130 at 2 (JA0407). The National Park Service, noting that less stringent standards would leave the most sensitive areas without adequate standards, urged EPA to go beyond the ranges identified in the Policy Assessment by protecting 95% of water bodies at an acid neutralizing capacity level of 100 μeq/L, because this level "is most appropriate for protecting and maintaining biodiversity in aquatic ecosystems." EPA-HQ-OAR-2007-1145-0082 at 5 (JA0162).

Neither staff, nor the Scientific Advisory Committee, nor the National Park Service expressed any concern that uncertainty precluded setting a standard here. EPA staff and the Scientific Advisory Committee acknowledged some remaining uncertainties in the record but recommended action nonetheless. Russell and Samet 2011 at 11-12 (JA0360-61). As the Department of Interior pointed out, nothing in the Scientific Advisory Committee's consensus comments even suggested that uncertainties were so great as to preclude setting any standard at all. EPA-HQ-OAR-2007-1145-0149 at 2 (JA0411) ("CASAC recommended that further work be done to resolve uncertainties associated with ecosystem and atmospheric processes, but did not suggest that EPA defer setting an ecosystem-

based standard until that work was completed. We encourage EPA to proceed expeditiously to set ecologically based secondary standards."). New York and the National Park Service similarly urged the EPA to set a new secondary standard despite remaining uncertainty. EPA-HQ-OAR-2007-1145-0130 at 2 (JA0407) ("[T]he Department believes that a new multi-pollutant ecologically based secondary standard should be set, despite the uncertainties listed in the ISA, REA and PA"); EPA-HQ-OAR-2007-1145-0183 at 1 (JA0404) ("We disagree with EPA's assertion that uncertainties prevent EPA from understanding the level of protection afforded by a specific level and form of the standard.").

In light of this extensive record supporting selection of a form and level of a secondary standard requisite to protect against aquatic acidification, it is the Administrator's failure to set a standard that reflects a profound lack of reasoned judgment. EPA staff developed a sound and robust basis for selection of a standard to protect against aquatic acidification. The Scientific Advisory Committee reviewed staff's work and found it not only "reasonable," but "commendable." State and federal agencies urged EPA to adopt a requisite standard based on staff's efforts. Yet the Administrator refused to do so—claiming that in all of this work, built on decades of careful research, she could find no "reasoned basis" for exercising her judgment.

Further, any uncertainties in the Aquatic Acidification Index standard cannot possibly provide a reasoned basis for the Administrator's decision to retain the existing, outdated secondary standards that she herself concluded will allow ongoing harm to fish, forests, and wildlife in sensitive areas. This is precisely why the Clean Air Act requires action in the face of uncertainty—to avoid the certain harm that will occur from a failure to act. The Administrator's failure to act here lacks any support in the record, and is thus irrational and arbitrary on its face.

B. EPA Failed to Adequately Explain its Conclusion that Uncertainty Was So Profound as to Preclude Adoption of a Secondary Standard

In addition to each of the violations discussed above, EPA violated its clear obligation to explain its conclusion that uncertainty prevented any reasoned selection of a new secondary standard—especially where that conclusion ran counter to the advice of its own staff and the Scientific Advisory Committee. In the Clean Air Act context, where

> Congress has delegated to an administrative agency the critical task of assessing the public health and the power to make decisions of national import in which individuals' lives and welfare hang in the balance, that agency has the heaviest of obligations to explain and expose every step of its reasoning. For these compelling reasons, we have always required the Administrator to "cogently explain why [she] has exercised [her] discretion in a given manner."

Am. Lung Ass'n, 134 F.3d at 392 (quoting *State Farm*, 463 U.S. at 48) (alteration in original). EPA also has a specific statutory duty to explain its rejection of the

Scientific Advisory Committee's recommendation. *Am. Farm Bureau Fed'n*, 559 F.3d at 521 (citing 42 U.S.C. § 7607(d)(3)).

Having conceded the strong scientific basis for the Aquatic Acidification Index standard, Final Rule, 20,260/3-20,261/1 (JA0120-21), the Administrator nonetheless tried to claim that remaining uncertainty prevented her from establishing a new standard in any reasoned fashion. Specifically, she claimed "several important limitations in the available data upon which elements of the AAI are based," including both air and water quality data. *Id.* at 20,254/2 (JA0114); *see also id.* at 20,249/1-20,250/2 (JA0109-10). She further claimed that "uncertainties related to the use of ecological and atmospheric models are difficult to evaluate" due to this lack of data, *id.* at 20,254/3 (JA0114), and that the "application" of these models to the Aquatic Acidification Index "introduces uncertainties" because "limited observational data" make evaluation of "this specific application" of the models difficult. *Id.* at 20,250/1 (JA0110). Taken together, the Administrator asserted, these various uncertainties "prevent a reasoned understanding of the degree of protectiveness that would be afforded to various ecoregions across the country" by the Staff's proposed standard. *Id.* at 20,255/2, 20,262/3 (JA0115, 0122).

The Administrator failed, however, to explain exactly why these acknowledged uncertainties were so profound as to prevent any reasoned judgment

whatsoever. Rather, she simply recited the uncertainties discussed in the Policy Assessment and Scientific Advisory Committee review—neither of which recommended against setting a standard—and then asserted in conclusory fashion that these uncertainties deprived her of any reasoned basis for setting a standard. In so doing, the Administrator failed to rationally support or adequately explain her claimed inability to make a judgment. *See State Farm*, 463 U.S. at 51-53 (1983) (agency claim that it "could not reliably predict" benefits of automatic seat belts was not a reasoned basis for rescinding requirement for such seat belts, where claim was not supported by direct evidence and not adequately explained).

Data gaps, for example, are common to modeling, and do not defeat reliance on a model unless they are so extensive as to eliminate any rational connection whatsoever between the model and the known behavior of the pollutants modeled. *See Chemical Mfrs. Ass'n v. EPA*, 28 F.3d 1259, 1265 (D.C. Cir. 1994); *see also Appalachian Power Co. v. EPA*, 135 F.3d 791, 805 (D.C. Cir. 1998) ("To invalidate a model simply because it does not perfectly fit every data point would be to defeat the purpose of using a model.") (quotation marks omitted). The Administrator cited several areas where improved water quality and atmospheric data could lead to better model validation, *see* Final Rule at 20,250/1-3 (JA0110), but nowhere did she demonstrate that these data gaps would render use of these models in calculating the Aquatic Acidification Index factors completely irrational.

This is insufficient to defeat reliance on the models. *See Appalachian Power*, 135 F.3d at 805-06 ("Appalachian Power does not suggest in its argument before us that the uncertainty surrounding the data points is statistically unacceptable, only that it exists. We would not deem that sufficient to label EPA's model arbitrary and capricious.").

The agency's explanation for refusing to follow the advice of staff and the Scientific Advisory Committee is similarly lacking. First and foremost, the Final Rule misstates the Scientific Advisory Committee's conclusions. The Administrator claimed that "CASAC did not indicate that there was such a degree of scientific support for quantifying the terms of the AAI equation and setting a specific AAI-based standard at this time that it would be inappropriate to consider not setting an AAI-based standard in this review in light of the uncertainties that CASAC itself recognized." Final Rule at 20,261/3 (JA0121). This does not accurately convey the Scientific Advisory Committee's consensus view. The Scientific Advisory Committee did not state that the Administrator could fulfill her statutory duty by simply "considering" and rejecting a standard. Rather, the Scientific Advisory Committee very clearly stated that the information in the Policy Assessment was "appropriate *for use in determining* a secondary standard," that EPA staff had "done a commendable job" in developing the Aquatic Acidification Index, and that it supported "the potential choices/ranges presented

by EPA staff on the indicators, form, averaging time, and level that should be considered for a revised secondary NOx-SOx NAAQS." Russell and Samet 2011 at 2 (JA0351) (emphasis added); *see id.* at 9 (JA0358) ("These combined recommendations provide the Administrator with a broad but reasonable range of minimally to substantially protective options for the standard.") All of these comments show that the Scientific Advisory Committee believed that the information was sufficient to support *adoption* of a standard, not mere consideration and rejection of a standard.

The Administrator's attempt to convert the Scientific Advisory Committee's evaluation of remaining uncertainty into a rationale for declining to set a standard similarly fails. She notes that the Scientific Advisory Committee itself "acknowledged that important uncertainties remain that would benefit from further study and data collection efforts, which might lead to potential revisions or modifications" to an Aquatic Acidification Index-based standard. Final Rule at 20,261/3 (JA0121). Yet the Scientific Advisory Committee recommended further research and analysis in the context of "future" EPA work, not as a necessary step before any Aquatic Acidification Index-based standard could be adopted. *See* Russell and Samet 2011 at 11-12 (JA0360-61). Again, nothing in the Scientific Advisory Committee's evaluation suggested that these uncertainties were so profound as to prevent the Administrator from choosing a standard. On the

contrary, the Scientific Advisory Committee explicitly found "reasonable" the range of choices offered in the Policy Assessment.

Once again, *Am. Farm Bureau Fed'n* is instructive. There, the Scientific Advisory Committee recommended an annual primary (health) standard for fine particulate matter more protective than 15 $\mu g/m^3$, based on short-term exposure studies showing adverse health effects in places with annual concentrations below that level. 559 F.3d at 520-21. EPA, while not disagreeing with the factual basis for the Scientific Advisory Committee's recommendation, nonetheless chose to retain the 15 $\mu g/m^3$ standard, based on the belief that it was more appropriate to consider the short-term exposure studies referenced in the Scientific Advisory Committee report only in the context of a separate, shorter-term (24-hour) standard. *Id.* at 521. The Court held EPA "failed adequately to explain its reason for not accepting the CASAC's recommendations." *Id.*

EPA took a similarly deficient approach here in expressing agreement with the Scientific Advisory Committee's overall discussion of the Aquatic Acidification Index-based standard's scientific robustness, yet refusing to set a revised Aquatic Acidification Index-based standard. Nowhere does EPA adequately explain why the very same uncertainty discussed by the Scientific Advisory Committee in the context of finding the Policy Assessment's range of recommended standards "reasonable" is nonetheless so great as to foreclose any

"reasoned" selection of a standard from within that range. Nowhere does EPA explain how its mere "consideration" and rejection of the standard has any basis in the Scientific Advisory Committee's and Policy Assessment's conclusions that the record supported establishment of the standard. EPA completely failed to explain the "link between this conclusion and the factual record." *Am. Lung Ass'n*, 134 F.3d at 392. At the very least, therefore, the Final Rule must be vacated and remanded for further explanation.

CONCLUSION AND RELIEF REQUESTED

For the reasons stated above Petitioners respectfully request that this Court vacate the Final Rule and remand this matter to EPA to establish a new standard adequate to protect the public welfare, including protection against aquatic acidification. Petitioners further request that this Court establish a schedule for EPA action on remand, as EPA's long delays in this rulemaking have previously required a deadline suit to compel action.[6] See, e.g., *Envtl. Def. Fund v. EPA*, 852 F.2d 1316, 1331 (D.C. Cir. 1988) ("EPA's history of delay and missed deadlines with respect to its statutory obligations . . . indicates that a court-imposed schedule is necessary here"). In this rulemaking, fourteen months elapsed between the Policy Assessment of February 2011 and the Final Rule of April 2012. Given

[6] EPA-HQ-OAR-2007-1145-0173 (JA0133).

EPA's consideration of this subject matter to date, and EPA's prior history of delay, an equivalent time period will be more than sufficient for EPA to issue a new final rule. Therefore, Petitioners request that this Court order EPA to issue a final rule complying with the terms of its decision within fourteen months of such a decision.

DATED: May 20, 2013

Respectfully submitted,

/s/Charles McPhedran
Charles McPhedran
Earthjustice
1617 JFK Boulevard, Suite 1675
Philadelphia, PA 19103
(215) 717-4521
cmcphedran@earthjustice.org

David S. Baron
Earthjustice
1625 Massachusetts Ave., NW
Suite 702
Washington, DC 20036
(202) 667-4500
dbaron@earthjustice.org
Counsel for Center for Biological Diversity, Clean Air Council, and National Parks Conservation Association

/s/Kassia R. Siegel (with permission)
Kassia R. Siegel
Kevin P. Bundy
Center for Biological Diversity
351 California Street, Suite 600
San Francisco, CA 94104
(415) 436-9682 ext. 313
ksiegel@biologicaldiversity.org
kbundy@biologicaldiversity.org
Counsel for Center for Biological Diversity

CERTIFICATE REGARDING WORD LIMITATION

Counsel hereby certifies that, in accordance with Federal Rule of Appellate Procedure 32(a)(7)(C), the foregoing Final Opening Brief of Petitioners contains 10,915 words, as counted by counsel's word processing system.

DATED: May 20, 2013

/s/Charles McPhedran
Charles McPhedran

CERTIFICATE OF SERVICE

I hereby certify that on this 20th day of May, 2013, I have served the foregoing **Final Opening Brief of Petitioners** on all registered counsel through the Court's electronic filing system (ECF).

/s/Charles McPhedran
Charles McPhedran

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Part A. Air Quality and Emissions Limitations (Refs & Annos)

42 U.S.C.A. § 7403(j)

§ 7403. Research, investigation, training, and other activities

Currentness

(j) Continuation of national acid precipitation assessment program

(1) The acid precipitation research program set forth in the Acid Precipitation Act of 1980 [42 U.S.C.A. § 8901 et seq.] shall be continued with modifications pursuant to this subsection.

(2) The Acid Precipitation Task Force shall consist of the Administrator of the Environmental Protection Agency, the Secretary of Energy, the Secretary of the Interior, the Secretary of Agriculture, the Administrator of the National Oceanic and Atmospheric Administration, the Administrator of the National Aeronautics and Space Administration, and such additional members as the President may select. The President shall appoint a chairman for the Task Force from among its members within 30 days after November 15, 1990.

(3) The responsibilities of the Task Force shall include the following:

(A) Review of the status of research activities conducted to date under the comprehensive research plan developed pursuant to the Acid Precipitation Act of 1980 [42 U.S.C.A. § 8901 et seq.], and development of a revised plan that identifies significant research gaps and establishes a coordinated program to address current and future research priorities. A draft of the revised plan shall be submitted by the Task Force to Congress within 6 months after November 15, 1990. The plan shall be available for public comment during the 60 day period after its submission, and a final plan shall be submitted by the President to the Congress within 45 days after the close of the comment period.

(B) Coordination with participating Federal agencies, augmenting the agencies' research and monitoring efforts and sponsoring additional research in the scientific community as necessary to ensure the availability and quality of data and methodologies needed to evaluate the status and effectiveness of the acid deposition control program. Such research and monitoring efforts shall include, but not be limited to--

(i) continuous monitoring of emissions of precursors of acid deposition;

(ii) maintenance, upgrading, and application of models, such as the Regional Acid Deposition Model, that describe the interactions of emissions with the atmosphere, and models that describe the response of ecosystems to acid deposition; and

(iii) analysis of the costs, benefits, and effectiveness of the acid deposition control program.

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(C) Publication and maintenance of a National Acid Lakes Registry that tracks the condition and change over time of a statistically representative sample of lakes in regions that are known to be sensitive to surface water acidification.

(D) Submission every two years of a unified budget recommendation to the President for activities of the Federal Government in connection with the research program described in this subsection.

(E) Beginning in 1992 and biennially thereafter, submission of a report to Congress describing the results of its investigations and analyses. The reporting of technical information about acid deposition shall be provided in a format that facilitates communication with policymakers and the public. The report shall include--

(i) actual and projected emissions and acid deposition trends;

(ii) average ambient concentrations of acid deposition percursors[1] and their transformation products;

(iii) the status of ecosystems (including forests and surface waters), materials, and visibility affected by acid deposition;

(iv) the causes and effects of such deposition, including changes in surface water quality and forest and soil conditions;

(v) the occurrence and effects of episodic acidification, particularly with respect to high elevation watersheds; and

(vi) the confidence level associated with each conclusion to aid policymakers in use of the information.

(F) Beginning in 1996, and every 4 years thereafter, the report under subparagraph (E) shall include--

(i) the reduction in deposition rates that must be achieved in order to prevent adverse ecological effects; and

(ii) the costs and benefits of the acid deposition control program created by subchapter IV-A of this chapter.

Credits

(July 14, 1955, c. 360, Title I, § 103, formerly § 3, as added Dec. 17, 1963, Pub.L. 88-206, § 1, 77 Stat. 394, and renumbered § 103 and amended Oct. 20, 1965, Pub.L. 89-272, Title I, §§ 101(3), 103, 79 Stat. 992, 996; Nov. 21, 1967, Pub.L. 90-148, § 2, 81 Stat. 486; Dec. 31, 1970, Pub.L. 91-604, §§ 2(a), 4(b)(2), 15(a)(2), (c)(2), 84 Stat. 1676, 1689, 1710, 1713; Aug. 7, 1977, Pub.L. 95-95, Title I, § 101(a), (b), 91 Stat. 686, 687; Nov. 15, 1990, Pub.L. 101-549, Title IX, § 901(a) to (c), 104 Stat. 2700 to 2703.)

Footnotes

1 So in original. Probably should be "precursors".

42 U.S.C.A. § 7403, 42 USCA § 7403

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Title 42. The Public Health and Welfare
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Subchapter I. Programs and Activities
Part A. Air Quality and Emissions Limitations (Refs & Annos)

42 U.S.C.A. § 7408

§ 7408. Air quality criteria and control techniques

Effective: November 10, 1998

Currentness

(a) Air pollutant list; publication and revision by Administrator; issuance of air quality criteria for air pollutants

(1) For the purpose of establishing national primary and secondary ambient air quality standards, the Administrator shall within 30 days after December 31, 1970, publish, and shall from time to time thereafter revise, a list which includes each air pollutant--

(A) emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare;

(B) the presence of which in the ambient air results from numerous or diverse mobile or stationary sources; and

(C) for which air quality criteria had not been issued before December 31, 1970, but for which he plans to issue air quality criteria under this section.

(2) The Administrator shall issue air quality criteria for an air pollutant within 12 months after he has included such pollutant in a list under paragraph (1). Air quality criteria for an air pollutant shall accurately reflect the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare which may be expected from the presence of such pollutant in the ambient air, in varying quantities. The criteria for an air pollutant, to the extent practicable, shall include information on--

(A) those variable factors (including atmospheric conditions) which of themselves or in combination with other factors may alter the effects on public health or welfare of such air pollutant;

(B) the types of air pollutants which, when present in the atmosphere, may interact with such pollutant to produce an adverse effect on public health or welfare; and

(C) any known or anticipated adverse effects on welfare.

(b) Issuance by Administrator of information on air pollution control techniques; standing consulting committees for air

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pollutants; establishment; membership

(1) Simultaneously with the issuance of criteria under subsection (a) of this section, the Administrator shall, after consultation with appropriate advisory committees and Federal departments and agencies, issue to the States and appropriate air pollution control agencies information on air pollution control techniques, which information shall include data relating to the cost of installation and operation, energy requirements, emission reduction benefits, and environmental impact of the emission control technology. Such information shall include such data as are available on available technology and alternative methods of prevention and control of air pollution. Such information shall also include data on alternative fuels, processes, and operating methods which will result in elimination or significant reduction of emissions.

(2) In order to assist in the development of information on pollution control techniques, the Administrator may establish a standing consulting committee for each air pollutant included in a list published pursuant to subsection (a)(1) of this section, which shall be comprised of technically qualified individuals representative of State and local governments, industry, and the academic community. Each such committee shall submit, as appropriate, to the Administrator information related to that required by paragraph (1).

(c) Review, modification, and reissuance of criteria or information

The Administrator shall from time to time review, and, as appropriate, modify, and reissue any criteria or information on control techniques issued pursuant to this section. Not later than six months after August 7, 1977, the Administrator shall revise and reissue criteria relating to concentrations of NO_2 over such period (not more than three hours) as he deems appropriate. Such criteria shall include a discussion of nitric and nitrous acids, nitrites, nitrates, nitrosamines, and other carcinogenic and potentially carcinogenic derivatives of oxides of nitrogen.

(d) Publication in Federal Register; availability of copies for general public

The issuance of air quality criteria and information on air pollution control techniques shall be announced in the Federal Register and copies shall be made available to the general public.

(e) Transportation planning and guidelines

The Administrator shall, after consultation with the Secretary of Transportation, and after providing public notice and opportunity for comment, and with State and local officials, within nine months after November 15, 1990, and periodically thereafter as necessary to maintain a continuous transportation-air quality planning process, update the June 1978 Transportation-Air Quality Planning Guidelines and publish guidance on the development and implementation of transportation and other measures necessary to demonstrate and maintain attainment of national ambient air quality standards. Such guidelines shall include information on--

(1) methods to identify and evaluate alternative planning and control activities;

(2) methods of reviewing plans on a regular basis as conditions change or new information is presented;

(3) identification of funds and other resources necessary to implement the plan, including interagency agreements on providing such funds and resources;

(4) methods to assure participation by the public in all phases of the planning process; and

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(5) such other methods as the Administrator determines necessary to carry out a continuous planning process.

(f) Information regarding processes, procedures, and methods to reduce or control pollutants in transportation; reduction of mobile source related pollutants; reduction of impact on public health

(1) The Administrator shall publish and make available to appropriate Federal, State, and local environmental and transportation agencies not later than one year after November 15, 1990, and from time to time thereafter--

(A) information prepared, as appropriate, in consultation with the Secretary of Transportation, and after providing public notice and opportunity for comment, regarding the formulation and emission reduction potential of transportation control measures related to criteria pollutants and their precursors, including, but not limited to--

(i) programs for improved public transit;

(ii) restriction of certain roads or lanes to, or construction of such roads or lanes for use by, passenger buses or high occupancy vehicles;

(iii) employer-based transportation management plans, including incentives;

(iv) trip-reduction ordinances;

(v) traffic flow improvement programs that achieve emission reductions;

(vi) fringe and transportation corridor parking facilities serving multiple occupancy vehicle programs or transit service;

(vii) programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration particularly during periods of peak use;

(viii) programs for the provision of all forms of high-occupancy, shared-ride services;

(ix) programs to limit portions of road surfaces or certain sections of the metropolitan area to the use of non-motorized vehicles or pedestrian use, both as to time and place;

(x) programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists, in both public and private areas;

(xi) programs to control extended idling of vehicles;

(xii) programs to reduce motor vehicle emissions, consistent with subchapter II of this chapter, which are caused by extreme cold start conditions;

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(xiii) employer-sponsored programs to permit flexible work schedules;

(xiv) programs and ordinances to facilitate non-automobile travel, provision and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts of a locality, including programs and ordinances applicable to new shopping centers, special events, and other centers of vehicle activity;

(xv) programs for new construction and major reconstructions of paths, tracks or areas solely for the use by pedestrian or other non-motorized means of transportation when economically feasible and in the public interest. For purposes of this clause, the Administrator shall also consult with the Secretary of the Interior; and

(xvi) program to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks.

(B) information on additional methods or strategies that will contribute to the reduction of mobile source related pollutants during periods in which any primary ambient air quality standard will be exceeded and during episodes for which an air pollution alert, warning, or emergency has been declared;

(C) information on other measures which may be employed to reduce the impact on public health or protect the health of sensitive or susceptible individuals or groups; and

(D) information on the extent to which any process, procedure, or method to reduce or control such air pollutant may cause an increase in the emissions or formation of any other pollutant.

(2) In publishing such information the Administrator shall also include an assessment of--

(A) the relative effectiveness of such processes, procedures, and methods;

(B) the potential effect of such processes, procedures, and methods on transportation systems and the provision of transportation services; and

(C) the environmental, energy, and economic impact of such processes, procedures, and methods.

(g) Assessment of risks to ecosystems

The Administrator may assess the risks to ecosystems from exposure to criteria air pollutants (as identified by the Administrator in the Administrator's sole discretion).

(h) RACT/BACT/LAER clearinghouse

The Administrator shall make information regarding emission control technology available to the States and to the general public through a central database. Such information shall include all control technology information received pursuant to State plan provisions requiring permits for sources, including operating permits for existing sources.

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Credits

(July 14, 1955, c. 360, Title I, § 108, as added Dec. 31, 1970, Pub.L. 91-604, § 4(a), 84 Stat. 1678; amended Aug. 7, 1977, Pub.L. 95-95, Title I, §§ 104, 105, Title IV, § 401(a), 91 Stat. 689, 790; Nov. 15, 1990, Pub.L. 101-549, Title I, §§ 108(a) to (c), (o), 111, 104 Stat. 2465, 2466, 2469, 2470; Nov. 10, 1998, Pub.L. 105-362, Title XV, § 1501(b), 112 Stat. 3294.)

Notes of Decisions (13)

42 U.S.C.A. § 7408, 42 USCA § 7408

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Subchapter I. Programs and Activities
Part A. Air Quality and Emissions Limitations (Refs & Annos)

42 U.S.C.A. § 7409

§ 7409. National primary and secondary ambient air quality standards

Currentness

(a) Promulgation

(1) The Administrator--

(A) within 30 days after December 31, 1970, shall publish proposed regulations prescribing a national primary ambient air quality standard and a national secondary ambient air quality standard for each air pollutant for which air quality criteria have been issued prior to such date; and

(B) after a reasonable time for interested persons to submit written comments thereon (but no later than 90 days after the initial publication of such proposed standards) shall by regulation promulgate such proposed national primary and secondary ambient air quality standards with such modifications as he deems appropriate.

(2) With respect to any air pollutant for which air quality criteria are issued after December 31, 1970, the Administrator shall publish, simultaneously with the issuance of such criteria and information, proposed national primary and secondary ambient air quality standards for any such pollutant. The procedure provided for in paragraph (1)(B) of this subsection shall apply to the promulgation of such standards.

(b) Protection of public health and welfare

(1) National primary ambient air quality standards, prescribed under subsection (a) of this section shall be ambient air quality standards the attainment and maintenance of which in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health. Such primary standards may be revised in the same manner as promulgated.

(2) Any national secondary ambient air quality standard prescribed under subsection (a) of this section shall specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator, based on such criteria, is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air. Such secondary standards may be revised in the same manner as promulgated.

(c) National primary ambient air quality standard for nitrogen dioxide

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The Administrator shall, not later than one year after August 7, 1977, promulgate a national primary ambient air quality standard for NO_2 concentrations over a period of not more than 3 hours unless, based on the criteria issued under section 7408(c) of this title, he finds that there is no significant evidence that such a standard for such a period is requisite to protect public health.

(d) Review and revision of criteria and standards; independent scientific review committee; appointment; advisory functions

(1) Not later than December 31, 1980, and at five-year intervals thereafter, the Administrator shall complete a thorough review of the criteria published under section 7408 of this title and the national ambient air quality standards promulgated under this section and shall make such revisions in such criteria and standards and promulgate such new standards as may be appropriate in accordance with section 7408 of this title and subsection (b) of this section. The Administrator may review and revise criteria or promulgate new standards earlier or more frequently than required under this paragraph.

(2)(A) The Administrator shall appoint an independent scientific review committee composed of seven members including at least one member of the National Academy of Sciences, one physician, and one person representing State air pollution control agencies.

(B) Not later than January 1, 1980, and at five-year intervals thereafter, the committee referred to in subparagraph (A) shall complete a review of the criteria published under section 7408 of this title and the national primary and secondary ambient air quality standards promulgated under this section and shall recommend to the Administrator any new national ambient air quality standards and revisions of existing criteria and standards as may be appropriate under section 7408 of this title and subsection (b) of this section.

(C) Such committee shall also (i) advise the Administrator of areas in which additional knowledge is required to appraise the adequacy and basis of existing, new, or revised national ambient air quality standards, (ii) describe the research efforts necessary to provide the required information, (iii) advise the Administrator on the relative contribution to air pollution concentrations of natural as well as anthropogenic activity, and (iv) advise the Administrator of any adverse public health, welfare, social, economic, or energy effects which may result from various strategies for attainment and maintenance of such national ambient air quality standards.

Credits

(July 14, 1955, c. 360, Title I, § 109, as added Dec. 31, 1970, Pub.L. 91-604, § 4(a), 84 Stat. 1679; amended Aug. 7, 1977, Pub.L. 95-95, Title I, § 106, 91 Stat. 691.)

Notes of Decisions (65)

42 U.S.C.A. § 7409, 42 USCA § 7409

Current through P.L. 112-195 (excluding P.L. 112-140 and 112-141) approved 10-5-12**End of Document**

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United States Code Annotated
Title 42. The Public Health and Welfare
Chapter 85. Air Pollution Prevention and Control (Refs & Annos)
Subchapter II. Emission Standards for Moving Sources
Part A. Motor Vehicle Emission and Fuel Standards (Refs & Annos)

42 U.S.C.A. § 7521(a)

§ 7521. Emission standards for new motor vehicles or new motor vehicle engines

Currentness

(a) Authority of Administrator to prescribe by regulation

Except as otherwise provided in subsection (b) of this section--

(1) The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare. Such standards shall be applicable to such vehicles and engines for their useful life (as determined under subsection (d) of this section, relating to useful life of vehicles for purposes of certification), whether such vehicles and engines are designed as complete systems or incorporate devices to prevent or control such pollution.

(2) Any regulation prescribed under paragraph (1) of this subsection (and any revision thereof) shall take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.

(3)(A) In general

(i) Unless the standard is changed as provided in subparagraph (B), regulations under paragraph (1) of this subsection applicable to emissions of hydrocarbons, carbon monoxide, oxides of nitrogen, and particulate matter from classes or categories of heavy-duty vehicles or engines manufactured during or after model year 1983 shall contain standards which reflect the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the model year to which such standards apply, giving appropriate consideration to cost, energy, and safety factors associated with the application of such technology.

(ii) In establishing classes or categories of vehicles or engines for purposes of regulations under this paragraph, the Administrator may base such classes or categories on gross vehicle weight, horsepower, type of fuel used, or other appropriate factors.

(B) Revised standards for heavy duty trucks

(i) On the basis of information available to the Administrator concerning the effects of air pollutants emitted from heavy-duty vehicles or engines and from other sources of mobile source related pollutants on the public health and welfare, and taking costs into account, the Administrator may promulgate regulations under paragraph (1) of this subsection

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revising any standard promulgated under, or before the date of, the enactment of the Clean Air Act Amendments of 1990 (or previously revised under this subparagraph) and applicable to classes or categories of heavy-duty vehicles or engines.

(ii) Effective for the model year 1998 and thereafter, the regulations under paragraph (1) of this subsection applicable to emissions of oxides of nitrogen (NO_x) from gasoline and diesel-fueled heavy duty trucks shall contain standards which provide that such emissions may not exceed 4.0 grams per brake horsepower hour (gbh).

(C) Lead time and stability

Any standard promulgated or revised under this paragraph and applicable to classes or categories of heavy-duty vehicles or engines shall apply for a period of no less than 3 model years beginning no earlier than the model year commencing 4 years after such revised standard is promulgated.

(D) Rebuilding practices

The Administrator shall study the practice of rebuilding heavy-duty engines and the impact rebuilding has on engine emissions. On the basis of that study and other information available to the Administrator, the Administrator may prescribe requirements to control rebuilding practices, including standards applicable to emissions from any rebuilt heavy-duty engines (whether or not the engine is past its statutory useful life), which in the Administrator's judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare taking costs into account. Any regulation shall take effect after a period the Administrator finds necessary to permit the development and application of the requisite control measures, giving appropriate consideration to the cost of compliance within the period and energy and safety factors.

(E) Motorcycles

For purposes of this paragraph, motorcycles and motorcycle engines shall be treated in the same manner as heavy-duty vehicles and engines (except as otherwise permitted under section 7525(f)(1) of this title) unless the Administrator promulgates a rule reclassifying motorcycles as light-duty vehicles within the meaning of this section or unless the Administrator promulgates regulations under subsection (a) of this section applying standards applicable to the emission of air pollutants from motorcycles as a separate class or category. In any case in which such standards are promulgated for such emissions from motorcycles as a separate class or category, the Administrator, in promulgating such standards, shall consider the need to achieve equivalency of emission reductions between motorcycles and other motor vehicles to the maximum extent practicable.

(4)(A) Effective with respect to vehicles and engines manufactured after model year 1978, no emission control device, system, or element of design shall be used in a new motor vehicle or new motor vehicle engine for purposes of complying with requirements prescribed under this subchapter if such device, system, or element of design will cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation or function.

(B) In determining whether an unreasonable risk exists under subparagraph (A), the Administrator shall consider, among other factors, (i) whether and to what extent the use of any device, system, or element of design causes, increases, reduces, or eliminates emissions of any unregulated pollutants; (ii) available methods for reducing or eliminating any risk to public health, welfare, or safety which may be associated with the use of such device, system, or element of design, and (iii) the availability of other devices, systems, or elements of design which may be used to conform to requirements prescribed under this subchapter without causing or contributing to such unreasonable risk. The Administrator shall include in the consideration required by this paragraph all relevant information developed pursuant to section 7548 of this title.

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(5)(A) If the Administrator promulgates final regulations which define the degree of control required and the test procedures by which compliance could be determined for gasoline vapor recovery of uncontrolled emissions from the fueling of motor vehicles, the Administrator shall, after consultation with the Secretary of Transportation with respect to motor vehicle safety, prescribe, by regulation, fill pipe standards for new motor vehicles in order to insure effective connection between such fill pipe and any vapor recovery system which the Administrator determines may be required to comply with such vapor recovery regulations. In promulgating such standards the Administrator shall take into consideration limits on fill pipe diameter, minimum design criteria for nozzle retainer lips, limits on the location of the unleaded fuel restrictors, a minimum access zone surrounding a fill pipe, a minimum pipe or nozzle insertion angle, and such other factors as he deems pertinent.

(B) Regulations prescribing standards under subparagraph (A) shall not become effective until the introduction of the model year for which it would be feasible to implement such standards, taking into consideration the restraints of an adequate leadtime for design and production.

(C) Nothing in subparagraph (A) shall (i) prevent the Administrator from specifying different nozzle and fill neck sizes for gasoline with additives and gasoline without additives or (ii) permit the Administrator to require a specific location, configuration, modeling, or styling of the motor vehicle body with respect to the fuel tank fill neck or fill nozzle clearance envelope.

(D) For the purpose of this paragraph, the term "fill pipe" shall include the fuel tank fill pipe, fill neck, fill inlet, and closure.

(6) Onboard vapor recovery

Within 1 year after November 15, 1990, the Administrator shall, after consultation with the Secretary of Transportation regarding the safety of vehicle-based ("onboard") systems for the control of vehicle refueling emissions, promulgate standards under this section requiring that new light-duty vehicles manufactured beginning in the fourth model year after the model year in which the standards are promulgated and thereafter shall be equipped with such systems. The standards required under this paragraph shall apply to a percentage of each manufacturer's fleet of new light-duty vehicles beginning with the fourth model year after the model year in which the standards are promulgated. The percentage shall be as specified in the following table:

IMPLEMENTATION SCHEDULE FOR ONBOARD VAPOR RECOVERY REQUIREMENTS

Model year commencing after standards promulgated	Percentage*
Fourth	40
Fifth	80
After Fifth	100

*Percentages in the table refer to a percentage of the manufacturer's sales volume.

The standards shall require that such systems provide a minimum evaporative emission capture efficiency of 95 percent. The

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requirements of section 7511a(b)(3) of this title (relating to stage II gasoline vapor recovery) for areas classified under section 7511 of this title as moderate for ozone shall not apply after promulgation of such standards and the Administrator may, by rule, revise or waive the application of the requirements of such section 7511a(b)(3) of this title for areas classified under section 7511 of this title as Serious, Severe, or Extreme for ozone, as appropriate, after such time as the Administrator determines that onboard emissions control systems required under this paragraph are in widespread use throughout the motor vehicle fleet.

Credits

(July 14, 1955, c. 360, Title II, § 202, as added Oct. 20, 1965, Pub.L. 89-272, Title I, § 101(8), 79 Stat. 992; amended Nov. 21, 1967, Pub.L. 90-148, § 2, 81 Stat. 499; Dec. 31, 1970, Pub.L. 91-604, § 6(a), 84 Stat. 1690; June 22, 1974, Pub.L. 93-319, § 5, 88 Stat. 258; Aug. 7, 1977, Pub.L. 95-95, Title II, §§ 201, 202(b), 213(b), 214(a), 215 to 217, 224(a), (b), (g), Title IV, § 401(d), 91 Stat. 751 to 753, 758 to 761, 765, 767, 769, 791; Nov. 16, 1977, Pub.L. 95-190, § 14(a)(60) to (65), (b)(5), 91 Stat. 1403, 1405; Nov. 15, 1990, Pub.L. 101-549, Title II, §§ 201 to 207, 227(b), 230(1) to (5), 104 Stat. 2472 to 2481, 2507, 2529.)

Editors' Notes

EXECUTIVE ORDERS

EXECUTIVE ORDER NO. 13432

<May 14, 2007, 72 F.R. 27717>

COOPERATION AMONG AGENCIES IN PROTECTING THE ENVIRONMENT WITH RESPECT TO GREENHOUSE GAS EMISSIONS FROM MOTOR VEHICLES, NONROAD VEHICLES, AND NONROAD ENGINES

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1. Policy. It is the policy of the United States to ensure the coordinated and effective exercise of the authorities of the President and the heads of the Department of Transportation, the Department of Energy, and the Environmental Protection Agency to protect the environment with respect to greenhouse gas emissions from motor vehicles, nonroad vehicles, and nonroad engines, in a manner consistent with sound science, analysis of benefits and costs, public safety, and economic growth.

Sec. 2. Definitions. As used in this order:

(a) "agencies" refers to the Department of Transportation, the Department of Energy, and the Environmental Protection Agency, and all units thereof, and "agency" refers to any of them;

(b) "alternative fuels" has the meaning specified for that term in section 301(2) of the Energy Policy Act of 1992 (42 U.S.C. 13211(2));

(c) "authorities" include the Clean Air Act (42 U.S.C. 7401-7671q), the Energy Policy Act of 1992 (Public Law 102-486), the Energy Policy Act of 2005 (Public Law 109-58), the Energy Policy and Conservation Act (Public Law 94-163), and any other current or future laws or regulations that may authorize or require any of the agencies to take regulatory action that directly or indirectly affects emissions of greenhouse gases from motor vehicles;

(d) "greenhouse gases" has the meaning specified for that term in Executive Order 13423 of January 24, 2007;

(e) "motor vehicle" has the meaning specified for that term in section 216(2) of the Clean Air Act (42 U.S.C. 7550(2));

(f) "nonroad engine" has the meaning specified for that term in section 216(10) of the Clean Air Act (42 U.S.C. 7550(10));

(g) "nonroad vehicle" has the meaning specified for that term in section 216(11) of the Clean Air Act (42 U.S.C. 7550(11));

(h) "regulation" has the meaning specified for that term in section 3(d) of Executive Order 12866 of September 30, 1993, as amended (Executive Order 12866); and

(i) "regulatory action" has the meaning specified for that term in section 3(e) of Executive Order 12866.

Sec. 3. Coordination Among the Agencies. In carrying out the policy set forth in section 1 of this order, the head of an agency undertaking a regulatory action that can reasonably be expected to directly regulate emissions, or to substantially and predictably affect emissions, of greenhouse gases from motor vehicles, nonroad vehicles, nonroad engines, or the use of motor vehicle fuels, including alternative fuels, shall:

(a) undertake such a regulatory action, to the maximum extent permitted by law and determined by the head of the agency to be practicable, jointly with the other agencies;

(b) in undertaking such a regulatory action, consider, in accordance with applicable law, information and recommendations provided by the other agencies;

(c) in undertaking such a regulatory action, exercise authority vested by law in the head of such agency effectively, in a manner consistent with the effective exercise by the heads of the other agencies of the authority vested in them by law; and

(d) obtain, to the extent permitted by law, concurrence or other views from the heads of the other agencies during the development and preparation of the regulatory action and prior to any key decision points during that development and preparation process, and in no event later than 30 days prior to publication of such action.

Sec. 4. Duties of the Heads of Agencies. (a) To implement this order, the head of each agency shall:

(1) designate appropriate personnel within the agency to (i) direct the agency's implementation of this order, (ii) ensure that the agency keeps the other agencies and the Office of Management and Budget informed of the agency regulatory actions to which section 3 refers, and (iii) coordinate such actions with the agencies;

(2) in coordination as appropriate with the Committee on Climate Change Science and Technology, continue to conduct and share research designed to advance technologies to further the policy set forth in section 1 of this order;

(3) facilitate the sharing of personnel and the sharing of information among the agencies to further the policy set forth in section 1 of this order;

(4) coordinate with the other agencies to avoid duplication of requests to the public for information from the public in the course of undertaking such regulatory action, consistent with the Paperwork Reduction Act (44 U.S.C. 3501 et seq.); and

(5) consult with the Secretary of Agriculture whenever a regulatory action will have a significant effect on agriculture related to the production or use of ethanol, biodiesel, or other renewable fuels, including actions undertaken in whole or in part based on authority or requirements in title XV of the Energy Policy Act of 2005, or the amendments made by such title, or when otherwise appropriate or required by law.

(b) To implement this order, the heads of the agencies acting jointly may allocate as appropriate among the agencies administrative responsibilities relating to regulatory actions to which section 3 refers, such as publication of notices in the **Federal Register** and receipt of comments in response to notices.

Sec. 5. Duties of the Director of the Office of Management and Budget and the Chairman of the Council on

Environmental Quality. (a) The Director of the Office of Management and Budget, with such assistance from the Chairman of the Council on Environmental Quality as the Director may require, shall monitor the implementation of this order by the heads of the agencies and shall report thereon to the President from time to time, and not less often than semiannually, with any recommendations of the Director for strengthening the implementation of this order.

(b) To implement this order and further the policy set forth in section 1, the Director of the Office of Management and Budget may require the heads of the agencies to submit reports to, and coordinate with, such Office on matters related to this order.

Sec. 6. General Provisions. (a) This order shall be implemented in accordance with applicable law and subject to the availability of appropriations.

(b) This order shall not be construed to impair or otherwise affect the functions of the Director of the Office of Management and Budget relating to budget, administrative, and legislative proposals.

(c) This order is not intended to, and does not, create any right, benefit or privilege, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, instrumentalities, or entities, its officers or employees, or any other person.

GEORGE W. BUSH

Notes of Decisions (45)

Footnotes

* Percentages in the table refer to a percentage of each manufacturer's sales volume.

1 So in original. Probably should be "(4)".

2 So in original. Probably should be "paragraph".

3 Another subsec. (f) is set out following subsec. (m).

4 So in original. Probably should be (n).

42 U.S.C.A. § 7521, 42 USCA § 7521

Current through P.L. 112-195 (excluding P.L. 112-140 and 112-141) approved 10-5-12**End of Document**

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United States Code Annotated
Title 42. The Public Health and Welfare
Chapter 85. Air Pollution Prevention and Control (Refs & Annos)
Subchapter III. General Provisions

42 U.S.C.A. § 7602(h)

§ 7602. Definitions

Currentness

When used in this chapter--

(h) All language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.

Credits

(July 14, 1955, c. 360, Title III, § 302, formerly § 9, as added Dec. 17, 1963, Pub.L. 88-206, § 1, 77 Stat. 400, renumbered Oct. 20, 1965, Pub.L. 89-272, Title I, § 101(4), 79 Stat. 992; amended Nov. 21, 1967, Pub.L. 90-148, § 2, 81 Stat. 504; Dec. 31, 1970, Pub.L. 91-604, § 15(a)(1), (c)(1), 84 Stat. 1710, 1713; Aug. 7, 1977, Pub.L. 95-95, Title II, § 218(c), Title III, § 301, 91 Stat. 761, 769; Nov. 16, 1977, Pub.L. 95-190, § 14(a)(76), 91 Stat. 1404; Nov. 15, 1990, Pub.L. 101-549, Title I, §§ 101(d)(4), 107(a), (b), 108(j), 109(b), Title III, § 302(e), Title VII, § 709, 104 Stat. 2409, 2464, 2468, 2470, 2574, 2684.)

Notes of Decisions (12)

Footnotes

1 So in original.

42 U.S.C.A. § 7602, 42 USCA § 7602

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United States Code Annotated
Title 42. The Public Health and Welfare
Chapter 85. Air Pollution Prevention and Control (Refs & Annos)
Subchapter III. General Provisions

42 U.S.C.A. § 7607

§ 7607. Administrative proceedings and judicial review

Currentness

(a) Administrative subpenas; confidentiality; witnesses

In connection with any determination under section 7410(f) of this title, or for purposes of obtaining information under section 7521(b)(4) or 7545(c)(3) of this title, any investigation, monitoring, reporting requirement, entry, compliance inspection, or administrative enforcement proceeding under the[1] chapter (including but not limited to section 7413, section 7414, section 7420, section 7429, section 7477, section 7524, section 7525, section 7542, section 7603, or section 7606 of this title),,[2] the Administrator may issue subpenas for the attendance and testimony of witnesses and the production of relevant papers, books, and documents, and he may administer oaths. Except for emission data, upon a showing satisfactory to the Administrator by such owner or operator that such papers, books, documents, or information or particular part thereof, if made public, would divulge trade secrets or secret processes of such owner or operator, the Administrator shall consider such record, report, or information or particular portion thereof confidential in accordance with the purposes of section 1905 of Title 18, except that such paper, book, document, or information may be disclosed to other officers, employees, or authorized representatives of the United States concerned with carrying out this chapter, to persons carrying out the National Academy of Sciences' study and investigation provided for in section 7521(c) of this title, or when relevant in any proceeding under this chapter. Witnesses summoned shall be paid the same fees and mileage that are paid witnesses in the courts of the United States. In case of contumacy or refusal to obey a subpena served upon any person under this subparagraph, the district court of the United States for any district in which such person is found or resides or transacts business, upon application by the United States and after notice to such person, shall have jurisdiction to issue an order requiring such person to appear and give testimony before the Administrator to appear and produce papers, books, and documents before the Administrator, or both, and any failure to obey such order of the court may be punished by such court as a contempt thereof.

(b) Judicial review

(1) A petition for review of action of the Administrator in promulgating any national primary or secondary ambient air quality standard, any emission standard or requirement under section 7412 of this title, any standard of performance or requirement under section 7411 of this title,,[2] any standard under section 7521 of this title (other than a standard required to be prescribed under section 7521(b)(1) of this title), any determination under section 7521(b)(5) of this title, any control or prohibition under section 7545 of this title, any standard under section 7571 of this title, any rule issued under section 7413, 7419, or under section 7420 of this title, or any other nationally applicable regulations promulgated, or final action taken, by the Administrator under this chapter may be filed only in the United States Court of Appeals for the District of Columbia. A petition for review of the Administrator's action in approving or promulgating any implementation plan under section 7410 of this title or section 7411(d) of this title, any order under section 7411(j) of this title, under section 7412 of this title,,[2] under section 7419 of this title, or under section 7420 of this title, or his action under section 1857c-10(c)(2)(A), (B), or (C) of this title (as in effect before August 7, 1977) or under regulations thereunder, or revising regulations for enhanced monitoring and compliance certification programs under section 7414(a)(3) of this title, or any other final action of the Administrator under this chapter (including any denial or disapproval by the Administrator under subchapter I of this chapter) which is locally or

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regionally applicable may be filed only in the United States Court of Appeals for the appropriate circuit. Notwithstanding the preceding sentence a petition for review of any action referred to in such sentence may be filed only in the United States Court of Appeals for the District of Columbia if such action is based on a determination of nationwide scope or effect and if in taking such action the Administrator finds and publishes that such action is based on such a determination. Any petition for review under this subsection shall be filed within sixty days from the date notice of such promulgation, approval, or action appears in the Federal Register, except that if such petition is based solely on grounds arising after such sixtieth day, then any petition for review under this subsection shall be filed within sixty days after such grounds arise. The filing of a petition for reconsideration by the Administrator of any otherwise final rule or action shall not affect the finality of such rule or action for purposes of judicial review nor extend the time within which a petition for judicial review of such rule or action under this section may be filed, and shall not postpone the effectiveness of such rule or action.

(2) Action of the Administrator with respect to which review could have been obtained under paragraph (1) shall not be subject to judicial review in civil or criminal proceedings for enforcement. Where a final decision by the Administrator defers performance of any nondiscretionary statutory action to a later time, any person may challenge the deferral pursuant to paragraph (1).

(c) Additional evidence

In any judicial proceeding in which review is sought of a determination under this chapter required to be made on the record after notice and opportunity for hearing, if any party applies to the court for leave to adduce additional evidence, and shows to the satisfaction of the court that such additional evidence is material and that there were reasonable grounds for the failure to adduce such evidence in the proceeding before the Administrator, the court may order such additional evidence (and evidence in rebuttal thereof) to be taken before the Administrator, in such manner and upon such terms and conditions as to[3] the court may deem proper. The Administrator may modify his findings as to the facts, or make new findings, by reason of the additional evidence so taken and he shall file such modified or new findings, and his recommendation, if any, for the modification or setting aside of his original determination, with the return of such additional evidence.

(d) Rulemaking

(1) This subsection applies to--

(A) the promulgation or revision of any national ambient air quality standard under section 7409 of this title,

(B) the promulgation or revision of an implementation plan by the Administrator under section 7410(c) of this title,

(C) the promulgation or revision of any standard of performance under section 7411 of this title, or emission standard or limitation under section 7412(d) of this title, any standard under section 7412(f) of this title, or any regulation under section 7412(g)(1)(D) and (F) of this title, or any regulation under section 7412(m) or (n) of this title,

(D) the promulgation of any requirement for solid waste combustion under section 7429 of this title,

(E) the promulgation or revision of any regulation pertaining to any fuel or fuel additive under section 7545 of this title,

(F) the promulgation or revision of any aircraft emission standard under section 7571 of this title,

(G) the promulgation or revision of any regulation under subchapter IV-A of this chapter (relating to control of acid deposition),

(H) promulgation or revision of regulations pertaining to primary nonferrous smelter orders under section 7419 of this title (but not including the granting or denying of any such order),

(I) promulgation or revision of regulations under subchapter VI of this chapter (relating to stratosphere and ozone protection),

(J) promulgation or revision of regulations under part C of subchapter I of this chapter (relating to prevention of significant deterioration of air quality and protection of visibility),

(K) promulgation or revision of regulations under section 7521 of this title and test procedures for new motor vehicles or engines under section 7525 of this title, and the revision of a standard under section 7521(a)(3) of this title,

(L) promulgation or revision of regulations for noncompliance penalties under section 7420 of this title,

(M) promulgation or revision of any regulations promulgated under section 7541 of this title (relating to warranties and compliance by vehicles in actual use),

(N) action of the Administrator under section 7426 of this title (relating to interstate pollution abatement),

(O) the promulgation or revision of any regulation pertaining to consumer and commercial products under section 7511b(e) of this title,

(P) the promulgation or revision of any regulation pertaining to field citations under section 7413(d)(3) of this title,

(Q) the promulgation or revision of any regulation pertaining to urban buses or the clean-fuel vehicle, clean-fuel fleet, and clean fuel programs under part C of subchapter II of this chapter,

(R) the promulgation or revision of any regulation pertaining to nonroad engines or nonroad vehicles under section 7547 of this title,

(S) the promulgation or revision of any regulation relating to motor vehicle compliance program fees under section 7552 of this title,

(T) the promulgation or revision of any regulation under subchapter IV-A of this chapter (relating to acid deposition),

(U) the promulgation or revision of any regulation under section 7511b(f) of this title pertaining to marine vessels, and

(V) such other actions as the Administrator may determine.

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The provisions of section 553 through 557 and section 706 of Title 5 shall not, except as expressly provided in this subsection, apply to actions to which this subsection applies. This subsection shall not apply in the case of any rule or circumstance referred to in subparagraphs (A) or (B) of subsection 553(b) of Title 5.

(2) Not later than the date of proposal of any action to which this subsection applies, the Administrator shall establish a rulemaking docket for such action (hereinafter in this subsection referred to as a "rule"). Whenever a rule applies only within a particular State, a second (identical) docket shall be simultaneously established in the appropriate regional office of the Environmental Protection Agency.

(3) In the case of any rule to which this subsection applies, notice of proposed rulemaking shall be published in the Federal Register, as provided under section 553(b) of Title 5, shall be accompanied by a statement of its basis and purpose and shall specify the period available for public comment (hereinafter referred to as the "comment period"). The notice of proposed rulemaking shall also state the docket number, the location or locations of the docket, and the times it will be open to public inspection. The statement of basis and purpose shall include a summary of--

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

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

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

The statement shall also set forth or summarize and provide a reference to any pertinent findings, recommendations, and comments by the Scientific Review Committee established under section 7409(d) of this title and the National Academy of Sciences, and, if the proposal differs in any important respect from any of these recommendations, an explanation of the reasons for such differences. All data, information, and documents referred to in this paragraph on which the proposed rule relies shall be included in the docket on the date of publication of the proposed rule.

(4)(A) The rulemaking docket required under paragraph (2) shall be open for inspection by the public at reasonable times specified in the notice of proposed rulemaking. Any person may copy documents contained in the docket. The Administrator shall provide copying facilities which may be used at the expense of the person seeking copies, but the Administrator may waive or reduce such expenses in such instances as the public interest requires. Any person may request copies by mail if the person pays the expenses, including personnel costs to do the copying.

(B)(i) Promptly upon receipt by the agency, all written comments and documentary information on the proposed rule received from any person for inclusion in the docket during the comment period shall be placed in the docket. The transcript of public hearings, if any, on the proposed rule shall also be included in the docket promptly upon receipt from the person who transcribed such hearings. All documents which become available after the proposed rule has been published and which the Administrator determines are of central relevance to the rulemaking shall be placed in the docket as soon as possible after their availability.

(ii) The drafts of proposed rules submitted by the Administrator to the Office of Management and Budget for any interagency review process prior to proposal of any such rule, all documents accompanying such drafts, and all written comments thereon by other agencies and all written responses to such written comments by the Administrator shall be placed in the docket no later than the date of proposal of the rule. The drafts of the final rule submitted for such review process prior to promulgation and all such written comments thereon, all documents accompanying such drafts, and written responses thereto shall be

placed in the docket no later than the date of promulgation.

(5) In promulgating a rule to which this subsection applies (i) the Administrator shall allow any person to submit written comments, data, or documentary information; (ii) the Administrator shall give interested persons an opportunity for the oral presentation of data, views, or arguments, in addition to an opportunity to make written submissions; (iii) a transcript shall be kept of any oral presentation; and (iv) the Administrator shall keep the record of such proceeding open for thirty days after completion of the proceeding to provide an opportunity for submission of rebuttal and supplementary information.

(6)(A) The promulgated rule shall be accompanied by (i) a statement of basis and purpose like that referred to in paragraph (3) with respect to a proposed rule and (ii) an explanation of the reasons for any major changes in the promulgated rule from the proposed rule.

(B) The promulgated rule shall also be accompanied by a response to each of the significant comments, criticisms, and new data submitted in written or oral presentations during the comment period.

(C) The promulgated rule may not be based (in part or whole) on any information or data which has not been placed in the docket as of the date of such promulgation.

(7)(A) The record for judicial review shall consist exclusively of the material referred to in paragraph (3), clause (i) of paragraph (4)(B), and subparagraphs (A) and (B) of paragraph (6).

(B) Only an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review. If the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within such time or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule, the Administrator shall convene a proceeding for reconsideration of the rule and provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed. If the Administrator refuses to convene such a proceeding, such person may seek review of such refusal in the United States court of appeals for the appropriate circuit (as provided in subsection (b) of this section). Such reconsideration shall not postpone the effectiveness of the rule. The effectiveness of the rule may be stayed during such reconsideration, however, by the Administrator or the court for a period not to exceed three months.

(8) The sole forum for challenging procedural determinations made by the Administrator under this subsection shall be in the United States court of appeals for the appropriate circuit (as provided in subsection (b) of this section) at the time of the substantive review of the rule. No interlocutory appeals shall be permitted with respect to such procedural determinations. In reviewing alleged procedural errors, the court may invalidate the rule only if the errors were so serious and related to matters of such central relevance to the rule that there is a substantial likelihood that the rule would have been significantly changed if such errors had not been made.

(9) In the case of review of any action of the Administrator to which this subsection applies, the court may reverse any such action found to be--

(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;

(B) contrary to constitutional right, power, privilege, or immunity;

(C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right; or

(D) without observance of procedure required by law, if (i) such failure to observe such procedure is arbitrary or capricious, (ii) the requirement of paragraph (7)(B) has been met, and (iii) the condition of the last sentence of paragraph (8) is met.

(10) Each statutory deadline for promulgation of rules to which this subsection applies which requires promulgation less than six months after date of proposal may be extended to not more than six months after date of proposal by the Administrator upon a determination that such extension is necessary to afford the public, and the agency, adequate opportunity to carry out the purposes of this subsection.

(11) The requirements of this subsection shall take effect with respect to any rule the proposal of which occurs after ninety days after August 7, 1977.

(e) Other methods of judicial review not authorized

Nothing in this chapter shall be construed to authorize judicial review of regulations or orders of the Administrator under this chapter, except as provided in this section.

(f) Costs

In any judicial proceeding under this section, the court may award costs of litigation (including reasonable attorney and expert witness fees) whenever it determines that such award is appropriate.

(g) Stay, injunction, or similar relief in proceedings relating to noncompliance penalties

In any action respecting the promulgation of regulations under section 7420 of this title or the administration or enforcement of section 7420 of this title no court shall grant any stay, injunctive, or similar relief before final judgment by such court in such action.

(h) Public participation

It is the intent of Congress that, consistent with the policy of subchapter II of chapter 5 of Title 5, the Administrator in promulgating any regulation under this chapter, including a regulation subject to a deadline, shall ensure a reasonable period for public participation of at least 30 days, except as otherwise expressly provided in section[4] 7407(d), 7502(a), 7511(a) and (b), and 7512(a) and (b) of this title.

Credits

(July 14, 1955, c. 360, Title III, § 307, as added Dec. 31, 1970, Pub.L. 91-604, § 12(a), 84 Stat. 1707; amended Nov. 18, 1971, Pub.L. 92-157, Title III, § 302(a), 85 Stat. 464; June 22, 1974, Pub.L. 93-319, § 6(c), 88 Stat. 259; Aug. 7, 1977, Pub.L. 95-95, Title III, §§ 303(d), 305(a), (c), (f)-(h), 91 Stat. 772, 776, 777; Nov. 16, 1977, Pub.L. 95-190, § 14(a)(79), (80), 91 Stat. 1404; Nov. 15, 1990, Pub.L. 101-549, Title I, §§ 108(p), 110(5), Title III, § 302(g), (h), Title VII, §§ 702(c), 703, 706, 707(h), 710(b), 104 Stat. 2469, 2470, 2574, 2681-2684.)

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Notes of Decisions (283)

Footnotes

1 So in original. Probably should be "this".

2 So in original.

3 So in original. The word "to" probably should not appear.

4 So in original. Probably should be "sections".

42 U.S.C.A. § 7607, 42 USCA § 7607

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United States Code Annotated
Title 42. The Public Health and Welfare
Chapter 85. Air Pollution Prevention and Control (Refs & Annos)
Subchapter IV-A. Acid Deposition Control (Refs & Annos)

42 U.S.C.A. § 7651

§ 7651. Findings and purposes

Currentness

(a) Findings

The Congress finds that--

(1) the presence of acidic compounds and their precursors in the atmosphere and in deposition from the atmosphere represents a threat to natural resources, ecosystems, materials, visibility, and public health;

(2) the principal sources of the acidic compounds and their precursors in the atmosphere are emissions of sulfur and nitrogen oxides from the combustion of fossil fuels;

(3) the problem of acid deposition is of national and international significance;

(4) strategies and technologies for the control of precursors to acid deposition exist now that are economically feasible, and improved methods are expected to become increasingly available over the next decade;

(5) current and future generations of Americans will be adversely affected by delaying measures to remedy the problem;

(6) reduction of total atmospheric loading of sulfur dioxide and nitrogen oxides will enhance protection of the public health and welfare and the environment; and

(7) control measures to reduce precursor emissions from steam-electric generating units should be initiated without delay.

(b) Purposes

The purpose of this subchapter is to reduce the adverse effects of acid deposition through reductions in annual emissions of sulfur dioxide of ten million tons from 1980 emission levels, and, in combination with other provisions of this chapter, of nitrogen oxides emissions of approximately two million tons from 1980 emission levels, in the forty-eight contiguous States and the District of Columbia. It is the intent of this subchapter to effectuate such reductions by requiring compliance by affected sources with prescribed emission limitations by specified deadlines, which limitations may be met through alternative methods of compliance provided by an emission allocation and transfer system. It is also the purpose of this subchapter to encourage energy conservation, use of renewable and clean alternative technologies, and pollution prevention as a long-range strategy, consistent with the provisions of this subchapter, for reducing air pollution and other adverse

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impacts of energy production and use.

Credits

(July 14, 1955, c. 360, Title IV, § 401, as added Nov. 15, 1990, Pub.L. 101-549, Title IV, § 401, 104 Stat. 2584.)

42 U.S.C.A. § 7651, 42 USCA § 7651

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PL 101–549, November 15, 1990, 104 Stat 2399

UNITED STATES PUBLIC LAWS
101st Congress - Second Session
Convening January 23, 1990

Additions and Deletions are not identified in this document.
8848

PL 101–549 (S 1630)
November 15, 1990
CLEAN AIR ACT, AMENDMENTS

<< 42 USCA § 7651 NOTE >>

SEC. 404. ACID DEPOSITION STANDARDS.

Not later than 36 months after the date of enactment of this Act, the Administrator of the Environmental Protection Agency shall transmit to the Committee on Environment and Public Works of the Senate and the Committee on Energy and Commerce of the House of Representatives a report on the feasibility and effectiveness of an acid deposition standard or standards to protect sensitive and critically sensitive aquatic and terrestrial resources. The study required by this section shall include, but not be limited to, consideration of the following matters:

(1) identification of the sensitive and critically sensitive aquatic and terrestrial resources in the United States and Canada which may be affected by the deposition of acidic compounds;

(2) description of the nature and numerical value of a deposition standard or standards that would be sufficient to protect such resources;

(3) description of the use of such standard or standards in other Nations or by any of the several States in acid deposition control programs;

(4) description of the measures that would need to be taken to integrate such standard or standards with the control program required by title IV of the Clean Air Act;

(5) description of the state of knowledge with respect to source-receptor relationships necessary to develop a control program on such standard or standards and the additional research that is on-going or would be needed to make such a control program feasible; and

(6) description of the impediments to implementation of such control program and the cost-effectiveness of deposition standards compared to other control strategies including ambient air quality standards, new source performance standards and the requirements of title IV of the Clean Air Act.

Approved November 15, 1990

PL 101–549, 1990 S 1630

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Title 42. The Public Health and Welfare
Chapter 97. Acid Precipitation Program and Carbon Dioxide Study (Refs & Annos)
Subchapter I. Acid Precipitation

42 U.S.C.A. § 8901

§ 8901. Introductory provisions

Currentness

(a) Congressional statement of findings and purpose

The Congress finds and declares that acid precipitation resulting from other than natural sources--

(1) could contribute to the increasing pollution of natural and man-made water systems;

(2) could adversely affect agricultural and forest crops;

(3) could adversely affect fish and wildlife and natural ecosystems generally;

(4) could contribute to corrosion of metals, wood, paint, and masonry used in construction and ornamentation of buildings and public monuments;

(5) could adversely affect public health and welfare; and

(6) could affect areas distant from sources and thus involve issues of national and international policy.

(b) Congressional declaration of purpose

The Congress declares that it is the purpose of this subchapter--

(1) to identify the causes and sources of acid precipitation;

(2) to evaluate the environmental, social, and economic effects of acid precipitation; and

(3) based on the results of the research program established by this subchapter and to the extent consistent with existing law, to take action to the extent necessary and practicable (A) to limit or eliminate the identified emissions which are sources of acid precipitation, and (B) to remedy or otherwise ameliorate the harmful effects which may result from acid precipitation.

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(c) "Acid precipitation" defined

For purposes of this subchapter the term "acid precipitation" means the wet or dry deposition from the atmosphere of acid chemical compounds.

Credits
(Pub.L. 96-294, Title VII, § 702, June 30, 1980, 94 Stat. 770.)

42 U.S.C.A. § 8901, 42 USCA § 8901

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42 U.S.C.A. § 8902

§ 8902. Comprehensive ten-year program

Currentness

(a) Implementation by Acid Precipitation Task Force; membership, etc., of Task Force

There is hereby established a comprehensive ten-year program to carry out the provisions of this subchapter; and to implement this program there shall be formed an Acid Precipitation Task Force (hereafter in this subchapter referred to as the "Task Force"), of which the Secretary of Agriculture, the Administrator of the Environmental Protection Agency, and the Administrator of the National Oceanic and Atmospheric Administration shall be joint chairmen. The remaining membership of the Task Force shall consist of--

(1) one representative each from the Department of the Interior, the Department of Health and Human Services, the Department of Commerce, the Department of Energy, the Department of State, the National Aeronautics and Space Administration, the Council on Environmental Quality, the National Science Foundation, and the Tennessee Valley Authority;

(2) the director of the Argonne National Laboratory, the director of the Brookhaven National Laboratory, the director of the Oak Ridge National Laboratory, and the director of the Pacific Northwest National Laboratory; and

(3) four additional members to be appointed by the President.

(b) Research management consortium; membership, responsibilities, etc.

The four National Laboratories (referred to in subsection (a)(2) of this section) shall constitute a research management consortium having the responsibilities described in section 8903(b)(13) of this title as well as the general responsibilities required by their representation on the Task Force. In carrying out these responsibilities the consortium shall report to, and act pursuant to direction from, the joint chairmen of the Task Force.

(c) Director of research program

The Administrator of the National Oceanic and Atmospheric Administration shall serve as the director of the research program established by this subchapter.

Credits
(Pub.L. 96-294, Title VII, § 703, June 30, 1980, 94 Stat. 771.)

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42 U.S.C.A. § 8902, 42 USCA § 8902

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42 U.S.C.A. § 8903

§ 8903. Comprehensive research plan

Currentness

(a) Preparation by Task Force for ten-year program; purposes

The Task Force shall prepare a comprehensive research plan for the ten-year program (hereafter in this subchapter referred to as the "comprehensive plan"), setting forth a coordinated program (1) to identify the causes and effects of acid precipitation and (2) to identify actions to limit or ameliorate the harmful effects of acid precipitation.

(b) Scope

The comprehensive plan shall include programs for--

(1) identifying the sources of atmospheric emissions contributing to acid precipitation;

(2) establishing and operating a nationwide long-term monitoring network to detect and measure levels of acid precipitation;

(3) research in atmospheric physics and chemistry to facilitate understanding of the processes by which atmospheric emissions are transformed into acid precipitation;

(4) development and application of atmospheric transport models to enable prediction of long-range transport of substances causing acid precipitation;

(5) defining geographic areas of impact through deposition monitoring, identification of sensitive areas, and identification of areas at risk;

(6) broadening of impact data bases through collection of existing data on water and soil chemistry and through temporal trend analysis;

(7) development of dose-response functions with respect to soils, soil organisms, aquatic and amphibious organisms, crop plants, and forest plants;

(8) establishing and carrying out system studies with respect to plant physiology, aquatic ecosystems, soil chemistry

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systems, soil microbial systems, and forest ecosystems;

(9) economic assessments of (A) the environmental impacts caused by acid precipitation on crops, forests, fisheries, and recreational and aesthetic resources and structures, and (B) alternative technologies to remedy or otherwise ameliorate the harmful effects which may result from acid precipitation;

(10) documenting all current Federal activities related to research on acid precipitation and ensuring that such activities are coordinated in ways that prevent needless duplication and waste of financial and technical resources;

(11) effecting cooperation in acid precipitation research and development programs, ongoing and planned, with the affected and contributing States and with other sovereign nations having a commonality of interest;

(12) subject to subsection (f)(1) of this section, management by the Task Force of financial resources committed to Federal acid precipitation research and development;

(13) subject to subsection (f)(2) of this section, management of the technical aspects of Federal acid precipitation research and development programs, including but not limited to (A) the planning and management of research and development programs and projects, (B) the selection of contractors and grantees to carry out such programs and projects, and (C) the establishment of peer review procedures to assure the quality of research and development programs and their products; and

(14) analyzing the information available regarding acid precipitation in order to formulate and present periodic recommendations to the Congress and the appropriate agencies about actions to be taken by these bodies to alleviate acid precipitation and its effects.

(c) Procedures applicable

The comprehensive plan--

(1) shall be submitted in draft form to the Congress, and for public review, within six months after June 30, 1980;

(2) shall be available for public comment for a period of sixty days after its submission in draft form under paragraph (1);

(3) shall be submitted in final form, incorporating such needed revisions as arise from comments received during the review period, to the President and the Congress within forty-five days after the close of the period allowed for comments on the draft comprehensive plan under paragraph (2); and

(4) shall constitute the basis on which requests for authorizations and appropriations are to be made for the nine fiscal years following the fiscal year in which the comprehensive plan is submitted in final form under paragraph (3).

(d) Convening of Task Force

The Task Force shall convene as necessary, but no less than twice during each fiscal year of the ten-year period covered by the comprehensive plan.

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(e) Submission of annual report to President and Congress by Task Force

The Task Force shall submit to the President and the Congress by January 15 of each year an annual report which shall detail the progress of the research program under this subchapter and which shall contain such recommendations as are developed under subsection (b)(14) of this section.

(f) Applicability of other statutory provisions to Task Force or plan

(1) Subsection (b)(12) of this section shall not be construed as modifying, or as authorizing the Task Force or the comprehensive plan to modify, any provision of an appropriation Act (or any other provision of law relating to the use of appropriated funds) which specifies (A) the department or agency to which funds are appropriated, or (B) the obligations of such department or agency with respect to the use of such funds.

(2) Subsection (b)(13) of this section shall not be construed as modifying, or as authorizing the Task Force or the comprehensive plan to modify, any provision of law (relating to or involving a department or agency) which specifies (A) procurement practices for the selection, award, or management of contracts or grants by such department or agency, or (B) program activities, limitations, obligations, or responsibilities of such department or agency.

Credits
(Pub.L. 96-294, Title VII, § 704, June 30, 1980, 94 Stat. 771.)

42 U.S.C.A. § 8903, 42 USCA § 8903

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42 U.S.C.A. § 8904

§ 8904. Implementation of comprehensive plan; new or existing regulatory authorities, etc., not granted or modified

Currentness

(a) The comprehensive plan shall be carried out during the nine fiscal years following the fiscal year in which the comprehensive plan is submitted in its final form under section 8903(c)(3) of this title; and--

(1) shall be carried out in accord with, and meet the program objectives specified in, paragraphs (1) through (11) of section 8903(b) of this title;

(2) shall be managed in accord with paragraphs (12) through (14) of such section; and

(3) shall be funded by annual appropriations, subject to annual authorizations which shall be made for each fiscal year of the program (as provided in section 8905 of this title) after the submission of the Task Force progress report which under section 8903(e) of this title is required to be submitted by January 15 of the calendar year in which such fiscal year begins.

(b) Nothing in this subchapter shall be deemed to grant any new regulatory authority or to limit, expand, or otherwise modify any regulatory authority under existing law, or to establish new criteria, standards, or requirements for regulation under existing law.

Credits
(Pub.L. 96-294, Title VII, § 705, June 30, 1980, 94 Stat. 773.)

42 U.S.C.A. § 8904, 42 USCA § 8904

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42 U.S.C.A. § 8905

§ 8905. Authorization of appropriations

Currentness

(a) For the purpose of establishing the Task Force and developing the comprehensive plan under section 8903 of this title there is authorized to be appropriated to the National Oceanic and Atmospheric Administration for fiscal year 1981 the sum of $5,000,000 to remain available until expended.

(b) Authorizations of appropriations for the nine fiscal years following the fiscal year in which the comprehensive plan is submitted in final form under section 8903(c)(3) of this title, for purposes of carrying out the comprehensive ten-year program established by section 8902(a) of this title and implementing the comprehensive plan under sections 8903 and 8904 of this title, shall be provided on an annual basis in authorization Acts hereafter enacted; but the total sum of dollars authorized for such purposes for such nine fiscal years shall not exceed $45,000,000 except as may be specifically provided by reference to this paragraph in the authorization Acts involved.

Credits
(Pub.L. 96-294, Title VII, § 706, June 30, 1980, 94 Stat. 773.)

42 U.S.C.A. § 8905, 42 USCA § 8905

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42 U.S.C.A. § 8906

§ 8906. Updated data base on acid content in precipitation; new monitoring site not required

Currentness

(a) Maintenance and availability to interested parties

(1) The National Weather Service of the National Oceanic and Atmospheric Administration shall maintain an updated data base describing the acid content in precipitation in the United States, using information from Federal acid precipitation monitoring sites.

(2) Such data shall be available to interested parties by Weather Service Forecast Offices in the National Weather Service, or through such other facilities or means as the Assistant Administrator for Weather Services, National Oceanic and Atmospheric Administration, shall direct, for those areas of the United States where and at such time as such information is presently available, within 120 days after November 17, 1988.

(3) Where other Federal agencies collect such data in the course of carrying out their statutory missions, the heads of those agencies and the Administrator of the National Oceanic and Atmospheric Administration shall arrange for the transfer of such data to the National Weather Service.

(b) Construction of section as not requiring new monitoring sites

Nothing in this section shall be construed to require any Federal agency to establish any new acid precipitation monitoring site.

Credits
(Pub.L. 100-685, Title IV, § 414, Nov. 17, 1988, 102 Stat. 4101.)

42 U.S.C.A. § 8906, 42 USCA § 8906

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DECLARATIONS

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DECLARATION OF JOHN DAVIS

I, John Davis, declare as follows:

(1) I am a resident of Essex, New York. I am a member of the Center for Biological Diversity.

(2) I have been a conservationist all my life. When I was a child, my parents hiked and canoed and rowed boats and otherwise got out into nature and they encouraged my sister and I to do likewise. From an early age I became quite keen to be outdoors and my folks took me on hikes in the White Mountains, the Berkshire Mountains of Massachusetts and the Adirondack Mountains of New York.

(3) My awareness of acid deposition and the damage it causes began to develop from a very young age. For example, over 35 years ago I climbed Mount Mitchell, the tallest peak in the Black Mountains of western North Carolina and the highest peak east of the Mississippi River, with my father. I still distinctly remember feeling a mix of emotions when I attained my loftiest summit to that point in my boyhood but found there a road all the way up from the bottom and trees dying of acid deposition. I remember feeling a profound mix of excitement and sadness and also a sense of insult, that after all this effort and this hike, we arrived at the summit to find trees dying. I also remember that it was hazy because of smog. In addition, my mother, Mary Byrd Davis, conducted research on old-

growth forests of the Eastern United States. As part of this work, she would identify places that had never been logged, some of which had been harmed by acid deposition. When I was a child my aunt bought a forested property in Appalachia impacted by acid deposition.

(4) I have worked on acid deposition issues throughout my professional career as well. I attended St. Olaf College in Minnesota, where I graduated Phi Beta Kappa with a degree in environmental ethics. From 1991 until 1996, I edited the journal *Wild Earth*, a periodical dedicated to conservation, science, and wilderness proposals. From 1997 through 2003, I was the biodiversity and wilderness program officer for the Foundation for Deep Ecology, dedicated to supporting education and advocacy on behalf of wild Nature. At the Foundation for Deep Ecology, we gave several grants to organizations for work on acid deposition. I recommended these grants because I was aware of the severe damage of acid deposition on the Adirondack Park at that time. From 2005 to 2010, I served as director of conservation for the Adirondack Council, the largest citizen environmental group in New York State that works full time to protect the Adirondack Park, a six-million-acre natural treasure. At the Adirondack Council, I was also involved in efforts to reduce acid deposition.

(5) For the past decade, I have served as land steward for the Eddy Foundation, a non-profit environmental foundation that purchases and preserves

wildlands in the eastern Adirondacks of northern New York State. One of our primary goals is to protect and restore a wildlife corridor which will link the Champlain Valley with the foothills and mountains to the west. Acid deposition impacts the work I am currently doing and will continue to do with the Eddy Foundation because the wildlife corridor will have less ecological and other value if the trees are dying. The value of the wildlife corridor is also greatly diminished when the streams are acidified and damaged. The impacts of acid deposition are particularly pronounced in the Adirondack High Peaks and the western Adirondacks which we are working to protect as part of a larger wildlife corridor, or Eastern Wildway.

(6) I also currently volunteer with the Adirondack Council to help achieve one of their main goals which is preservation of the Bob Marshall Wilderness Complex in the western Adirondacks. This is one of the areas of the Northeastern United States where we have the best chance of restoring wolves and cougars to the wild. This area is quite hard hit by acid deposition. For example, brook trout populations are being harmed, and maple trees are failing to regenerate. I do volunteer field work in this area whenever I can. One of the things I do as a volunteer is try to find ways to help places be wilder, by hiking or mountain biking roads that cut into forest preserves to see if the back-country roads might be closed someday. I paddle the rivers and streams to get a sense of how healthy they are,

paying attention to the health of the fish populations. I also informally serve as an advisor to other groups working for protection to help better protect these areas. I will continue these activities in the future. This wild area will have a lot less value if we do not address the crisis of acid deposition.

(7) The New York State Constitution's "Forever Wild" clause is one of the strongest land protection provisions in the country. By mandate of the New York Constitution, state lands within the Adirondack and Catskill parks cannot be logged or developed. This clause was put in place over 100 years ago by people with remarkable foresight including Lewis Marshall, the father of Bob Marshall. Every time the state acquires land, it goes into a category of lands called the "Forest Preserve" and it is strictly protected from logging. The "Forever Wild" clause has stood the test of time and has meant that at least by some measures, the Adirondack Park is the most intact landscape in the Eastern United States. Yet at the same time, this area has been hard hit by acid deposition. It is a real problem. In some respects we're getting wilder, the forests are growing back after being cut a century ago, and we are adding Forest Preserve lands to the park, but that positive trajectory is held back in significant ways and in quite a few places by acid deposition. We need to reduce acid deposition in order to fully protect these lands.

(8) Following my mother's death in 2011, the Eastern Ancient Forest Fund to protect old growth forest was created in her honor. It is necessary but not

sufficient to protect these forests from threats like logging and development. We also need to protect them from pollution, including acid deposition, because these forests will have a lot less value if the lakes, streams, and trees are being undermined by acid deposition.

(9) As an adult I have travelled for professional and personal reasons through many areas impacted by acid deposition. Most recently, I completed a 7,600-mile human-powered trek from the Everglades of Florida to Canada's Gaspe Peninsula, in pursuit of my vision of restoring and connecting wild places so animals have enough room to survive. I walked, bicycled, and paddled through many areas impacted by acid rain on this journey, including the Smoky Mountains of North Carolina and Tennessee, White Mountains of New Hampshire, and the Adirondacks. For example, in June, 2011, I travelled through the Appalachian Mountains of West Virginia, an area which I hope will be protected in the future as the new High Allegheny National Park. This is a beautiful area, but damaged by human activities including acid deposition: brook trout, an indicator species, have been lost from many streams due to logging, aquatic acidification, and acid mine drainage. I spent quite a bit of time hiking above 4,000 feet in elevation, and sometimes above 6,000 feet, and found many areas where acid deposition is undermining forest health and weakening the trees. In September, 2011, I travelled through the White Mountains of New Hampshire, also among the hardest hit by

acid deposition. While progress in pollution reduction has been made over the past three decades and has slowed acid deposition and tree death, nonetheless impacts continue here, and trout populations have been eliminated from some streams.

(10) I will continue all of my conservation and recreational activities in the future, in the Adirondacks and in other areas impacted by acid deposition. For example, in the future I will visit lakes impacted by acid rain including Lake Lila in the western central Adirondacks, Cranberry Lake, Wolf Pond and Big Sand Lake in the western Adirondacks, and Big Moose Lake in the southwestern Adirondacks. Cranberry Lake, Wolf Pond, and Big Sand Lake are in the proposed Bob Marshall Wilderness where I visit particularly often to support the creation of this new wilderness area.

(11) In January, 2013, I will begin my next long-distance journey, TrekWest, a 10-month, 5,000-mile personal migration along the spine of the Rocky Mountains from Mexico to Canada. My dream is for a connected and protected Western Wildway, a lifeline for animals that need healthy ecosystems and safe passage across large landscapes.

(12) On this trek I will travel through high elevation areas of the western United States impacted by acid deposition, including Rocky Mountains National Park. Acid deposition has impacted even remote and otherwise protected areas by, for example, changing the plant composition in alpine meadows, changing the

algae composition in alpine lakes, and subjecting alpine lakes to seasonal acid pulses, decreasing water quality and harming biological diversity. These impacts decrease the wild and untrammeled nature of these areas, harming my goal of protecting them in as wild and intact a state as possible.

(13) I am aware that emissions reductions requirements under the Clean Air Act over the past several decades have lessened the harm from acid deposition that would otherwise have occurred. Yet harm to the forests, streams, ecosystems and species that I have described above continues even though the entire country currently meets the existing secondary national ambient air quality standards for oxides of sulfur and oxides of nitrogen. I am also aware that this year the EPA refused to tighten these national standards so as to reduce the impacts of acid deposition on the ecosystems, species, and places described above. EPA's failure to tighten these national standards means that acid rain will continue to impact the forests, streams, ecosystems and species that I have discussed above. These impacts will harm my professional and personal goals to protect these areas and resources, and my personal enjoyment of them as well.

(14) EPA's failure to tighten the standards harms my professional and personal goals in other ways as well. Improving the standards would raise awareness of this important problem, which has largely been forgotten. Just putting the problem of acid deposition back in the spotlight would have great value

by reminding people the problem is still here. Right now I do not often hear of opportunities to reduce acid deposition. Greater awareness would almost certainly spur greater action. Further, if those of us involved in protection of Eastern forests had more opportunities to comment on how to reduce acid rain pollutants, it would be very helpful to our efforts. This is because if we protect the land but fail to reduce the pollution, we still lose the ecological values. If the EPA had tightened the standard, then pollution sources such as coal fired power plants that contribute to acid deposition in sensitive regions like the Adirondacks would likely need to take further steps to reduce their emissions of oxides of sulfur and oxides of nitrogen. I and others working to protect these areas would have the opportunity to participate in these processes. The EPA's failure to tighten the national standards for oxides of sulfur and oxides of nitrogen deprives me of these opportunities.

(15) It is my understanding that EPA can protect ecosystems from the harmful effects of acid deposition, raise awareness of the issue, and create additional opportunities for participation in efforts to reduce the acid rain pollutants by strengthening these standards. This action would protect all of my professional and personal interests described above. I rely on the Center for Biological Diversity to represent my interests in this issue and in this litigation.

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I declare under penalty of perjury that the foregoing is true and correct.

Executed this 26th day of November, 2012.

John Davis

John Davis

DECLARATION OF GREGORY GORMAN

I, Gregory Gorman, declare as follows:

1. I am a resident of Hamburg, New Jersey, Sussex County. I am a member of Clean Air Council.

2. The Clean Air Council is a non-profit environmental organization headquartered in Philadelphia, Pennsylvania. For more than 40 years, the Council has fought to improve air quality across Pennsylvania. The Council works through advocacy, regulatory oversight and legal action to protect the environment and public health from the harmful effects of air pollution.

3. I kayak in many locations in Pennsylvania, including the Juniata River and Shawnee State Park in Bedford County, the lakes in Bald Eagle State Park and Black Moshannon State Park in Centre County, and the lake in Parker Dam State Park in Clearfield County.

4. Members of my family like to fish, and enjoy the diverse species of fish present throughout Pennsylvania. I fish for trout, bass, panfish, and other species with my grandchildren, grandnieces, and grandnephews.

5. I enjoy hiking through the Pennsylvania state parks mentioned above. I also enjoy photographing elk, bears, raptors and waterfowl, among other wildlife.

6. I am aware of the effects of acid deposition on waters, including decreases in populations of fish and other biota, higher fish mortality, reduction in species diversity, and ecosystem effects. I am concerned that these and other impacts of acid deposition on the rivers, lakes, and woods I enjoy, such as those in Pennsylvania mentioned above, will decrease my enjoyment of kayaking, fishing, hiking, and wildlife photography.

7. I am aware that on April 3, 2012, EPA has refused to tighten national standards that could have reduced the impacts of acid rain on ecosystems. I am concerned that EPA's failure to act means continued impacts that acidify water bodies and harm fish and other wildlife. These impacts will diminish my enjoyment of affected areas and their ecosystems.

8. It is my understanding that EPA can protect ecosystems from the harmful effects of acid deposition by strengthening these standards. This action would increase my enjoyment of areas affected by this acid deposition.

9. I visit family members and spend time outdoors in Bedford and Clearfield Counties every year at Christmas, Easter, and in the summer, and will visit them again at Christmastime

this year. I also go to Bedford County every October for the fall foliage festival, and to hike in the woods.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 15th day of November, 2012.

Gregory L. Gorman

Gregory L. Gorman

DECLARATION OF MOLLIE MATTESON

I, Mollie Matteson, declare as follows:

1. I live in Richmond, Vermont. I am a member of the Center for Biological Diversity. I support the Center because it is effective at protecting endangered species and the places they need to live. I care deeply about all wildlife and plant life and other life on the Earth. This is very important to me.

2. I also work as a Conservation Advocate for the Center. Among other things, I work on protecting forests, particularly on public lands, that provide habitat for species I care about. One of the primary threats to forests in the northeastern United States is acid deposition.

3. I have personally witnessed the impacts of acid deposition on the species and ecosystems of the Northeast. For example, I live within 5 miles of a trailhead to the top of Camel's Hump, one of the highest summits in Vermont, and the highest wild peak in the state, with only foot trails to the top. Some of the earliest studies on acid rain and its impacts on forests were conducted on this mountain, by a professor at the University of Vermont. I first hiked to the top of this mountain with my two sisters, when I was a high school student. Some 15 years later, I carried my baby daughter on my back up to the summit of Camel's Hump. I now live, and have lived for the last 10 years, within a few miles of this mountain, and I usually hike to the summit once a year. I last climbed to the peak

this past July. The forests on Camel's Hump, like all the taller peaks in the Green Mountains of Vermont, exhibit an abundance of dead trees at the higher elevations. I understand that frequent and prolonged exposure to acidic mountain fog, more so than actual acid "rain," is what damages and kills these trees, primarily red spruce. For 30 years, I have visited the forests on Camel's Hump, and witnessed the toll acid deposition has taken on the health and diversity of its high-elevation forests. I have observed similar degradation of high mountain forests on all the Northeast peaks I have climbed, including summits in the White Mountains and a dozen or so of the highest peaks in the Adirondacks. I usually climb at least one or two of the 46 highest peaks in the Adirondacks every summer. This past August, for example, I climbed to the highest summit in New York, Mt. Marcy, with my 15-year old son. I had previously climbed this mountain when I was a sophomore in college. My son and I observed many areas of dead trees on the slopes of Mt. Marcy. I know that acid deposition remains an enormous problem for the high elevation forests of the Northeast. I feel a sense of sadness that so many years after I first learned of acid rain as a young person in college, this issue has not been resolved and my own teenage son is now having to learn about it and witness it.

4. Damage from acid deposition impacts both my work and my personal life. For example, I go on at least one multi-day canoe trip every year in the Adirondacks with my family and friends. One of the most meaningful aspects of

these trips is seeing and hearing loons. I always look forward to the first sighting of a loon on every paddle trip. To me, loons are the iconic species of the Adirondack lakes. I feel a deep sense of happiness when I hear a loon calling while I am camped at night on the shore of a wild Adirondack lake. The impacts of acid deposition on Adirondack lakes includes harm to fish, which may become less abundant and diverse as a result of lower pH in lakes. Loons depend on fish for food, and with fewer fish, there will be less food available to support robust populations of loons. If the number of loons in the Adirondacks diminishes because of acid deposition, and my sightings and contact with loons on my trips become less frequent, I will experience a profound loss. One of the fish species at risk from acid deposition is the native strain of brook trout found in Little Tupper Lake and nearby waterbodies. The Little Tupper Lake heritage strain of brook trout is one of only a handful of native brook trout strains still found in the Adirondacks. Brook trout were once found in 95 percent of Adirondack streams and ponds and lakes, but today, only about 10 native strains remain. I mourn the loss of the native brook trout strains in the Adirondacks and when I have visited Little Tupper Lake, I have felt joy and satisfaction knowing that a beautiful native fish still lives there.

5. In the future I will continue to visit lakes and areas that are harmed by acid deposition. For example, I plan to visit the St. Regis Canoe Area and Little Tupper Lake next summer. I have also visited Weller Pond in the last two years,

and intend to return there in the next 2-3 years. According to the Adirondack Lake Assessment Program, the acidity status of Weller Pond is endangered or threatened and other water quality measurements indicate a moderate sensitivity to other acidic inputs. I have also visited Polliwog Pond in the last three years, and plan to return there within the next 2-3 years. According to the Adirondack Lake Assessment Program, the acidity status of Polliwog is endangered, with extreme sensitivity to future acidic inputs.

6. I have long worked to protect the Bicknell's thrush, a species which is greatly harmed by ongoing acid deposition. In 2010, I prepared and filed a listing petition under the Endangered Species Act for the Bicknell's thrush. The Bicknell's thrush is range-limited; it lives only in the northeastern U.S. and eastern Canada. It lives in high elevation spruce-fir forests in the Northeast, and these forests are imminently threatened by acid deposition as well as other threats such as increasing temperatures, other impacts of climate change, and intensive logging, including clearcutting and pre-commercial thinning. The Bicknell's thrush is so closely associated with the montane Spruce-fir forest of the Northeast that it is considered an indicator of the ecological health of this ecosystem. The Bicknell's thrush has already suffered population declines of 7-19 percent. Because it depends upon a habitat type that is naturally patchy and restricted, it is at particular risk from the ongoing impact of acid deposition and other threats.

7. The red spruce forest in the Northeast, critically important habitat for the Bicknell's thrush, has been harmed and is suffering ongoing harm due to acid deposition. Bicknell's thrush needs those trees for nesting, feeding, cover and thus the forest, the thrush, and my interests in the preservation of the Bicknell's thrush are harmed by ongoing acid deposition.

8. Acid deposition can also affect the Bicknell's thrush directly by altering available soil calcium levels. Acid precipitation leaches calcium ions from forest soils. Reduced calcium availability can affect the abundance and quality of invertebrate prey that Bicknell's thrush relies on. High levels of acid deposition have been linked to reductions in the size and abundance of snails, earthworms, millipedes, and other invertebrate prey. The corresponding reduction in dietary calcium consumed by breeding Bicknell's thrush compromises breeding females' ability to form eggshells and provide the nutrients necessary to nestlings' developing skeletal structures. The abundance of invertebrates in forests with high acid deposition is reported to be up to eight times less than in forests not exposed to acid deposition.

9. The ongoing effects of acid deposition, if nothing further is done to reduce this impact, will continue to harm the species. Because acid deposition directly threatens Bicknell's thrush habitat, reducing acid deposition is a direct and measurable action we can take to protect the species and give it a better chance of

surviving.

10. I have done volunteer fieldwork for two out of the last four summers for Mountain Bird Watch, a monitoring program for high-elevation songbirds here in the Northeast. In the course of this fieldwork, I have hiked up to a mountain ridge on Morse Mountain, in Vermont, and performed a survey for Bicknell's thrush and four other high-elevation bird species. The survey is performed by listening for bird songs. In 2009, I heard two Bicknell's thrush during this survey, and sighted one at close range at the end of the survey. In 2010, I heard one Bicknell's thrush after I had completed the survey.

11. The Bicknell's thrush is a species that is unique to the northeastern United States and eastern Canada. It is not found anywhere else in the world. This species is emblematic to me of the unique community of species that live in this part of the world, which is an important part of the world to me. The prospect of this species fading away is personally extremely painful to me, and its loss would also represent a profound change in the nature of the habitat in which it lives. I particularly love the high elevation areas of this region. As a result of acid deposition these places are likely to change dramatically. This is a very painful possibility for me to consider.

12. I plan to participate again in surveys for the Bicknell's thrush in June 2013 in the subalpine zone of the Adirondack mountains of New York and/or the

Green Mountains of Vermont . In addition to taking part in the survey program, I am planning to return frequently to these areas in the future. For example, I plan to spend time in the high peaks of the Adirondacks by summer 2013 at the latest.

13. The high mountain wilderness areas of the Northeast are incredibly important to me. They are some of the most beautiful and wild areas in the United States, and also provide some of the best habitat for the Bicknell's thrush. Acid deposition causes widespread tree mortality, and seeing that I feel a great loss, both because of the aesthetic loss and loss of scenic beauty and knowing there is less habitat there for species that I care about.

14. I am aware that the Environmental Protection Agency (EPA) is required to set the secondary National Ambient Air Quality Standards (NAAQS) at the level necessary to protect the public welfare from the effects of sulfur and nitrogen pollution, including acid deposition. Further limits on the allowable amount of oxides of sulfur and oxides of nitrogen would help protect the species, ecosystems, and resources I have discussed above, and protect my interests in the continued existence and health of these species and ecosystems.

15. The EPA's failure to propose a strengthened secondary NAAQS for oxides of sulfur and oxides of nitrogen also deprived me of the opportunity to review and evaluate the standard with reference to areas and species that I am working to protect. Were the EPA to propose improved standards, I would be able

to provide comments to the agency on them, including how they could be best applied to protect to protect species like the red spruce and the Bicknell's thrush.

16. The EPA's failure to strengthen the secondary NAAQS for oxides of sulfur and oxides of nitrogen also deprives me of additional opportunities to advocate for decreased emissions of these pollutants. For example, for the past five years I have been following biomass power plant issues very closely, and I have commented on Clean Air Act permits for proposed biomass plants. For example, I submitted comments on a state air permit for a biomass energy plant proposed by Laidlaw LLC in northern New Hampshire. Biomass power plants tend to emit large quantities of nitrogen oxides as well as smaller quantities of sulfur oxides, both of which contribute to acid deposition. Biomass plants in New Hampshire and Vermont may affect nearby Class I airsheds in federally designated wilderness areas on the White Mountain National Forest. These wilderness areas contain some of the best habitat for Bicknell's thrush in the United States. They also contain some of the most spectacular mountain scenery in eastern North America. The nationally renowned Appalachian Trail runs right through this high mountain area in the Presidential Range of the White Mountains. Biomass air pollution will contribute to acid deposition in the high elevation forests where the red spruce and Bicknell's thrush live. Were the EPA to strengthen the secondary NAAQS for oxides of sulfur and oxides of nitrogen, proposed biomass plants

would need to demonstrate that they would not contribute to a violation of the new standard. I would then have the opportunity to comment on this important issue, and an additional avenue to advocate for reductions in these pollutants, when air permits for biomass plants in my region are proposed and processed.

17. I rely on the Center to protect the species and ecosystems discussed above as well as my interests in them, including by bringing the current case challenging the EPA's failure to strengthen the secondary NAAQS for sulfur and nitrogen pollution.

I declare under penalty of perjury that the foregoing is true and correct and was executed on November 21, 2012, at Richmond, Vermont.

Mollie Matteson

DECLARATION OF ELIZABETH NORCROSS

I, Elizabeth Norcross, declare as follows:

1. I am a resident of Arlington, Virginia. I am a member of the National Parks Conservation Association (NPCA), and have been a member of NPCA since 2003.

2. I am currently adjunct faculty in eco-theology at Wesley Theological Seminary in Washington, D.C. I also co-founded and currently direct the Green Seminary Initiative, dedicated to infusing case for the earth into theological education and equipping religious leaders with the tools to lead their congregations in confronting the ecological challenge. I also developed a spiritual study guide to Ken Burns' film, "The National Parks: America's Best Idea."

3. After obtaining a Master of Forestry from Duke University, I worked as professional staff for the United States Senate National Parks and Forests Subcommittee, where I helped draft and move legislation to protect National Parks, National Forests, and wild and Scenic Rivers. During this time, I became aware of a variety of threats to parks, including acid deposition.

4. I next worked as Vice President of Conservation for American Rivers, a conservation organization dedicated to the protection of rivers and riverine habitat. In this work, I became aware of the impact of acid deposition on plant life in riparian areas and on waterways and riverine creatures.

5. I hike in and near Shenandoah National Park, which is next to my second home in Luray, Virginia. I hike in this area once or more each month, and record these hikes in hiking logs. I hiked in Shenandoah National Park on October 21, 2012. I plan to return to Shenandoah National Park again at the end of November of 2012.

6. Among my hikes in this area are the South Fork of the Shenandoah River, an area not within Shenandoah National Park, and Jeremy's Run, which is in the Park. My husband fishes in these areas.

7. Beyond the physical activity of hiking, I am an eco-theologian and naturalist and therefore rely on the entire experience of my hike to observe and view the whole ecosystem and its various wildlife species. The Appalachian region is extremely diverse biologically and depends on healthy water and air and other natural resource components to remain that way. I am fortunate enough to be able to visit this area during all seasons.

8. I am aware of the effects of acid deposition on waters in and near Shenandoah National Park, including decreases in populations of fish and other biota, higher fish mortality, and reduction in species diversity. When I see oaks and hemlocks under stress in the Park, I am concerned that I am seeing the effects of acid rain. From a faith perspective, I am quite concerned that we are not meeting our responsibilities to be participants in, and stewards of, what I consider the gift of the creation. Furthermore, since water plays such an essential role in

Christian ritual and tradition, our spiritual experience is degraded by the degradation of the waters and all the creatures that live in them. I am concerned about the degradation of the waters in and around the Shenandoah National Park, which was itself set apart to be kept sacred and apart from the impacts of industry.

9. I am aware that on April 3, 2012, EPA has refused to tighten national standards that could have reduced the impacts of acid rain on ecosystems. I am concerned that EPA's failure to act means continued impacts that acidify water bodies and harm fish and other wildlife. These impacts will diminish my enjoyment of affected areas and their ecosystems as well as my spiritual experience of them.

10. It is my understanding that EPA can protect ecosystems from the harmful effects of acid deposition by strengthening these standards. This action would increase my enjoyment of areas affected by this acid deposition.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 15th day of November, 2012.

Elizabeth Norcross

Elizabeth Norcross

DECLARATION OF JUSTIN RUSSELL

I, Justin Russell, hereby declare and state:

1. I am the Membership Coordinator for the Clean Air Council (Council), a member-supported non-profit corporation organized and existing under the laws of the Commonwealth of Pennsylvania. In that capacity I am familiar with the Council's mission, which is "Protecting Everyone's Right to Breathe Clean Air." Working to reduce Pennsylvania's exposure to harmful air pollution is a core part of the Council's mission. I am familiar with the Council's work to improve air quality in Pennsylvania.

2. I have been the Membership Coordinator for the Council since March 26, 2012. My duties as Membership Coordinator include: managing databases that contain information on members and prospective members, supervising membership campaigns and processing membership renewals and working with major donors and foundations that support the Council. My work requires me to be familiar with the Council's purpose, organization and activities, as well as the environmental interests and concerns of Council members.

3. In my capacity as the Membership Coordinator for the Council, I have access to current information about all of the Council's members and board members, including their primary residential address.

4. Based on my review of that information, I declare that the Council has approximately 4,930 members. Those members live throughout Pennsylvania, Delaware and New Jersey. Members of the Council also live in Arizona, California, Colorado,

Indiana, Maine, Massachusetts, Maryland, Michigan, North Carolina, Oregon, Texas, and Virginia.

5. Council members live, work, recreate and breathe in areas of Pennsylvania that are affected by oxides of nitrogen and sulfur. EPA's failure to adopt stronger secondary national ambient air quality standards for oxides of nitrogen and sulfur to protect public welfare as required by the Clean Air Act threatens the welfare of these Council members.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 11/26, 2012.

Justin Russell

DECLARATION OF KIERÁN SUCKLING

I, Kierán Suckling, declare as follows:

1. I am Executive Director of the Center for Biological Diversity. I have personal knowledge of the facts and statements contained herein and, if called as a witness, could and would competently testify to them. This declaration is made in support of the Center for Biological Diversity et al.'s Petition for Review in this case.

2. The Center for Biological Diversity (the "Center") is a non-profit corporation with offices throughout the country. The Center works to protect wild places and their inhabitants. The Center believes that the health and vigor of human societies and the integrity and wildness of the natural environment are closely linked. Combining conservation biology with litigation, policy advocacy, and strategic vision, the Center is working to secure a future for animals and plants hovering on the brink of extinction, for the wilderness they need to survive, and by extension, for the physical health and spiritual welfare of generations to come. In my role as Executive Director, I am familiar with and oversee all aspects of the Center's work.

3. The Center works on behalf of its members, who rely upon the organization to advocate for their interests in front of state, local and federal

entities, including the EPA and the courts. The Center has approximately 39,000 members nationwide.

4. The Center has developed several different practice areas and programs, including the Climate Law Institute (formerly, our "Climate, Air, and Energy Program"), an internal institution with the primary mission of curbing global warming and other air pollution, and sharply limiting their damaging effects on endangered species and their habitats, and on all of us who depend on clean air, a safe climate, and a healthy web of life. One of the Climate Law Institute's top priorities is the full and immediate use of the Clean Air Act to reduce air pollution.

5. The Center has long worked to reduce oxides of sulfur and oxides of nitrogen as well as other air pollution to protect public health and the environment. In 2005 we filed suit against the EPA for failing to review and revise the air quality criteria for oxides of nitrogen and sulfur oxides and the national ambient air quality standards (NAAQS) for these pollutants. *Center for Biological Diversity, et al. v. EPA*, No. 05-1814 (LFO) (D.D.C. filed September 12, 2005). This case resulted in a court-ordered settlement agreement setting forth deadlines for the EPA to update these critically important standards. On February 9, 2010, EPA issued updated primary NAAQS for nitrogen dioxide. Primary National Ambient Air Quality

Standards for Nitrogen Dioxide; Final Rule, 75 Fed. Reg. 6474 (February 9, 2010). On June 22, 2010, EPA issued updated primary NAAQS for sulfur dioxide. Primary National Ambient Air Quality Standard for Sulfur Dioxide; Final Rule, 75 Fed. Reg. 35520 (June 22, 2010). When EPA declined to revise the secondary NAAQS for oxides of nitrogen and sulfur, Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur; Final Rule, 77 Fed. Reg. 20218 (April 3, 2012), we filed this case to challenge that decision.

6. We have taken and continue to take many other actions to limit air pollution. For example, we have moved to intervene in the case *State of Alaska v. Clinton et al.*, No. 12-cv-142 (D. Alaska, filed July 13, 2012), in which the State of Alaska is challenging a rule promulgated by the EPA that will reduce the emission of oxides of sulfur by requiring the use of low-sulfur fuel in ships. Control of Emissions from New Marine Compression-Ignition Engines at or Above 30 Liters per Cylinder; Final Rule 75 Fed. Reg. 22895 (April 30, 2010). We also filed suit in 2010 against EPA for failing to meet numerous deadlines for limiting dangerous particle pollution, including failing to determine whether areas in five western states are complying with existing air-pollution standards and failing to ensure that states are implementing legally required plans to meet the standards, and again

reached a settlement setting forth deadlines for EPA to carry out these important duties. *Center for Biological Diversity v. Jackson*, No. cv-10-1846 (N.D. Cal., filed April 28, 2010). In addition, we have mounted challenges to the Clean Air Act permits issued by EPA for drill ships to drill for oil in the Chukchi and Beaufort Seas. *Resisting Environmental Destruction on Indigenous Lands v. EPA*, No. 12-70518 (9th Cir., filed February 17, 2012) *(Discoverer)*; *Alaska Wilderness League v. EPA*, No. 12-71506 (9th Cir., filed May 16, 2012) (*Kulluk)*. These petitions challenge the failure to control emissions of carbon monoxide, nitrogen oxides, volatile organic compounds, and particulate matter from the vast fleet of supply ships that accompany the drill ships, the decision to exclude areas around the drill ships from any pollution controls whatever, and violations of an hourly emissions standard for nitrogen dioxide.

7. These examples are illustrative of our advocacy in this area, not exhaustive.

8. The Center and its members have an interest in the EPA's full compliance with the Clean Air Act in reviewing and revising the secondary NAAQS for oxides of sulfur and oxides of nitrogen. The EPA's actions challenged here impair the Center's ability to carry out its mission and our members' ability to protect their interests in multiple ways.

9. First, the EPA's decision not to strengthen the secondary NAAQS for oxides of sulfur and oxides of nitrogen means that sensitive ecosystems and species will receive less protection from the impacts of acid deposition. This harms these ecosystems and species, as well as our interests in protecting them. Simply stated, the EPA's refusal to strengthen the standards allows sulfur and nitrogen pollution to continue to be emitted at levels known to cause harmful depositional effects in sensitive ecosystems, and thus harms both the Center's and our members' interests in reducing deposition-related environmental harm.

10. Second, the lack of an updated secondary NAAQS for oxides of sulfur and oxides of nitrogen means that there will be fewer opportunities for agencies to take steps to reduce these pollutants, fewer opportunities for the Center and our members to advocate for greater reductions, and less information available to the Center and our members regarding this important problem and how to solve it. For example, the EPA's failure to revise existing standards means that the entire country remains in attainment of those standards, with important implications for the Clean Air Act's new source review program. If the standard were strengthened, some or all of the most acid-sensitive areas would not meet the new standard, triggering additional permitting requirements through the non attainment new source

review program. And in areas still attaining the new standard, permits issued to new sources under the prevention of significant deterioration program would have to demonstrate that emissions will not cause or contribute to violations of the standard. The Center, our staff, and our members would thus have the opportunity to comment on these permit reviews and to advocate for greater reductions in these pollutants. In addition, a strengthened standard would require some states to update their state implementation plans in order to achieve greater reductions and meet the new standards. A strengthened standard would also almost certainly lead to more rigorous analysis by agencies required to demonstrate conformity with these plans when approving projects. All of these processes would lead to greater participation opportunities and greater information availability to the Center and its members regarding the impacts of acid deposition and ways to reduce these pollutants.

11. The processes mentioned above are vital sources of information about acid deposition, sources of sulfur and nitrogen pollution, and solutions to reduce it. The Center uses the information obtained from processes like these in numerous ways. For example, we use it to communicate to our members, the media, the public, and our elected representatives about this problem, because greater awareness of these impacts is an important step in

our efforts to reduce and eliminate them. By depriving the Center and its members of multiple opportunities for such participation, the EPA's failure to update the secondary NAAQS for oxides of sulfur and oxides of nitrogen severely harms the Center's ability to carry out our mission.

12. EPA's failure to strengthen the secondary NAAQS for oxides of sulfur and oxides of nitrogen also deprives the Center and its members of other benefits that would flow from increased attention to and awareness of the issue. For example, further action to address acid deposition would almost certainly result in significant media coverage of the issue, heightening public awareness and support for solutions and bolstering our efforts to solve this problem and protect the species and ecosystems harmed by it.

13. The Center's members rely on the organization to compel EPA to comply with its existing legal duties and to advocate for the strongest possible air pollution controls. The Center's members also rely on the organization to compel EPA to comply with the provisions of the Clean Air Act and to operate lawfully.

14. EPA's failure to comply with the Clean Air Act in adopting the rule challenged here harms the interests of the Center and its members. These interests include the substantive interests of the organization and its

members in protecting species and ecosystems threatened by acid deposition. These interests also include procedural and informational interests advanced by the Clean Air Act's permitting programs, interests directly threatened by EPA's violations challenged here.

15. If EPA had followed the law, I believe that the agency would have strengthened the secondary NAAQS for oxides of sulfur and oxides of nitrogen. This would have protected both the substantive and procedural interests of the Center and its members discussed herein.

16. If this court were to rule for Petitioners in this action, the harm to the Center and its members that have resulted from the agency's illegal actions would be redressed.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on November 19, 2012, at Tucson, Arizona.

Kierán Suckling

DECLARATION OF MARK A. WENZLER

I, MARK A. WENZLER, hereby declare and state:

1. I am the Vice President for Climate and Air Quality Programs at National Parks Conservation Association ("NPCA"), a nonprofit corporation organized and existing under the laws of the District of Columbia.

2. I am familiar with NPCA's mission, which is to protect and enhance America's National Parks for present and future generations. Improving air quality-related values in national parks, including ecosystem health, is germane to NPCA's mission.

3. I have led NPCA's air quality program since April 2005. Since that time NPCA's air quality program and my work have focused on protecting and strengthening federal laws and regulations relating to air quality in the national parks, and enforcing those laws and regulations in the state and federal court systems. A major focus of NPCA's air quality program and my work has been and continues to be protecting national parks' air, land, water, vegetation and wildlife by strengthening and enforcing statutory and regulatory mandates relating to air pollution. The involvement of NPCA's members is critically important to the success of NPCA's air quality program.

4. In my capacity as Vice President for Climate and Air Quality Programs at NPCA I have access to current information about all of NPCA's members and board members, including their primary residential addresses. I am also aware, through membership survey data, that many NPCA members frequently visit national parks, that air quality in the parks is important to many NPCA members, and that many NPCA members support NPCA's work to improve air quality in the national parks. According to a February 2006 survey of a representative sample of NPCA's approximately 321,686 members at the time, 62 percent of

NPCA members visit the national parks often, and 49 percent of NPCA members list wildlife and nature viewing as their main activity while visiting the parks. Seventy-six percent of NPCA members believe the national parks are faced with serious threats, including air pollution. Eighty-six percent of NPCA members believe that air and water pollution that originates outside the parks is causing serious damage inside the parks.

5. Based on my review of the membership information, I declare that as of October 31, 2012 NPCA had 345,796 members nationwide. Those members live in all 50 states, the District of Columbia, and the U.S. territories of American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands.

6. The Environmental Protection Agency's (EPA) final rule entitled "Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur," 77 Fed. Reg. 20,218 (April 3, 2012) considers the effects of oxides of nitrogen and sulfur on sensitive aquatic and terrestrial ecosystems. I am aware that in promulgating these standards EPA determined that its existing secondary standards for these pollutants were not requisite to protect public welfare from these adverse effects, but that EPA nonetheless decided to leave the pre-existing standards unchanged. 77 Fed. Reg. at 20262.

7. Many of NPCA's members frequently visit national parks. One of the reasons they travel to national parks is to view and enjoy their forests, streams, rivers, lakes, fish and wildlife. I am aware that these natural values have been impaired and continue to be impaired by air pollution in many national parks. Many of NPCA's members are concerned about the role that air pollution plays in impairing the natural values of the national parks.

8. I am informed and I believe that EPA's rule will not adequately prevent and/or remedy impairment of national parks' vegetation and other natural resources by the airborne

deposition of NO2 and SO2. The EPA's rule harms NPCA's members because it fails to prevent and/or remedy impairment of national parks that NPCA members visit. NPCA members' enjoyment of national parks will be diminished unless EPA promulgates secondary National Ambient Air Quality Standards for oxides of nitrogen and sulfur that will prevent and/or remedy impairment of national park natural resources.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on November 27, 2012

Mark A. Wenzler
Vice President, Climate & Air Quality Programs
National Parks Conservation Association

ORAL ARGUMENT NOT YET SCHEDULED

IN THE

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 12-1238

CENTER FOR BIOLOGICAL DIVERSITY, et al.,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, et al.,

Respondents.

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

BRIEF OF INTERVENOR-RESPONDENTS UTILITY AIR REGULATORY GROUP AND AMERICAN PETROLEUM INSTITUTE IN SUPPORT OF RESPONDENTS

Andrea Bear Field
Lucinda Minton Langworthy
Aaron M. Flynn
HUNTON & WILLIAMS LLP
2200 Pennsylvania Avenue, N.W.
Washington, D.C. 20037
(202) 955-1500

Counsel for Intervenor-Respondents
Utility Air Regulatory Group and
American Petroleum Institute

Dated: March 21, 2013
Final Form: May 20, 2013

CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

Pursuant to Circuit Rule 28(a)(1), Intervenors state as follows:

A. Parties, Intervenors, and Amici

All parties to this case are accurately identified in the Opening Brief of Petitioners and the Brief of Respondents.

B. Rulings Under Review

The agency action under review is EPA's final rule, entitled "Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur," Docket ID No. EPA–HQ–OAR–2007–1145, published at 77 Fed. Reg. 20,218 (Apr. 3, 2012).

C. Related Cases

To undersigned counsels' knowledge, there are no related cases.

RULE 26.1 DISCLOSURE STATEMENT

Pursuant to Rule 26.1 of the Federal Rules of Appellate Procedure and Circuit Rule 26.1, Intervenors the Utility Air Regulatory Group ("UARG") and the American Petroleum Institute ("API") file the following statement:

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

API is a nationwide, non-profit trade association representing over 500 member companies, headquartered in the District of Columbia. API's member companies engage in all segments of the oil and gas industry, including science and research, exploration and production of oil and natural gas, transportation, refining of crude oil, and marketing of oil and gas products. API has no parent companies, and no publicly held company has a 10% or greater ownership interest in API.

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GLOSSARY OF ACRONYMS AND ABBREVIATIONS

AAI	Aquatic Acidification Index
Act	Clean Air Act
Agency	United States Environmental Protection Agency
ANC	Acid Neutralizing Capacity
CAA	Clean Air Act
CASAC	Clean Air Scientific Advisory Committee
EPA	United States Environmental Protection Agency
EPRI	Electric Power Research Institute
NAAQS	National Ambient Air Quality Standards
NAPAP	National Acid Precipitation Assessment Program
NO_2	Nitrogen Dioxide
NOx	Oxides of Nitrogen
PM	Particulate Matter
$PM_{2.5}$	Fine Particulate Matter
ppb	Parts Per Billion
ppm	Parts Per Million
SO_2	Sulfur Dioxide
SOx	Oxides of Sulfur
μeq/L	Microequivalents Per Liter

JURISDICTIONAL STATEMENT

On April 3, 2012, the United States Environmental Protection Agency ("EPA" or "Agency") published a final rule entitled "Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur." 77 Fed. Reg. 20,218 (Apr. 3, 2012) ("Final Rule"), JA0078-132. In the Final Rule, EPA retained the existing secondary National Ambient Air Quality Standards ("NAAQS" or "ambient standards") for oxides of nitrogen ("NOx") and oxides of sulfur ("SOx"). This Court has jurisdiction over challenges to the Final Rule pursuant to section 307(b) of the Clean Air Act ("CAA" or "Act"). 42 U.S.C. § 7607(b).[1] Petitioners Center for Biological Diversity, Clean Air Council, and National Parks Conservation Association (collectively "Petitioners") timely filed their petition for review as required by section 307(b).

STATEMENT OF ISSUES

Whether EPA properly determined in the Final Rule that revision of the secondary ambient standards for NOx and SOx was not necessary "to protect the public welfare from any known or anticipated adverse effects associated with the presence of [NOx and SOx] in the ambient air." CAA § 109(b)(2).

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[1] Citations hereinafter are given only to the CAA. Parallel citations to the United States Code appear in the Table of Authorities.

STATUTES AND REGULATIONS

The pertinent statutory and regulatory provisions appear in the briefs of Petitioners or Respondent EPA or in the addendum to this brief.

STATEMENT OF THE CASE

This case concerns whether EPA was obligated to revise the secondary ambient standards for NOx and SOx in a manner that would have been unprecedented in both scientific and legal terms. Petitioners seek through this litigation to overturn EPA's decision not to adopt as a *national* ambient *air quality* standard what would essentially have been a *regional water quality* requirement. EPA has never previously adopted any such standard and is not authorized by the Clean Air Act to do so.

I. Relevant Statutory and Regulatory Background

The program for promulgation, review, and revision of national ambient air quality standards is governed by sections 108 and 109 of the CAA. These provisions require EPA to promulgate and periodically review the standards for listed "criteria air pollutants" like NOx and SOx.[2] For each such listed pollutant, the EPA Administrator must prepare "air quality criteria," which the Act defines as an assessment "accurately reflect[ing] the latest scientific knowledge useful in indicating

[2] Section 108(a)(1) of the Act establishes the process by which the EPA Administrator lists "criteria air pollutants," subjecting them to the NAAQS regulatory program. The list of such pollutants currently includes carbon monoxide, NOx, SOx, ozone, particulate matter ("PM"), and lead.

the kind and extent of all identifiable effects on public health or welfare which may be expected from the presence of such pollutant in the ambient air, in varying quantities." CAA § 108(a)(2). These criteria, which EPA calls "Integrated Science Assessments," serve as the scientific basis for setting ambient standards. Primary standards protect public health, while secondary standards protect welfare. *Id.* § 109(b). EPA must set secondary ambient standards at the level that, in the Administrator's judgment, "is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air." *Id.* § 109(b)(2).

Because science is central to the setting of ambient standards, Congress not only mandates specific scientific assessments to support NAAQS rulemakings, it also requires EPA to obtain and consider the advice of an independent scientific review committee – the Clean Air Scientific Advisory Committee or "CASAC" – before setting or revising an ambient standard. *Id.* § 109(d)(2)(A); *id.* § 117(a). The Act requires EPA to explain any deviation from CASAC's recommendations. *Id.* § 307(d)(3).

Once EPA has established an ambient standard for a criteria pollutant, the Act requires the Administrator to review that standard and its scientific basis at least every five years and to "make such revisions in such criteria and standards and promulgate such new standards as may be appropriate in accordance with [CAA §§ 108 and

109(b)]." *Id.* § 109(d)(1). Revisions to a secondary NAAQS are appropriate only if two criteria are met: (1) the Administrator must determine that the existing standard is no longer at the level "requisite" to protect public welfare, i.e., the Administrator must determine that the existing standard now appears to be either higher or lower than necessary to provide the appropriate level of protection, *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 475-76 (2001); and (2) the Administrator must be able to identify a standard that would provide the appropriate level of protection.

The Act requires that an ambient standard be set at *a nationally-applicable level* and be stated in terms of an *air quality* indicator. Specifically, the Act states that "[a]ny *national* secondary ambient air quality standard . . . *shall specify a level of air quality*." CAA §109(b)(2) (emphasis added). A standard expressed in terms of an air pollutant indicator that caps concentrations of that indicator pollutant in the ambient air at a single level throughout the nation satisfies these fundamental requirements of the Act. *See* EPA Br. at 5 (traditional NAAQS set the "maximum acceptable concentration of the indicator in the ambient air" applicable throughout the nation).

Since the inception of the section 109 NAAQS program, all ambient standards have satisfied those basic requirements and have consisted of: (1) an "indicator" (such as nitrogen dioxide ("NO_2") for NOx) that serves as a reliable measurement of the listed criteria pollutant in the ambient air; (2) a "level" of that indicator specifying its allowable ambient concentration; (3) an "averaging time" over which ambient

concentrations are measured (e.g., hourly, daily, annually); and (4) a "form," which defines how compliance with the level will be determined (e.g., how many exceedances over a course of time are permissible). The current secondary NAAQS for NOx and SOx follow this paradigm. Thus, the secondary NOx ambient standard uses NO_2 as the *indicator* and is set at a *level* of 0.053 parts per million ("ppm") measured in the ambient air over an annual *averaging time* and taking a *form* of an arithmetic mean. 40 C.F.R. § 50.11(g). Similarly, the secondary SOx ambient standard uses sulfur dioxide ("SO_2") as the *indicator*, is set at a *level* of 0.5 ppm, is measured over a three-hour *averaging time*, and takes the *form* of prohibiting more than one exceedance per calendar year. *Id.* § 50.5(a).

II. EPA Proceedings and Congressional Action Prior to the Current Rulemaking

In 1971, EPA established secondary ambient standards for NOx and SOx intended to protect vegetation from the effects of direct gaseous exposure of those pollutants. *See* 77 Fed. Reg. at 20,219, JA0079. Those standards did not purport to address acidification.

Nine years later, recognizing that environmental risks from air pollution-related acidification of water bodies and land were poorly understood, Congress commissioned a series of studies under the National Acid Precipitation Assessment Program ("NAPAP") to examine scientifically the causes of, and contributors to, acid

deposition, along with potential methods to ameliorate its effects. 42 U.S.C. §§ 8901-8912.

As the NAPAP evaluation was underway, EPA, during a review of the secondary ambient standards for SOx, considered whether the standard should be revised to address acidification. In a 1988 proposed rule, EPA concluded that there were "fundamental, scientific uncertainties" regarding acidification and that "it would be premature and unwise to prescribe any regulatory control program [to address acidification] at this time." 53 Fed. Reg. 14,926, 14,936 (Apr. 26, 1988). Shortly thereafter, NAPAP completed its initial authorized round of research and submitted its findings to Congress.

Acting on the NAPAP findings, Congress enacted the Title IV Acid Rain Program as part of the 1990 Clean Air Act Amendments. Clean Air Act Amendments of 1990, Pub. L. No. 101-549, §§ 401-413, 104 Stat. 2399, 2584-2634 (1990); CAA §§ 401-416. Consistent with EPA's advice that the Agency lacked authority to address acidification through the ambient standards program, Congress determined that ambient standards should not be used to address acidification. S. REP. NO. 101-228 at 289-90 (1989). Instead, Congress designed the Title IV program to operate in an entirely different manner. For NOx, Title IV imposes emission rate limits on a class of regulated facilities. CAA § 407. For SO_2, Title IV requires implementation of a market-based allowance trading program. *Id.* §§ 403-406.

Following Congress' enactment of Title IV, EPA repeated that the secondary standards should not be used to address acidification and that the Title IV program should serve as the exclusive means for any such regulation. Thus, in 1993, when EPA took final action on the revision to the secondary SOx standards it had proposed in 1988, the Agency stated that the "secondary NAAQS and the associated implementation process, were not well designed to address regional air pollution problems," such as acidification and that, in enacting Title IV, "Congress does not seem to have expected that the EPA would set a secondary standard for acidic deposition." 58 Fed. Reg. 21,351, 21,356 (Apr. 21, 1993). Similarly, in 1996, in reviewing the secondary ambient standard for NOx, EPA found that "adoption of a nationally-uniform secondary standard would not be an effective approach to addressing [acidification]." 61 Fed. Reg. 52,852, 52,855 (Oct. 8, 1996).

III. The Rulemaking at Issue in this Litigation

On August 1, 2011, EPA proposed possible revisions to the secondary NAAQS for NOx and SOx. 76 Fed. Reg. 46,084 (Aug. 1, 2011) ("Proposed Rule"), JA0014-77. In the Proposed Rule, EPA did an about-face and said it was considering setting an ambient standard to address the role of NOx and SOx in aquatic acidification. Specifically, the Proposed Rule raised the possibility of EPA's setting a new ambient standard to address acidification – an ambient standard radically different from any previous NAAQS. For example, rather than evaluating one

standard for NOx and one for SOx, *see* CAA § 109(b)(2) (secondary NAAQS "shall specify *a level* of air quality . . . requisite to protect the public welfare from . . . adverse effects associated with the presence *of such air pollutant* in the ambient air") (emphasis added), EPA said it was considering a new concept that would set one joint standard for both of those criteria pollutants. Further, rather than specifying uniform, minimally-acceptable levels of NOx and SOx concentrations in the ambient air, EPA said it was contemplating an ambient standard that would have used a complex equation to attempt to relate varying atmospheric concentrations of NOx and SOx to a measure of water quality by using estimates of NOx and SOx deposition (i.e., the rates at which ambient concentrations of NOx and SOx are deposited into and then interact with various ecosystems and, ultimately, water bodies), along with estimates of various ecosystem characteristics that influence the kind and extent of any effect NOx and SOx deposition may have on individual ecosystems. Although this conceptual standard – which had what EPA referred to as an Aquatic Acidification Index ("AAI") form – would have set a measurement of water body acid neutralizing capacity ("ANC") at a nationally-uniform level, concentrations of NOx and SOx in the ambient air would have been allowed to vary regionally throughout the country, with different ambient concentrations allowable in different "ecoregions." 76 Fed. Reg. at 46,138, JA0068.

What an AAI-based NAAQS might otherwise look like was largely left undefined by the Proposed Rule. Indeed, in the proposal, EPA provided only a description of the AAI concept, and – after noting the considerable remaining scientific uncertainties – the Agency said it was not proposing to revise the secondary ambient standards for NOx and SOx to include an AAI-based standard. EPA instead proposed to determine that the limitations and uncertainties characterizing the AAI were "of such nature and magnitude" that it was impossible to specify the elements for such a standard that would satisfy the requirements of the Clean Air Act. *Id.* at 46,135, JA0065. EPA further proposed to retain the existing secondary standards and to set new additional secondary standards for NOx and SOx that would have been identical to the NO_2 and SO_2 1-hour primary standards that EPA established in 2010 for the purpose of protecting public health. *Id.* These new standards, according to EPA, were intended to "provide some degree of additional protection" to public welfare. *Id.* Accordingly, the Administrator proposed a 1-hour secondary NO_2 standard set at a level of 100 parts per billion ("ppb") and the proposed 1-hour secondary SO_2 standard would be set at 75 ppb. *Id.* Finally, the Administrator proposed to establish a "Field Pilot Program" to further study how to attempt to reduce the scientific uncertainties characterizing acidification. *Id.* at 46,135-41, JA0065-71.

CASAC reviewed drafts of EPA's various scientific documents prepared in support of the review of the NOx and SOx standards. CASAC encouraged EPA's review of the science addressing acidification and its relationship to air pollution, but noted that EPA faced "regulatory constraints" that would prove challenging to any secondary ambient standard intended to address acidification.[3] CASAC also explained that serious scientific uncertainties existed and warranted additional research.[4]

Intervenors participated in the NAAQS rulemaking, filing comments on EPA's Proposed Rule. Those comments urged EPA to finalize the proposed determination not to establish an AAI-based standard, not only because of the significant scientific uncertainties, but also because the Title IV program was the Clean Air Act's exclusive mechanism for addressing acidification.[5]

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[3] CASAC, Review of the Policy Assessment for the Review of the Secondary National Ambient Air Quality Standard for NOx and SOx: Second Draft at 2 (Dec. 9, 2010), Doc. ID No. EPA-HQ-OAR-2007-1145-0168 ("These challenges are made more difficult by the regulatory constraints under which EPA staff operates: the standard must use ambient air pollutant concentrations as the indicator . . . .") (hereinafter "CASAC Comments on Second Draft PA"), JA0188.

[4] CASAC, Comments on the Policy Assessment for the Review of the Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Oxides of Sulfur (February 2011) at 11-12 (May 17, 2011), Doc. ID No. EPA-HQ-OAR-2007-1145-0174 (hereinafter "CASAC Comments on Final PA"), JA0360-61.

[5] Comments of the Utility Air Regulatory Group on EPA's Proposed Rule at 7-18, 21-30 (Oct. 10, 2011), Doc. ID No. EPA-HQ-OAR-2007-1145-0136 (hereinafter "UARG Comments"), JA0423-34, 0437-46; Comments of the American Petroleum

On April 3, 2012, EPA published its Final Rule. 77 Fed. Reg. at 20,218, JA0078. Taking action consistent with some of the comments submitted by Intervenors, EPA did not promulgate an AAI-based standard, and cited the nature and magnitude of the scientific uncertainties as the primary basis for not establishing such a standard. *Id.* at 20,262, JA0122. EPA also declined to promulgate new secondary standards equivalent to the 1-hour primary standards for NO_2 and SO_2, finding that "there is no factual basis to make a reasoned judgment as to what levels of 1-hour NO_2 and SO_2 standards would provide a desired degree of protection of the public welfare." *Id.* at 20,259, JA0119. Consistent with its proposal, EPA retained the existing secondary standards for NOx and SOx and announced a planned Field Pilot Program in the Final Rule. *Id.* at 20,263, JA0123.

SUMMARY OF ARGUMENT

EPA has no authority to promulgate a national ambient air quality standard to address acidification related to NOx and SOx emissions. EPA previously acknowledged that the NAAQS program is not designed to address this environmental issue, and Congress foreclosed the option of EPA's promulgating an acidification-based standard when it enacted the CAA's Title IV Acid Rain Program.

Institute on EPA's Proposed Rule at 1-2 (Oct. 10, 2011), Doc. ID No. EPA-HQ-OAR-2007-1145-0141 (hereinafter "API Comments"), JA0466-67.

EPA's decision not to promulgate an AAI-based standard was, therefore, the only course of action available to the Agency consistent with the law.

That acidification cannot properly be addressed by a secondary ambient standard is confirmed by the enormous complexity and resulting scientific uncertainty associated with the standard EPA described in the Proposed Rule. The AAI is unlike anything EPA has previously promulgated as an ambient standard, and its defining features – a water quality-based indicator and level and a complex equation as its form – fail to satisfy the requirements of section 109 of the Clean Air Act.

Even if an ambient standard could be used to address acidification – and it cannot – the scientific uncertainties characterizing the AAI are of such an extensive and overwhelming nature that EPA had no basis in the record for establishing such a standard. To have done so would have been inconsistent with the Clean Air Act's requirements. EPA and CASAC both recognized the gaps in and limitations of the scientific record. Petitioners' argument that EPA was compelled to promulgate an acidification-based standard, on the other hand, is based on misinterpretation of the applicable legal precedents. Contrary to Petitioners' claims, the applicable case law does not direct EPA to revise a NAAQS in the face of overwhelming scientific uncertainty because doing so would force the Agency to make inherently arbitrary decisions.

For these reasons, EPA's Final Rule should be upheld.

STANDARD OF REVIEW

Petitioners and Respondent EPA both set forth the well-known standard of review applicable in this case. Pet. Br. at 22-23; EPA Br. at 23-25. Under CAA § 307(d)(9), this Court may reverse EPA's Final Rule if it is arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law. CAA § 307(d)(9).

ARGUMENT

I. The Clean Air Act Does Not Authorize EPA To Use the Ambient Air Quality Standards Program To Address Acidification.

A. In Amending the Clean Air Act in 1990, Congress Made It Clear that Acid Deposition Concerns Are To Be Addressed Through the Title IV Acid Deposition Control Program, Not the Title I National Ambient Air Quality Standards Program.

Both Congress and EPA recognized many years ago that the national ambient air quality standards program in Title I of the Act does not offer an effective mechanism for addressing acidification. Congress codified that same position when it amended the Clean Air Act in 1990. *See, e .g.*, S. REP. NO. 101-228 at 289-90 (1989), *reprinted in* 1990 U.S.C.C.A.N. 3385, 3672-73 (finding "most persuasive" EPA's conclusion that it lacked authority to address acidification under the secondary NAAQS).[6] The inadequacy of the ambient standards as a means to address

[6] Where Congress premises an amendment to an existing statute on a particular interpretation of that statute, as it did here, Congress's interpretation must be given

acidification is what drove "both bodies of Congress [to conclude] that a new legislative program was needed to address acidic deposition effects." 58 Fed. Reg. at 21,356.

Specifically, in 1980, Congress acknowledged concerns over the potential effects of acidification related to NOx and SOx and sought to address the inadequate scientific understanding of the phenomenon by commissioning the NAPAP. 42 U.S.C. §§ 8901-8912. The purpose of the NAPAP was to identify the causes and sources of acid rain (which is a mechanism by which pollutants in ambient air contribute to acidification); to evaluate the environmental, social, and economic effects of acidification; and to assess potential methods of control to address it. *Id.* § 8903. The original NAPAP program operated for ten years, resulted in a series of interim reports, and culminated in a final report to Congress in 1990. Based on data provided by the NAPAP studies, and, in particular, NAPAP's assessment of acidification control methods, Congress decided in 1990 to address acidification concerns by adding an entirely new subchapter to the Clean Air Act in 1990: the Title IV "Acid Deposition Control" Program. CAA §§ 401-416.

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effect. *See, e.g.*, *Merrill Lynch, Pierce, Fenner & Smith v. Curran*, 456 U.S. 353, 382-87 (1982).

Congress expressly designed that new subchapter of the Act to address acid deposition through massive reductions in annual SO_2 and NOx emissions. Specifically, Title IV required "reductions in annual emissions of SO_2 of ten million tons from 1980 emission levels, and reductions in annual emissions of NOx emissions of approximately two million tons from 1980 levels, in the forty-eight contiguous States and the District of Columbia." CAA § 401(b). For NOx, Congress set emission rate limits on a class of regulated facilities, *id.* § 407, and for SO_2, Congress created a market-based allowance trading program to protect against acidification, *id.* §§ 403-406. Tellingly, Congress did not direct EPA to promulgate a secondary national ambient air quality standard to address acidification, and the regulatory program that Congress designed to address the issue bears no resemblance to a section 109 secondary ambient standard.

Further, Congress included in Title IV a requirement (noted in Pet. Br. at 9), that EPA prepare a further assessment of acid deposition and report to Congress on "the feasibility and effectiveness of an acid deposition standard or standards to protect sensitive and critically sensitive aquatic and terrestrial resources," including how such a standard might be formulated, and "the measures that would [be] need[ed] to integrate such standard or standards with the control program required by Title IV of the Clean Air Act." CAA § 401 Note (setting forth section 404 of the 1990 CAA

Amendments). This provision demonstrates that Congress did not intend EPA to regulate acidification further absent additional congressional authorization.

Following enactment of the 1990 Clean Air Act Amendments – including Title IV – EPA has consistently recognized that the national ambient air quality standards program is not suitable for addressing air pollution-related acidification effects and that the Title IV program provides the exclusive authority for regulation to address such environmental impacts. EPA made statements to this effect in prior rulemaking actions addressing the secondary ambient standards for NOx and SOx. *See, e.g.*, 58 Fed. Reg. at 21,356 ("both bodies of Congress . . . conclude[d] that a new legislative program was needed to address acidic deposition effects"); *id.* ("Congress does not seem to have expected that the EPA would set a secondary standard for acidic deposition" and "seems to have viewed" questions as to whether further action might be necessary "as questions it would itself address in the future"); 61 Fed. Reg. 52,852, 52,855 (Oct. 8, 1996) ("Given the multiple causes and regional character of these problems, the Administrator also concludes that adoption of a nationally-uniform secondary standard would not be an effective approach to addressing [acidification].").

EPA also reached that same conclusion in the study that the Agency submitted to Congress in response to section 404 of the Clean Air Act. EPA, EPA 430-R-95-001a, Acid Deposition Feasibility Study Report to Congress (1995). That report

stated that the NAAQS program would not be "conducive" to addressing acidification, requested "clear direction from Congress" with respect to how to regulate, and suggested regulatory approaches that differ significantly from the NAAQS program. *Id.* at 100-01; *see also* Pet. Br. at 9 (acknowledging the EPA study but failing to discuss its key conclusions that NAAQS are not appropriate for addressing acidification); EPA Br. 7-9.

An ambient standard to address acidification would mark a sharp and unjustified about-face by EPA concerning whether it has authority to use the ambient standards program to address acid deposition effects and – if so – how that authority can be reconciled with the fact that Congress developed an entirely new and different Clean Air Act program to address such deposition effects. The Agency's only apparent justification rests on the fact that in the 1990 Clean Air Act Amendments, Congress expanded the Clean Air Act's definition of welfare effects to "include effects '* * * whether caused by transformation, conversion, or combination with other air pollutants.'"[7] 77 Fed. Reg. at 20,220, JA0080. In the preamble to the Final

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[7] Section 302(h) states:

> All language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic

Rule, EPA suggests that this general language – added to the definitions provision of the Act – directly authorizes EPA to regulate NOx- and SOx-related acidification under the secondary ambient standards program. *Id.* at 20,220-21, JA0080-81.

This brand new interpretation of section 302(h) of the Act, however, completely contradicts the Agency's long-held view that the ambient standards program is not an appropriate mechanism for addressing acid deposition. Nothing in the legislative history of section 302(h) supports the claim that in amending that section, Congress sought to authorize regulation of NOx and SOx-related acidification under the Act's secondary ambient standards program. And this new interpretation cannot be reconciled with the fact that in 1990 – at the same time that it slightly revised section 302(h) – Congress enacted an entirely separate and different program to address acidification related to NOx and SOx. It is not credible that Congress would – in a minor amendment to the general definitions section of the Act that does not mention acidification – undercut its rationale for adding an entirely new subchapter to the statute in order to address acidification and that it would do so

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> values and on personal comfort and well-being, *whether caused by transformation, conversion, or combination with other air pollutants.*

(emphasis added). The 1990 Amendments added only the italicized language to the provision. That language does not expressly include acidification.

without ever mentioning that that is what it intended to do.[8] Congress does not, as the Supreme Court has said, "hide elephants in mouseholes." *Whitman*, 531 U.S. at 468.

Also, if Congress – in amending section 302(h) – had intended to authorize regulation of NOx and SOx to address acidification pursuant to the secondary ambient standards program, it stands to reason that Congress would then have amended the secondary ambient standards program so as to reform what both Congress and EPA determined was the fundamental incompatibility of that program with an effective program to address acidification. But in 1990 Congress did nothing to reconfigure the secondary ambient standards program.

In summary, all indications – statutory language, legislative history, regulatory precedent, and basic principles of statutory interpretation – are that the Clean Air Act does not authorize EPA to adopt an AAI-based secondary ambient standard – or any

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[8] The effect of a specific regulatory program on an agency's general statutory authority was assessed by the U.S. Supreme Court in *Food & Drug Administration v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 160 (2000). In that case, the Court held that the Food and Drug Administration ("FDA") lacked authority to regulate tobacco under its general statutory authority in light of subsequently enacted tobacco-specific legislation that stopped short of conferring authority to ban the sale of the product. As in that case, EPA's authority to regulate acidification impacts under its more general NAAQS-related powers should be read in light of Congress's later and more specific action to address acidification. Further, the *Brown & Williamson* Court placed significant weight on the FDA's past disavowals of regulatory authority. *Id.* at 125. As discussed above, EPA has also previously disavowed the authority to regulate acidification through a secondary ambient standards.

other secondary ambient standard – to address acidification. Rather, the Title IV program is the CAA mechanism to be used to address acidification. For this reason, there is no merit to Petitioners' argument that EPA has the authority to revise, and must revise, the secondary ambient standard for NOx and SOx to address acidification.

B. The AAI-Based Standard Runs Afoul of Other CAA Requirements.

Even if EPA did have authority to address acidification under Title I of the CAA (which it does not), the AAI-based standard is outside the scope of Title I. A national ambient air quality standard must "specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator, . . . is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air." CAA § 109(b)(2). The AAI, as described above, does not specify a level of air quality. Rather, it specifies a level of *water* quality, as measured by ANC. Moreover, it does not a require one *national* level of air quality. Instead, it is designed, by virtue of its ecological indicator and equation form, to require *regionally variable* air quality. This is not permissible under the Clean Air Act's national ambient air quality standards program.

C. Record Evidence Demonstrates the Correctness of Congress' Judgment To Address Acid Deposition Concerns Under Title IV of the Clean Air Act.

Contrary to Petitioners' assertion that an AAI-based standard would be just like any other ambient standard, Pet. Br. at 14, virtually every component of the AAI

introduces levels of complexity never before encountered in the setting of an ambient standard. Indeed, EPA flatly states that the AAI is "by far the most complex form of a NAAQS standard that EPA has ever considered." EPA Br. at 2 (quoting Final Rule, 77 Fed Reg. at 20,262). Its unprecedented complexity has introduced a level of scientific uncertainty that sets it apart from any other standard that EPA has considered. *See* 77 Fed. Reg. at 20,262, JA0122 ("The nature of the uncertainties present in this review . . . are in sharp contrast to the nature of uncertainties in other NAAQS reviews."). These complexities and uncertainties are the reasons EPA cites in its Final Rule for deciding not to promulgate an AAI-based standard. *Id.* at 20,252, JA0112. Some of those complexities are discussed in further detail below.

1. The Complexities Related To Using an ANC Ecological Indicator

A standard taking the form of an AAI would make use of an ANC "ecological indicator." *Id.* at 20,244, JA0104. ANC is a measure of a water body's ability to absorb acid, whether from the air or from other sources, without significant changes to that water body's overall pH level. *Id.*, JA0104. No other ambient standard incorporates a water quality component into what is intended to be an air standard. Indeed, no other standard involves a so-called "ecological indicator" of any kind.

An AAI-based standard would also use a national ANC "level" to establish an overall level of water quality protection that such a standard would aim to provide. For no other ambient standard is the level specified in terms of anything other than a concentration of a pollutant in the ambient air. As a result of its structure, an AAI-based standard would be the first NAAQS to permit varying concentrations of air pollutants. *Id.* at 20,266, JA0126 (describing "regionally variable" NOx and SOx concentrations designed to achieve "a national ANC target").

Not only would the use of ANC as an intermediate "ecological indicator" be unprecedented, but also the appropriate numerical level of ANC to be protected is a matter of great uncertainty. At various times during the course of the rulemaking at issue, the Agency suggested that an ANC level for use with a NAAQS expressed in terms of an AAI might be 20 microequivalents per liter ("μeq/L"), 50 μeq /L, or perhaps 75 μeq/L. *See, e.g. id.* at 20,249, JA0109. This range encompasses ANC levels associated with, according to EPA's Policy Assessment Document,[9] ecological effects

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[9] EPA, Policy Assessment for the Review of the Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Oxides of Sulfur at 3-15, tbl. 3-3 (Feb. 2011), Doc. ID No. EPA-HQ-OAR-2007-1145-0177 ("Policy Assessment Document"), JA0259. The Policy Assessment Document is one of several assessment documents prepared in the course of EPA's review of a NAAQS. It is a document prepared by EPA staff that "is intended to help 'bridge the gap' between the relevant scientific and technical information and the judgments required of the EPA Administrator in determining whether, and if so, how, it is appropriate to revise the secondary NAAQS for oxides of nitrogen and sulfur." *Id.* at 1-1, JA0223.

of "severe concern," "elevated concern," and "moderate concern," with little to guide a decision as to how any of these concerns implicate the "public welfare." Ultimately, of course, EPA concluded that it was not possible at this time to identify a "requisite" ANC level for a NAAQS specified as an AAI form. *Id.* at 20,261, JA0121. Such an outcome is unsurprising given that no other air quality standard requires an evaluation of this sort of information.

2. Complexities Related to Other Components Necessary To Specify an Ambient Standard in Terms of the AAI

Even if EPA could identify a requisite ANC level, that level would be only one of the many components necessary to specify a national ambient air quality standard in terms of the AAI, and the other components are also more complex than typically addressed in a NAAQS rulemaking.

EPA has defined the AAI in terms of an equation: AAI = F1 - F2 - F3[NOy] - F4[SOx]. *Id.* at 20,246, JA0106. Each of the F factors in the equation represents an additional, highly complex set of variables. F1 represents an equation to calculate a relative measure of an ecosystem's ability to neutralize acids; F2 represents an equation calculating the acidifying potential of reduced nitrogen deposition, i.e., acidification due to non-oxidized nitrogen compounds which are not criteria air pollutants; F3 is a calculation designed to estimate the deposition-to-concentration

translation for NOy;[10] and F4 is a calculation designed to estimate the deposition-to-concentration translation for SOx. *Id.*, JA0106. More fully expressed, each F Factor appears thus:

F1 = ANClim + CLr/Qr

F2 = NHx/Qr = NHx deposition divided by Qr

F3 = TNOy/Qr ; TNOy is the transference ratio that converts ambient air concentrations of NOy to deposition of NOy

F4 = TSOx/Qr ; TSOx is the transference ratio that converts ambient air concentrations of SOx to deposition of SOx

Id.

The variables contained in these additional calculations themselves represent even more variables and underlying calculations, and each F Factor would be calculated based on values specific to each EPA-identified individual ecosystem – potentially 84 "ecoregions" throughout the country. *Id.*, JA0106; *see also* EPA Br. at 12. EPA itself has correctly concluded that elements within these variables are so technically flawed that "in combination," they prevent a reasoned identification of an appropriate NAAQS to address acidification. *Id.* at 20,251, JA0111. Those elements include:

> the deposition of SOx, NOy, and NHx as well as the critical load-related component, each of which can vary

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[10] NOy is the term EPA uses in this rulemaking to refer to all species of NOx.

> within and across ecoregions. Overall system uncertainty with an AAI approach relates not just to the uncertainty in each element, but also to the combined uncertainties that result from linking these elements together within the AAI-based structure and over the defined spatial scale (i.e., ecoregions). Some of these elements—including, for example, dry deposition, pre-industrial base cation production, and reduced nitrogen deposition—are estimated with less confidence than other elements.

Id. at 20,249, JA0109.

Taking this flawed equation as the "form" of an AAI-based standard would, moreover, deviate significantly from the typical "number-of-exceedances," "x^{th} percentile,"or "x^{th} highest value" forms that EPA has previously used for NAAQS. *See* 40 C.F.R. § 50.4 (primary NAAQS for SO_2), *id.* § 50.6 (primary and secondary NAAQS for coarse PM), *id.* § 50.7 (primary and secondary NAAQS for fine PM), *id.* § 50.8 (primary NAAQS for carbon monoxide), *id.* § 50.9 (primary and secondary NAAQS for ozone), *id.* § 50.11 (primary NAAQS for NO_2), *id.* § 50.12 (primary and secondary NAAQS for lead).

3. Other Significant Shortcomings and Uncertainties

Beyond the unprecedented and flawed structure of the AAI-based standard, the rulemaking record demonstrates that there are other significant shortcomings and uncertainties in the scientific basis for the AAI. The only quantitative uncertainty analysis in the record, for instance, demonstrates that the AAI could not reliably

address acidification. *See* Electric Power Research Institute ("EPRI") Comments to CASAC at 6 (Nov. 26, 2010), Doc. ID No. EPA-HQ-OAR-2007-1145-0090, JA0168. Similarly, EPA has never addressed information in the record that demonstrates that the AAI is founded on flawed judgments regarding the most basic acidification-related science. *See, e.g.*, EPRI Comments at 4 (Oct. 10, 2011), Doc. ID No. EPA-HQ-OAR-2007-1145-0142 (ANC is an unreliable ecological indicator), JA0471; EPRI Comments to CASAC at 15 (fish studies contradict theory that low ANC is harmful), JA0177; EPRI Comments to CASAC at 18-23 (available data is biased toward most sensitive water bodies), JA0180-85; API Comments on EPA's Integrated Science Assessment at 9-11, 20 (Mar. 28, 2008), Doc. ID No. EPA-HQ-OAR-2007-1145-0024 (current ambient NOx and SOx is unrelated to acidification and changes in concentrations may have no effect on ANC levels), JA0144-46, 0149.

In summary, specification of an AAI-based NAAQS presents novel challenges. Such an ambient standard would be unlike any other ambient standard adopted by EPA under the CAA. That so many uncertainties would have to be addressed in the development of an ambient standard to address acidification demonstrates that acidification cannot be the subject of a secondary NAAQS. Congress enacted Title IV for this reason: to avoid the intractable problems posed by trying to use an ambient air quality standard to address aquatic acidification. EPA thus acted

appropriately in deciding not to adopt a secondary national ambient air quality standard to address acidification.

II. EPA May Not Set a New Ambient Standard in the Face of Overwhelming Uncertainty.

A. In Order for an Ambient Standard To Be "Requisite To Protect the Public Welfare," It Must Be Supported by an Adequate Scientific Record.

Even if acid deposition effects could be addressed by an ambient standard (a proposition with which Intervenors disagree), EPA may not promulgate an ambient standard when the Agency lacks information that would allow it to determine whether such a standard would be "requisite to protect the public welfare," as required by section 109(b)(2) of the Clean Air Act. *See Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (A decision is arbitrary and capricious "if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, [or] offered an explanation for its decision that runs counter to the evidence before the agency."). The Supreme Court has stated that the "requisite to protect" provision requires that ambient standards be set neither higher nor lower than necessary, *Whitman*, 531 U.S. at 475-76, and the Act itself makes clear that the "requisite to protect" requirement applies equally to the establishment of a new NAAQS or the revision of an existing standard, CAA § 109(d)(1) (revisions must be made "in accordance with" section 109(b)); *id.*

§109(b)(2) ("Such secondary standards may be revised in the same manner as promulgated.").

As described above, the AAI is the most complex ambient standard ever considered by EPA. That complexity results from the AAI's numerous components, including its form as an equation containing multiple variables, which frequently involve elements like ANC that EPA has never before had to assess in context of an ambient standard. The result is that there are significant gaps in available information related to elements of the AAI itself and the basic science addressing acidification. As EPA describes in its Brief, at 40-48, and as further described above, the degree of scientific uncertainty related to the AAI that is so large that the Administrator could not discern from the record a rationale for setting any particular AAI-based standard.

As this Court has recognized, in the face of great uncertainty, the Administrator is not only justified but *required* to refrain from revising a NAAQS. Indeed, in *American Petroleum Institute v. Costle*, 665 F.2d 1176, 1186-87(D.C. Cir. 1981), this Court stated that, in setting a NAAQS, the Administrator's conclusions must be supported by the record and that the Administrator "may not engage in sheer guesswork." The Final Rule establishes that sheer guesswork is precisely what would have been required if the Administrator had promulgated an AAI-based standard. The Final Rule, for instance, concludes that despite EPA's efforts to develop the AAI-based standard, the Administrator was not able to "characteriz[e] the degree of

protectiveness that would be afforded by such a standard, within the ranges of levels and forms" developed for consideration during this NAAQS review. *Id.* at 20,261, JA0121. Underscoring the difference between the uncertainties at issue in this NAAQS review compared to the relatively less pervasive and significant uncertainties in other rulemakings, the Final Rule states:

> The Administrator recognizes that characterization of the uncertainties in the AAI equation as a whole represents a *unique challenge* in this review primarily as a result of *the complexity in the structure of an AAI-based standard.* In this case, *the very nature of some of the uncertainties is fundamentally different than uncertainties that have been relevant in other NAAQS reviews.*

Id. (emphasis added), JA0121; *see also id.* at 20,262, JA0122 ("The nature of the uncertainties present in this review . . . are *in sharp contrast to the nature of uncertainties in other NAAQS reviews.*") (emphasis added).

Perhaps most telling, the Administrator explains that the uncertainties associated with the AAI are so large that they cannot be accounted for even by selecting a more or less protective standard than would otherwise be chosen if the uncertainties were less significant:

> In the Administrator's judgment, the uncertainties are of such a significant nature and degree that there is no reasoned way to choose such a specific nationwide target ANC level or percentile of water bodies that would appropriately account for the uncertainties, since neither the direction nor the magnitude of change from the target

> level and percentile that would otherwise be chosen can reasonably be ascertained at this time.

Id., JA0122.

In other words, not only is EPA unable to determine what standard would be "requisite" to protect the public welfare, it cannot discern if the uncertainties in the science suggest a more cautious or a more aggressive standard. Nor can EPA discern what degree of caution or aggression might be warranted. In such a situation, any ambient standard put forward by EPA would be based on sheer guesswork, and that is prohibited by the CAA.

Petitioners assert that the uncertainties are insignificant and that they cannot prevent EPA from establishing a secondary standard to address acidification. Petitioners argue that because EPA determined that the existing secondary standards for NOx and SOx were not adequate to protect against acidifying deposition, EPA was *compelled* to develop a new NAAQS to protect against aquatic acidification and other potential environmental harms. Pet. Br. at 27-28. Petitioners arrive at their conclusions by misinterpreting the holdings of several CAA cases.

First, contrary to Petitioners' claims, this Court's holding in *Am. Farm Bureau Fed'n v. EPA*, 559 F.3d 512 (D.C. Cir. 2009) ("*Farm Bureau*"), does not stand for the proposition that, if EPA identifies an environmental harm of any sort, the Agency is then obligated – no matter the state of the science or the magnitude of scientific

uncertainty – to "identify the requisite level of protection for the affected welfare value and then set the secondary NAAQS to achieve that level of protection." Pet. Br. at 30. Rather, *Farm Bureau* requires EPA to identify a "requisite" level of protection only "*when deciding where to set the level* of air quality required by the revised secondary . . . NAAQS." *Farm Bureau*, 559 F.3d at 530; Pet. Br. at 29 (emphasis added). Where, as here, EPA has decided *not* to revise the secondary standards, 77 Fed. Reg. at 20,263, JA0123, no such obligation exists.[11]

Nor are Petitioners' claims supported by other cases cited by Petitioners that address EPA's regulatory obligations when the Agency is faced with scientific uncertainty. The first three cases cited by Petitioners (Pet. Br. at 31-32) stand for the proposition that EPA is not prevented from regulating under the NAAQS program by the absence of *total* scientific precision and 100 percent scientific certainty. *See Am. Petroleum Institute v. EPA*, 684 F.3d 1342, 1350-51 (D.C. Cir. 2012) (EPA may revise a NAAQS when it does not know "the *precise* dose-response relationship between NO_2

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[11] Indeed, the *Farm Bureau* ruling could have no other meaning given the facts before the Court in that case. There, EPA opted to revise the secondary NAAQS for fine particulate matter ("$PM_{2.5}$") so as to be equivalent to the primary $PM_{2.5}$ NAAQS. *See Farm Bureau*, 559 F.3d at 529. In doing so, EPA rejected alternative secondary $PM_{2.5}$ NAAQS also under consideration. The Court concluded that without first identifying a "requisite" level of protection, EPA had no rational basis for selecting one set of revisions over the other. *Id.* at 530-31. Where, as here, EPA has decided that no revision of the NAAQS is appropriate, *Farm Bureau's* directive that EPA identify a "requisite" level of protection does not apply.

and airway responsiveness") (emphasis added); *Coal. of Battery Recyclers Ass'n v. EPA*, 604 F.3d 613, 621 (D.C. Cir. 2010) (recognizing the Administrator's "discretion" in extrapolating from "known" harm levels to revise a primary NAAQS to allow for an adequate margin of safety); *Am. Trucking Ass'ns, Inc. v. EPA*, 283 F.3d 355, 369 (D.C. Cir. 2002) (EPA can revise a primary NAAQS even if it cannot "identify *perfectly* safe levels of pollutants") (emphasis added). These cases do not apply in the situation at issue here, where the level of uncertainty is so immense. *See supra* Section II. C.

Nor does the Supreme Court's decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007), stand for the principle that the Agency cannot rely on scientific uncertainty as a basis for refraining from exercising regulatory authority. *See* Pet. Br. at 33-34. In *Massachusetts*, the Supreme Court addressed whether EPA had authority to regulate greenhouse gas emissions under a different CAA program. Under that different program, EPA is to consider regulating emissions of pollutants from new motor vehicles if EPA determines that such emissions cause or contribute to the "endangerment" of public health or welfare. Among other things, the Supreme Court held that EPA could not "declin[e] to form a scientific judgment" as to endangerment and thereby avoid regulating new motor vehicles for reasons divorced from the statute, such as the President's interest in negotiating an international agreement. *Massachusetts*, 549 U.S. at 533-34. The Supreme Court confirmed, however, that if scientific uncertainties precluded a reasoned determination as to endangerment,

declining to regulate for that reason remained well-within EPA's authority under the statute. *Id.* at 534 ("If the scientific uncertainty is so profound that it precludes EPA from making a reasoned judgment . . . it must say so.").

Interestingly, Petitioners then try to distinguish *Massachusetts*. They argue that although EPA would not have had authority to regulate greenhouse gases from new motor vehicles in the absence of an affirmative endangerment finding, that situation is not comparable to the one posed by the secondary NAAQS for NOx and SOx, which are already regulated under the ambient standards program. Pet. Br. at 34. In fact, though, under both programs, a scientific determination is a prerequisite to regulatory action. For the program at issue in *Massachusetts*, EPA must determine there is "endangerment." For the ambient standards program, EPA must determine that a standard is "requisite" to protect public health and welfare. CAA §109(b). In both cases scientific judgments are integral to the statutory scheme, and in both cases scientific uncertainty precluding a reasoned judgment is a valid reason for declining to further exercise the regulatory authorities associated with each provision.

EPA cannot promulgate an ambient standard when scientific uncertainties prevent the Administrator from being able to make a reasoned judgment as to what standard would be "requisite" to protect the public welfare. The AAI is plagued by such extreme uncertainties that it is impossible for EPA to devise a "requisite" standard based on the AAI concept. Petitioners' arguments that EPA must ignore

these uncertainties and select a standard regardless of all these record-documented problems cannot be reconciled with the governing case law. EPA's decision not to revise the secondary standards for NOx and SOx is therefore lawful and should be upheld.

B. CASAC's Advice to EPA Does Not Support Establishment of an AAI-Based NAAQS.

Contrary to Petitioners' claims, Pet. Br. at 15-16, 36-40, CASAC's advice to EPA does not support establishment of an AAI-based secondary ambient standard. Instead, CASAC's advice underscores the shortcomings in the information that EPA needs to support any such standard. For example, when CASAC evaluated the second draft of the Policy Assessment Document related to a possible AAI-based standard, it specifically told EPA that, due to limitations in the Agency-developed science, CASAC was unable to perform its traditional function of making more concrete recommendations to the Agency:

> As described below and in our responses to the Charge Questions, there are *critical sections of the Policy Assessment that are unclear and/or that require further analyses.* In addition, and *in contrast to policy assessments for other pollutant reviews, EPA did not provide staff recommendations for key elements of the secondary NAAQS for NOx and SOx along with supporting rationales.* As a result, CASAC is *not able to provide specific comments on the EPA Staff recommendations, nor is CASAC able to use Staff recommendations to help frame CASAC discussions or recommendations about the four key elements of the NAAQS.*

CASAC Comments on Second Draft PA at 3 (emphasis added), JA0189.

In a subsequent set of comments submitted on the final Policy Assessment Document,[12] CASAC continued to refrain from making any concrete recommendation, instead noting only that EPA staff had identified a broad range of options. CASAC Comments on Final PA at 2, JA0351. CASAC's pointing out that EPA had identified options is a far cry from saying that any of those options would produce a standard "requisite" to protect the public welfare. Further, CASAC expressed a number of additional critical reservations about the AAI. EPA addresses many of those concerns in its brief. EPA Br. at 40-46.

Finally, even if, as Petitioners assert, EPA had "contradicted" CASAC's advice, the Administrator adequately explained the reasons for her decision not to promulgate an AAI-based NAAQS. And she did so taking CASAC's advice into account. 77 Fed. Reg. at 20,251-52, 20,260-64. EPA is not bound by the opinions expressed by CASAC but need only explain any deviations from CASAC's recommendations. *Am. Farm Bureau*, 559 F.3d at 521. And EPA's Final Rule makes clear why the Administrator was unable to exercise her policy-making authorities with respect to the AAI NAAQS. Accordingly, this court has no basis for invalidating EPA's Final Rule on the grounds that it deviates from CASAC advice.

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[12] CASAC does not typically submit comments on final drafts of EPA documents.

CONCLUSION

For all of the foregoing reasons, EPA's Final Rule was a valid exercise of the Administrator's discretion under the Clean Air Act and should be upheld.

Respectfully submitted,

/s/Lucinda Minton Langworthy
Andrea Bear Field
Lucinda Minton Langworthy
Aaron M. Flynn
HUNTON & WILLIAMS LLP
2200 Pennsylvania Avenue, N.W.
Washington, D.C. 20037
(202) 955-1500

Counsel for the Utility Air Regulatory Group and the American Petroleum Institute

Dated: March 21, 2013
Final Form: May 20, 2013

CERTIFICATE OF COMPLIANCE

Pursuant to Rule 32(a)(7)(C) of the Federal Rules of Appellate Procedure and Circuit Rules 32(a)(1) and 32(a)(2)(C), I hereby certify that the foregoing Brief of Intervenor-Respondents Utility Air Regulatory Group and American Petroleum Institute contains 8,368 words, as counted by a word processing system that includes headings, footnotes, quotations, and citations in the count, and therefore is within the word limit set by the Court.

Dated: May 20, 2013

/s/Lucinda Minton Langworthy
Lucinda Minton Langworthy

CERTIFICATE OF SERVICE

Pursuant to Rule 25 of the Federal Rules of Appellate Procedure and Circuit Rule 25(c), I hereby certify that I have this 20th day of May, 2013, served a copy of the foregoing document through the Court's CM/ECF system.

/s/Lucinda Minton Langworthy
Lucinda Minton Langworthy

Statutory and Regulatory Addendum

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6. Clean Air Act § 405, 42 U.S.C. § 7651d ..... Addendum – 015
7. Clean Air Act § 406, 42 U.S.C. § 7651e ..... Addendum – 020
8. Clean Air Act § 407, 42 U.S.C. § 7651f ..... Addendum – 020
9. 40 C.F.R. § 50.4 ..... Addendum – 032
10. 40 C.F.R. § 50.5(a) ..... Addendum – 032
11. 40 C.F.R. § 50.6 ..... Addendum – 033
12. 40 C.F.R. § 50.7 ..... Addendum – 033
13. 40 C.F.R. § 50.8 ..... Addendum – 033
14. 40 C.F.R. § 50.9 ..... Addendum – 034
15. 40 C.F.R. § 50.11 ..... Addendum – 034
16. 40 C.F.R. § 50.12 ..... Addendum – 035

CAA § 117(a)

§7417. Advisory committees

(a) Establishment; membership

In order to obtain assistance in the development and implementation of the purposes of this chapter including air quality criteria, recommended control techniques, standards, research and development, and to encourage the continued efforts on the part of industry to improve air quality and to develop economically feasible methods for the control and abatement of air pollution, the Administrator shall from time to time establish advisory committees. Committee members shall include, but not be limited to, persons who are knowledgeable concerning air quality from the standpoint of health, welfare, economics or technology.

(b) Compensation

The members of any other advisory committees appointed pursuant to this chapter who are not officers or employees of the United States while attending conferences or meetings or while otherwise serving at the request of the Administrator, shall be entitled to receive compensation at a rate to be fixed by the Administrator, but not exceeding $100 per diem, including traveltime, and while away from their homes or regular places of business they may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by section 5703 of title 5 for persons in the Government service employed intermittently.

(c)[1] Consultations by Administrator

Prior to—

(1) issuing criteria for an air pollutant under section 7408(a)(2) of this title,

(2) publishing any list under section 7411(b)(1)(A) or section 7412(b)(1)(A)[2] of this title,

(3) publishing any standard under section 7411 or section 7412 of this title, or

(4) publishing any regulation under section 7521(a) of this title,

the Administrator shall, to the maximum extent practicable within the time provided, consult with appropriate advisory committees, independence experts, and Federal departments and agencies.

(July 14, 1955, ch. 360, title I, §117 formerly §6, as added Pub. L. 88–206, §1, Dec. 17, 1963, 77 Stat. 399; renumbered §106, Pub. L. 89–272, title I, §101(3), Oct. 20, 1965, 79 Stat. 992; renumbered §110 and amended Pub. L. 90–148, §2, Nov. 21, 1967, 81 Stat. 498; renumbered §117 and amended Pub. L. 91–604, §§4(a), (d), 15(c)(2), Dec. 31, 1970, 84 Stat. 1678, 1689, 1713; Pub. L. 95–95, title I, §115, Aug. 7, 1977, 91 Stat. 711; Pub. L. 95–623, §13(c), Nov. 9, 1978, 92 Stat. 3458.)

References in Text

Section 7412(b)(1), referred to in subsec. (c)(2), was amended generally by Pub. L. 101–549, title III, §301, Nov. 15, 1990, 104 Stat. 2531, and, as so amended, no longer contains a subpar. (A).

Codification

Subsec. (c) was originally enacted as subsec. (f) but has been redesignated (c) for purposes of codification in view of the failure of Pub. L. 95–95 to redesignate subsec. (f) as (c) after repealing former subsecs. (a) and (b) and redesignating former subsecs. (d) and (e) as (a) and (b).

Section was formerly classified to section 1857e of this title.

Amendments

1978—Subsec. (c)(3). Pub. L. 95–623 substituted "7411" for "7411(b)(1)(B)" and "7412" for "7412(b)(1)(B)".

1977—Subsec. (a). Pub. L. 95–95, §115(1), (2), redesignated subsec. (d) as (a). Former subsec. (a), establishing an Air Quality Advisory Board in the Environmental Protection Agency, was struck out.

Subsec. (b). Pub. L. 95–95, §115(1)–(3), redesignated subsec. (e) as (b) and substituted "The members of any other advisory committees" for "The members of the Board and other advisory committees" and "conferences or meetings or while otherwise serving" for "conferences or meetings of the Board or while otherwise serving". Former subsec. (b), setting out the duties of the Air Quality Advisory Board, was struck out.

Subsecs. (c) to (e). Pub. L. 95–95, §115(1), (2), struck out subsec. (c) which related to clerical and technical assistance for the Air Quality Advisory Board, and redesignated subsecs. (d) and (e) as (a) and (b), respectively.

1970—Subsec. (a). Pub. L. 91–604, §15(c)(2), substituted "Environmental Protection Agency" for "Department of Health, Education, and Welfare" and "Administrator" for "Secretary".

Subsec. (b). Pub. L. 91–604, §15(c)(2), substituted "Administrator" for "Secretary" wherever appearing.

Subsec. (c). Pub. L. 91–604, §15(c)(2), substituted "Environmental Protection Agency" for "Department of Health, Education, and Welfare".

Subsecs. (d), (e). Pub. L. 91–604, §15(c)(2), substituted "Administrator" for "Secretary" wherever appearing.

Subsec. (f). Pub. L. 91–604, §4(d), added subsec. (f).

1967—Subsec. (a). Pub. L. 90–148 substituted provisions establishing in the Department of Health, Education, and Welfare an Air Quality Advisory Board and providing for the appointment and term of its members for provisions directing the Secretary to maintain liaison with manufacturers looking toward development of devices and fuels to reduce pollutants in automotive exhaust and to appoint a technical committee and call it together from time to time to evaluate progress and develop and recommend research programs.

Subsec. (b). Pub. L. 90–148 substituted provision setting out the duties of the Air Quality Advisory Board for provisions requiring the Secretary to make semiannual reports to Congress on measures being taken toward the resolution of vehicle exhaust pollution problems.

Subsecs. (c) to (e). Pub. L. 90–148 added subsecs. (c) to (e).

Effective Date of 1977 Amendment

Amendment by Pub. L. 95–95 effective Aug. 7, 1977, except as otherwise expressly provided, see section 406(d) of Pub. L. 95–95, set out as a note under section 7401 of this title.

Modification or Rescission of Rules, Regulations, Orders, Determinations, Contracts, Certifications, Authorizations, Delegations, and Other Actions

All rules, regulations, orders, determinations, contracts, certifications, authorizations, delegations, or other actions duly issued, made, or taken by or pursuant to act July 14, 1955, the Clean Air Act, as in effect immediately prior to the date of enactment of Pub. L. 95–95 [Aug. 7, 1977] to continue in full force and effect until modified or rescinded in accordance with act July 14, 1955, as amended by Pub. L. 95–95 [this chapter], see section 406(b) of Pub. L. 95–95, set out as an Effective Date of 1977 Amendment note under section 7401 of this title.

[1] See Codification note below.

[2] See References in Text note below.

ity resulting in noise which the Administrator determines amounts to a public nuisance or is otherwise objectionable, such department or agency shall consult with the Administrator to determine possible means of abating such noise.

(July 14, 1955, ch. 360, title IV, §402, as added Pub. L. 91–604, §14, Dec. 31, 1970, 84 Stat. 1709.)

CODIFICATION

Another section 402 of act July 14, 1955, as added by Pub. L. 101–549, title IV, §401, Nov. 15, 1990, 104 Stat. 2585, is classified to section 7651a of this title.

Section was formerly classified to section 1858 of this title.

§7642. Authorization of appropriations

There is authorized to be appropriated such amount, not to exceed $30,000,000, as may be necessary for the purposes of this subchapter.

(July 14, 1955, ch. 360, title IV, §403, as added Pub. L. 91–604, §14, Dec. 31, 1970, 84 Stat. 1710.)

CODIFICATION

Another section 403 of act July 14, 1955, as added by Pub. L. 101–549, title IV, §401, Nov. 15, 1990, 104 Stat. 2589, is classified to section 7651b of this title.

Section was formerly classified to section 1858a of this title.

SUBCHAPTER IV–A—ACID DEPOSITION CONTROL

CODIFICATION

Another title IV of act July 14, 1955, as added by Pub. L. 91–604, §14, Dec. 31, 1970, 84 Stat. 1709, is classified principally to subchapter IV (§7641 et seq.) of this chapter.

CAA § 401

§7651. Findings and purposes

(a) Findings

The Congress finds that—

(1) the presence of acidic compounds and their precursors in the atmosphere and in deposition from the atmosphere represents a threat to natural resources, ecosystems, materials, visibility, and public health;

(2) the principal sources of the acidic compounds and their precursors in the atmosphere are emissions of sulfur and nitrogen oxides from the combustion of fossil fuels;

(3) the problem of acid deposition is of national and international significance;

(4) strategies and technologies for the control of precursors to acid deposition exist now that are economically feasible, and improved methods are expected to become increasingly available over the next decade;

(5) current and future generations of Americans will be adversely affected by delaying measures to remedy the problem;

(6) reduction of total atmospheric loading of sulfur dioxide and nitrogen oxides will enhance protection of the public health and welfare and the environment; and

(7) control measures to reduce precursor emissions from steam-electric generating units should be initiated without delay.

(b) Purposes

The purpose of this subchapter is to reduce the adverse effects of acid deposition through reductions in annual emissions of sulfur dioxide of ten million tons from 1980 emission levels, and, in combination with other provisions of this chapter, of nitrogen oxides emissions of approximately two million tons from 1980 emission levels, in the forty-eight contiguous States and the District of Columbia. It is the intent of this subchapter to effectuate such reductions by requiring compliance by affected sources with prescribed emission limitations by specified deadlines, which limitations may be met through alternative methods of compliance provided by an emission allocation and transfer system. It is also the purpose of this subchapter to encourage energy conservation, use of renewable and clean alternative technologies, and pollution prevention as a long-range strategy, consistent with the provisions of this subchapter, for reducing air pollution and other adverse impacts of energy production and use.

(July 14, 1955, ch. 360, title IV, §401, as added Pub. L. 101–549, title IV, §401, Nov. 15, 1990, 104 Stat. 2584.)

CODIFICATION

Another section 401 of act July 14, 1955, as added by Pub. L. 91–604, §14, Dec. 31, 1970, 84 Stat. 1709, is set out as a Short Title note under section 7401 of this title.

ACID DEPOSITION STANDARDS

Section 404 of Pub. L. 101–549 directed Administrator of Environmental Protection Agency, not later than 36 months after Nov. 15, 1990, to transmit to Congress a report on the feasibility and effectiveness of an acid deposition standard or standards to protect sensitive and critically sensitive aquatic and terrestrial resources.

INDUSTRIAL SO_2 EMISSIONS

Section 406 of Pub. L. 101–549 provided that:

''(a) REPORT.—Not later than January 1, 1995 and every 5 years thereafter, the Administrator of the Environmental Protection Agency shall transmit to the Congress a report containing an inventory of national annual sulfur dioxide emissions from industrial sources (as defined in title IV of the Act [42 U.S.C. 7651 et seq.]), including units subject to section 405(g)(6) of the Clean Air Act [42 U.S.C. 7651d(g)(6)], for all years for which data are available, as well as the likely trend in such emissions over the following twenty-year period. The reports shall also contain estimates of the actual emission reduction in each year resulting from promulgation of the diesel fuel desulfurization regulations under section 214 [42 U.S.C. 7548].

''(b) 5.60 MILLION TON CAP.—Whenever the inventory required by this section indicates that sulfur dioxide emissions from industrial sources, including units subject to section 405(g)(5) of the Clean Air Act [42 U.S.C. 7651d(g)(5)], may reasonably be expected to reach levels greater than 5.60 million tons per year, the Administrator of the Environmental Protection Agency shall take such actions under the Clean Air Act [42 U.S.C. 7401 et seq.] as may be appropriate to ensure that such emissions do not exceed 5.60 million tons per year. Such actions may include the promulgation of new and revised standards of performance for new sources, including units subject to section 405(g)(5) of the Clean Air Act, under section 111(b) of the Clean Air Act [42 U.S.C. 7411(b)], as well as promulgation of standards of performance for existing sources, including units subject to section 405(g)(5) of the Clean Air Act, under authority of this section. For an existing source regulated under this section, 'standard of performance' means a standard which the Administrator determines is applicable to that source and which reflects the degree of emission reduction achievable through the application of the best system of continuous emission reduction

PL 101–549, November 15, 1990, 104 Stat 2399

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PL 101–549 (S 1630)
November 15, 1990
CLEAN AIR ACT, AMENDMENTS

<< 42 USCA § 7651 NOTE >>

SEC. 404. ACID DEPOSITION STANDARDS.

Not later than 36 months after the date of enactment of this Act, the Administrator of the Environmental Protection Agency shall transmit to the Committee on Environment and Public Works of the Senate and the Committee on Energy and Commerce of the House of Representatives a report on the feasibility and effectiveness of an acid deposition standard or standards to protect sensitive and critically sensitive aquatic and terrestrial resources. The study required by this section shall include, but not be limited to, consideration of the following matters:

(1) identification of the sensitive and critically sensitive aquatic and terrestrial resources in the United States and Canad a which may be affected by the deposition of acidic compounds;

(2) description of the nature and numerical value of a deposition standard or standards that would be sufficient to protect such resources;

(3) description of the use of such standard or standards in other Nations or by any of the several States in acid deposition control programs;

(4) description of the measures that would need to be taken to integrate such standard or standards with the control program required by title IV of the Clean Air Act;

(5) description of the state of knowledge with respect to source-receptor relationships necessary to develop a control program on such standard or standards and the additional research that is on-going or would be needed to make such a control program feasible; and

(6) description of the impediments to implementation of such control program and the cost-effectiveness of deposition standards compared to other control strategies including ambient air quality standards, new source performance standards and the requirements of title IV of the Clean Air Act.

Approved November 15, 1990

PL 101–549, 1990 S 1630

End of Document

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which (taking into consideration the cost of achieving such emission reduction, and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated for that category of sources.

''(c) ELECTION.—Regulations promulgated under section 405(b) of the Clean Air Act [42 U.S.C. 7651d(b)] shall not prohibit a source from electing to become an affected unit under section 410 of the Clean Air Act [42 U.S.C. 7651i].''

[For termination, effective May 15, 2000, of reporting provisions in section 406(a) of Pub. L. 101–549, set out above, see section 3003 of Pub. L. 104–66, as amended, set out as a note under section 1113 of Title 31, Money and Finance, and the 10th item on page 162 of House Document No. 103–7.]

SENSE OF CONGRESS ON EMISSION REDUCTIONS COSTS

Section 407 of Pub. L. 101–549 provided that: ''It is the sense of the Congress that the Clean Air Act Amendments of 1990 [Pub. L. 101–549, see Tables for classification], through the allowance program, allocates the costs of achieving the required reductions in emissions of sulfur dioxide and oxides of nitrogen among sources in the United States. Broad based taxes and emissions fees that would provide for payment of the costs of achieving required emissions reductions by any party or parties other than the sources required to achieve the reductions are undesirable.''

MONITORING OF ACID RAIN PROGRAM IN CANADA

Section 408 of Pub. L. 101–549 provided that:

''(a) REPORTS TO CONGRESS.—The Administrator of the Environmental Protection Agency, in consultation with the Secretary of State, the Secretary of Energy, and other persons the Administrator deems appropriate, shall prepare and submit a report to Congress on January 1, 1994, January 1, 1999, and January 1, 2005.

''(b) CONTENTS.—The report to Congress shall analyze the current emission levels of sulfur dioxide and nitrogen oxides in each of the provinces participating in Canada's acid rain control program, the amount of emission reductions of sulfur dioxide and oxides of nitrogen achieved by each province, the methods utilized by each province in making those reductions, the costs to each province and the employment impacts in each province of making and maintaining those reductions.

''(c) COMPLIANCE.—Beginning on January 1, 1999, the reports shall also assess the degree to which each province is complying with its stated emissions cap.''

CAA § 402

§7651a. Definitions

As used in this subchapter:

(1) The term ''affected source'' means a source that includes one or more affected units.

(2) The term ''affected unit'' means a unit that is subject to emission reduction requirements or limitations under this subchapter.

(3) The term ''allowance'' means an authorization, allocated to an affected unit by the Administrator under this subchapter, to emit, during or after a specified calendar year, one ton of sulfur dioxide.

(4) The term ''baseline'' means the annual quantity of fossil fuel consumed by an affected unit, measured in millions of British Thermal Units (''mmBtu's''), calculated as follows:

(A) For each utility unit that was in commercial operation prior to January 1, 1985, the baseline shall be the annual average quantity of mmBtu's consumed in fuel during calendar years 1985, 1986, and 1987, as recorded by the Department of Energy pursuant to Form 767. For any utility unit for which such form was not filed, the baseline shall be the level specified for such unit in the 1985 National Acid Precipitation Assessment Program (NAPAP) Emissions Inventory, Version 2, National Utility Reference File (NURF) or in a corrected data base as established by the Administrator pursuant to paragraph (3).[1] For nonutility units, the baseline is the NAPAP Emissions Inventory, Version 2. The Administrator, in the Administrator's sole discretion, may exclude periods during which a unit is shutdown for a continuous period of four calendar months or longer, and make appropriate adjustments under this paragraph. Upon petition of the owner or operator of any unit, the Administrator may make appropriate baseline adjustments for accidents that caused prolonged outages.

(B) For any other nonutility unit that is not included in the NAPAP Emissions Inventory, Version 2, or a corrected data base as established by the Administrator pursuant to paragraph (3),[1] the baseline shall be the annual average quantity, in mmBtu consumed in fuel by that unit, as calculated pursuant to a method which the administrator shall prescribe by regulation to be promulgated not later than eighteen months after November 15, 1990.

(C) The Administrator shall, upon application or on his own motion, by December 31, 1991, supplement data needed in support of this subchapter and correct any factual errors in data from which affected Phase II units' baselines or actual 1985 emission rates have been calculated. Corrected data shall be used for purposes of issuing allowances under the[2] subchapter. Such corrections shall not be subject to judicial review, nor shall the failure of the Administrator to correct an alleged factual error in such reports be subject to judicial review.

(5) The term ''capacity factor'' means the ratio between the actual electric output from a unit and the potential electric output from that unit.

(6) The term ''compliance plan'' means, for purposes of the requirements of this subchapter, either—

(A) a statement that the source will comply with all applicable requirements under this subchapter, or

(B) where applicable, a schedule and description of the method or methods for compliance and certification by the owner or operator that the source is in compliance with the requirements of this subchapter.

(7) The term ''continuous emission monitoring system'' (CEMS) means the equipment as required by section 7651k of this title, used to sample, analyze, measure, and provide on a continuous basis a permanent record of emissions and flow (expressed in pounds per million British thermal units (lbs/mmBtu), pounds per hour (lbs/hr) or such other form as the Administrator may prescribe by regulations under section 7651k of this title).

[1] So in original. The reference to ''paragraph (3)'' probably should be to ''subparagraph (C)''.

[2] So in original. Probably should be ''this''.

(8) The term ''existing unit'' means a unit (including units subject to section 7411 of this title) that commenced commercial operation before November 15, 1990. Any unit that commenced commercial operation before November 15, 1990, which is modified, reconstructed, or repowered after November 15, 1990, shall continue to be an existing unit for the purposes of this subchapter. For the purposes of this subchapter, existing units shall not include simple combustion turbines, or units which serve a generator with a nameplate capacity of 25MWe or less.

(9) The term ''generator'' means a device that produces electricity and which is reported as a generating unit pursuant to Department of Energy Form 860.

(10) The term ''new unit'' means a unit that commences commercial operation on or after November 15, 1990.

(11) The term ''permitting authority'' means the Administrator, or the State or local air pollution control agency, with an approved permitting program under part B[3] of title III of the Act.

(12) The term ''repowering'' means replacement of an existing coal-fired boiler with one of the following clean coal technologies: atmospheric or pressurized fluidized bed combustion, integrated gasification combined cycle, magnetohydrodynamics, direct and indirect coal-fired turbines, integrated gasification fuel cells, or as determined by the Administrator, in consultation with the Secretary of Energy, a derivative of one or more of these technologies, and any other technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of November 15, 1990. Notwithstanding the provisions of section 7651h(a) of this title, for the purpose of this subchapter, the term ''repowering'' shall also include any oil and/or gas-fired unit which has been awarded clean coal technology demonstration funding as of January 1, 1991, by the Department of Energy.

(13) The term ''reserve'' means any bank of allowances established by the Administrator under this subchapter.

(14) The term ''State'' means one of the 48 contiguous States and the District of Columbia.

(15) The term ''unit'' means a fossil fuel-fired combustion device.

(16) The term ''actual 1985 emission rate'', for electric utility units means the annual sulfur dioxide or nitrogen oxides emission rate in pounds per million Btu as reported in the NAPAP Emissions Inventory, Version 2, National Utility Reference File. For nonutility units, the term ''actual 1985 emission rate'' means the annual sulfur dioxide or nitrogen oxides emission rate in pounds per million Btu as reported in the NAPAP Emission Inventory, Version 2.

(17)(A) The term ''utility unit'' means—

(i) a unit that serves a generator in any State that produces electricity for sale, or

(ii) a unit that, during 1985, served a generator in any State that produced electricity for sale.

(B) Notwithstanding subparagraph (A), a unit described in subparagraph (A) that—

(i) was in commercial operation during 1985, but

(ii) did not, during 1985, serve a generator in any State that produced electricity for sale shall not be a utility unit for purposes of this subchapter.

(C) A unit that cogenerates steam and electricity is not a ''utility unit'' for purposes of this subchapter unless the unit is constructed for the purpose of supplying, or commences construction after November 15, 1990, and supplies, more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale.

(18) The term ''allowable 1985 emissions rate'' means a federally enforceable emissions limitation for sulfur dioxide or oxides of nitrogen, applicable to the unit in 1985 or the limitation applicable in such other subsequent year as determined by the Administrator if such a limitation for 1985 does not exist. Where the emissions limitation for a unit is not expressed in pounds of emissions per million Btu, or the averaging period of that emissions limitation is not expressed on an annual basis, the Administrator shall calculate the annual equivalent of that emissions limitation in pounds per million Btu to establish the allowable 1985 emissions rate.

(19) The term ''qualifying phase I technology'' means a technological system of continuous emission reduction which achieves a 90 percent reduction in emissions of sulfur dioxide from the emissions that would have resulted from the use of fuels which were not subject to treatment prior to combustion.

(20) The term ''alternative method of compliance'' means a method of compliance in accordance with one or more of the following authorities:

(A) a substitution plan submitted and approved in accordance with subsections[4] 7651c(b) and (c) of this title;

(B) a Phase I extension plan approved by the Administrator under section 7651c(d) of this title, using qualifying phase I technology as determined by the Administrator in accordance with that section; or

(C) repowering with a qualifying clean coal technology under section 7651h of this title.

(21) The term ''commenced'' as applied to construction of any new electric utility unit means that an owner or operator has undertaken a continuous program of construction or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction.

(22) The term ''commenced commercial operation'' means to have begun to generate electricity for sale.

[3] See References in Text note below.

[4] So in original. Probably should be ''section''.

(23) The term "construction" means fabrication, erection, or installation of an affected unit.

(24) The term "industrial source" means a unit that does not serve a generator that produces electricity, a "nonutility unit" as defined in this section, or a process source as defined in section 7651i(e)[5] of this title.

(25) The term "nonutility unit" means a unit other than a utility unit.

(26) The term "designated representative" means a responsible person or official authorized by the owner or operator of a unit to represent the owner or operator in matters pertaining to the holding, transfer, or disposition of allowances allocated to a unit, and the submission of and compliance with permits, permit applications, and compliance plans for the unit.

(27) The term "life-of-the-unit, firm power contractual arrangement" means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of capacity and associated energy generated by a specified generating unit (or units) and pays its proportional amount of such unit's total costs, pursuant to a contract either—

(A) for the life of the unit;

(B) for a cumulative term of no less than 30 years, including contracts that permit an election for early termination; or

(C) for a period equal to or greater than 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit was built, with option rights to purchase or re-lease some portion of the capacity and associated energy generated by the unit (or units) at the end of the period.

(28) The term "basic Phase II allowance allocations" means:

(A) For calendar years 2000 through 2009 inclusive, allocations of allowances made by the Administrator pursuant to section 7651b of this title and subsections (b)(1), (3), and (4); (c)(1), (2), (3), and (5); (d)(1), (2), (4), and (5); (e); (f); (g)(1), (2), (3), (4), and (5); (h)(1); (i) and (j) of section 7651d of this title.

(B) For each calendar year beginning in 2010, allocations of allowances made by the Administrator pursuant to section 7651b of this title and subsections (b)(1), (3), and (4); (c)(1), (2), (3), and (5); (d)(1), (2), (4) and (5); (e); (f); (g)(1), (2), (3), (4), and (5); (h)(1) and (3); (i) and (j) of section 7651d of this title.

(29) The term "Phase II bonus allowance allocations" means, for calendar year 2000 through 2009, inclusive, and only for such years, allocations made by the Administrator pursuant to section 7651b of this title, subsections (a)(2), (b)(2), (c)(4), (d)(3) (except as otherwise provided therein), and (h)(2) of section 7651d of this title, and section 7651e of this title.

(July 14, 1955, ch. 360, title IV, §402, as added Pub. L. 101–549, title IV, §401, Nov. 15, 1990, 104 Stat. 2585.)

[5] So in original. Probably should be section "7651i(d)".

REFERENCES IN TEXT

Part B of title III of the Act, referred to in par. (11), means title III of the Clean Air Act, act July 14, 1955, ch. 360, as added, which is classified to subchapter III of this chapter, but title III does not contain parts. For provisions of the Clean Air Act relating to permits, see subchapter V (§7661 et seq.) of this chapter.

CODIFICATION

Another section 402 of act July 14, 1955, as added by Pub. L. 91–604, §14, Dec. 31, 1970, 84 Stat. 1709, is classified to section 7641 of this title.

§7651b. Sulfur dioxide allowance program for existing and new units

CAA § 403

(a) Allocations of annual allowances for existing and new units

(1)[1] For the emission limitation programs under this subchapter, the Administrator shall allocate annual allowances for the unit, to be held or distributed by the designated representative of the owner or operator of each affected unit at an affected source in accordance with this subchapter, in an amount equal to the annual tonnage emission limitation calculated under section 7651c, 7651d, 7651e, 7651h, or 7651i of this title except as otherwise specifically provided elsewhere in this subchapter. Except as provided in sections 7651d(a)(2), 7651d(a)(3), 7651h and 7651i of this title, beginning January 1, 2000, the Administrator shall not allocate annual allowances to emit sulfur dioxide pursuant to section 7651d of this title in such an amount as would result in total annual emissions of sulfur dioxide from utility units in excess of 8.90 million tons except that the Administrator shall not take into account unused allowances carried forward by owners and operators of affected units or by other persons holding such allowances, following the year for which they were allocated. If necessary to meeting the restrictions imposed in the preceding sentence, the Administrator shall reduce, pro rata, the basic Phase II allowance allocations for each unit subject to the requirements of section 7651d of this title. Subject to the provisions of section 7651*o* of this title, the Administrator shall allocate allowances for each affected unit at an affected source annually, as provided in paragraphs (2) and (3)[1] and section 7651g of this title. Except as provided in sections 7651h and 7651i of this title, the removal of an existing affected unit or source from commercial operation at any time after November 15, 1990 (whether before or after January 1, 1995, or January 1, 2000) shall not terminate or otherwise affect the allocation of allowances pursuant to section 7651c or 7651d of this title to which the unit is entitled. Allowances shall be allocated by the Administrator without cost to the recipient, except for allowances sold by the Administrator pursuant to section 7651*o* of this title. Not later than December 31, 1991, the Administrator shall publish a proposed list of the basic Phase II allowance allocations, the Phase II bonus allowance allocations and, if applicable, allocations pursuant to section 7651d(a)(3) of this title for each unit subject to the emissions limitation requirements of section 7651d of this title for the year 2000 and the

[1] So in original. No pars. (2) and (3) have been enacted.

year 2010. After notice and opportunity for public comment, but not later than December 31, 1992, the Administrator shall publish a final list of such allocations, subject to the provisions of section 7651d(a)(2) of this title. Any owner or operator of an existing unit subject to the requirements of section 7651d(b) or (c) of this title who is considering applying for an extension of the emission limitation requirement compliance deadline for that unit from January 1, 2000, until not later than December 31, 2000, pursuant to section 7651h of this title, shall notify the Administrator no later than March 31, 1991. Such notification shall be used as the basis for estimating the basic Phase II allowances under this subsection. Prior to June 1, 1998, the Administrator shall publish a revised final statement of allowance allocations, subject to the provisions of section 7651d(a)(2) of this title and taking into account the effect of any compliance date extensions granted pursuant to section 7651h of this title on such allocations. Any person who may make an election concerning the amount of allowances to be allocated to a unit or units shall make such election and so inform the Administrator not later than March 31, 1991, in the case of an election under section 7651d of this title (or June 30, 1991, in the case of an election under section 7651e of this title). If such person fails to make such election, the Administrator shall set forth for each unit owned or operated by such person, the amount of allowances reflecting the election that would, in the judgment of the Administrator, provide the greatest benefit for the owner or operator of the unit. If such person is a Governor who may make an election under section 7651e of this title and the Governor fails to make an election, the Administrator shall set forth for each unit in the State the amount of allowances reflecting the election that would, in the judgment of the Administrator, provide the greatest benefit for units in the State.

(b) Allowance transfer system

Allowances allocated under this subchapter may be transferred among designated representatives of the owners or operators of affected sources under this subchapter and any other person who holds such allowances, as provided by the allowance system regulations to be promulgated by the Administrator not later than eighteen months after November 15, 1990. Such regulations shall establish the allowance system prescribed under this section, including, but not limited to, requirements for the allocation, transfer, and use of allowances under this subchapter. Such regulations shall prohibit the use of any allowance prior to the calendar year for which the allowance was allocated, and shall provide, consistent with the purposes of this subchapter, for the identification of unused allowances, and for such unused allowances to be carried forward and added to allowances allocated in subsequent years, including allowances allocated to units subject to Phase I requirements (as described in section 7651c of this title) which are applied to emissions limitations requirements in Phase II (as described in section 7651d of this title). Transfers of allowances shall not be effective until written certification of the transfer, signed by a responsible official of each party to the transfer, is received and recorded by the Administrator. Such regulations shall permit the transfer of allowances prior to the issuance of such allowances. Recorded pre-allocation transfers shall be deducted by the Administrator from the number of allowances which would otherwise be allocated to the transferor, and added to those allowances allocated to the transferee. Pre-allocation transfers shall not affect the prohibition contained in this subsection against the use of allowances prior to the year for which they are allocated.

(c) Interpollutant trading

Not later than January 1, 1994, the Administrator shall furnish to the Congress a study evaluating the environmental and economic consequences of amending this subchapter to permit trading sulfur dioxide allowances for nitrogen oxides allowances.

(d) Allowance tracking system

(1) The Administrator shall promulgate, not later than 18 months after November 15, 1990, a system for issuing, recording, and tracking allowances, which shall specify all necessary procedures and requirements for an orderly and competitive functioning of the allowance system. All allowance allocations and transfers shall, upon recordation by the Administrator, be deemed a part of each unit's permit requirements pursuant to section 7651g of this title, without any further permit review and revision.

(2) In order to insure electric reliability, such regulations shall not prohibit or affect temporary increases and decreases in emissions within utility systems, power pools, or utilities entering into allowance pool agreements, that result from their operations, including emergencies and central dispatch, and such temporary emissions increases and decreases shall not require transfer of allowances among units nor shall it require recordation. The owners or operators of such units shall act through a designated representative. Notwithstanding the preceding sentence, the total tonnage of emissions in any calendar year (calculated at the end thereof) from all units in such a utility system, power pool, or allowance pool agreements shall not exceed the total allowances for such units for the calendar year concerned.

(e) New utility units

After January 1, 2000, it shall be unlawful for a new utility unit to emit an annual tonnage of sulfur dioxide in excess of the number of allowances to emit held for the unit by the unit's owner or operator. Such new utility units shall not be eligible for an allocation of sulfur dioxide allowances under subsection (a)(1) of this section, unless the unit is subject to the provisions of subsection (g)(2) or (3) of section 7651d of this title. New utility units may obtain allowances from any person, in accordance with this subchapter. The owner or operator of any new utility unit in violation of this subsection shall be liable for fulfilling the obligations specified in section 7651j of this title.

(f) Nature of allowances

An allowance allocated under this subchapter is a limited authorization to emit sulfur dioxide

in accordance with the provisions of this subchapter. Such allowance does not constitute a property right. Nothing in this subchapter or in any other provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization. Nothing in this section relating to allowances shall be construed as affecting the application of, or compliance with, any other provision of this chapter to an affected unit or source, including the provisions related to applicable National Ambient Air Quality Standards and State implementation plans. Nothing in this section shall be construed as requiring a change of any kind in any State law regulating electric utility rates and charges or affecting any State law regarding such State regulation or as limiting State regulation (including any prudency review) under such a State law. Nothing in this section shall be construed as modifying the Federal Power Act [16 U.S.C. 791a et seq.] or as affecting the authority of the Federal Energy Regulatory Commission under that Act. Nothing in this subchapter shall be construed to interfere with or impair any program for competitive bidding for power supply in a State in which such program is established. Allowances, once allocated to a person by the Administrator, may be received, held, and temporarily or permanently transferred in accordance with this subchapter and the regulations of the Administrator without regard to whether or not a permit is in effect under subchapter V of this chapter or section 7651g of this title with respect to the unit for which such allowance was originally allocated and recorded. Each permit under this subchapter and each permit issued under subchapter V of this chapter for any affected unit shall provide that the affected unit may not emit an annual tonnage of sulfur dioxide in excess of the allowances held for that unit.

(g) Prohibition

It shall be unlawful for any person to hold, use, or transfer any allowance allocated under this subchapter, except in accordance with regulations promulgated by the Administrator. It shall be unlawful for any affected unit to emit sulfur dioxide in excess of the number of allowances held for that unit for that year by the owner or operator of the unit. Upon the allocation of allowances under this subchapter, the prohibition contained in the preceding sentence shall supersede any other emission limitation applicable under this subchapter to the units for which such allowances are allocated. Allowances may not be used prior to the calendar year for which they are allocated. Nothing in this section or in the allowance system regulations shall relieve the Administrator of the Administrator's permitting, monitoring and enforcement obligations under this chapter, nor relieve affected sources of their requirements and liabilities under this chapter.

(h) Competitive bidding for power supply

Nothing in this subchapter shall be construed to interfere with or impair any program for competitive bidding for power supply in a State in which such program is established.

(i) Applicability of antitrust laws

(1) Nothing in this section affects—

(A) the applicability of the antitrust laws to the transfer, use, or sale of allowances, or

(B) the authority of the Federal Energy Regulatory Commission under any provision of law respecting unfair methods of competition or anticompetitive acts or practices.

(2) As used in this section, "antitrust laws" means those Acts set forth in section 12 of title 15.

(j) Public Utility Holding Company Act

The acquisition or disposition of allowances pursuant to this subchapter including the issuance of securities or the undertaking of any other financing transaction in connection with such allowances shall not be subject to the provisions of the Public Utility Holding Company Act of 1935.[2]

(July 14, 1955, ch. 360, title IV, §403, as added Pub. L. 101–549, title IV, §401, Nov. 15, 1990, 104 Stat. 2589.)

REFERENCES IN TEXT

The Federal Power Act, referred to in subsec. (f), is act June 10, 1920, ch. 285, 41 Stat. 1063, as amended, which is classified generally to chapter 12 (§791a et seq.) of Title 16, Conservation. For complete classification of this Act to the Code, see section 791a of Title 16 and Tables.

The Public Utility Holding Company Act of 1935, referred to in subsec. (j), is title I of act Aug. 26, 1935, ch. 687, 49 Stat. 803, as amended, which was classified generally to chapter 2C (§79 et seq.) of Title 15, Commerce and Trade, prior to repeal by Pub. L. 109–58, title XII, §1263, Aug. 8, 2005, 119 Stat. 974. For complete classification of this Act to the Code, see Tables.

CODIFICATION

Another section 403 of act July 14, 1955, as added by Pub. L. 91–604, §14, Dec. 31, 1970, 84 Stat. 1710, is classified to section 7642 of this title.

FOSSIL FUEL USE

Section 402 of title IV of Pub. L. 101–549 provided that:

"(a) CONTRACTS FOR HYDROELECTRIC ENERGY.—Any person who, after the date of the enactment of the Clean Air Act Amendments of 1990 [Nov. 15, 1990], enters into a contract under which such person receives hydroelectric energy in return for the provision of electric energy by such person shall use allowances held by such person as necessary to satisfy such person's obligations under such contract.

"(b) FEDERAL POWER MARKETING ADMINISTRATION.—A Federal Power Marketing Administration shall not be subject to the provisions and requirements of this title [enacting this subchapter, amending sections 7410, 7411, and 7479 of this title, and enacting provisions set out as notes under sections 7403, 7411, and 7651 of this title] with respect to electric energy generated by hydroelectric facilities and marketed by such Power Marketing Administration. Any person who sells or provides electric energy to a Federal Power Marketing Administration shall comply with the provisions and requirements of this title."

§7651c. Phase I sulfur dioxide requirements CAA § 404

(a) Emission limitations

(1) After January 1, 1995, each source that includes one or more affected units listed in table A is an affected source under this section. After January 1, 1995, it shall be unlawful for any af-

[2] See References in Text note below.

fected unit (other than an eligible phase I unit under subsection (d)(2) of this section) to emit sulfur dioxide in excess of the tonnage limitation stated as a total number of allowances in table A for phase I, unless (A) the emissions reduction requirements applicable to such unit have been achieved pursuant to subsection (b) or (d) of this section, or (B) the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions, except that, after January 1, 2000, the emissions limitations established in this section shall be superseded by those established in section 7651d of this title. The owner or operator of any unit in violation of this section shall be fully liable for such violation including, but not limited to, liability for fulfilling the obligations specified in section 7651j of this title.

(2) Not later than December 31, 1991, the Administrator shall determine the total tonnage of reductions in the emissions of sulfur dioxide from all utility units in calendar year 1995 that will occur as a result of compliance with the emissions limitation requirements of this section, and shall establish a reserve of allowances equal in amount to the number of tons determined thereby not to exceed a total of 3.50 million tons. In making such a determination, the Administrator shall compute for each unit subject to the emissions limitation requirements of this section the difference between:

(A) the product of its baseline multiplied by the lesser of each unit's allowable 1985 emissions rate and its actual 1985 emissions rate, divided by 2,000, and

(B) the product of each unit's baseline multiplied by 2.50 lbs/mmBtu divided by 2,000,

and sum the computations. The Administrator shall adjust the foregoing calculation to reflect projected calendar year 1995 utilization of the units subject to the emissions limitations of this subchapter that the Administrator finds would have occurred in the absence of the imposition of such requirements. Pursuant to subsection (d) of this section, the Administrator shall allocate allowances from the reserve established hereinunder until the earlier of such time as all such allowances in the reserve are allocated or December 31, 1999.

(3) In addition to allowances allocated pursuant to paragraph (1), in each calendar year beginning in 1995 and ending in 1999, inclusive, the Administrator shall allocate for each unit on Table A that is located in the States of Illinois, Indiana, or Ohio (other than units at Kyger Creek, Clifty Creek and Joppa Steam), allowances in an amount equal to 200,000 multiplied by the unit's pro rata share of the total number of allowances allocated for all units on Table A in the 3 States (other than units at Kyger Creek, Clifty Creek, and Joppa Steam) pursuant to paragraph (1). Such allowances shall be excluded from the calculation of the reserve under paragraph (2).

(b) Substitutions

The owner or operator of an affected unit under subsection (a) of this section may include in its section 7651g of this title permit application and proposed compliance plan a proposal to reassign, in whole or in part, the affected unit's sulfur dioxide reduction requirements to any other unit(s) under the control of such owner or operator. Such proposal shall specify—

(1) the designation of the substitute unit or units to which any part of the reduction obligations of subsection (a) of this section shall be required, in addition to, or in lieu of, any original affected units designated under such subsection;

(2) the original affected unit's baseline, the actual and allowable 1985 emissions rate for sulfur dioxide, and the authorized annual allowance allocation stated in table A;

(3) calculation of the annual average tonnage for calendar years 1985, 1986, and 1987, emitted by the substitute unit or units, based on the baseline for each unit, as defined in section 7651a(d)[1] of this title, multiplied by the lesser of the unit's actual or allowable 1985 emissions rate;

(4) the emissions rates and tonnage limitations that would be applicable to the original and substitute affected units under the substitution proposal;

(5) documentation, to the satisfaction of the Administrator, that the reassigned tonnage limits will, in total, achieve the same or greater emissions reduction than would have been achieved by the original affected unit and the substitute unit or units without such substitution; and

(6) such other information as the Administrator may require.

(c) Administrator's action on substitution proposals

(1) The Administrator shall take final action on such substitution proposal in accordance with section 7651g(c) of this title if the substitution proposal fulfills the requirements of this subsection. The Administrator may approve a substitution proposal in whole or in part and with such modifications or conditions as may be consistent with the orderly functioning of the allowance system and which will ensure the emissions reductions contemplated by this subchapter. If a proposal does not meet the requirements of subsection (b) of this section, the Administrator shall disapprove it. The owner or operator of a unit listed in table A shall not substitute another unit or units without the prior approval of the Administrator.

(2) Upon approval of a substitution proposal, each substitute unit, and each source with such unit, shall be deemed affected under this subchapter, and the Administrator shall issue a permit to the original and substitute affected source and unit in accordance with the approved substitution plan and section 7651g of this title. The Administrator shall allocate allowances for the original and substitute affected units in accordance with the approved substitution proposal pursuant to section 7651b of this title. It shall be unlawful for any source or unit that is allocated allowances pursuant to this section to emit sulfur dioxide in excess of the emissions limitation provided for in the approved substitution permit and plan unless the owner or operator of each unit governed by the permit and ap-

[1] So in original. Probably should be section "7651a(4)".

proved substitution plan holds allowances to emit not less than the units[2] total annual emissions. The owner or operator of any original or substitute affected unit operated in violation of this subsection shall be fully liable for such violation, including liability for fulfilling the obligations specified in section 7651j of this title. If a substitution proposal is disapproved, the Administrator shall allocate allowances to the original affected unit or units in accordance with subsection (a) of this section.

(d) Eligible phase I extension units

(1) The owner or operator of any affected unit subject to an emissions limitation requirement under this section may petition the Administrator in its permit application under section 7651g of this title for an extension of 2 years of the deadline for meeting such requirement, provided that the owner or operator of any such unit holds allowances to emit not less than the unit's total annual emissions for each of the 2 years of the period of extension. To qualify for such an extension, the affected unit must either employ a qualifying phase I technology, or transfer its phase I emissions reduction obligation to a unit employing a qualifying phase I technology. Such transfer shall be accomplished in accordance with a compliance plan, submitted and approved under section 7651g of this title, that shall govern operations at all units included in the transfer, and that specifies the emissions reduction requirements imposed pursuant to this subchapter.

(2) Such extension proposal shall—

(A) specify the unit or units proposed for designation as an eligible phase I extension unit;

(B) provide a copy of an executed contract, which may be contingent upon the Administrator approving the proposal, for the design engineering, and construction of the qualifying phase I technology for the extension unit, or for the unit or units to which the extension unit's emission reduction obligation is to be transferred;

(C) specify the unit's or units' baseline, actual 1985 emissions rate, allowable 1985 emissions rate, and projected utilization for calendar years 1995 through 1999;

(D) require CEMS on both the eligible phase I extension unit or units and the transfer unit or units beginning no later than January 1, 1995; and

(E) specify the emission limitation and number of allowances expected to be necessary for annual operation after the qualifying phase I technology has been installed.

(3) The Administrator shall review and take final action on each extension proposal in order of receipt, consistent with section 7651g of this title, and for an approved proposal shall designate the unit or units as an eligible phase I extension unit. The Administrator may approve an extension proposal in whole or in part, and with such modifications or conditions as may be necessary, consistent with the orderly functioning of the allowance system, and to ensure the emissions reductions contemplated by the[3] subchapter.

(4) In order to determine the number of proposals eligible for allocations from the reserve under subsection (a)(2) of this section and the number of allowances remaining available after each proposal is acted upon, the Administrator shall reduce the total number of allowances remaining available in the reserve by the number of allowances calculated according to subparagraphs (A), (B) and (C) until either no allowances remain available in the reserve for further allocation or all approved proposals have been acted upon. If no allowances remain available in the reserve for further allocation before all proposals have been acted upon by the Administrator, any pending proposals shall be disapproved. The Administrator shall calculate allowances equal to—

(A) the difference between the lesser of the average annual emissions in calendar years 1988 and 1989 or the projected emissions tonnage for calendar year 1995 of each eligible phase I extension unit, as designated under paragraph (3), and the product of the unit's baseline multiplied by an emission rate of 2.50 lbs/mmBtu, divided by 2,000;

(B) the difference between the lesser of the average annual emissions in calendar years 1988 and 1989 or the projected emissions tonnage for calendar year 1996 of each eligible phase I extension unit, as designated under paragraph (3), and the product of the unit's baseline multiplied by an emission rate of 2.50 lbs/mmBtu, divided by 2,000; and

(C) the amount by which (i) the product of each unit's baseline multiplied by an emission rate of 1.20 lbs/mmBtu, divided by 2,000, exceeds (ii) the tonnage level specified under subparagraph (E) of paragraph (2) of this subsection multiplied by a factor of 3.

(5) Each eligible Phase I extension unit shall receive allowances determined under subsection (a)(1) or (c) of this section. In addition, for calendar year 1995, the Administrator shall allocate to each eligible Phase I extension unit, from the allowance reserve created pursuant to subsection (a)(2) of this section, allowances equal to the difference between the lesser of the average annual emissions in calendar years 1988 and 1989 or its projected emissions tonnage for calendar year 1995 and the product of the unit's baseline multiplied by an emission rate of 2.50 lbs/mmBtu, divided by 2,000. In calendar year 1996, the Administrator shall allocate for each eligible unit, from the allowance reserve created pursuant to subsection (a)(2) of this section, allowances equal to the difference between the lesser of the average annual emissions in calendar years 1988 and 1989 or its projected emissions tonnage for calendar year 1996 and the product of the unit's baseline multiplied by an emission rate of 2.50 lbs/mmBtu, divided by 2,000. It shall be unlawful for any source or unit subject to an approved extension plan under this subsection to emit sulfur dioxide in excess of the emissions limitations provided for in the permit and approved extension plan, unless the owner or oper-

[2] So in original. Probably should be "unit's".

[3] So in original. Probably should be "this".

ator of each unit governed by the permit and approved plan holds allowances to emit not less than the unit's total annual emissions.

(6) In addition to allowances specified in paragraph (5), the Administrator shall allocate for each eligible Phase I extension unit employing qualifying Phase I technology, for calendar years 1997, 1998, and 1999, additional allowances, from any remaining allowances in the reserve created pursuant to subsection (a)(2) of this section, following the reduction in the reserve provided for in paragraph (4), not to exceed the amount by which (A) the product of each eligible unit's baseline times an emission rate of 1.20 lbs/mmBtu, divided by 2,000, exceeds (B) the tonnage level specified under subparagraph (E) of paragraph (2) of this subsection.

(7) After January 1, 1997, in addition to any liability under this chapter, including under section 7651j of this title, if any eligible phase I extension unit employing qualifying phase I technology or any transfer unit under this subsection emits sulfur dioxide in excess of the annual tonnage limitation specified in the extension plan, as approved in paragraph (3) of this subsection, the Administrator shall, in the calendar year following such excess, deduct allowances equal to the amount of such excess from such unit's annual allowance allocation.

(e) Allocation of allowances

(1) In the case of a unit that receives authorization from the Governor of the State in which such unit is located to make reductions in the emissions of sulfur dioxide prior to calendar year 1995 and that is part of a utility system that meets the following requirements: (A) the total coal-fired generation within the utility system as a percentage of total system generation decreased by more than 20 percent between January 1, 1980, and December 31, 1985; and (B) the weighted capacity factor of all coal-fired units within the utility system averaged over the period from January 1, 1985, through December 31, 1987, was below 50 percent, the Administrator shall allocate allowances under this paragraph for the unit pursuant to this subsection. The Administrator shall allocate allowances for a unit that is an affected unit pursuant to section 7651d of this title (but is not also an affected unit under this section) and part of a utility system that includes 1 or more affected units under section 7651d of this title for reductions in the emissions of sulfur dioxide made during the period 1995–1999 if the unit meets the requirements of this subsection and the requirements of the preceding sentence, except that for the purposes of applying this subsection to any such unit, the prior year concerned as specified below, shall be any year after January 1, 1995 but prior to January 1, 2000.

(2) In the case of an affected unit under this section described in subparagraph (A),[4] the allowances allocated under this subsection for early reductions in any prior year may not exceed the amount which (A) the product of the unit's baseline multiplied by the unit's 1985 actual sulfur dioxide emission rate (in lbs. per mmBtu), divided by 2,000, exceeds (B) the allowances specified for such unit in Table A. In the case of an affected unit under section 7651d of this title described in subparagraph (A),[4] the allowances awarded under this subsection for early reductions in any prior year may not exceed the amount by which (i) the product of the quantity of fossil fuel consumed by the unit (in mmBtu) in the prior year multiplied by the lesser of 2.50 or the most stringent emission rate (in lbs. per mmBtu) applicable to the unit under the applicable implementation plan, divided by 2,000, exceeds (ii) the unit's actual tonnage of sulfur dioxide emission for the prior year concerned. Allowances allocated under this subsection for units referred to in subparagraph (A)[4] may be allocated only for emission reductions achieved as a result of physical changes or changes in the method of operation made after November 15, 1990, including changes in the type or quality of fossil fuel consumed.

(3) In no event shall the provisions of this paragraph[5] be interpreted as an event of force majeur[6] or a commercial impractibility[7] or in any other way as a basis for excused nonperformance by a utility system under a coal sales contract in effect before November 15, 1990.

TABLE A.—AFFECTED SOURCES AND UNITS IN PHASE I AND THEIR SULFUR DIOXIDE ALLOWANCES (TONS)

State	Plant Name	Generator	Phase I Allowances
Alabama	Colbert	1	13,570
		2	15,310
		3	15,400
		4	15,410
		5	37,180
	E.C. Gaston	1	18,100
		2	18,540
		3	18,310
		4	19,280
		5	59,840
Florida	Big Bend	1	28,410
		2	27,100
		3	26,740
	Crist	6	19,200
		7	31,680
Georgia	Bowen	1	56,320
		2	54,770
		3	71,750
		4	71,740
	Hammond	1	8,780
		2	9,220
		3	8,910
		4	37,640
	J. McDonough	1	19,910
		2	20,600
	Wansley	1	70,770
		2	65,430
	Yates	1	7,210
		2	7,040
		3	6,950
		4	8,910
		5	9,410
		6	24,760
		7	21,480
Illinois	Baldwin	1	42,010
		2	44,420
		3	42,550
	Coffeen	1	11,790
		2	35,670

[4] So in original. Probably should be "paragraph (1)".

[5] So in original. Probably should be "subsection".

[6] So in original. Probably should be "majeure".

[7] So in original. Probably should be "impracticability".

TABLE A.—AFFECTED SOURCES AND UNITS IN PHASE I AND THEIR SULFUR DIOXIDE ALLOWANCES (TONS)—CONTINUED

State	Plant Name	Generator	Phase I Allowances
	Grand Tower	4	5,910
	Hennepin	2	18,410
	Joppa Steam	1	12,590
		2	10,770
		3	12,270
		4	11,360
		5	11,420
		6	10,620
	Kincaid	1	31,530
		2	33,810
	Meredosia	3	13,890
	Vermilion	2	8,880
Indiana	Bailly	7	11,180
		8	15,630
	Breed	1	18,500
	Cayuga	1	33,370
		2	34,130
	Clifty Creek	1	20,150
		2	19,810
		3	20,410
		4	20,080
		5	19,360
		6	20,380
	E. W. Stout	5	3,880
		6	4,770
		7	23,610
	F. B. Culley	2	4,290
		3	16,970
	F. E. Ratts	1	8,330
		2	8,480
	Gibson	1	40,400
		2	41,010
		3	41,080
		4	40,320
	H. T. Pritchard	6	5,770
	Michigan City	12	23,310
	Petersburg	1	16,430
		2	32,380
	R. Gallagher	1	6,490
		2	7,280
		3	6,530
		4	7,650
	Tanners Creek	4	24,820
	Wabash River	1	4,000
		2	2,860
		3	3,750
		5	3,670
		6	12,280
	Warrick	4	26,980
Iowa	Burlington	1	10,710
	Des Moines	7	2,320
	George Neal	1	1,290
	M.L. Kapp	2	13,800
	Prairie Creek	4	8,180
	Riverside	5	3,990
Kansas	Quindaro	2	4,220
Kentucky	Coleman	1	11,250
		2	12,840
		3	12,340
	Cooper	1	7,450
		2	15,320
	E.W. Brown	1	7,110
		2	10,910
		3	26,100
	Elmer Smith	1	6,520
		2	14,410
	Ghent	1	28,410
	Green River	4	7,820
	H.L. Spurlock	1	22,780
	Henderson II	1	13,340
		2	12,310
	Paradise	3	59,170

TABLE A.—AFFECTED SOURCES AND UNITS IN PHASE I AND THEIR SULFUR DIOXIDE ALLOWANCES (TONS)—CONTINUED

State	Plant Name	Generator	Phase I Allowances
	Shawnee	10	10,170
Maryland	Chalk Point	1	21,910
		2	24,330
	C. P. Crane	1	10,330
		2	9,230
	Morgantown	1	35,260
		2	38,480
Michigan	J. H. Campbell	1	19,280
		2	23,060
Minnesota	High Bridge	6	4,270
Mississippi	Jack Watson	4	17,910
		5	36,700
Missouri	Asbury	1	16,190
	James River	5	4,850
	Labadie	1	40,110
		2	37,710
		3	40,310
		4	35,940
	Montrose	1	7,390
		2	8,200
		3	10,090
	New Madrid	1	28,240
		2	32,480
	Sibley	3	15,580
	Sioux	1	22,570
		2	23,690
	Thomas Hill	1	10,250
		2	19,390
NewHampshire	Merrimack	1	10,190
		2	22,000
New Jersey	B.L. England	1	9,060
		2	11,720
New York	Dunkirk	3	12,600
		4	14,060
	Greenidge	4	7,540
	Milliken	1	11,170
		2	12,410
	Northport	1	19,810
		2	24,110
		3	26,480
	Port Jefferson	3	10,470
		4	12,330
Ohio	Ashtabula	5	16,740
	Avon Lake	8	11,650
		9	30,480
	Cardinal	1	34,270
		2	38,320
	Conesville	1	4,210
		2	4,890
		3	5,500
		4	48,770
	Eastlake	1	7,800
		2	8,640
		3	10,020
		4	14,510
		5	34,070
	Edgewater	4	5,050
	Gen. J.M. Gavin	1	79,080
		2	80,560
	Kyger Creek	1	19,280
		2	18,560
		3	17,910
		4	18,710
		5	18,740
	Miami Fort	5	760
		6	11,380
		7	38,510
	Muskingum River	1	14,880
		2	14,170
		3	13,950
		4	11,780
		5	40,470

TABLE A.—AFFECTED SOURCES AND UNITS IN PHASE I AND THEIR SULFUR DIOXIDE ALLOWANCES (TONS)—CONTINUED

State	Plant Name	Generator	Phase I Allowances
	Niles	1	6,940
		2	9,100
	Picway	5	4,930
	R.E. Burger	3	6,150
		4	10,780
		5	12,430
	W.H. Sammis	5	24,170
		6	39,930
		7	43,220
	W.C. Beckjord	5	8,950
		6	23,020
Pennsylvania	Armstrong	1	14,410
		2	15,430
	Brunner Island	1	27,760
		2	31,100
		3	53,820
	Cheswick	1	39,170
	Conemaugh	1	59,790
		2	66,450
	Hatfield's Ferry	1	37,830
		2	37,320
		3	40,270
	Martins Creek	1	12,660
		2	12,820
	Portland	1	5,940
		2	10,230
	Shawville	1	10,320
		2	10,320
		3	14,220
		4	14,070
	Sunbury	3	8,760
		4	11,450
Tennessee	Allen	1	15,320
		2	16,770
		3	15,670
	Cumberland	1	86,700
		2	94,840
	Gallatin	1	17,870
		2	17,310
		3	20,020
		4	21,260
	Johnsonville	1	7,790
		2	8,040
		3	8,410
		4	7,990
		5	8,240
		6	7,890
		7	8,980
		8	8,700
		9	7,080
		10	7,550
West Virginia	Albright	3	12,000
	Fort Martin	1	41,590
		2	41,200
	Harrison	1	48,620
		2	46,150
		3	41,500
	Kammer	1	18,740
		2	19,460
		3	17,390
	Mitchell	1	43,980
		2	45,510
	Mount Storm	1	43,720
		2	35,580
		3	42,430
Wisconsin	Edgewater	4	24,750
	La Crosse/Genoa	3	22,700
	Nelson Dewey	1	6,010
		2	6,680

TABLE A.—AFFECTED SOURCES AND UNITS IN PHASE I AND THEIR SULFUR DIOXIDE ALLOWANCES (TONS)—CONTINUED

State	Plant Name	Generator	Phase I Allowances
	N. Oak Creek	1	5,220
		2	5,140
		3	5,370
		4	6,320
	Pulliam	8	7,510
	S. Oak Creek	5	9,670
		6	12,040
		7	16,180
		8	15,790

(f) Energy conservation and renewable energy

(1) Definitions

As used in this subsection:

(A) Qualified energy conservation measure

The term "qualified energy conservation measure" means a cost effective measure, as identified by the Administrator in consultation with the Secretary of Energy, that increases the efficiency of the use of electricity provided by an electric utility to its customers.

(B) Qualified renewable energy

The term "qualified renewable energy" means energy derived from biomass, solar, geothermal, or wind as identified by the Administrator in consultation with the Secretary of Energy.

(C) Electric utility

The term "electric utility" means any person, State agency, or Federal agency, which sells electric energy.

(2) Allowances for emissions avoided through energy conservation and renewable energy

(A) In general

The regulations under paragraph (4) of this subsection shall provide that for each ton of sulfur dioxide emissions avoided by an electric utility, during the applicable period, through the use of qualified energy conservation measures or qualified renewable energy, the Administrator shall allocate a single allowance to such electric utility, on a first-come-first-served basis from the Conservation and Renewable Energy Reserve established under subsection (g) of this section, up to a total of 300,000 allowances for allocation from such Reserve.

(B) Requirements for issuance

The Administrator shall allocate allowances to an electric utility under this subsection only if all of the following requirements are met:

(i) Such electric utility is paying for the qualified energy conservation measures or qualified renewable energy directly or through purchase from another person.

(ii) The emissions of sulfur dioxide avoided through the use of qualified energy conservation measures or qualified renewable energy are quantified in accordance with regulations promulgated by the Administrator under this subsection.

(iii)(I) Such electric utility has adopted and is implementing a least cost energy conservation and electric power plan which evaluates a range of resources, including new power supplies, energy conservation, and renewable energy resources, in order to meet expected future demand at the lowest system cost.

(II) The qualified energy conservation measures or qualified renewable energy, or both, are consistent with that plan.

(III) Electric utilities subject to the jurisdiction of a State regulatory authority must have such plan approved by such authority. For electric utilities not subject to the jurisdiction of a State regulatory authority such plan shall be approved by the entity with rate-making authority for such utility.

(iv) In the case of qualified energy conservation measures undertaken by a State regulated electric utility, the Secretary of Energy certifies that the State regulatory authority with jurisdiction over the electric rates of such electric utility has established rates and charges which ensure that the net income of such electric utility after implementation of specific cost effective energy conservation measures is at least as high as such net income would have been if the energy conservation measures had not been implemented. Upon the date of any such certification by the Secretary of Energy, all allowances which, but for this paragraph, would have been allocated under subparagraph (A) before such date, shall be allocated to the electric utility. This clause is not a requirement for qualified renewable energy.

(v) Such utility or any subsidiary of the utility's holding company owns or operates at least one affected unit.

(C) Period of applicability

Allowances under this subsection shall be allocated only with respect to kilowatt hours of electric energy saved by qualified energy conservation measures or generated by qualified renewable energy after January 1, 1992 and before the earlier of (i) December 31, 2000, or (ii) the date on which any electric utility steam generating unit owned or operated by the electric utility to which the allowances are allocated becomes subject to this subchapter (including those sources that elect to become affected by this subchapter, pursuant to section 7651i of this title).

(D) Determination of avoided emissions

(i) Application

In order to receive allowances under this subsection, an electric utility shall make an application which—

(I) designates the qualified energy conservation measures implemented and the qualified renewable energy sources used for purposes of avoiding emissions,[8]

(II) calculates, in accordance with subparagraphs (F) and (G), the number of tons of emissions avoided by reason of the implementation of such measures or the use of such renewable energy sources; and

(III) demonstrates that the requirements of subparagraph (B) have been met.

Such application for allowances by a State-regulated electric utility shall require approval by the State regulatory authority with jurisdiction over such electric utility. The authority shall review the application for accuracy and compliance with this subsection and the rules under this subsection. Electric utilities whose retail rates are not subject to the jurisdiction of a State regulatory authority shall apply directly to the Administrator for such approval.

(E) Avoided emissions from qualified energy conservation measures

For the purposes of this subsection, the emission tonnage deemed avoided by reason of the implementation of qualified energy conservation measures for any calendar year shall be a tonnage equal to the product of multiplying—

(i) the kilowatt hours that would otherwise have been supplied by the utility during such year in the absence of such qualified energy conservation measures, by

(ii) 0.004,

and dividing by 2,000.

(F) Avoided emissions from the use of qualified renewable energy

The emissions tonnage deemed avoided by reason of the use of qualified renewable energy by an electric utility for any calendar year shall be a tonnage equal to the product of multiplying—

(i) the actual kilowatt hours generated by, or purchased from, qualified renewable energy, by

(ii) 0.004,

and dividing by 2,000.

(G) Prohibitions

(i) No allowances shall be allocated under this subsection for the implementation of programs that are exclusively informational or educational in nature.

(ii) No allowances shall be allocated for energy conservation measures or renewable energy that were operational before January 1, 1992.

(3) Savings provision

Nothing in this subsection precludes a State or State regulatory authority from providing additional incentives to utilities to encourage investment in demand-side resources.

(4) Regulations

Not later than 18 months after November 15, 1990, and in conjunction with the regulations required to be promulgated under subsections (b) and (c) of this section, the Administrator shall, in consultation with the Secretary of Energy, promulgate regulations under this

[8] So in original. The comma probably should be a semicolon.

subsection. Such regulations shall list energy conservation measures and renewable energy sources which may be treated as qualified energy conservation measures and qualified renewable energy for purposes of this subsection. Allowances shall only be allocated if all requirements of this subsection and the rules promulgated to implement this subsection are complied with. The Administrator shall review the determinations of each State regulatory authority under this subsection to encourage consistency from electric utility to electric utility and from State to State in accordance with the Administrator's rules. The Administrator shall publish the findings of this review no less than annually.

(g) Conservation and Renewable Energy Reserve

The Administrator shall establish a Conservation and Renewable Energy Reserve under this subsection. Beginning on January 1, 1995, the Administrator may allocate from the Conservation and Renewable Energy Reserve an amount equal to a total of 300,000 allowances for emissions of sulfur dioxide pursuant to section 7651b of this title. In order to provide 300,000 allowances for such reserve, in each year beginning in calendar year 2000 and until calendar year 2009, inclusive, the Administrator shall reduce each unit's basic Phase II allowance allocation on the basis of its pro rata share of 30,000 allowances. If allowances remain in the reserve after January 2, 2010, the Administrator shall allocate such allowances for affected units under section 7651d of this title on a pro rata basis. For purposes of this subsection, for any unit subject to the emissions limitation requirements of section 7651d of this title, the term ''pro rata basis'' refers to the ratio which the reductions made in such unit's allowances in order to establish the reserve under this subsection bears to the total of such reductions for all such units.

(h) Alternative allowance allocation for units in certain utility systems with optional baseline

(1) Optional baseline for units in certain systems

In the case of a unit subject to the emissions limitation requirements of this section which (as of November 15, 1990)—

(A) has an emission rate below 1.0 lbs/mmBtu,

(B) has decreased its sulfur dioxide emissions rate by 60 percent or greater since 1980, and

(C) is part of a utility system which has a weighted average sulfur dioxide emissions rate for all fossil fueled-fired units below 1.0 lbs/mmBtu,

at the election of the owner or operator of such unit, the unit's baseline may be calculated (i) as provided under section 7651a(d)[9] of this title, or (ii) by utilizing the unit's average annual fuel consumption at a 60 percent capacity factor. Such election shall be made no later than March 1, 1991.

(2) Allowance allocation

Whenever a unit referred to in paragraph (1) elects to calculate its baseline as provided in clause (ii) of paragraph (1), the Administrator shall allocate allowances for the unit pursuant to section 7651b(a)(1) of this title, this section, and section 7651d of this title (as basic Phase II allowance allocations) in an amount equal to the baseline selected multiplied by the lower of the average annual emission rate for such unit in 1989, or 1.0 lbs./mmBtu. Such allowance allocation shall be in lieu of any allocation of allowances under this section and section 7651d of this title.

(July 14, 1955, ch. 360, title IV, §404, as added Pub. L. 101–549, title IV, §401, Nov. 15, 1990, 104 Stat. 2592.)

[9] So in original. Probably should be section ''7651a(4)''.

§7651d. Phase II sulfur dioxide requirements CAA § 405

(a) Applicability

(1) After January 1, 2000, each existing utility unit as provided below is subject to the limitations or requirements of this section. Each utility unit subject to an annual sulfur dioxide tonnage emission limitation under this section is an affected unit under this subchapter. Each source that includes one or more affected units is an affected source. In the case of an existing unit that was not in operation during calendar year 1985, the emission rate for a calendar year after 1985, as determined by the Administrator, shall be used in lieu of the 1985 rate. The owner or operator of any unit operated in violation of this section shall be fully liable under this chapter for fulfilling the obligations specified in section 7651j of this title.

(2) In addition to basic Phase II allowance allocations, in each year beginning in calendar year 2000 and ending in calendar year 2009, inclusive, the Administrator shall allocate up to 530,000 Phase II bonus allowances pursuant to subsections (b)(2), (c)(4), (d)(3)(A) and (B), and (h)(2) of this section and section 7651e of this title. Not later than June 1, 1998, the Administrator shall calculate, for each unit granted an extension pursuant to section 7651h of this title the difference between (A) the number of allowances allocated for the unit in calendar year 2000, and (B) the product of the unit's baseline multiplied by 1.20 lbs/mmBtu, divided by 2000, and sum the computations. In each year, beginning in calendar year 2000 and ending in calendar year 2009, inclusive, the Administrator shall deduct from each unit's basic Phase II allowance allocation its pro rata share of 10 percent of the sum calculated pursuant to the preceding sentence.

(3) In addition to basic Phase II allowance allocations and Phase II bonus allowance allocations, beginning January 1, 2000, the Administrator shall allocate for each unit listed on Table A in section 7651c of this title (other than units at Kyger Creek, Clifty Creek, and Joppa Steam) and located in the States of Illinois, Indiana, Ohio, Georgia, Alabama, Missouri, Pennsylvania, West Virginia, Kentucky, or Tennessee allowances in an amount equal to 50,000 multiplied by the unit's pro rata share of the total number of basic allowances allocated for all units listed on Table A (other than units at Kyger Creek, Clifty Creek, and Joppa Steam). Allowances allocated pursuant to this paragraph shall not be subject to the 8,900,000 ton limitation in section 7651b(a) of this title.

(b) Units equal to, or above, 75 MWe and 1.20 lbs/mmBtu

(1) Except as otherwise provided in paragraph (3), after January 1, 2000, it shall be unlawful for any existing utility unit that serves a generator with nameplate capacity equal to, or greater, than 75 MWe and an actual 1985 emission rate equal to or greater than 1.20 lbs/mmBtu to exceed an annual sulfur dioxide tonnage emission limitation equal to the product of the unit's baseline multiplied by an emission rate equal to 1.20 lbs/mmBtu, divided by 2,000, unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

(2) In addition to allowances allocated pursuant to paragraph (1) and section 7651b(a)(1) of this title as basic Phase II allowance allocations, beginning January 1, 2000, and for each calendar year thereafter until and including 2009, the Administrator shall allocate annually for each unit subject to the emissions limitation requirements of paragraph (1) with an actual 1985 emissions rate greater than 1.20 lbs/mmBtu and less than 2.50 lbs/mmBtu and a baseline capacity factor of less than 60 percent, allowances from the reserve created pursuant to subsection (a)(2) of this section in an amount equal to 1.20 lbs/mmBtu multiplied by 50 percent of the difference, on a Btu basis, between the unit's baseline and the unit's fuel consumption at a 60 percent capacity factor.

(3) After January 1, 2000, it shall be unlawful for any existing utility unit with an actual 1985 emissions rate equal to or greater than 1.20 lbs/mmBtu whose annual average fuel consumption during 1985, 1986, and 1987 on a Btu basis exceeded 90 percent in the form of lignite coal which is located in a State in which, as of July 1, 1989, no county or portion of a county was designated nonattainment under section 7407 of this title for any pollutant subject to the requirements of section 7409 of this title to exceed an annual sulfur dioxide tonnage limitation equal to the product of the unit's baseline multiplied by the lesser of the unit's actual 1985 emissions rate or its allowable 1985 emissions rate, divided by 2,000, unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

(4) After January 1, 2000, the Administrator shall allocate annually for each unit, subject to the emissions limitation requirements of paragraph (1), which is located in a State with an installed electrical generating capacity of more than 30,000,000 kw in 1988 and for which was issued a prohibition order or a proposed prohibition order (from burning oil), which unit subsequently converted to coal between January 1, 1980 and December 31, 1985, allowances equal to the difference between (A) the product of the unit's annual fuel consumption, on a Btu basis, at a 65 percent capacity factor multiplied by the lesser of its actual or allowable emissions rate during the first full calendar year after conversion, divided by 2,000, and (B) the number of allowances allocated for the unit pursuant to paragraph (1): *Provided*, That the number of allowances allocated pursuant to this paragraph shall not exceed an annual total of five thousand. If necessary to meeting the restriction imposed in the preceding sentence the Administrator shall reduce, pro rata, the annual allowances allocated for each unit under this paragraph.

(c) Coal or oil-fired units below 75 MWe and above 1.20 lbs/mmBtu

(1) Except as otherwise provided in paragraph (3), after January 1, 2000, it shall be unlawful for a coal or oil-fired existing utility unit that serves a generator with nameplate capacity of less than 75 MWe and an actual 1985 emission rate equal to, or greater than, 1.20 lbs/mmBtu and which is a unit owned by a utility operating company whose aggregate nameplate fossil fuel steam-electric capacity is, as of December 31, 1989, equal to, or greater than, 250 MWe to exceed an annual sulfur dioxide emissions limitation equal to the product of the unit's baseline multiplied by an emission rate equal to 1.20 lbs/mmBtu, divided by 2,000, unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

(2) After January 1, 2000, it shall be unlawful for a coal or oil-fired existing utility unit that serves a generator with nameplate capacity of less than 75 MWe and an actual 1985 emission rate equal to, or greater than, 1.20 lbs/mmBtu (excluding units subject to section 7411 of this title or to a federally enforceable emissions limitation for sulfur dioxide equivalent to an annual rate of less than 1.20 lbs/mmBtu) and which is a unit owned by a utility operating company whose aggregate nameplate fossil fuel steam-electric capacity is, as of December 31, 1989, less than 250 MWe, to exceed an annual sulfur dioxide tonnage emissions limitation equal to the product of the unit's baseline multiplied by the lesser of its actual 1985 emissions rate or its allowable 1985 emissions rate, divided by 2,000, unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

(3) After January 1, 2000, it shall be unlawful for any existing utility unit with a nameplate capacity below 75 MWe and an actual 1985 emissions rate equal to, or greater than, 1.20 lbs/mmBtu which became operational on or before December 31, 1965, which is owned by a utility operating company with, as of December 31, 1989, a total fossil fuel steam-electric generating capacity greater than 250 MWe, and less than 450 MWe which serves fewer than 78,000 electrical customers as of November 15, 1990, to exceed an annual sulfur dioxide emissions tonnage limitation equal to the product of its baseline multiplied by the lesser of its actual or allowable 1985 emission rate, divided by 2,000, unless the owner or operator holds allowances to emit not less than the units[1] total annual emissions. After January 1, 2010, it shall be unlawful for each unit subject to the emissions limitation requirements of this paragraph to exceed an annual emissions tonnage limitation equal to the product of its baseline multiplied by an emissions rate of 1.20 lbs/mmBtu, divided by 2,000, unless the owner or operator holds allowances to emit not less than the unit's total annual emissions.

(4) In addition to allowances allocated pursuant to paragraph (1) and section 7651b(a)(1) of

[1] So in original. Probably should be "unit's".

this title as basic Phase II allowance allocations, beginning January 1, 2000, and for each calendar year thereafter until and including 2009, inclusive, the Administrator shall allocate annually for each unit subject to the emissions limitation requirements of paragraph (1) with an actual 1985 emissions rate equal to, or greater than, 1.20 lbs/mmBtu and less than 2.50 lbs/mmBtu and a baseline capacity factor of less than 60 percent, allowances from the reserve created pursuant to subsection (a)(2) of this section in an amount equal to 1.20 lbs/mmBtu multiplied by 50 percent of the difference, on a Btu basis, between the unit's baseline and the unit's fuel consumption at a 60 percent capacity factor.

(5) After January 1, 2000, it shall be unlawful for any existing utility unit with a nameplate capacity below 75 MWe and an actual 1985 emissions rate equal to, or greater than, 1.20 lbs/mmBtu which is part of an electric utility system which, as of November 15, 1990, (A) has at least 20 percent of its fossil-fuel capacity controlled by flue gas desulfurization devices, (B) has more than 10 percent of its fossil-fuel capacity consisting of coal-fired units of less than 75 MWe, and (C) has large units (greater than 400 MWe) all of which have difficult or very difficult FGD Retrofit Cost Factors (according to the Emissions and the FGD Retrofit Feasibility at the 200 Top Emitting Generating Stations, prepared for the United States Environmental Protection Agency on January 10, 1986) to exceed an annual sulfur dioxide emissions tonnage limitation equal to the product of its baseline multiplied by an emissions rate of 2.5 lbs/mmBtu, divided by 2,000, unless the owner or operator holds allowances to emit not less than the unit's total annual emissions. After January 1, 2010, it shall be unlawful for each unit subject to the emissions limitation requirements of this paragraph to exceed an annual emissions tonnage limitation equal to the product of its baseline multiplied by an emissions rate of 1.20 lbs/mmBtu, divided by 2,000, unless the owner or operator holds for use allowances to emit not less than the unit's total annual emissions.

(d) Coal-fired units below 1.20 lbs/mmBtu

(1) After January 1, 2000, it shall be unlawful for any existing coal-fired utility unit the lesser of whose actual or allowable 1985 sulfur dioxide emissions rate is less than 0.60 lbs/mmBtu to exceed an annual sulfur dioxide tonnage emission limitation equal to the product of the unit's baseline multiplied by (A) the lesser of 0.60 lbs/mmBtu or the unit's allowable 1985 emissions rate, and (B) a numerical factor of 120 percent, divided by 2,000, unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

(2) After January 1, 2000, it shall be unlawful for any existing coal-fired utility unit the lesser of whose actual or allowable 1985 sulfur dioxide emissions rate is equal to, or greater than, 0.60 lbs/mmBtu and less than 1.20 lbs/mmBtu to exceed an annual sulfur dioxide tonnage emissions limitation equal to the product of the unit's baseline multiplied by (A) the lesser of its actual 1985 emissions rate or its allowable 1985 emissions rate, and (B) a numerical factor of 120 percent, divided by 2,000, unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

(3)(A) In addition to allowances allocated pursuant to paragraph (1) and section 7651b(a)(1) of this title as basic Phase II allowance allocations, at the election of the designated representative of the operating company, beginning January 1, 2000, and for each calendar year thereafter until and including 2009, the Administrator shall allocate annually for each unit subject to the emissions limitation requirements of paragraph (1) allowances from the reserve created pursuant to subsection (a)(2) of this section in an amount equal to the amount by which (i) the product of the lesser of 0.60 lbs/mmBtu or the unit's allowable 1985 emissions rate multiplied by the unit's baseline adjusted to reflect operation at a 60 percent capacity factor, divided by 2,000, exceeds (ii) the number of allowances allocated for the unit pursuant to paragraph (1) and section 7651b(a)(1) of this title as basic Phase II allowance allocations.

(B) In addition to allowances allocated pursuant to paragraph (2) and section 7651b(a)(1) of this title as basic Phase II allowance allocations, at the election of the designated representative of the operating company, beginning January 1, 2000, and for each calendar year thereafter until and including 2009, the Administrator shall allocate annually for each unit subject to the emissions limitation requirements of paragraph (2) allowances from the reserve created pursuant to subsection (a)(2) of this section in an amount equal to the amount by which (i) the product of the lesser of the unit's actual 1985 emissions rate or its allowable 1985 emissions rate multiplied by the unit's baseline adjusted to reflect operation at a 60 percent capacity factor, divided by 2,000, exceeds (ii) the number of allowances allocated for the unit pursuant to paragraph (2) and section 7651b(a)(1) of this title as basic Phase II allowance allocations.

(C) An operating company with units subject to the emissions limitation requirements of this subsection may elect the allocation of allowances as provided under subparagraphs (A) and (B). Such election shall apply to the annual allowance allocation for each and every unit in the operating company subject to the emissions limitation requirements of this subsection. The Administrator shall allocate allowances pursuant to subparagraphs (A) and (B) only in accordance with this subparagraph.

(4) Notwithstanding any other provision of this section, at the election of the owner or operator, after January 1, 2000, the Administrator shall allocate in lieu of allocation, pursuant to paragraph (1), (2), (3), (5), or (6),[2] allowances for a unit subject to the emissions limitation requirements of this subsection which commenced commercial operation on or after January 1, 1981 and before December 31, 1985, which was subject to, and in compliance with, section 7411 of this title in an amount equal to the unit's annual fuel consumption, on a Btu basis, at a 65 percent

[2] So in original. This subsection does not contain a paragraph (6).

capacity factor multiplied by the unit's allowable 1985 emissions rate, divided by 2,000.

(5) For the purposes of this section, in the case of an oil- and gas-fired unit which has been awarded a clean coal technology demonstration grant as of January 1, 1991, by the United States Department of Energy, beginning January 1, 2000, the Administrator shall allocate for the unit allowances in an amount equal to the unit's baseline multiplied by 1.20 lbs/mmBtu, divided by 2,000.

(e) Oil and gas-fired units equal to or greater than 0.60 lbs/mmBtu and less than 1.20 lbs/mmBtu

After January 1, 2000, it shall be unlawful for any existing oil and gas-fired utility unit the lesser of whose actual or allowable 1985 sulfur dioxide emission rate is equal to, or greater than, 0.60 lbs/mmBtu, but less than 1.20 lbs/mmBtu to exceed an annual sulfur dioxide tonnage limitation equal to the product of the unit's baseline multiplied by (A) the lesser of the unit's allowable 1985 emissions rate or its actual 1985 emissions rate and (B) a numerical factor of 120 percent divided by 2,000, unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

(f) Oil and gas-fired units less than 0.60 lbs/mmBtu

(1) After January 1, 2000, it shall be unlawful for any oil and gas-fired existing utility unit the lesser of whose actual or allowable 1985 emission rate is less than 0.60 lbs/mmBtu and whose average annual fuel consumption during the period 1980 through 1989 on a Btu basis was 90 percent or less in the form of natural gas to exceed an annual sulfur dioxide tonnage emissions limitation equal to the product of the unit's baseline multiplied by (A) the lesser of 0.60 lbs/mmBtu or the unit's allowable 1985 emissions, and (B) a numerical factor of 120 percent, divided by 2,000, unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

(2) In addition to allowances allocated pursuant to paragraph (1) as basic Phase II allowance allocations and section 7651b(a)(1) of this title, beginning January 1, 2000, the Administrator shall,[3] in the case of any unit operated by a utility that furnishes electricity, electric energy, steam, and natural gas within an area consisting of a city and 1 contiguous county, and in the case of any unit owned by a State authority, the output of which unit is furnished within that same area consisting of a city and 1 contiguous county, the Administrator shall allocate for each unit in the utility its pro rata share of 7,000 allowances and for each unit in the State authority its pro rata share of 2,000 allowances.

(g) Units that commence operation between 1986 and December 31, 1995

(1) After January 1, 2000, it shall be unlawful for any utility unit that has commenced commercial operation on or after January 1, 1986, but not later than September 30, 1990 to exceed an annual tonnage emission limitation equal to the product of the unit's annual fuel consumption, on a Btu basis, at a 65 percent capacity factor multiplied by the unit's allowable 1985 sulfur dioxide emission rate (converted, if necessary, to pounds per mmBtu), divided by 2,000 unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

(2) After January 1, 2000, the Administrator shall allocate allowances pursuant to section 7651b of this title to each unit which is listed in table B of this paragraph in an annual amount equal to the amount specified in table B.

TABLE B

Unit	Allowances
Brandon Shores	8,907
Miller 4	9,197
TNP One 2	4,000
Zimmer 1	18,458
Spruce 1	7,647
Clover 1	2,796
Clover 2	2,796
Twin Oak 2	1,760
Twin Oak 1	9,158
Cross 1	6,401
Malakoff 1	1,759

Notwithstanding any other paragraph of this subsection, for units subject to this paragraph, the Administrator shall not allocate allowances pursuant to any other paragraph of this subsection, Provided[4] that the owner or operator of a unit listed on Table B may elect an allocation of allowances under another paragraph of this subsection in lieu of an allocation under this paragraph.

(3) Beginning January 1, 2000, the Administrator shall allocate to the owner or operator of any utility unit that commences commercial operation, or has commenced commercial operation, on or after October 1, 1990, but not later than December 31, 1992 allowances in an amount equal to the product of the unit's annual fuel consumption, on a Btu basis, at a 65 percent capacity factor multiplied by the lesser of 0.30 lbs/mmBtu or the unit's allowable sulfur dioxide emission rate (converted, if necessary, to pounds per mmBtu), divided by 2,000.

(4) Beginning January 1, 2000, the Administrator shall allocate to the owner or operator of any utility unit that has commenced construction before December 31, 1990 and that commences commercial operation between January 1, 1993 and December 31, 1995, allowances in an amount equal to the product of the unit's annual fuel consumption, on a Btu basis, at a 65 percent capacity factor multiplied by the lesser of 0.30 lbs/mmBtu or the unit's allowable sulfur dioxide emission rate (converted, if necessary, to pounds per mmBtu), divided by 2,000.

(5) After January 1, 2000, it shall be unlawful for any existing utility unit that has completed conversion from predominantly gas fired existing operation to coal fired operation between January 1, 1985 and December 31, 1987, for which there has been allocated a proposed or final prohibition order pursuant to section 301(b)[5] of the Powerplant and Industrial Fuel Use Act of 1978

[3] So in original. The words "the Administrator shall," probably should not appear.

[4] So in original. Probably should not be capitalized.

[5] See References in Text note below.

(42 U.S.C. 8301 et seq.,[6] repealed 1987) to exceed an annual sulfur dioxide tonnage emissions limitation equal to the product of the unit's annual fuel consumption, on a Btu basis, at a 65 percent capacity factor multiplied by the lesser of 1.20 lbs/mmBtu or the unit's allowable 1987 sulfur dioxide emissions rate, divided by 2,000, unless the owner or operator of such unit has obtained allowances equal to its actual emissions.

(6)(A)[7] Unless the Administrator has approved a designation of such facility under section 7651i of this title, the provisions of this subchapter shall not apply to a ''qualifying small power production facility'' or ''qualifying cogeneration facility'' (within the meaning of section 796(17)(C) or 796(18)(B) of title 16) or to a ''new independent power production facility'' as defined in section 7651*o* of this title except[8] that clause (iii)[9] of such definition in section 7651*o* of this title shall not apply for purposes of this paragraph if, as of November 15, 1990,

(i) an applicable power sales agreement has been executed;

(ii) the facility is the subject of a State regulatory authority order requiring an electric utility to enter into a power sales agreement with, purchase capacity from, or (for purposes of establishing terms and conditions of the electric utility's purchase of power) enter into arbitration concerning, the facility;

(iii) an electric utility has issued a letter of intent or similar instrument committing to purchase power from the facility at a previously offered or lower price and a power sales agreement is executed within a reasonable period of time; or

(iv) the facility has been selected as a winning bidder in a utility competitive bid solicitation.

(h) Oil and gas-fired units less than 10 percent oil consumed

(1) After January 1, 2000, it shall be unlawful for any oil- and gas-fired utility unit whose average annual fuel consumption during the period 1980 through 1989 on a Btu basis exceeded 90 percent in the form of natural gas to exceed an annual sulfur dioxide tonnage limitation equal to the product of the unit's baseline multiplied by the unit's actual 1985 emissions rate divided by 2,000 unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

(2) In addition to allowances allocated pursuant to paragraph (1) and section 7651b(a)(1) of this title as basic Phase II allowance allocations, beginning January 1, 2000, and for each calendar year thereafter until and including 2009, the Administrator shall allocate annually for each unit subject to the emissions limitation requirements of paragraph (1) allowances from the reserve created pursuant to subsection (a)(2) of this section in an amount equal to the unit's baseline multiplied by 0.050 lbs/mmBtu, divided by 2,000.

(3) In addition to allowances allocated pursuant to paragraph (1) and section 7651b(a)(1) of this title, beginning January 1, 2010, the Administrator shall allocate annually for each unit subject to the emissions limitation requirements of paragraph (1) allowances in an amount equal to the unit's baseline multiplied by 0.050 lbs/mmBtu, divided by 2,000.

(i) Units in high growth States

(1) In addition to allowances allocated pursuant to this section and section 7651b(a)(1) of this title as basic Phase II allowance allocations, beginning January 1, 2000, the Administrator shall allocate annually allowances for each unit, subject to an emissions limitation requirement under this section, and located in a State that—

(A) has experienced a growth in population in excess of 25 percent between 1980 and 1988 according to State Population and Household Estimates, With Age, Sex, and Components of Change: 1981–1988 allocated by the United States Department of Commerce, and

(B) had an installed electrical generating capacity of more than 30,000,000 kw in 1988,

in an amount equal to the difference between (A) the number of allowances that would be allocated for the unit pursuant to the emissions limitation requirements of this section applicable to the unit adjusted to reflect the unit's annual average fuel consumption on a Btu basis of any three consecutive calendar years between 1980 and 1989 (inclusive) as elected by the owner or operator and (B) the number of allowances allocated for the unit pursuant to the emissions limitation requirements of this section: *Provided*, That the number of allowances allocated pursuant to this subsection shall not exceed an annual total of 40,000. If necessary to meeting the 40,000 allowance restriction imposed under this subsection the Administrator shall reduce, pro rata, the additional annual allowances allocated to each unit under this subsection.

(2) Beginning January 1, 2000, in addition to allowances allocated pursuant to this section and section 7651b(a)(1) of this title as basic Phase II allowance allocations, the Administrator shall allocate annually for each unit subject to the emissions limitation requirements of subsection (b)(1) of this section, (A) the lesser of whose actual or allowable 1980 emissions rate has declined by 50 percent or more as of November 15, 1990, (B) whose actual emissions rate is less than 1.2 lbs/mmBtu as of January 1, 2000, (C) which commenced operation after January 1, 1970, (D) which is owned by a utility company whose combined commercial and industrial kilowatt-hour sales have increased by more than 20 percent between calendar year 1980 and November 15, 1990, and (E) whose company-wide fossil-fuel sulfur dioxide emissions rate has declined 40 per centum or more from 1980 to 1988, allowances in an amount equal to the difference between (i) the number of allowances that would be allocated for the unit pursuant to the emissions limitation requirements of subsection (b)(1) of this section adjusted to reflect the unit's annual average fuel consumption on a Btu basis for any three consecutive years between 1980 and 1989 (inclusive) as elected by the owner or operator and (ii) the number of allowances allocated for the unit pursuant to the emissions limitation requirements of subsection (b)(1) of this section:

[6] So in original. Probably should be ''seq.,''.

[7] So in original. No subpar. (B) has been enacted.

[8] So in original. Probably should be preceded by a comma.

[9] So in original. Probably means clause ''(C)''.

Provided, That the number of allowances allocated pursuant to this paragraph shall not exceed an annual total of 5,000. If necessary to meeting the 5,000-allowance restriction imposed in the last clause of the preceding sentence the Administrator shall reduce, pro rata, the additional allowances allocated to each unit pursuant to this paragraph.

(j) Certain municipally owned power plants

Beginning January 1, 2000, in addition to allowances allocated pursuant to this section and section 7651b(a)(1) of this title as basic Phase II allowance allocations, the Administrator shall allocate annually for each existing municipally owned oil and gas-fired utility unit with nameplate capacity equal to, or less than, 40 MWe, the lesser of whose actual or allowable 1985 sulfur dioxide emission rate is less than 1.20 lbs/mmBtu, allowances in an amount equal to the product of the unit's annual fuel consumption on a Btu basis at a 60 percent capacity factor multiplied by the lesser of its allowable 1985 emission rate or its actual 1985 emission rate, divided by 2,000.

(July 14, 1955, ch. 360, title IV, §405, as added Pub. L. 101–549, title IV, §401, Nov. 15, 1990, 104 Stat. 2605.)

REFERENCES IN TEXT

Section 301(b) of the Powerplant and Industrial Fuel Use Act of 1978, referred to in subsec. (g)(5), is section 301(b) of Pub. L. 95–620, which is classified to section 8341(b) of this title. A prior section 301(b) of Pub. L. 95–620, title III, Nov. 9, 1978, 92 Stat. 3305, which was formerly classified to section 8341(b) of this title, was repealed by Pub. L. 97–35, title X, §1021(a), Aug. 13, 1981, 95 Stat. 614.

CAA § 406

§7651e. Allowances for States with emissions rates at or below 0.80 lbs/mmBtu

(a) Election of Governor

In addition to basic Phase II allowance allocations, upon the election of the Governor of any State, with a 1985 state-wide annual sulfur dioxide emissions rate equal to or less than, 0.80 lbs/mmBtu, averaged over all fossil fuel-fired utility steam generating units, beginning January 1, 2000, and for each calendar year thereafter until and including 2009, the Administrator shall allocate, in lieu of other Phase II bonus allowance allocations, allowances from the reserve created pursuant to section 7651d(a)(2) of this title to all such units in the State in an amount equal to 125,000 multiplied by the unit's pro rata share of electricity generated in calendar year 1985 at fossil fuel-fired utility steam units in all States eligible for the election.

(b) Notification of Administrator

Pursuant to section 7651b(a)(1) of this title, each Governor of a State eligible to make an election under paragraph[1] (a) shall notify the Administrator of such election. In the event that the Governor of any such State fails to notify the Administrator of the Governor's elections, the Administrator shall allocate allowances pursuant to section 7651d of this title.

(c) Allowances after January 1, 2010

After January 1, 2010, the Administrator shall allocate allowances to units subject to the provisions of this section pursuant to section 7651d of this title.

(July 14, 1955, ch. 360, title IV, §406, as added Pub. L. 101–549, title IV, §401, Nov. 15, 1990, 104 Stat. 2613.)

§7651f. Nitrogen oxides emission reduction program CAA § 407

(a) Applicability

On the date that a coal-fired utility unit becomes an affected unit pursuant to sections 7651c, 7651d,[1] 7651h of this title, or on the date a unit subject to the provisions of section 7651c(d) or 7651h(b) of this title, must meet the SO_2 reduction requirements, each such unit shall become an affected unit for purposes of this section and shall be subject to the emission limitations for nitrogen oxides set forth herein.

(b) Emission limitations

(1) Not later than eighteen months after November 15, 1990, the Administrator shall by regulation establish annual allowable emission limitations for nitrogen oxides for the types of utility boilers listed below, which limitations shall not exceed the rates listed below: *Provided*, That the Administrator may set a rate higher than that listed for any type of utility boiler if the Administrator finds that the maximum listed rate for that boiler type cannot be achieved using low NO_x burner technology. The maximum allowable emission rates are as follows:

(A) for tangentially fired boilers, 0.45 lb/mmBtu;

(B) for dry bottom wall-fired boilers (other than units applying cell burner technology), 0.50 lb/mmBtu.

After January 1, 1995, it shall be unlawful for any unit that is an affected unit on that date and is of the type listed in this paragraph to emit nitrogen oxides in excess of the emission rates set by the Administrator pursuant to this paragraph.

(2) Not later than January 1, 1997, the Administrator shall, by regulation, establish allowable emission limitations on a lb/mmBtu, annual average basis, for nitrogen oxides for the following types of utility boilers:

(A) wet bottom wall-fired boilers;

(B) cyclones;

(C) units applying cell burner technology;

(D) all other types of utility boilers.

The Administrator shall base such rates on the degree of reduction achievable through the retrofit application of the best system of continuous emission reduction, taking into account available technology, costs and energy and environmental impacts; and which is comparable to the costs of nitrogen oxides controls set pursuant to subsection (b)(1) of this section. Not later than January 1, 1997, the Administrator may revise the applicable emission limitations for tangentially fired and dry bottom, wall-fired boilers (other than cell burners) to be more stringent if the Administrator determines that more effective low NO_x burner technology is available: *Provided*, That, no unit that is an affected unit pur-

[1] So in original. Probably should be "subsection".

[1] So in original. Probably should be followed by "or".

suant to section 7651c of this title and that is subject to the requirements of subsection (b)(1) of this section, shall be subject to the revised emission limitations, if any.

(c) Revised performance standards

(1)[2] Not later than January 1, 1993, the Administrator shall propose revised standards of performance to section 7411 of this title for nitrogen oxides emissions from fossil-fuel fired steam generating units, including both electric utility and nonutility units. Not later than January 1, 1994, the Administrator shall promulgate such revised standards of performance. Such revised standards of performance shall reflect improvements in methods for the reduction of emissions of oxides of nitrogen.

(d) Alternative emission limitations

The permitting authority shall, upon request of an owner or operator of a unit subject to this section, authorize an emission limitation less stringent than the applicable limitation established under subsection (b)(1) or (b)(2) of this section upon a determination that—

(1) a unit subject to subsection (b)(1) of this section cannot meet the applicable limitation using low NO_x burner technology; or

(2) a unit subject to subsection (b)(2) of this section cannot meet the applicable rate using the technology on which the Administrator based the applicable emission limitation.

The permitting authority shall base such determination upon a showing satisfactory to the permitting authority, in accordance with regulations established by the Administrator not later than eighteen months after November 15, 1990, that the owner or operator—

(1) has properly installed appropriate control equipment designed to meet the applicable emission rate;

(2) has properly operated such equipment for a period of fifteen months (or such other period of time as the Administrator determines through the regulations), and provides operating and monitoring data for such period demonstrating that the unit cannot meet the applicable emission rate; and

(3) has specified an emission rate that such unit can meet on an annual average basis.

The permitting authority shall issue an operating permit for the unit in question, in accordance with section 7651g of this title and part B[3] of title III—

(i) that permits the unit during the demonstration period referred to in subparagraph (2) above, to emit at a rate in excess of the applicable emission rate;

(ii) at the conclusion of the demonstration period to revise the operating permit to reflect the alternative emission rate demonstrated in paragraphs (2) and (3) above.

Units subject to subsection (b)(1) of this section for which an alternative emission limitation is established shall not be required to install any additional control technology beyond low NO_x burners. Nothing in this section shall preclude an owner or operator from installing and operating an alternative NO_x control technology capable of achieving the applicable emission limitation. If the owner or operator of a unit subject to the emissions limitation requirements of subsection (b)(1) of this section demonstrates to the satisfaction of the Administrator that the technology necessary to meet such requirements is not in adequate supply to enable its installation and operation at the unit, consistent with system reliability, by January 1, 1995, then the Administrator shall extend the deadline for compliance for the unit by a period of 15 months. Any owner or operator may petition the Administrator to make a determination under the previous sentence. The Administrator shall grant or deny such petition within 3 months of submittal.

(e) Emissions averaging

In lieu of complying with the applicable emission limitations under subsection (b)(1), (2), or (d) of this section, the owner or operator of two or more units subject to one or more of the applicable emission limitations set pursuant to these sections,[4] may petition the permitting authority for alternative contemporaneous annual emission limitations for such units that ensure that (1) the actual annual emission rate in pounds of nitrogen oxides per million Btu averaged over the units in question is a rate that is less than or equal to (2) the Btu-weighted average annual emission rate for the same units if they had been operated, during the same period of time, in compliance with limitations set in accordance with the applicable emission rates set pursuant to subsections (b)(1) and (2) of this section.

If the permitting authority determines, in accordance with regulations issued by the Administrator not later than eighteen months after November 15, 1990;[5] that the conditions in the paragraph above can be met, the permitting authority shall issue operating permits for such units, in accordance with section 7651g of this title and part B[3] of title III, that allow alternative contemporaneous annual emission limitations. Such emission limitations shall only remain in effect while both units continue operation under the conditions specified in their respective operating permits.

(July 14, 1955, ch. 360, title IV, §407, as added Pub. L. 101–549, title IV, §401, Nov. 15, 1990, 104 Stat. 2613.)

REFERENCES IN TEXT

Part B of title III, referred to in subsecs. (d) and (e), means title III of the Clean Air Act, act July 14, 1955, ch. 360, as added, which is classified to subchapter III of this chapter, but title III does not contain parts. For provisions of the Clean Air Act relating to permits, see subchapter V (§7661 et seq.) of this chapter.

§7651g. Permits and compliance plans

CAA § 408

(a) Permit program

The provisions of this subchapter shall be implemented, subject to section 7651b of this title, by permits issued to units subject to this sub-

[2] So in original. No par. (2) has been enacted.

[3] See References in Text note below.

[4] So in original. Probably should be "subsections,".

[5] So in original. The semicolon probably should be a comma.

chapter (and enforced) in accordance with the provisions of subchapter V of this chapter, as modified by this subchapter. Any such permit issued by the Administrator, or by a State with an approved permit program, shall prohibit—

(1) annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide the owner or operator, or the designated representative of the owners or operators, of the unit hold for the unit,

(2) exceedances of applicable emissions rates,

(3) the use of any allowance prior to the year for which it was allocated, and

(4) contravention of any other provision of the permit.

Permits issued to implement this subchapter shall be issued for a period of 5 years, notwithstanding subchapter V of this chapter. No permit shall be issued that is inconsistent with the requirements of this subchapter, and subchapter V of this chapter as applicable.

(b) Compliance plan

Each initial permit application shall be accompanied by a compliance plan for the source to comply with its requirements under this subchapter. Where an affected source consists of more than one affected unit, such plan shall cover all such units, and for purposes of section 7661a(c) of this title, such source shall be considered a ''facility''. Nothing in this section regarding compliance plans or in subchapter V of this chapter shall be construed as affecting allowances. Except as provided under subsection (c)(1)(B) of this section, submission of a statement by the owner or operator, or the designated representative of the owners and operators, of a unit subject to the emissions limitation requirements of sections 7651c, 7651d, and 7651f of this title, that the unit will meet the applicable emissions limitation requirements of such sections in a timely manner or that, in the case of the emissions limitation requirements of sections 7651c and 7651d of this title, the owners and operators will hold allowances to emit not less than the total annual emissions of the unit, shall be deemed to meet the proposed and approved compliance planning requirements of this section and subchapter V of this chapter, except that, for any unit that will meet the requirements of this subchapter by means of an alternative method of compliance authorized under section 7651c(b), (c), (d), or (f) of this title[1] section 7651f(d) or (e) of this title, section 7651h of this title and section 7651i of this title, the proposed and approved compliance plan, permit application and permit shall include, pursuant to regulations promulgated by the Administrator, for each alternative method of compliance a comprehensive description of the schedule and means by which the unit will rely on one or more alternative methods of compliance in the manner and time authorized under this subchapter. Recordation by the Administrator of transfers of allowances shall amend automatically all applicable proposed or approved permit applications, compliance plans and permits. The Administrator may also require—

(1) for a source, a demonstration of attainment of national ambient air quality standards, and

(2) from the owner or operator of two or more affected sources, an integrated compliance plan providing an overall plan for achieving compliance at the affected sources.

(c) First phase permits

The Administrator shall issue permits to affected sources under sections 7651c and 7651f of this title.

(1) Permit application and compliance plan

(A) Not later than 27 months after November 15, 1990, the designated representative of the owners or operators, or the owner and operator, of each affected source under sections 7651c and 7651f of this title shall submit a permit application and compliance plan for that source in accordance with regulations issued by the Administrator under paragraph (3). The permit application and the compliance plan shall be binding on the owner or operator or the designated representative of owners and operators for purposes of this subchapter and section 7651a(a)[2] of this title, and shall be enforceable in lieu of a permit until a permit is issued by the Administrator for the source.

(B) In the case of a compliance plan for an affected source under sections 7651c and 7651f of this title for which the owner or operator proposes to meet the requirements of that section by reducing utilization of the unit as compared with its baseline or by shutting down the unit, the owner or operator shall include in the proposed compliance plan a specification of the unit or units that will provide electrical generation to compensate for the reduced output at the affected source, or a demonstration that such reduced utilization will be accomplished through energy conservation or improved unit efficiency. The unit to be used for such compensating generation, which is not otherwise an affected unit under sections 7651c and 7651f of this title, shall be deemed an affected unit under section 7651c of this title, subject to all of the requirements for such units under this subchapter, except that allowances shall be allocated to such compensating unit in the amount of an annual limitation equal to the product of the unit's baseline multiplied by the lesser of the unit's actual 1985 emissions rate or its allowable 1985 emissions rate, divided by 2,000.

(2) EPA action on compliance plans

The Administrator shall review each proposed compliance plan to determine whether it satisfies the requirements of this subchapter, and shall approve or disapprove such plan within 6 months after receipt of a complete submission. If a plan is disapproved, it may be resubmitted for approval with such changes as the Administrator shall require consistent with the requirements of this subchapter and within such period as the Administrator prescribes as part of such disapproval.

[1] So in original. Probably should be followed by a comma.

[2] So in original. Section 7651a of this title does not contain subsections.

(3) Regulations; issuance of permits

Not later than 18 months after November 15, 1990, the Administrator shall promulgate regulations, in accordance with subchapter V of this chapter, to implement a Federal permit program to issue permits for affected sources under this subchapter. Following promulgation, the Administrator shall issue a permit to implement the requirements of section 7651c of this title and the allowances provided under section 7651b of this title to the owner or operator of each affected source under section 7651c of this title. Such a permit shall supersede any permit application and compliance plan submitted under paragraph (1).

(4) Fees

During the years 1995 through 1999 inclusive, no fee shall be required to be paid under section 7661a(b)(3) of this title or under section 7410(a)(2)(L) of this title with respect to emissions from any unit which is an affected unit under section 7651c of this title.

(d) Second phase permits

(1) To provide for permits for (A) new electric utility steam generating units required under section 7651b(e) of this title to have allowances, (B) affected units or sources under section 7651d of this title, and (C) existing units subject to nitrogen oxide emission reductions under section 7651f of this title, each State in which one or more such units or sources are located shall submit in accordance with subchapter V of this chapter, a permit program for approval as provided by that subchapter. Upon approval of such program, for the units or sources subject to such approved program the Administrator shall suspend the issuance of permits as provided in subchapter V of this chapter.

(2) The owner or operator or the designated representative of each affected source under section 7651d of this title shall submit a permit application and compliance plan for that source to the permitting authority, not later than January 1, 1996.

(3) Not later than December 31, 1997, each State with an approved permit program shall issue permits to the owner or operator, or the designated representative of the owners and operators, of affected sources under section 7651d of this title that satisfy the requirements of subchapter V of this chapter and this subchapter and that submitted to such State a permit application and compliance plan pursuant to paragraph (2). In the case of a State without an approved permit program by July 1, 1996, the Administrator shall, not later than January 1, 1998, issue a permit to the owner or operator or the designated representative of each such affected source. In the case of affected sources for which applications and plans are timely received under paragraph (2), the permit application and the compliance plan, including amendments thereto, shall be binding on the owner or operator or the designated representative of the owners or operators and shall be enforceable as a permit for purposes of this subchapter and subchapter V of this chapter until a permit is issued by the permitting authority for the affected source. The provisions of section 558(c) of title 5 (relating to renewals) shall apply to permits issued by a permitting authority under this subchapter and subchapter V of this chapter.

(4) The permit issued in accordance with this subsection for an affected source shall provide that the affected units at the affected source may not emit an annual tonnage of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide the owner or operator or designated representative hold for the unit.

(e) New units

The owner or operator of each source that includes a new electric utility steam generating unit shall submit a permit application and compliance plan to the permitting authority not later than 24 months before the later of (1) January 1, 2000, or (2) the date on which the unit commences operation. The permitting authority shall issue a permit to the owner or operator, or the designated representative thereof, of the unit that satisfies the requirements of subchapter V of this chapter and this subchapter.

(f) Units subject to certain other limits

The owner or operator, or designated representative thereof, of any unit subject to an emission rate requirement under section 7651f of this title shall submit a permit application and compliance plan for such unit to the permitting authority, not later than January 1, 1998. The permitting authority shall issue a permit to the owner or operator that satisfies the requirements of subchapter V of this chapter and this subchapter, including any appropriate monitoring and reporting requirements.

(g) Amendment of application and compliance plan

At any time after the submission of an application and compliance plan under this section, the applicant may submit a revised application and compliance plan, in accordance with the requirements of this section. In considering any permit application and compliance plan under this subchapter, the permitting authority shall ensure coordination with the applicable electric ratemaking authority, in the case of regulated utilities, and with unregulated public utilities.

(h) Prohibition

(1) It shall be unlawful for an owner or operator, or designated representative, required to submit a permit application or compliance plan under this subchapter to fail to submit such application or plan in accordance with the deadlines specified in this section or to otherwise fail to comply with regulations implementing this section.

(2) It shall be unlawful for any person to operate any source subject to this subchapter except in compliance with the terms and requirements of a permit application and compliance plan (including amendments thereto) or permit issued by the Administrator or a State with an approved permit program. For purposes of this subsection, compliance, as provided in section 7661c(f) of this title, with a permit issued under subchapter V of this chapter which complies with this subchapter for sources subject to this subchapter shall be deemed compliance with this subsection as well as section 7661a(a) of this title.

(3) In order to ensure reliability of electric power, nothing in this subchapter or subchapter V of this chapter shall be construed as requiring termination of operations of an electric utility steam generating unit for failure to have an approved permit or compliance plan, except that any such unit may be subject to the applicable enforcement provisions of section 7413 of this title.

(i) Multiple owners

No permit shall be issued under this section to an affected unit until the designated representative of the owners or operators has filed a certificate of representation with regard to matters under this subchapter, including the holding and distribution of allowances and the proceeds of transactions involving allowances. Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, such a unit, or where a utility or industrial customer purchases power from an affected unit (or units) under life-of-the-unit, firm power contractual arrangements, the certificate shall state (1) that allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement, or (2) if such multiple holders have expressly provided for a different distribution of allowances by contract, that allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in accordance with the contract. A passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based, either directly or indirectly, upon the revenues or income from the affected unit shall not be deemed to be a holder of a legal, equitable, leasehold, or contractual interest for the purpose of holding or distributing allowances as provided in this subsection, during either the term of such leasehold or thereafter, unless expressly provided for in the leasehold agreement. Except as otherwise provided in this subsection, where all legal or equitable title to or interest in an affected unit is held by a single person, the certification shall state that all allowances received by the unit are deemed to be held for that person.

(July 14, 1955, ch. 360, title IV, §408, as added Pub. L. 101–549, title IV, §401, Nov. 15, 1990, 104 Stat. 2616.)

CAA § 409

§7651h. Repowered sources

(a) Availability

Not later than December 31, 1997, the owner or operator of an existing unit subject to the emissions limitation requirements of section 7651d(b) and (c) of this title may demonstrate to the permitting authority that one or more units will be repowered with a qualifying clean coal technology to comply with the requirements under section 7651d of this title. The owner or operator shall, as part of any such demonstration, provide, not later than January 1, 2000, satisfactory documentation of a preliminary design and engineering effort for such repowering and an executed and binding contract for the majority of the equipment to repower such unit and such other information as the Administrator may require by regulation. The replacement of an existing utility unit with a new utility unit using a repowering technology referred to in section 7651a(2)[1] of this title which is located at a different site, shall be treated as repowering of the existing unit for purposes of this subchapter, if—

(1) the replacement unit is designated by the owner or operator to replace such existing unit, and

(2) the existing unit is retired from service on or before the date on which the designated replacement unit enters commercial operation.

(b) Extension

(1) An owner or operator satisfying the requirements of subsection (a) of this section shall be granted an extension of the emission limitation requirement compliance date for that unit from January 1, 2000, to December 31, 2003. The extension shall be specified in the permit issued to the source under section 7651g of this title, together with any compliance schedule and other requirements necessary to meet second phase requirements by the extended date. Any unit that is granted an extension under this section shall not be eligible for a waiver under section 7411(j) of this title, and shall continue to be subject to requirements under this subchapter as if it were a unit subject to section 7651d of this title.

(2) If (A) the owner or operator of an existing unit has been granted an extension under paragraph (1) in order to repower such unit with a clean coal unit, and (B) such owner or operator demonstrates to the satisfaction of the Administrator that the repowering technology to be utilized by such unit has been properly constructed and tested on such unit, but nevertheless has been unable to achieve the emission reduction limitations and is economically or technologically infeasible, such existing unit may be retrofitted or repowered with equipment or facilities utilizing another clean coal technology or other available control technology.

(c) Allowances

(1) For the period of the extension under this section, the Administrator shall allocate to the owner or operator of the affected unit, annual allowances for sulfur dioxide equal to the affected unit's baseline multiplied by the lesser of the unit's federally approved State Implementation Plan emissions limitation or its actual emission rate for 1995 in lieu of any other allocation. Such allowances may not be transferred or used by any other source to meet emission requirements under this subchapter. The source owner or operator shall notify the Administrator sixty days in advance of the date on which the affected unit for which the extension has been granted is to be removed from operation to install the repowering technology.

(2) Effective on that date, the unit shall be subject to the requirements of section 7651d of this title. Allowances for the year in which the unit is removed from operation to install the repowering technology shall be calculated as the product of the unit's baseline multiplied by 1.20

[1] So in original. Probably should be section ''7651a(12)''.

lbs/mmBtu, divided by 2,000, and prorated accordingly, and are transferable.

(3) Allowances for such existing utility units for calendar years after the year the repowering is complete shall be calculated as the product of the existing unit's baseline multiplied by 1.20 lbs/mmBtu, divided by 2,000.

(4) Notwithstanding the provisions of section 7651b(a) and (e) of this title, allowances shall be allocated under this section for a designated replacement unit which replaces an existing unit (as provided in the last sentence of subsection (a) of this section) in lieu of any further allocations of allowances for the existing unit.

(5) For the purpose of meeting the aggregate emissions limitation requirement set forth in section 7651b(a)(1) of this title, the units with an extension under this subsection shall be treated in each calendar year during the extension period as holding allowances allocated under paragraph (3).

(d) Control requirements

Any unit qualifying for an extension under this section that does not increase actual hourly emissions for any pollutant regulated under the[2] chapter shall not be subject to any standard of performance under section 7411 of this title. Notwithstanding the provisions of this subsection, no new unit (1) designated as a replacement for an existing unit, (2) qualifying for the extension under subsection (b) of this section, and (3) located at a different site than the existing unit shall receive an exemption from the requirements imposed under section 7411 of this title.

(e) Expedited permitting

State permitting authorities and, where applicable, the Administrator, are encouraged to give expedited consideration to permit applications under parts C and D of subchapter I of this chapter for any source qualifying for an extension under this section.

(f) Prohibition

It shall be unlawful for the owner or operator of a repowered source to fail to comply with the requirement of this section, or any regulations of permit requirements to implement this section, including the prohibition against emitting sulfur dioxide in excess of allowances held.

(July 14, 1955, ch. 360, title IV, §409, as added Pub. L. 101–549, title IV, §401, Nov. 15, 1990, 104 Stat. 2619.)

CAA § 410

§7651i. Election for additional sources

(a) Applicability

The owner or operator of any unit that is not, nor will become, an affected unit under section 7651b(e), 7651c, or 7651d of this title, or that is a process source under subsection (d) of this section, that emits sulfur dioxide, may elect to designate that unit or source to become an affected unit and to receive allowances under this subchapter. An election shall be submitted to the Administrator for approval, along with a permit application and proposed compliance plan in accordance with section 7651g of this title. The Administrator shall approve a designation that meets the requirements of this section, and such designated unit, or source, shall be allocated allowances, and be an affected unit for purposes of this subchapter.

(b) Establishment of baseline

The baseline for a unit designated under this section shall be established by the Administrator by regulation, based on fuel consumption and operating data for the unit for calendar years 1985, 1986, and 1987, or if such data is not available, the Administrator may prescribe a baseline based on alternative representative data.

(c) Emission limitations

Annual emissions limitations for sulfur dioxide shall be equal to the product of the baseline multiplied by the lesser of the unit's 1985 actual or allowable emission rate in lbs/mmBtu, or, if the unit did not operate in 1985, by the lesser of the unit's actual or allowable emission rate for a calendar year after 1985 (as determined by the Administrator), divided by 2,000.

(d) Process sources

Not later than 18 months after November 15, 1990, the Administrator shall establish a program under which the owner or operator of a process source that emits sulfur dioxide may elect to designate that source as an affected unit for the purpose of receiving allowances under this subchapter. The Administrator shall, by regulation, define the sources that may be designated; specify the emissions limitation; specify the operating, emission baseline, and other data requirements; prescribe CEMS or other monitoring requirements; and promulgate permit, reporting, and any other requirements necessary to implement such a program.

(e) Allowances and permits

The Administrator shall issue allowances to an affected unit under this section in an amount equal to the emissions limitation calculated under subsection (c) or (d) of this section, in accordance with section 7651b of this title. Such allowance may be used in accordance with, and shall be subject to, the provisions of section 7651b of this title. Affected sources under this section shall be subject to the requirements of sections 7651b, 7651g, 7651j, 7651k, 7651*l*, and 7651m of this title.

(f) Limitation

Any unit designated under this section shall not transfer or bank allowances produced as a result of reduced utilization or shutdown, except that, such allowances may be transferred or carried forward for use in subsequent years to the extent that the reduced utilization or shutdown results from the replacement of thermal energy from the unit designated under this section, with thermal energy generated by any other unit or units subject to the requirements of this subchapter, and the designated unit's allowances are transferred or carried forward for use at such other replacement unit or units. In no case may the Administrator allocate to a source designated under this section allowances in an amount greater than the emissions resulting from operation of the source in full compliance

[2] So in original. Probably should be "this".

CAA § 411

with the requirements of this chapter. No such allowances shall authorize operation of a unit in violation of any other requirements of this chapter.

(g) Implementation

The Administrator shall issue regulations to implement this section not later than eighteen months after November 15, 1990.

(h) Small diesel refineries

The Administrator shall issue allowances to owners or operators of small diesel refineries who produce diesel fuel after October 1, 1993, meeting the requirements of subsection[1] 7545(i) of this title.

(1) Allowance period

Allowances may be allocated under this subsection only for the period from October 1, 1993, through December 31, 1999.

(2) Allowance determination

The number of allowances allocated pursuant to this paragraph shall equal the annual number of pounds of sulfur dioxide reduction attributable to desulfurization by a small refinery divided by 2,000. For the purposes of this calculation, the concentration of sulfur removed from diesel fuel shall be the difference between 0.274 percent (by weight) and 0.050 percent (by weight).

(3) Refinery eligibility

As used in this subsection, the term ''small refinery'' shall mean a refinery or portion of a refinery—

(A) which, as of November 15, 1990, has bona fide crude oil throughput of less than 18,250,000 barrels per year, as reported to the Department of Energy, and

(B) which, as of November 15, 1990, is owned or controlled by a refiner with a total combined bona fide crude oil throughput of less than 50,187,500 barrels per year, as reported to the Department of Energy.

(4) Limitation per refinery

The maximum number of allowances that can be annually allocated to a small refinery pursuant to this subsection is one thousand and five hundred.

(5) Limitation on total

In any given year, the total number of allowances allocated pursuant to this subsection shall not exceed thirty-five thousand.

(6) Required certification

The Administrator shall not allocate any allowances pursuant to this subsection unless the owner or operator of a small diesel refinery shall have certified, at a time and in a manner prescribed by the Administrator, that all motor diesel fuel produced by the refinery for which allowances are claimed, including motor diesel fuel for off-highway use, shall have met the requirements of subsection[1] 7545(i) of this title.

(July 14, 1955, ch. 360, title IV, §410, as added Pub. L. 101–549, title IV, §401, Nov. 15, 1990, 104 Stat. 2621.)

[1] So in original. Probably should be ''section''.

§7651j. Excess emissions penalty

(a) Excess emissions penalty

The owner or operator of any unit or process source subject to the requirements of sections[1] 7651b, 7651c, 7651d, 7651e, 7651f or 7651h of this title, or designated under section 7651i of this title, that emits sulfur dioxide or nitrogen oxides for any calendar year in excess of the unit's emissions limitation requirement or, in the case of sulfur dioxide, of the allowances the owner or operator holds for use for the unit for that calendar year shall be liable for the payment of an excess emissions penalty, except where such emissions were authorized pursuant to section 7410(f) of this title. That penalty shall be calculated on the basis of the number of tons emitted in excess of the unit's emissions limitation requirement or, in the case of sulfur dioxide, of the allowances the operator holds for use for the unit for that year, multiplied by $2,000. Any such penalty shall be due and payable without demand to the Administrator as provided in regulations to be issued by the Administrator by no later than eighteen months after November 15, 1990. Any such payment shall be deposited in the United States Treasury pursuant to the Miscellaneous Receipts Act.[2] Any penalty due and payable under this section shall not diminish the liability of the unit's owner or operator for any fine, penalty or assessment against the unit for the same violation under any other section of this chapter.

(b) Excess emissions offset

The owner or operator of any affected source that emits sulfur dioxide during any calendar year in excess of the unit's emissions limitation requirement or of the allowances held for the unit for the calendar year, shall be liable to offset the excess emissions by an equal tonnage amount in the following calendar year, or such longer period as the Administrator may prescribe. The owner or operator of the source shall, within sixty days after the end of the year in which the excess emissions occured,[3] submit to the Administrator, and to the State in which the source is located, a proposed plan to achieve the required offsets. Upon approval of the proposed plan by the Administrator, as submitted, modified or conditioned, the plan shall be deemed at[4] a condition of the operating permit for the unit without further review or revision of the permit. The Administrator shall also deduct allowances equal to the excess tonnage from those allocated for the source for the calendar year, or succeeding years during which offsets are required, following the year in which the excess emissions occurred.

(c) Penalty adjustment

The Administrator shall, by regulation, adjust the penalty specified in subsection (a) of this section for inflation, based on the Consumer Price Index, on November 15, 1990, and annually thereafter.

[1] So in original. Probably should be ''section''.
[2] See References in Text note below.
[3] So in original. Probably should be ''occurred,''.
[4] So in original.

(d) Prohibition

It shall be unlawful for the owner or operator of any source liable for a penalty and offset under this section to fail (1) to pay the penalty under subsection (a) of this section, (2) to provide, and thereafter comply with, a compliance plan as required by subsection (b) of this section, or (3) to offset excess emissions as required by subsection (b) of this section.

(e) Savings provision

Nothing in this subchapter shall limit or otherwise affect the application of section 7413, 7414, 7420, or 7604 of this title except as otherwise explicitly provided in this subchapter.

(July 14, 1955, ch. 360, title IV, §411, as added Pub. L. 101–549, title IV, §401, Nov. 15, 1990, 104 Stat. 2623.)

REFERENCES IN TEXT

The Miscellaneous Receipts Act, referred to in subsec. (a), is not a recognized popular name for an act. For provisions relating to deposit of monies, see section 3302 of Title 31, Money and Finance.

CAA § 412

§7651k. Monitoring, reporting, and recordkeeping requirements

(a) Applicability

The owner and operator of any source subject to this subchapter shall be required to install and operate CEMS on each affected unit at the source, and to quality assure the data for sulfur dioxide, nitrogen oxides, opacity and volumetric flow at each such unit. The Administrator shall, by regulations issued not later than eighteen months after November 15, 1990, specify the requirements for CEMS, for any alternative monitoring system that is demonstrated as providing information with the same precision, reliability, accessibility, and timeliness as that provided by CEMS, and for recordkeeping and reporting of information from such systems. Such regulations may include limitations or the use of alternative compliance methods by units equipped with an alternative monitoring system as may be necessary to preserve the orderly functioning of the allowance system, and which will ensure the emissions reductions contemplated by this subchapter. Where 2 or more units utilize a single stack, a separate CEMS shall not be required for each unit, and for such units the regulations shall require that the owner or operator collect sufficient information to permit reliable compliance determinations for each such unit.

(b) First phase requirements

Not later than thirty-six months after November 15, 1990, the owner or operator of each affected unit under section 7651c of this title, including, but not limited to, units that become affected units pursuant to subsections (b) and (c) and eligible units under subsection (d), shall install and operate CEMS, quality assure the data, and keep records and reports in accordance with the regulations issued under subsection (a).

(c) Second phase requirements

Not later than January 1, 1995, the owner or operator of each affected unit that has not previously met the requirements of subsections (a) and (b) shall install and operate CEMS, quality assure the data, and keep records and reports in accordance with the regulations issued under subsection (a). Upon commencement of commercial operation of each new utility unit, the unit shall comply with the requirements of subsection (a).

(d) Unavailability of emissions data

If CEMS data or data from an alternative monitoring system approved by the Administrator under subsection (a) is not available for any affected unit during any period of a calendar year in which such data is required under this subchapter, and the owner or operator cannot provide information, satisfactory to the Administrator, on emissions during that period, the Administrator shall deem the unit to be operating in an uncontrolled manner during the entire period for which the data was not available and shall, by regulation which shall be issued not later than eighteen months after November 15, 1990, prescribe means to calculate emissions for that period. The owner or operator shall be liable for excess emissions fees and offsets under section 7651j of this title in accordance with such regulations. Any fee due and payable under this subsection shall not diminish the liability of the unit's owner or operator for any fine, penalty, fee or assessment against the unit for the same violation under any other section of this chapter.

(e) Prohibition

It shall be unlawful for the owner or operator of any source subject to this subchapter to operate a source without complying with the requirements of this section, and any regulations implementing this section.

(July 14, 1955, ch. 360, title IV, §412, as added Pub. L. 101–549, title IV, §401, Nov. 15, 1990, 104 Stat. 2624.)

INFORMATION GATHERING ON GREENHOUSE GASES CONTRIBUTING TO GLOBAL CLIMATE CHANGE

Section 821 of Pub. L. 101–549 provided that:

"(a) MONITORING.—The Administrator of the Environmental Protection Agency shall promulgate regulations within 18 months after the enactment of the Clean Air Act Amendments of 1990 [Nov. 15, 1990] to require that all affected sources subject to title V of the Clean Air Act [probably means title IV of the Clean Air Act as added by Pub. L. 101–549, which is classified to section 7651 et seq. of this title] shall also monitor carbon dioxide emissions according to the same timetable as in section 511(b) and (c) [probably means section 412(b) and (c) of the Clean Air Act, which is classified to section 7651k(b) and (c) of this title]. The regulations shall require that such data be reported to the Administrator. The provisions of section 511(e) of title V of the Clean Air Act [probably means section 412(e) of title IV of the Clean Air Act, which is classified to section 7651k(e) of this title] shall apply for purposes of this section in the same manner and to the same extent as such provision applies to the monitoring and data referred to in section 511 [probably means section 412 of the Clean Air Act, which is classified to section 7651k of this title].

"(b) PUBLIC AVAILABILITY OF CARBON DIOXIDE INFORMATION.—For each unit required to monitor and provide carbon dioxide data under subsection (a), the Administrator shall compute the unit's aggregate annual total carbon dioxide emissions, incorporate such data into a computer data base, and make such aggregate annual data available to the public."

CAA § 413

§7651l. General compliance with other provisions

Except as expressly provided, compliance with the requirements of this subchapter shall not exempt or exclude the owner or operator of any source subject to this subchapter from compliance with any other applicable requirements of this chapter.

(July 14, 1955, ch. 360, title IV, §413, as added Pub. L. 101–549, title IV, §401, Nov. 15, 1990, 104 Stat. 2625.)

CAA § 414

§7651m. Enforcement

It shall be unlawful for any person subject to this subchapter to violate any prohibition of, requirement of, or regulation promulgated pursuant to this subchapter shall be a violation of this chapter.[1] In addition to the other requirements and prohibitions provided for in this subchapter, the operation of any affected unit to emit sulfur dioxide in excess of allowances held for such unit shall be deemed a violation, with each ton emitted in excess of allowances held constituting a separate violation.

(July 14, 1955, ch. 360, title IV, §414, as added Pub. L. 101–549, title IV, §401, Nov. 15, 1990, 104 Stat. 2625.)

CAA § 415

§7651n. Clean coal technology regulatory incentives

(a) "Clean coal technology" defined

For purposes of this section, ''clean coal technology'' means any technology, including technologies applied at the precombustion, combustion, or post combustion stage, at a new or existing facility which will achieve significant reductions in air emissions of sulfur dioxide or oxides of nitrogen associated with the utilization of coal in the generation of electricity, process steam, or industrial products, which is not in widespread use as of November 15, 1990.

(b) Revised regulations for clean coal technology demonstrations

(1) Applicability

This subsection applies to physical or operational changes to existing facilities for the sole purpose of installation, operation, cessation, or removal of a temporary or permanent clean coal technology demonstration project. For the purposes of this section, a clean coal technology demonstration project shall mean a project using funds appropriated under the heading ''Department of Energy—Clean Coal Technology'', up to a total amount of $2,500,000,000 for commercial demonstration of clean coal technology, or similar projects funded through appropriations for the Environmental Protection Agency. The Federal contribution for a qualifying project shall be at least 20 percent of the total cost of the demonstration project.

(2) Temporary projects

Installation, operation, cessation, or removal of a temporary clean coal technology demonstration project that is operated for a period of five years or less, and which complies with the State implementation plans for the State in which the project is located and other requirements necessary to attain and maintain the national ambient air quality standards during and after the project is terminated, shall not subject such facility to the requirements of section 7411 of this title or part C or D of subchapter I of this chapter.

(3) Permanent projects

For permanent clean coal technology demonstration projects that constitute repowering as defined in section 7651a(*l*)[1] of this title, any qualifying project shall not be subject to standards of performance under section 7411 of this title or to the review and permitting requirements of part C[2] for any pollutant the potential emissions of which will not increase as a result of the demonstration project.

(4) EPA regulations

Not later than 12 months after November 15, 1990, the Administrator shall promulgate regulations or interpretive rulings to revise requirements under section 7411 of this title and parts C and D,[2] as appropriate, to facilitate projects consistent in[3] this subsection. With respect to parts C and D,[2] such regulations or rulings shall apply to all areas in which EPA is the permitting authority. In those instances in which the State is the permitting authority under part C or D,[2] any State may adopt and submit to the Administrator for approval revisions to its implementation plan to apply the regulations or rulings promulgated under this subsection.

(c) Exemption for reactivation of very clean units

Physical changes or changes in the method of operation associated with the commencement of commercial operations by a coal-fired utility unit after a period of discontinued operation shall not subject the unit to the requirements of section 7411 of this title or part C of the Act[2] where the unit (1) has not been in operation for the two-year period prior to the enactment of the Clean Air Act Amendments of 1990 [November 15, 1990], and the emissions from such unit continue to be carried in the permitting authority's emissions inventory at the time of enactment, (2) was equipped prior to shut-down with a continuous system of emissions control that achieves a removal efficiency for sulfur dioxide of no less than 85 percent and a removal efficiency for particulates of no less than 98 percent, (3) is equipped with low-NO_x burners prior to the time of commencement, and (4) is otherwise in compliance with the requirements of this chapter.

(July 14, 1955, ch. 360, title IV, §415, as added Pub. L. 101–549, title IV, §401, Nov. 15, 1990, 104 Stat. 2625.)

REFERENCES IN TEXT

Parts C and D and part C of the Act, referred to in subsecs. (b)(3), (4) and (c), probably mean parts C and D of subchapter I of this chapter.

[1] So in original.

[1] So in original. Probably should be section ''7651a(12)''.

[2] See References in Text note below.

[3] So in original. Probably should be ''with''.

CAA § 416

§7651o. Contingency guarantee, auctions, reserve

(a) Definitions

For purposes of this section—

(1) The term ''independent power producer'' means any person who owns or operates, in whole or in part, one or more new independent power production facilities.

(2) The term ''new independent power production facility'' means a facility that—

(A) is used for the generation of electric energy, 80 percent or more of which is sold at wholesale;

(B) is nonrecourse project-financed (as such term is defined by the Secretary of Energy within 3 months of November 15, 1990);

(C) does not generate electric energy sold to any affiliate (as defined in section 79b(a)(11)[1] of title 15) of the facility's owner or operator unless the owner or operator of the facility demonstrates that it cannot obtain allowances from the affiliate; and

(D) is a new unit required to hold allowances under this subchapter.

(3) The term ''required allowances'' means the allowances required to operate such unit for so much of the unit's useful life as occurs after January 1, 2000.

(b) Special reserve of allowances

Within 36 months after November 15, 1990, the Administrator shall promulgate regulations establishing a Special Allowance Reserve containing allowances to be sold under this section. For purposes of establishing the Special Allowance Reserve, the Administrator shall withhold—

(1) 2.8 percent of the allocation of allowances for each year from 1995 through 1999 inclusive; and

(2) 2.8 percent of the basic Phase II allowance allocation of allowances for each year beginning in the year 2000

which would (but for this subsection) be issued for each affected unit at an affected source. The Administrator shall record such withholding for purposes of transferring the proceeds of the allowance sales under this subsection. The allowances so withheld shall be deposited in the Reserve under this section.

(c) Direct sale at $1,500 per ton

(1) Subaccount for direct sales

In accordance with regulations under this section, the Administrator shall establish a Direct Sale Subaccount in the Special Allowance Reserve established under this section. The Direct Sale Subaccount shall contain allowances in the amount of 50,000 tons per year for each year beginning in the year 2000.

(2) Sales

Allowances in the subaccount shall be offered for direct sale to any person at the times and in the amounts specified in table 1 at a price of $1,500 per allowance, adjusted by the Consumer Price Index in the same manner as provided in paragraph (3). Requests to purchase allowances from the Direct Sale Subaccount established under paragraph (1) shall be approved in the order of receipt until no allowances remain in such subaccount, except that an opportunity to purchase such allowances shall be provided to the independent power producers referred to in this subsection before such allowances are offered to any other person. Each applicant shall be required to pay 50 percent of the total purchase price of the allowances within 6 months after the approval of the request to purchase. The remainder shall be paid on or before the transfer of the allowances.

TABLE 1—NUMBER OF ALLOWANCES AVAILABLE FOR SALE AT $1,500 PER TON

Year of Sale	Spot Sale (same year)	Advance Sale
1993–1999	.....	25,000
2000 and after	25,000	25,000

Allowances sold in the spot sale in any year are allowances which may only be used in that year (unless banked for use in a later year). Allowances sold in the advance sale in any year are allowances which may only be used in the 7th year after the year in which they are first offered for sale (unless banked for use in a later year).

(3) Entitlement to written guarantee

Any independent power producer that submits an application to the Administrator establishing that such independent power producer—

(A) proposes to construct a new independent power production facility for which allowances are required under this subchapter;

(B) will apply for financing to construct such facility after January 1, 1990, and before the date of the first auction under this section;

(C) has submitted to each owner or operator of an affected unit listed in table A (in section 7651c of this title) a written offer to purchase the required allowances for $750 per ton; and

(D) has not received (within 180 days after submitting offers to purchase under subparagraph (C)) an acceptance of the offer to purchase the required allowances,

shall, within 30 days after submission of such application, be entitled to receive the Administrator's written guarantee (subject to the eligibility requirements set forth in paragraph (4)) that such required allowances will be made available for purchase from the Direct Sale Subaccount established under this subsection and at a guaranteed price. The guaranteed price at which such allowances shall be made available for purchase shall be $1,500 per ton, adjusted by the percentage, if any, by which the Consumer Price Index (as determined under section 7661a(b)(3)(B)(v) of this title) for the year in which the allowance is purchased exceeds the Consumer Price Index for the calendar year 1990.

(4) Eligibility requirements

The guarantee issued by the Administrator under paragraph (3) shall be subject to a demonstration by the independent power producer, satisfactory to the Administrator, that—

[1] See References in Text note below.

(A) the independent power producer has—

(i) made good faith efforts to purchase the required allowances from the owners or operators of affected units to which allowances will be allocated, including efforts to purchase at annual auctions under this section, and from industrial sources that have elected to become affected units pursuant to section 7651i of this title; and

(ii) such bids and efforts were unsuccessful in obtaining the required allowances; and

(B) the independent power producer will continue to make good faith efforts to purchase the required allowances from the owners or operators of affected units and from industrial sources.

(5) Issuance of guaranteed allowances from Direct Sale Subaccount under this section

From the allowances available in the Direct Sale Subaccount established under this subsection, upon payment of the guaranteed price, the Administrator shall issue to any person exercising the right to purchase allowances pursuant to a guarantee under this subsection the allowances covered by such guarantee. Persons to which guarantees under this subsection have been issued shall have the opportunity to purchase allowances pursuant to such guarantee from such subaccount before the allowances in such reserve are offered for sale to any other person.

(6) Proceeds

Notwithstanding section 3302 of title 31 or any other provision of law, the Administrator shall require that the proceeds of any sale under this subsection be transferred, within 90 days after the sale, without charge, on a pro rata basis to the owners or operators of the affected units from whom the allowances were withheld under subsection (b) of this section and that any unsold allowances be transferred to the Subaccount for Auction Sales established under subsection (d) of this section. No proceeds of any sale under this subsection shall be held by any officer or employee of the United States or treated for any purpose as revenue to the United States or to the Administrator.

(7) Termination of subaccount

If the Administrator determines that, during any period of 2 consecutive calendar years, less than 20 percent of the allowances available in the subaccount for direct sales established under this subsection have been purchased under this paragraph, the Administrator shall terminate the subaccount and transfer such allowances to the Auction Subaccount under subsection (d) of this section.

(d) Auction sales

(1) Subaccount for auctions

The Administrator shall establish an Auction Subaccount in the Special Reserve established under this section. The Auction Subaccount shall contain allowances to be sold at auction under this section in the amount of 150,000 tons per year for each year from 1995 through 1999, inclusive and 250,000 tons per year for each year beginning in the calendar year 2000.

(2) Annual auctions

Commencing in 1993 and in each year thereafter, the Administrator shall conduct auctions at which the allowances referred to in paragraph (1) shall be offered for sale in accordance with regulations promulgated by the Administrator, in consultation with the Secretary of the Treasury, within 12 months of November 15, 1990. The allowances referred to in paragraph (1) shall be offered for sale at auction in the amounts specified in table 2. The auction shall be open to any person. A person wishing to bid for such allowances shall submit (by a date set by the Administrator) to the Administrator (on a sealed bid schedule provided by the Administrator) offers to purchase specified numbers of allowances at specified prices. Such regulations shall specify that the auctioned allowances shall be allocated and sold on the basis of bid price, starting with the highest-priced bid and continuing until all allowances for sale at such auction have been allocated. The regulations shall not permit that a minimum price be set for the purchase of withheld allowances. Allowances purchased at the auction may be used for any purpose and at any time after the auction, subject to the provisions of this subchapter.

TABLE 2—NUMBER OF ALLOWANCES AVAILABLE FOR AUCTION

Year of Sale	Spot Auction (same year)	Advance Auction
1993	50,000*	100,000
1994	50,000*	100,000
1995	50,000*	100,000
1996	150,000	100,000
1997	150,000	100,000
1998	150,000	100,000
1999	150,000	100,000
2000 and after	100,000	100,000

Allowances sold in the spot sale in any year are allowances which may only be used in that year (unless banked for use in a later year), except as otherwise noted. Allowances sold in the advance auction in any year are allowances which may only be used in the 7th year after the year in which they are first offered for sale (unless banked for use in a later year).

*Available for use only in 1995 (unless banked for use in a later year).

(3) Proceeds

(A) Notwithstanding section 3302 of title 31 or any other provision of law, within 90 days of receipt, the Administrator shall transfer the proceeds from the auction under this section, on a pro rata basis, to the owners or operators of the affected units at an affected source from whom allowances were withheld under subsection (b) of this section. No funds transferred from a purchaser to a seller of allowances under this paragraph shall be held by any officer or employee of the United States or treated for any purpose as revenue to the United States or the Administrator.

(B) At the end of each year, any allowances offered for sale but not sold at the auction shall be returned without charge, on a pro rata

basis, to the owner or operator of the affected units from whose allocation the allowances were withheld.

(4) Additional auction participants

Any person holding allowances or to whom allowances are allocated by the Administrator may submit those allowances to the Administrator to be offered for sale at auction under this subsection. The proceeds of any such sale shall be transferred at the time of sale by the purchaser to the person submitting such allowances for sale. The holder of allowances offered for sale under this paragraph may specify a minimum sale price. Any person may purchase allowances offered for auction under this paragraph. Such allowances shall be allocated and sold to purchasers on the basis of bid price after the auction under paragraph (2) is complete. No funds transferred from a purchaser to a seller of allowances under this paragraph shall be held by any officer or employee of the United States or treated for any purpose as revenue to the United States or the Administrator.

(5) Recording by EPA

The Administrator shall record and publicly report the nature, prices and results of each auction under this subsection, including the prices of successful bids, and shall record the transfers of allowances as a result of each auction in accordance with the requirements of this section. The transfer of allowances at such auction shall be recorded in accordance with the regulations promulgated by the Administrator under this subchapter.

(e) Changes in sales, auctions, and withholding

Pursuant to rulemaking after public notice and comment the Administrator may at any time after the year 1998 (in the case of advance sales or advance auctions) and 2005 (in the case of spot sales or spot auctions) decrease the number of allowances withheld and sold under this section.

(f) Termination of auctions

The Administrator may terminate the withholding of allowances and the auction sales under this section if the Administrator determines that, during any period of 3 consecutive calendar years after 2002, less than 20 percent of the allowances available in the auction subaccount have been purchased. Pursuant to regulations under this section, the Administrator may by delegation or contract provide for the conduct of sales or auctions under the Administrator's supervision by other departments or agencies of the United States Government or by nongovernmental agencies, groups, or organizations.

(July 14, 1955, ch. 360, title IV, §416, as added Pub. L. 101–549, title IV, §401, Nov. 15, 1990, 104 Stat. 2626.)

REFERENCES IN TEXT

Section 79b of title 15, referred to in subsec. (a)(2)(C), was repealed by Pub. L. 109–58, title XII, §1263, Aug. 8, 2005, 119 Stat. 974. See section 16451(1) of this title.

SUBCHAPTER V—PERMITS

§7661. Definitions

As used in this subchapter—

(1) Affected source

The term "affected source" shall have the meaning given such term in subchapter IV–A of this chapter.

(2) Major source

The term "major source" means any stationary source (or any group of stationary sources located within a contiguous area and under common control) that is either of the following:

(A) A major source as defined in section 7412 of this title.

(B) A major stationary source as defined in section 7602 of this title or part D of subchapter I of this chapter.

(3) Schedule of compliance

The term "schedule of compliance" means a schedule of remedial measures, including an enforceable sequence of actions or operations, leading to compliance with an applicable implementation plan, emission standard, emission limitation, or emission prohibition.

(4) Permitting authority

The term "permitting authority" means the Administrator or the air pollution control agency authorized by the Administrator to carry out a permit program under this subchapter.

(July 14, 1955, ch. 360, title V, §501, as added Pub. L. 101–549, title V, §501, Nov. 15, 1990, 104 Stat. 2635.)

§7661a. Permit programs

(a) Violations

After the effective date of any permit program approved or promulgated under this subchapter, it shall be unlawful for any person to violate any requirement of a permit issued under this subchapter, or to operate an affected source (as provided in subchapter IV–A of this chapter), a major source, any other source (including an area source) subject to standards or regulations under section 7411 or 7412 of this title, any other source required to have a permit under parts[1] C or D of subchapter I of this chapter, or any other stationary source in a category designated (in whole or in part) by regulations promulgated by the Administrator (after notice and public comment) which shall include a finding setting forth the basis for such designation, except in compliance with a permit issued by a permitting authority under this subchapter. (Nothing in this subsection shall be construed to alter the applicable requirements of this chapter that a permit be obtained before construction or modification.) The Administrator may, in the Administrator's discretion and consistent with the applicable provisions of this chapter, promulgate regulations to exempt one or more source categories (in whole or in part) from the requirements of this subsection if the Administrator

[1] So in original. Probably should be "part".

(e.g., micrograms per cubic meter) other than for particulate matter ($PM_{2.5}$) standards contained in §§50.7 and 50.13 and lead standards contained in §50.16 shall be corrected to a reference temperature of 25 (deg) C and a reference pressure of 760 millimeters of mercury (1,013.2 millibars). Measurements of $PM_{2.5}$ for purposes of comparison to the standards contained in §§50.7 and 50.13 and of lead for purposes of comparison to the standards contained in §50.16 shall be reported based on actual ambient air volume measured at the actual ambient temperature and pressure at the monitoring site during the measurement period.

[73 FR 67051, Nov. 12, 2008]

40 C.F.R. § 50.4

§50.4 National primary ambient air quality standards for sulfur oxides (sulfur dioxide).

(a) The level of the annual standard is 0.030 parts per million (ppm), not to be exceeded in a calendar year. The annual arithmetic mean shall be rounded to three decimal places (fractional parts equal to or greater than 0.0005 ppm shall be rounded up).

(b) The level of the 24-hour standard is 0.14 parts per million (ppm), not to be exceeded more than once per calendar year. The 24-hour averages shall be determined from successive nonoverlapping 24-hour blocks starting at midnight each calendar day and shall be rounded to two decimal places (fractional parts equal to or greater than 0.005 ppm shall be rounded up).

(c) Sulfur oxides shall be measured in the ambient air as sulfur dioxide by the reference method described in appendix A to this part or by an equivalent method designated in accordance with part 53 of this chapter.

(d) To demonstrate attainment, the annual arithmetic mean and the second-highest 24-hour averages must be based upon hourly data that are at least 75 percent complete in each calendar quarter. A 24-hour block average shall be considered valid if at least 75 percent of the hourly averages for the 24-hour period are available. In the event that only 18, 19, 20, 21, 22, or 23 hourly averages are available, the 24-hour block average shall be computed as the sum of the available hourly averages using 18, 19, etc. as the divisor. If fewer than 18 hourly averages are available, but the 24-hour average would exceed the level of the standard when zeros are substituted for the missing values, subject to the rounding rule of paragraph (b) of this section, then this shall be considered a valid 24-hour average. In this case, the 24-hour block average shall be computed as the sum of the available hourly averages divided by 24.

(e) The standards set forth in this section will remain applicable to all areas notwithstanding the promulgation of SO_2 national ambient air quality standards (NAAQS) in §50.17. The SO_2 NAAQS set forth in this section will no longer apply to an area one year after the effective date of the designation of that area, pursuant to section 107 of the Clean Air Act, for the SO_2 NAAQS set forth in §50. 17; except that for areas designated nonattainment for the SO_2 NAAQS set forth in this section as of the effective date of §50. 17, and areas not meeting the requirements of a SIP call with respect to requirements for the SO_2 NAAQS set forth in this section, the SO_2 NAAQS set forth in this section will apply until that area submits, pursuant to section 191 of the Clean Air Act, and EPA approves, an implementation plan providing for attainment of the SO_2 NAAQS set forth in §50.17.

[61 FR 25579, May 22, 1996, as amended at 75 FR 35592, June 22, 2010]

§50.5 National secondary ambient air quality standard for sulfur oxides (sulfur dioxide). 40 C.F.R. § 50.5(a)

(a) The level of the 3-hour standard is 0.5 parts per million (ppm), not to be exceeded more than once per calendar year. The 3-hour averages shall be determined from successive nonoverlapping 3-hour blocks starting at midnight each calendar day and shall be rounded to 1 decimal place (fractional parts equal to or greater than 0.05 ppm shall be rounded up).

(b) Sulfur oxides shall be measured in the ambient air as sulfur dioxide by the reference method described in appendix A of this part or by an equivalent method designated in accordance with part 53 of this chapter.

(c) To demonstrate attainment, the second-highest 3-hour average must be

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based upon hourly data that are at least 75 percent complete in each calendar quarter. A 3-hour block average shall be considered valid only if all three hourly averages for the 3-hour period are available. If only one or two hourly averages are available, but the 3-hour average would exceed the level of the standard when zeros are substituted for the missing values, subject to the rounding rule of paragraph (a) of this section, then this shall be considered a valid 3-hour average. In all cases, the 3-hour block average shall be computed as the sum of the hourly averages divided by 3.

[61 FR 25580, May 22, 1996]

40 C.F.R. § 50.6

§50.6 National primary and secondary ambient air quality standards for PM_{10}.

(a) The level of the national primary and secondary 24-hour ambient air quality standards for particulate matter is 150 micrograms per cubic meter ($\mu g/m^3$), 24-hour average concentration. The standards are attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$, as determined in accordance with appendix K to this part, is equal to or less than one.

(b) [Reserved]

(c) For the purpose of determining attainment of the primary and secondary standards, particulate matter shall be measured in the ambient air as PM_{10} (particles with an aerodynamic diameter less than or equal to a nominal 10 micrometers) by:

(1) A reference method based on appendix J and designated in accordance with part 53 of this chapter, or

(2) An equivalent method designated in accordance with part 53 of this chapter.

[52 FR 24663, July 1, 1987, as amended at 62 FR 38711, July 18, 1997; 65 FR 80779, Dec. 22, 2000; 71 FR 61224, Oct. 17, 2006]

40 C.F.R. § 50.7

§50.7 National primary and secondary ambient air quality standards for $PM_{2.5}$.

(a) The national primary and secondary ambient air quality standards for particulate matter are 15.0 micrograms per cubic meter ($\mu g/m^3$) annual arithmetic mean concentration, and 65 $\mu g/m^3$ 24-hour average concentration measured in the ambient air as $PM_{2.5}$ (particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers) by either:

(1) A reference method based on appendix L of this part and designated in accordance with part 53 of this chapter; or

(2) An equivalent method designated in accordance with part 53 of this chapter.

(b) The annual primary and secondary $PM_{2.5}$ standards are met when the annual arithmetic mean concentration, as determined in accordance with appendix N of this part, is less than or equal to 15.0 micrograms per cubic meter.

(c) The 24-hour primary and secondary $PM_{2.5}$ standards are met when the 98th percentile 24-hour concentration, as determined in accordance with appendix N of this part, is less than or equal to 65 micrograms per cubic meter.

[62 FR 38711, July 18, 1997, as amended at 69 FR 45595, July 30, 2004]

40 C.F.R. § 50.8

§50.8 National primary ambient air quality standards for carbon monoxide.

(a) The national primary ambient air quality standards for carbon monoxide are:

(1) 9 parts per million (10 milligrams per cubic meter) for an 8-hour average concentration not to be exceeded more than once per year and

(2) 35 parts per million (40 milligrams per cubic meter) for a 1-hour average concentration not to be exceeded more than once per year.

(b) The levels of carbon monoxide in the ambient air shall be measured by:

(1) A reference method based on appendix C and designated in accordance with part 53 of this chapter, or

(2) An equivalent method designated in accordance with part 53 of this chapter.

(c) An 8-hour average shall be considered valid if at least 75 percent of the hourly average for the 8-hour period are available. In the event that only six (or seven) hourly averages are available, the 8-hour average shall be computed on the basis of the hours available using six (or seven) as the divisor.

(d) When summarizing data for comparision with the standards, averages shall be stated to one decimal place. Comparison of the data with the levels of the standards in parts per million shall be made in terms of integers with fractional parts of 0.5 or greater rounding up.

[50 FR 37501, Sept. 13, 1985]

40 C.F.R. § 50.9

§50.9 National 1-hour primary and secondary ambient air quality standards for ozone.

(a) The level of the national 1-hour primary and secondary ambient air quality standards for ozone measured by a reference method based on appendix D to this part and designated in accordance with part 53 of this chapter, is 0.12 parts per million (235 $\mu g/m^3$). The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 parts per million (235 $\mu g/m^3$) is equal to or less than 1, as determined by appendix H to this part.

(b) The 1-hour standards set forth in this section will remain applicable to all areas notwithstanding the promulgation of 8-hour ozone standards under §50.10. The 1-hour NAAQS set forth in paragraph (a) of this section will no longer apply to an area one year after the effective date of the designation of that area for the 8-hour ozone NAAQS pursuant to section 107 of the Clean Air Act. Area designations and classifications with respect to the 1-hour standards are codified in 40 CFR part 81.

[62 FR 38894, July 18, 1997, as amended at 65 FR 45200, July 20, 2000; 68 FR 38163, June 26, 2003, 69 FR 23996, Apr. 30, 2004; 77 FR 28441, May 14, 2012]

§50.10 National 8-hour primary and secondary ambient air quality standards for ozone.

(a) The level of the national 8-hour primary and secondary ambient air quality standards for ozone, measured by a reference method based on appendix D to this part and designated in accordance with part 53 of this chapter, is 0.08 parts per million (ppm), daily maximum 8-hour average.

(b) The 8-hour primary and secondary ozone ambient air quality standards are met at an ambient air quality monitoring site when the average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to 0.08 ppm, as determined in accordance with appendix I to this part.

[62 FR 38894, July 18, 1997]

EFFECTIVE DATE NOTE: At 77 FR 30170, May 21, 2012, §50.10 was amended by adding paragraph (c), effective July 20, 2012. For the convenience of the user, the added text is set forth as follows:

§50.10 National 8-hour primary and secondary ambient air quality standards for ozone.

* * * * *

(c) The 1997 ozone NAAQS set forth in paragraph (a) of this section will no longer apply to an area for transportation conformity purposes 1 year after the effective date of the designation of the area for the 2008 ozone NAAQS pursuant to section 107 of the CAA. The 1997 ozone NAAQS set forth in this section will continue to remain applicable to all areas for all other purposes notwithstanding the promulgation of the 2008 ozone NAAQS under §50.15 or the designation of areas for the 2008 ozone NAAQS. Area designations and classifications with respect to the 1997 ozone NAAQS are codified in 40 CFR part 81.

40 C.F.R. § 50.11

§50.11 National primary and secondary ambient air quality standards for oxides of nitrogen (with nitrogen dioxide as the indicator).

(a) The level of the national primary annual ambient air quality standard for oxides of nitrogen is 53 parts per billion (ppb, which is 1 part in 1,000,000,000), annual average concentration, measured in the ambient air as nitrogen dioxide.

(b) The level of the national primary 1-hour ambient air quality standard for oxides of nitrogen is 100 ppb, 1-hour average concentration, measured in the ambient air as nitrogen dioxide.

(c) The level of the national secondary ambient air quality standard for nitrogen dioxide is 0.053 parts per million (100 micrograms per cubic meter), annual arithmetic mean concentration.

(d) The levels of the standards shall be measured by:

(1) A reference method based on appendix F to this part; or

(2) By a Federal equivalent method (FEM) designated in accordance with part 53 of this chapter.

(e) The annual primary standard is met when the annual average concentration in a calendar year is less than or equal to 53 ppb, as determined in accordance with appendix S of this part for the annual standard.

(f) The 1-hour primary standard is met when the three-year average of the annual 98th percentile of the daily maximum 1-hour average concentration is less than or equal to 100 ppb, as determined in accordance with appendix S of this part for the 1-hour standard.

(g) The secondary standard is attained when the annual arithmetic mean concentration in a calendar year is less than or equal to 0.053 ppm, rounded to three decimal places (fractional parts equal to or greater than 0.0005 ppm must be rounded up). To demonstrate attainment, an annual mean must be based upon hourly data that are at least 75 percent complete or upon data derived from manual methods that are at least 75 percent complete for the scheduled sampling days in each calendar quarter.

[75 FR 6531, Feb. 9, 2010]

40 C.F.R. § 50.12

§50.12 National primary and secondary ambient air quality standards for lead.

(a) National primary and secondary ambient air quality standards for lead and its compounds, measured as elemental lead by a reference method based on appendix G to this part, or by an equivalent method, are: 1.5 micrograms per cubic meter, maximum arithmetic mean averaged over a calendar quarter.

(b) The standards set forth in this section will remain applicable to all areas notwithstanding the promulgation of lead national ambient air quality standards (NAAQS) in §50.16. The lead NAAQS set forth in this section will no longer apply to an area one year after the effective date of the designation of that area, pursuant to section 107 of the Clean Air Act, for the lead NAAQS set forth in §50.16; except that for areas designated nonattainment for the lead NAAQS set forth in this section as of the effective date of §50.16, the lead NAAQS set forth in this section will apply until that area submits, pursuant to section 191 of the Clean Air Act, and EPA approves, an implementation plan providing for attainment and/or maintenance of the lead NAAQS set forth in §50.16.

(Secs. 109, 301(a) Clean Air Act as amended (42 U.S.C. 7409, 7601(a)))

[43 FR 46258, Oct. 5, 1978, as amended at 73 FR 67051, Nov. 12, 2008]

§50.13 National primary and secondary ambient air quality standards for $PM_{2.5}$.

(a) The national primary and secondary ambient air quality standards for particulate matter are 15.0 micrograms per cubic meter ($\mu g/m^3$) annual arithmetic mean concentration, and 35 $\mu g/m^3$ 24-hour average concentration measured in the ambient air as $PM_{2.5}$ (particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers) by either:

(1) A reference method based on appendix L of this part and designated in accordance with part 53 of this chapter; or

(2) An equivalent method designated in accordance with part 53 of this chapter.

(b) The annual primary and secondary $PM_{2.5}$ standards are met when the annual arithmetic mean concentration, as determined in accordance with appendix N of this part, is less than or equal to 15.0 $\mu g/m^3$.

(c) The 24-hour primary and secondary $PM_{2.5}$ standards are met when the 98th percentile 24-hour concentration, as determined in accordance with appendix N of this part, is less than or equal to 35 $\mu g/m^3$.

[71 FR 61224, Oct. 17, 2006]

§50.14 Treatment of air quality monitoring data influenced by exceptional events.

(a) *Requirements.* (1) A State may request EPA to exclude data showing exceedances or violations of the national ambient air quality standard that are directly due to an exceptional event from use in determinations by demonstrating to EPA's satisfaction that such event caused a specific air pollution concentration at a particular air quality monitoring location.

(2) Demonstration to justify data exclusion may include any reliable and

ORAL ARGUMENT NOT YET SCHEDULED

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

NO. 12-1238

CENTER FOR BIOLOGICAL DIVERSITY, ET AL.,

PETITIONERS,

V.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

RESPONDENTS.

ON PETITION FOR REVIEW OF FINAL AGENCY ACTION OF THE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

FINAL BRIEF FOR RESPONDENTS

IGNACIA S. MORENO
ASSISTANT ATTORNEY GENERAL
ENVIRONMENT AND NATURAL
RESOURCES DIVISION

DANIEL R. DERTKE
ENVIRONMENTAL DEFENSE SECTION
U.S. DEPARTMENT OF JUSTICE
P.O. BOX 7611
WASHINGTON, D.C. 20044
TEL: (202) 514-0994
FAX: (202) 514-8865

MAY 20, 2013

RESPONDENT'S CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

A. Parties and *Amici*

All parties appearing in this Court are accurately identified in the Brief of Petitioners, with the exception of Lisa P. Jackson, Administrator, EPA; Bob Perciasepe is currently the Acting Administrator.

B. Rulings Under Review

The agency action under review is EPA's final rule entitled *Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur*, published in the Federal Register at 77 Fed. Reg. 20,218 (Apr. 3, 2012).

C. Related Cases

This case was not previously before this Court or any other court.

Respectfully submitted,

/s/ Daniel R. Dertke
DANIEL R. DERTKE, Attorney
Environmental Defense Section
U.S. Department of Justice

May 20, 2013

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* Authorities upon which we chiefly rely are marked with asterisks

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GLOSSARY

ANC	acid neutralizing capacity
CAA	Clean Air Act
CASAC	Clean Air Scientific Advisory Committee
NAAQS	National Ambient Air Quality Standards
NO_2	nitrogen dioxide
NOx	the sum of nitric oxide (NO) and nitrogen dioxide (NO_2)
NOy	total reactive oxidized nitrogen; the complete set of oxidized nitrogen compounds
PA	Policy Assessment
Pet. Br.	Brief of Petitioners
ppm	parts per million
SO_2	sulfur dioxide
SOx	the sum of gaseous sulfur dioxide (SO_2) and particulate sulfate (SO_4); virtually all of the oxidized sulfur mass in the atmosphere
ueq/L	microequivalents per liter

JURISDICTIONAL STATEMENT

On April 3, 2012, acting pursuant to the Clean Air Act ("CAA" or "the Act"), EPA published a final rule declining to establish new secondary National Ambient Air Quality Standards ("NAAQS") to address acidification and nutrient enrichment in aquatic and terrestrial ecosystems caused by the deposition of oxides of nitrogen and sulfur. In the final rule EPA also decided to establish a field pilot program to enhance EPA's understanding of the degree of protectiveness that a new standard to address the acidification of aquatic ecosystems would afford. 77 Fed. Reg. 20,218 (Apr. 3, 2012) (JA0078). Petitioners Center for Biological Diversity, Clean Air Council, and National Parks Conservation Association ("Petitioners") timely filed this petition for judicial review. The Court has jurisdiction under 42 U.S.C. § 7607(b). However, as demonstrated in Argument I, below, Petitioners lack standing to challenge EPA's decision not to establish a new secondary NAAQS to address nutrient enrichment in aquatic and terrestrial ecosystems.

STATUTES AND REGULATIONS

All applicable statutes and regulations are contained in the Brief for Petitioners ("Pet. Br.").

ISSUES PRESENTED

1. Whether Petitioners have standing to challenge EPA's decision not to revise the secondary NAAQS to address nutrient enrichment in terrestrial or aquatic ecosystems, where Petitioners have not alleged any harm to any of their members from nutrient enrichment.

2. Whether the Clean Air Act requires EPA to revise the secondary NAAQS even if the scientific uncertainties are so substantial that the Administrator cannot make a reasoned determination whether or not the revised standard would provide the requisite degree of protection.

3. Whether the administrative record supports and EPA explained the basis for its decision that EPA cannot make a reasoned determination whether or not a revised standard would provide the requisite degree of protection.

STATEMENT OF THE CASE

I. NATURE OF THE CASE

This case involves "by far the most complex form of a NAAQS standard" that EPA has ever considered. 77 Fed. Reg. at 20,262/1 (JA0121). It concerns an "innovative and unique" attempt to link ambient concentrations of two pollutants (oxides of nitrogen and of sulfur), their deposition through mechanisms such as acid rain, and the resulting acidification of aquatic ecosystems. *Id.* at 20,260/3 (JA0120). Unlike most other NAAQS, it must take into account geographic

variability and the specific characteristics of separate ecosystems throughout the nation.

The Aquatic Acidification Index ("Index") seeks to provide a degree of protection from these effects that is uniform throughout the country, by allowing for varying concentrations of pollutants depending on atmospheric conditions and other ecological variables. It depends on the ability of ecological and atmospheric models to generate values that are representative throughout an entire ecosystem. But, like any model, the Index may be scientifically sound in theory or general concept yet, without the appropriate inputs, too uncertain to apply in practice.

Although EPA has devoted enormous amounts of time and resources to the development of the Index, EPA is not yet in a position to determine with a sufficient degree of certainty some of these key inputs. Without greater scientific certainty, the Administrator judged that she could not make a reasoned determination that a NAAQS based on the Index would be protective enough, but not too protective, against the effects on welfare of acidifying deposition of oxides of nitrogen and sulfur. The Administrator's decision should be upheld, and the petition for judicial review should be dismissed.

II. STATUTORY BACKGROUND

The Clean Air Act, 42 U.S.C. §§ 7401-7671q, is intended to "protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare." *Id.* § 7401(b)(1). NAAQS are a central element of the Act.

The NAAQS process begins with the development of "air quality criteria," which must "accurately reflect the latest scientific knowledge" regarding "all identifiable effects on public health or welfare" that may result from a pollutant's presence in the ambient air. *Id.* § 7408(a)(2). Section 7408 requires EPA to establish air quality criteria for certain pollutants, and Section 7409 then requires EPA to establish NAAQS for these pollutants. *Id.* §§ 7408(a), 7409(a). Based on the air quality criteria, EPA promulgates "primary" and "secondary" NAAQS to protect against a pollutant's effects on public health and welfare. *Id.* § 7409(b). "Primary" standards must be set at levels that, "in the judgment of the Administrator," are requisite to protect public health with "an adequate margin of safety." *Id.* § 7409(b)(1). The "secondary" standards must

> specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator . . . is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air.

Id. § 7409(b)(2). The term "requisite," in reference to both primary and secondary standards, means "not lower or higher than necessary." *Whitman v. Am. Trucking*

Ass'ns, 531 U.S. 457, 476 (2001). The Act defines "effects on welfare" broadly to include effects on soils, water, vegetation, and personal comfort and well-being, among other things. *Id.* § 7602(h). The NAAQS establish permissible concentrations of these pollutants in the "ambient," or outside, air. States must then establish State Implementation Plans ("SIPs") to attain and maintain the NAAQS within their borders. *Id.* § 7410.

A NAAQS has four components: an indicator, which defines what compound or compounds in the ambient air will be measured, such as nitrogen dioxide (NO_2), or particulate matter of 2.5 microns or less (PM2.5); a level, which specifies the maximum acceptable concentration of the indicator in the ambient air; an averaging time, which specifies the span of time across which the amount of the indicator will be averaged (such as annually, or daily, or 3 hours); and a form, which defines how compliance with the level will be determined within the averaging time. *See generally Am. Farm Bureau Fed'n v. EPA*, 559 F.3d 512, 516 (D.C. Cir. 2009). For example, to meet the current secondary NAAQS for sulfur oxides, the standard specifies that the average concentration over every three-hour period (*i.e.*, the averaging time) of sulfur dioxide (SO_2, the indicator) in the ambient air cannot exceed 0.5 parts per million (the level) more than once per year (the form). *See* 40 C.F.R. § 50.5.

Primary and secondary NAAQS, and air quality criteria, must be reviewed at five-year intervals, at which time the Administrator

> shall make such revisions in such criteria and standards and promulgate such new standards as may be appropriate in accordance with section 7408 of this title and subsection (b) of this section.

42 U.S.C. § 7409(d)(1). In its review, EPA must consider, and explain any significant departure from, the recommendations of the Clean Air Scientific Advisory Committee ("CASAC," or the "Committee"), an independent scientific review committee established to advise the Administrator on air quality criteria and NAAQS. *Id.* §§ 7409(d)(2)(B), 7607(d)(3). When a new NAAQS is issued, or an existing NAAQS is revised, EPA is required to designate as "nonattainment" any area that does not meet the new or revised standard. 42 U.S.C. § 7407(d)(1). Such areas are subject to "additional restrictions over and above the implementation requirements imposed generally by [the Clean Air Act]." *Whitman*, 531 U.S. at 476.

III. REGULATORY BACKGROUND

A. EPA's Regulation of Oxides of Sulfur

EPA first set secondary NAAQS for sulfur oxides in 1971, establishing both a short-term 0.5 ppm 3-hour standard and a 0.02 ppm annual standard. 36 Fed. Reg. 8186, 8187/2 (Apr. 30, 1971) (JA0002). Both of these standards addressed the direct effects of SO_2 on vegetation. EPA revoked the annual standard in 1973,

after that standard was remanded by this Court for further explanation of its basis. *See Kennecott Copper Corp. v. EPA*, 462 F.2d 846 (D.C. Cir. 1972). In response to comments that the annual standard should be retained because it provides some protection against, among other things, the occurrence of acid rain, EPA explained that although the formation and effects of acid rain were under investigation, the "data needed for standard-setting are not now available." 38 Fed. Reg. 25,678, 25,679/2 (Sept. 14, 1973) (JA0004). EPA further noted that the "relationships between the specific ambient air concentrations of sulfur dioxide, either alone or in combination with other environmental factors, and the adverse effects caused by those concentrations must be demonstrable or predictable prior to establishing any [NAAQS]." *Id.* at 25,679/2-3.

In 1980, the Clean Air Scientific Advisory Committee recommended that prior to attempting to control acid deposition through a NAAQS, EPA prepare a separate, comprehensive document on that issue. The Committee noted that "acid deposition is a topic of extreme scientific complexity" due to the difficulty in quantifying the relationship among the emissions of oxides of sulfur (and nitrogen), the formation of deposition products, and the effects on terrestrial and aquatic ecosystems. 77 Fed. Reg. at 20,220/1 (JA0080).

EPA produced assessments of acidic deposition in 1984 and 1985, and in 1993, during its most recent prior review of the secondary NAAQS for sulfur

oxides, EPA determined that although the "acid deposition phenomenon" is "[a]mong the major welfare effects associated with SO_2 emissions and their transformation products," revision of the secondary NAAQS for SO_2 to address acid deposition was not appropriate at that time. 58 Fed. Reg. 21,351, 21,355/2, 21,358/1 (Apr. 21, 1993) (JA0007, 10). EPA reasoned that the better course was to develop more information and see how successful the Acid Rain program enacted in 1990 as Title IV of the Act would be in addressing the problem of acidifying deposition of oxides of sulfur. *Id.* at 21,357/3 (JA0009). EPA's determination that revision of the secondary standard was not appropriate was not challenged.

B. EPA's Regulation of Oxides of Nitrogen

EPA issued a secondary NAAQS for NO_2 in 1971, set at 0.053 parts per million NO_2 as an annual average, also directed solely to direct effects on vegetation. 36 Fed. Reg. at 8,187/3 (JA0002). EPA retained this standard in 1985, 50 Fed. Reg. 25,532 (June 19, 1985), and in 1987 EPA began its most recent prior review of the secondary NAAQS for NO_2. EPA released a draft criteria document in 1991, which EPA finalized in 1993 after receiving comments from the Clean Air Scientific Advisory Committee. 77 Fed. Reg. at 20,219/2-3 (JA0079). In 1996, EPA determined that revision of the secondary NAAQS for oxides of nitrogen was not appropriate at that time. EPA noted the scientific complexity of nitrogen deposition, and the significant uncertainties regarding the relationship between

atmospheric deposition and the appearance of nitrogen in surface water. 61 Fed. Reg. 52,852, 52,854/2 (Oct. 8, 1996) (JA0012). EPA therefore could not determine what levels of airborne reductions would be necessary. *Id.* at 52,854/3. Neither that decision, nor EPA's 1985 decision to retain the secondary standard, was challenged.

C. EPA's Current Rulemaking

1. Development of the Aquatic Acidification Index

EPA initiated the current review of the secondary NAAQS for oxides of nitrogen and for oxides of sulfur in December 2005, with a call for information to develop a revised Integrated Science Assessment, which is a comprehensive review, synthesis, and evaluation of the most relevant science. 77 Fed. Reg. at 20,221/2 (JA0081). EPA issued the final Integrated Science Assessment in December 2008, and a Risk and Exposure Assessment in September 2009. *Id.* EPA then prepared a Policy Assessment, which is a "bridge" between the relevant scientific and technical information and the judgments required of the Administrator in determining whether, and if so, how, it is appropriate to revise the secondary NAAQS for oxides of nitrogen and sulfur. Policy Assessment for the Review of the Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Oxides of Sulfur (Feb. 2011) ("Policy Assessment") at ES-1 (JA0197). EPA finalized the Policy Assessment in February 2011, and received

the Clean Air Scientific Advisory Committee's comments on the final version in May 2011. 77 Fed. Reg. at 20,221/2 (JA0081).

In the Policy Assessment, EPA developed and described the Aquatic Acidification Index as the potential form of a secondary NAAQS to address the acidifying impacts of the deposition of oxides of nitrogen and sulfur on aquatic ecosystems. Policy Assessment at ES-7 to ES-9 (JA0203-05). The Index is designed to link the concentrations of most oxides of nitrogen (NOy)[1] and sulfur (SOx)[2] in the ambient air, based on the propensity of those pollutants to be deposited on water, or on land and then reach water, with the ecological factors that govern acid sensitivity to such deposition in different aquatic habitats. *Id.*; *see also* 77 Fed. Reg. at 20,244/1 (JA0104).

The Index relies on the concept of acid neutralizing capacity ("ANC"), which is an ecological indicator of the health of acid-sensitive aquatic ecosystems. Policy Assessment at ES-2, ES-6 (JA0198, 0202). At high levels of acid neutralizing capacity, aquatic biota are generally not harmed, but at lower levels the health and diversity of fish populations and other biota decline. *Id.* at ES-3

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[1] NOy represents total reactive oxidized nitrogen, *i.e.,* the complete set of oxidized nitrogen compounds, in contrast to NOx which represents the sum of nitric oxide (NO) and nitrogen dioxide (NO_2).

[2] SOx is the sum of gaseous sulfur dioxide (SO_2) and particulate sulfate (SO_4), and represents virtually all of the oxidized sulfur mass in the atmosphere.

(JA0199). The appropriate degree of protection for aquatic life is a policy judgment, and the Index is a mechanism to translate this policy judgment into allowable ambient air concentrations of NOy and SOx that would achieve that degree of protection. The policy judgment regarding the appropriate degree of protection would be specified, in part, in terms of a national target level of acid neutralizing capacity. 77 Fed. Reg. at 20,242/3 to 243-1; 20,257/2-3 (JA0102-0103; 0117); *see also* Policy Assessment at ES-9; *id.* at 1-11, 1-14 (JA0205, 0233, 0236).

Because different parts of the country have different sensitivities to acid deposition and the resulting acidification, the Index would be applied on an ecoregion basis, with each ecoregion representing a geographic area with similar characteristics relevant to acid neutralizing capacity. Policy Assessment at ES-7 to ES-8 (JA0203-0204). Based on the available information, EPA considered an approach that would divide the United States into 84 ecoregions. *Id.*

The degree of protection from an Index based standard would also be based on the percentage of waterbodies in an ecoregion that are intended to meet the national target level of acid neutralizing capacity. Thus, one possible degree of protection that the Administrator might determine is requisite could be a national

target acid neutralizing capacity level of 75 ueq/L,[3] with that degree of protectiveness afforded to 90% of the waterbodies in each ecoregion. 77 Fed. Reg. at 20,247/3, 20,249/1 (JA0107, 0109).

Although the Index can mathematically be expressed in a relatively short equation, Index = F1 – F2 – F3[NOy] – F4[SOx], each term in this equation necessarily takes into account numerous elements, and the apparent simplicity of this equation belies the complicated relationship between ambient concentrations of NOy and SOx and these pollutants' acidifying effect on aquatic habitats. *See, e.g.*, Individual comments of Dr. Rudolph Husar, attached to Clean Air Scientific Advisory Committee Comments on the Policy Assessment for the Review of the Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Oxides of Sulfur (Feb. 2011) ("Committee Comments") at 34 ("The equation may be simple but the complications are embedded in the factors F1 to F4. Also, these factors rely heavily on model estimates, so these 'simple' terms in [the Index] arise from very complicated calculations and they are also the carriers of much of the uncertainty in [the Index's] determination.") (JA0383).

For example, the F1 term represents the ability of the aquatic ecosystems in an ecoregion to neutralize acid deposition. For each ecoregion, EPA would

[3] Microequivalent units per liter, which is a means of comparing amounts of a substance by reference to their reactivity.

determine a representative "critical load" of acidifying deposition. The critical load for any one waterbody reflects the amount of deposition that the waterbody can receive and still sustain, for example, the national target level of acid neutralizing capacity for that waterbody. The representative critical load for an *ecoregion* would be based on a calculation of the critical loads for each waterbody within the ecoregion, for which sufficient data are available, and a specified percentile of this distribution of individual critical loads. If this representative critical load were to occur across the ecoregion, the goal would be that the target percentage of waterbodies within the ecoregion would achieve the national target level of acid neutralizing capacity or better. 77 Fed. Reg. at 20,247/2-3 (JA0107).

The ecoregion critical load varies by ecoregion, as it depends on geologic and other characteristics relevant to determining acid sensitivity, such as the runoff rate that is representative for the ecoregion. *Id.* at 20,247/2. In order to establish the value for F1, EPA must also consider a host of other ecological characteristics, such as topography and geology, which can vary widely from ecoregion to ecoregion and, in some cases, from waterbody to waterbody within an ecoregion.

While the F1 factor relates to the ability of an ecoregion to neutralize acidifying deposition, the factors F2-F4 relate to the amount of acidifying deposition that will occur based on reduced forms of nitrogen compounds in the ambient air, such as ammonia (the F2 factor), and oxdized forms of nitrogen and

sulfur compounds in the ambient air (the F3 and F4 factors). Each of these F factors are based on modeling, and face many uncertainties, as discussed below.

The target level of acid neutralizing capacity would be the same throughout the nation. The target percentage of waterbodies would be the same across the nation for acid-sensitive ecoregions, while the target percentage of waterbodies for non acid-sensitive regions might be somewhat less, to avoid overprotection in less sensitive areas. 77 Fed. Reg. at 20,247/3-248/1 (JA0107-0108). Achieving this national uniformity in targets requires that each of the F factors be established separately for each ecoregion. These ecoregion-specific factors would be based on modeling designed to characterize the effects of the many relevant physical and other characteristics of the ecoregion and its waterbodies, the deposition of nitrogen from its reduced forms in the ambient air, and the deposition of nitrogen and sulfur from the oxides of nitrogen and sulfur in the ambient air. In concept, the Index would therefore establish, for each of the 84 ecoregions, the ambient levels of oxides of nitrogen and oxides of sulfur that will result in achieving the national level of acid neutralizing capacity for the desired percentile of waterbodies.

The Index, however, does not attempt to address the acidification of terrestrial ecosystems, nor does it address nutrient enrichment in terrestrial or aquatic ecosystems. The Clean Air Scientific Advisory Committee supported

EPA's decision to focus on aquatic acidification as opposed to terrestrial acidification or nutrient enrichment. Policy Assessment at 1-10 to 1-11 (JA0232-0233). The Committee expressed general support for the conceptual framework of an Index-based standard, based on the underlying scientific information, and for the conclusions in the Policy Assessment with regard to the indicators, averaging time, form and level of the standard that are appropriate for the Agency to consider in reaching decisions on the review of the secondary NAAQS. 77 Fed. Reg. at 20,250-51 (JA0110-0111). The Committee also noted various caveats and concerns, including the importance of continuing to evaluate the performance of the models to account for model uncertainties and identifying potential biases in critical load calculations and in the regional representativeness of available water chemistry data. *Id.* at 20,251/1 (JA0111). These potential biases led the Committee to recommend that "some attention be given to our residual concern that the available data may reflect the more sensitive water bodies and thus, the selection of the percentiles of waterbodies to be protected could be conservatively biased." *Id.*

2. EPA's proposal.

On July 12, 2011, in satisfaction of one of the deadlines in a consent decree with Center for Biological Diversity and others, EPA signed its proposed decision. 76 Fed. Reg. 46,084 (Aug. 1, 2011) (JA0014). In the proposal, EPA determined

that the current secondary standards, which as noted above were developed to address direct effects on vegetation, are not ecologically relevant to deposition-related effects. *Id.* at 46,111/1 (JA0041). EPA also determined that current levels of oxides of sulfur and nitrogen are sufficient to cause acidification of both aquatic and terrestrial ecosystems and nutrient enrichment of terrestrial ecosystems, and contribute to nutrient enrichment in ways that could be considered adverse in some aquatic ecosystems. EPA also determined that current secondary standards do not provide adequate protection from these effects. *Id.* Because of the quantity and quality of the available information associated with aquatic acidification as compared to the information available for other deposition-related effects, EPA focused on developing a new multi-pollutant standard to address aquatic acidification. *Id.* EPA therefore considered whether a standard based on the Index would be appropriate to address the effect of acidifying deposition in aquatic ecosystems. *Id.*

EPA invited comment on all elements of the Index, on a range of potential national target levels of acid neutralizing capacity, and on a range of percentiles of waterbodies. *Id.* at 46,128/1-2 (JA0058). EPA proposed F factors for each of the 84 ecoregions, and discussed the sources and types of uncertainty associated with the development of the Index. *Id.* at 46,130-132 (JA0060-0062). However, EPA proposed not to adopt a standard based on the Index because the Administrator

could not determine whether key elements of the Index are representative of conditions throughout a given ecoregion, and thus whether compliance with such a standard would ensure a level of air quality requisite to protect the public welfare from aquatic acidification. *Id.* at 46,134/3-135/1 (JA0064-0065). Instead, EPA proposed to reduce the 1971 standards to the levels of the 1-hour primary standards for NO_2 and SO_2, set in 2010, which are 100 parts per billion NO_2 and 75 parts per billion SO_2. *Id.* at 46,135/2 (JA0065). EPA opined that this would "directionally benefit" the environment. *Id.* EPA also proposed to establish a field pilot program, to address several of the uncertainties regarding the Index and to better understand the degree of protectiveness that an Index-based standard would likely provide. *Id.* at 46,135/3-136/1 (JA0065-0066).

Industry groups supported EPA's decision not to propose an Index-based revision of the secondary NAAQS; some argued that further information and analysis is needed, while others criticized the entire Index-based approach. 77 Fed. Reg. at 20,253/1 (JA0113). Many commenters noted that air deposition modeling, critical load modeling, and the lack of water quality and watershed data preclude EPA from setting a standard at this time. *Id.* Other commenters, including several environmental groups, argued that the underlying scientific evidence supports the Index, and that the Index adequately accounts for the uncertainties in, and limitations of, that evidence. *Id.* at 20,253/2. Some commenters also argued that

despite the uncertainties and incomplete data, EPA must err in favor of stronger protection. *Id.* at 20,253/3. Some states, such as New York, supported the Index, while others, such as Pennsylvania and North Carolina, felt that additional information should be gathered before proposing a revised standard. *Id.* at 20,253/3-254/1 (JA0113-0114). Almost all commenters criticized EPA's proposal to set 1-hour NO_2 and SO_2 secondary standards identical to the primary standards. *Id.* at 20,258/3-259/3 (JA0118-0119).

3. EPA's final action.

After reiterating its conclusion that the current secondary standards do not provide adequate protection from the acidification of aquatic and terrestrial ecosystems, and nutrient enrichment in terrestrial ecosystems, EPA decided that it was not appropriate under section 7409(b) to set any new secondary standards at this time. 77 Fed. Reg. at 20,255/3, *see also id.* at 20,263/3 (JA0116, 0123). As in the proposal, EPA focused on the potential for using the Index to establish a secondary standard to address acidifying deposition, not nutrient enrichment, and to address acidification in aquatic rather than terrestrial ecosystems. *Id.* at 20,222/2-3; *see also id.* at 20,242/2 (JA0082, 0102). EPA recognized the "strong scientific foundation" for the Index, *id.* at 20,261/1 (JA0121), but noted significant uncertainties and complexities remain, in particular regarding the quantification of the F factors "and their representativeness at an ecoregion scale." *Id.* The

uncertainties involve, among other things, insufficient data "to characterize the representativeness of the available data at an ecoregion scale," which the Clean Air Scientific Advisory Committee and others noted as a particular concern. *Id.* EPA needs to have a sufficient degree of confidence that the F factors are representative for each ecoregion. For example, the factor F2 represents for the ecoregion the deposition of reduced nitrogen, however there is high uncertainty in developing this factor based on lack of field measurements and inherent complexity in modeling source emissions and dry deposition. 77 Fed. Reg. at 20,249/3 (JA0109); *see also* 76 Fed. Reg. at 46,131/2 (field measurements of reduced nitrogen have been "extremely limited") (JA0061). EPA also noted the data gaps in water quality and other factors relevant to developing representative F1 factors. 76 Fed. Reg. at 46,130/2-3 (preindustrial conditions, used in developing F1, are by definition not observable); *id.* at 46,131 (disparity in water quality data across the country) (JA0060, 0061). EPA needs to have a sufficient degree of certainty that it has representative F factor values for the entire ecosystem, otherwise the Index may be far too restrictive, or not restrictive enough to provide the desired degree of protection against acidifying effects from deposition of oxides of nitrogen and sulfur.

EPA considered whether these uncertainties could be addressed by selecting either a more or less protective national target level of acid neutralizing capacity,

or a higher or lower national percentile of waterbodies. 77 Fed. Reg. at 20,262/3 (JA0122). EPA rejected this approach because it could not reasonably ascertain either the direction or the magnitude of the change from the national target level that these uncertainties cause. *Id.* *See also* Policy Assessment at 7-70 to 7-75 (Table 7-3, describing for the various elements used to develop the F factors the level of uncertainty, the impact of the uncertainty, and whether the uncertainty likely biases the Index towards less protection, more protection, or in both directions) (JA0318-0323). Because of EPA's current level of knowledge of the representativeness of the F factors developed for the 84 ecoregions, EPA could not reach "a reasoned understanding of the degree of protectiveness that would be afforded to various ecoregions across the country by a new standard defined in terms of a specific nationwide target [acid neutralizing capacity] level and a specific percentile of water bodies for acid-sensitive ecoregions." 77 Fed. Reg. at 20,255 (JA0115). Because EPA could not determine that a revised standard would be in accordance with section 7409(b), EPA concluded that it would not be appropriate under section 7409(d) to revise the secondary NAAQS. *Id.* at 20,263/3 (JA0123).

EPA also rejected the proposed option of adopting a secondary standard at the level of the primary standard, *id.*, but did decide to implement the field pilot program. *Id.* at 20,264 (JA0124).

Petitioners timely filed this petition for judicial review on June 1, 2012.

SUMMARY OF ARGUMENT

Petitioners challenge EPA's decision not to revise the secondary NAAQS for oxides of nitrogen and sulfur, to address the public welfare effects of acidification and nutrient enrichment in both aquatic and terrestrial ecosystems. Petitioners lack standing regarding nutrient enrichment, for failure to offer any evidence that any of their members are injured by this effect. Even if Petitioners had standing, the Clean Air Act does not compel EPA to revise the secondary NAAQS where, as here, EPA could not make a reasoned decision that such a revision would be in accordance with the statute. Furthermore, EPA adequately explained, and the record supports, EPA's conclusion that the uncertainties surrounding a potential revised standard to address aquatic acidification are so substantial that such a reasoned decision could not be made. The uncertainties regarding the other public welfare effects are even greater, and Petitioners do not seriously contend that the state of the science is sufficient for EPA to revise the NAAQS to address those effects.

The Clean Air Act requires EPA to revise secondary NAAQS "as may be appropriate in accordance with" section 7409(b), which in turn requires secondary NAAQS to be set at a level of air quality judged by EPA to be requisite to protect public welfare. 42 U.S.C. §§ 7409(d), (b)(2). If uncertainties regarding the

potential revised standards are judged by the Administrator to be so substantial that she cannot make a reasoned decision that the revision would be in accordance with section 7409(b)(2) – *i.e.*, that the revised standard would provide the requisite degree of protection, then it is not appropriate for the Administrator to revise the NAAQS. Petitioners' contrary argument, that EPA must revise the standard any time EPA finds an existing NAAQS to be inadequate, ignores the affirmative requirement in section 7409(b)(2) and would place EPA in the untenable position of being required to establish a standard that EPA cannot determine complies with the statute.

Petitioners would also create an independent duty to *determine* the requisite degree of protection, as a preliminary and independent step towards compliance with section 7409(b)(2)'s duty to specify an air quality level that *achieves* the requisite degree of protection. But there is no basis in the statute for two separate duties, and no need for EPA to determine the requisite degree of protection in isolation. It is only appropriate for EPA to take action if EPA can determine that a new standard, *i.e.*, an air quality level, will achieve a degree of protection that is "requisite."

EPA did not base its decision on the types of routine scientific uncertainties that underlie most models and predictions. Rather, EPA cannot make the necessary conclusion that the critical load calculation, which addresses the amount

of acidifying deposition a waterbody can withstand, is representative of all waterbodies within a particular ecoregion, for all ecoregions across the country. Nor can EPA adequately evaluate the models that address the deposition of reduced nitrogen and the oxides of nitrogen and sulfur. These are not the types of uncertainties that can be addressed through conservative assumptions or margins of error. Instead, they go directly to whether EPA can make a reasoned determination that a standard will provide the requisite degree of protection.

The record supports EPA's judgment that there is presently no reasoned way to determine whether a revised standard would be stringent enough, or too stringent, to achieve any intended degree of protection. Without the ability to make that determination, EPA cannot fulfill the statutory mandate in section 7409(b)(2), and EPA's decision that it is not appropriate to revise the secondary NAAQS should be upheld.

In the alternative, if the Court disagrees and remands EPA's decision, the Court should decline Petitioners' request to set a deadline for EPA to act. Instead, the Court should presume that EPA will continue in good faith to evaluate revising the NAAQS in accordance with section 7409(b)(2) and this Court's opinion.

STANDARD OF REVIEW

Under Clean Air Act section 307(d)(9), the Court may reverse EPA's action if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance

with law," or "in excess of statutory jurisdiction, authority, or limitations, or short of statutory right." 42 U.S.C. § 7607(d)(9)(A), (C). This standard is narrow, and a court is not to substitute its judgment for the agency's. *Bluewater Network v. EPA*, 370 F.3d 1, 11 (D.C. Cir. 2004). Where EPA has considered the relevant factors and articulated a rational connection between the facts found and the choices made, its regulatory choices must be upheld. *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983); *see also Lead Indus. Ass'n v. EPA*, 647 F.2d 1130, 1158 (D.C. Cir. 1980) ("[W]here there is evidence in the record which supports [the Administrator's] judgments, this court is not at liberty to substitute its judgment for the Administrator's."). It is not the court's "function to resolve disagreement among the experts or to judge the merits of competing expert views." *Lead Indus. Ass'n*, 647 F.2d at 1160. "That the evidence in the record may also support other conclusions, even those that are inconsistent with the [EPA] Administrator's, does not prevent [the court] from concluding that [her] decisions were rational and supported by the record." *Id.* (citations omitted). *See also American Trucking Ass'ns v. EPA*, 283 F.3d 355, 362 (D.C. Cir. 2002) (on the merits, courts presume the validity of agency actions and face only the limited task of ascertaining that the choices made by the Administrator were reasonable and supported by the record; that the evidence may support other conclusions, even

those inconsistent with the Administrator's, does not mean her decision was arbitrary).

Although a court must apply the language of the statute where it reflects "the unambiguously expressed intent of Congress," if the statute is "silent or ambiguous with respect to the specific issue," the court must defer to the agency's interpretation so long as it is "based on a permissible construction of the statute." *Chevron U.S.A., Inc. v. NRDC, Inc.*, 467 U.S. 837, 842-43 (1984).

ARGUMENT

I. PETITIONERS LACK STANDING TO CHALLENGE EPA'S DECISION NOT TO ESTABLISH A NEW SECONDARY NAAQS TO ADDRESS NUTRIENT ENRICHMENT IN AQUATIC AND TERRESTRIAL ECOSYSTEMS.

Petitioners have the burden of establishing standing, *Sierra Club v. EPA*, 292 F.3d 895, 899 (D.C. Cir. 2002), and must do so for each of their claims. *Davis v. Fed. Elections Comm.*, 554 U.S. 724, 733-34 (2008). *See also* D.C. Cir. Rule 28(a)(7). The constitutionally minimal requirements for standing are an injury-in-fact, causation, and redressability. *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992). Petitioners claim they are injured by both acidification and nutrient enrichment, in both aquatic and terrestrial ecosystems, caused by the deposition of nitrogen and sulfur compounds. Pet. Br. at 24.

However, none of Petitioners' declarations alleges that any member of any of the petitioning associations is harmed by nutrient enrichment, in either aquatic or terrestrial ecosystems. All but one of Petitioners' declarations are focused explicitly and solely on acid deposition, sometimes referred to as acid rain. *See, e.g.*, Decl. of John Davis ¶¶ 5, 10, 15 (Pet. Br. at DEC3, 6, 8); Decl. of Gregory Gorman ¶¶ 6, 7 (Pet. Br. at DEC10); Decl. of Mollie Matteson ¶¶ 4, 5, 9, 13 (Pet. Br. at DEC13, 14, 16, 18); Decl. of Elizabeth Norcross ¶¶ 4, 8, 9 (Pet. Br. at DEC 21-22). None of Petitioners' declarations mentions nutrient enrichment at all. Petitioners therefore lack standing to challenge EPA's decision not to revise the secondary NAAQS to address nutrient enrichment in either aquatic or terrestrial ecosystems.

II. THE CLEAN AIR ACT DOES NOT REQUIRE EPA TO REVISE A NAAQS WHERE EPA CANNOT MAKE A REASONED DETERMINATION WHETHER THE REVISED STANDARD WOULD ATTAIN AND MAINTAIN THE REQUISITE DEGREE OF PROTECTION.

Under section 7409(d)(1), EPA must revise secondary NAAQS "as may be appropriate in accordance with" section 7409(b). 42 U.S.C. § 7409(d)(1). Section 7409(b)(2) requires secondary NAAQS to be a level of air quality judged by the Administrator as requisite to protect public welfare, so a revision to a NAAQS is only appropriate if EPA can judge that the revised standard provides the requisite degree of protection. If uncertainties regarding the potential revised standards are

judged by the Administrator to be so substantial that she cannot make a reasoned decision that the revision would be in accordance with section 7409(b)(2), then it is not appropriate for the Administrator to revise the NAAQS.

A. The Clean Air Act Only Requires EPA to Revise a NAAQS "As May Be Appropriate In Accordance With" Section 7409(b).

Petitioners' argument is that whenever EPA determines that an existing secondary NAAQS is no longer requisite to protect against a particular adverse impact on the public welfare, EPA must revise the secondary standard. Pet. Br. at 26. However, EPA's obligation is to revise a NAAQS "as may be appropriate in accordance with" section 7409(b). 42 U.S.C. § 7409(d)(1). Thus, a revision is only "appropriate" when it is in accordance with section 7409(b), which requires a reasoned judgment by EPA that the revised standard would provide the requisite degree of protection. *See* 42 U.S.C. § 7409(b)(2) (standards must "specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator . . . is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air"). If, as here, EPA cannot make that reasoned determination, then EPA is not required to revise the NAAQS.

This interpretation of section 7409(d)(1) is consistent with this Court's precedents regarding EPA's decision to revise a NAAQS. For example, in

American Farm Bureau Federation, the Court addressed a case where EPA revised a secondary standard, but failed to determine the requisite degree of protection that the standard needed to achieve. The Court held that when EPA revises a standard EPA must determine the degree of protection that is requisite to protect public welfare. 559 F.3d at 530. Revising the standard without determining the degree of protection needed to meet the criteria of section 7409(b) is not "in accordance with" section 7409(b), and leaves EPA's standard without a reasoned basis. *Id.* *American Farm Bureau Federation* establishes that when EPA revises a NAAQS, the revised standard must be one that EPA judges will provide the requisite degree of protection, *i.e.*, be in accordance with section 7409(b). EPA's interpretation of section 7409(d) is consistent with this opinion. Where EPA cannot make a reasoned determination that a revision provides the requisite degree of protection, and therefore would be "in accordance with" section 7409(b), then EPA is not required to revise the standard.

Similarly, in *American Trucking Ass'ns v. EPA*, 175 F.3d 1027, 1040-41 (D.C. Cir. 1999), *rev'd on other grounds, Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457 (2001), the Court addressed the argument that consideration of costs is one pertinent factor in determining whether revision of a NAAQS is "appropriate." The Court rejected this argument, stating that it "ignores the clause immediately following 'appropriate,' which incorporates [section 7409(b)] and thereby

affirmatively precludes consideration of costs in revising NAAQS." 175 F.3d at 1040. Likewise, the Court addressed the argument that certain provisions in Title I of the CAA, adopted to reduce ozone levels throughout the country, preclude EPA from revising the primary and secondary ozone NAAQS by rendering revisions "inappropriate" within the meaning of section 7409(d)(1). *Id.* at 1045-45; 1047. The Court held that "appropriateness" under section 7409(d)(1) "is to be determined 'in accordance with section 7408 ... and [section 7409(b)],'" and noted that, in the Court's view, the phrase "in accordance with" sections 7408 and 7409(b) "means exclusively in accord with those sections." *Id.* at 1047. Because under *American Trucking* section 7409(b) is the sole measure of whether or not it is appropriate to revise a NAAQS, a revised standard would not be appropriate if the revision establishes a level of air quality that EPA cannot reasonably determine would meet the criteria of section 7409(b). By the same reasoning, EPA can decide it is not appropriate to revise a standard where EPA cannot make a reasoned determination that a revision would be in accordance with section 7409(b).

Under Petitioners' reading, the phrase in section 7409(d), "as may be appropriate in accordance with" section 7409(b), becomes superfluous. This is contrary to traditional canons of statutory interpretation. *See Consumer Fed'n of Am. & Public Citizen v. U.S. Dept. of Health & Human Services*, 83 F.3d 1497, 1503 (D.C. Cir. 1996) ("If 'as appropriate' is to have any effect, then, it must mean

that the agency must specifically include the risks and consequences factors in its regulations only to the extent appropriate. To conclude otherwise, as Consumer Federation advocates, would violate a basic canon of statutory construction by treating the two words as surplusage.”).

Petitioners incorrectly assume that EPA has an independent duty to determine the national target, or requisite, degree of protection, separate and apart from the duty to specify an air quality level that achieves the target degree of protection. Pet. Br. at 27-28. *See also id.* at 34 (arguing that EPA has a mandatory duty first to identify a requisite level of protection and then to set the standard to achieve that level of protection). Petitioners’ argument flows from a misreading of *American Farm Bureau Federation*. According to Petitioners, that case requires EPA to “first identify the requisite level of protection for the affected welfare value and then set the secondary NAAQS to achieve that level of protection.” Pet. Br. at 30. However, there is no free-standing independent duty to determine the requisite degree of protection separate from the process of setting the standard. Instead, the statutory duty under section 7409(b) is to specify an air quality level (*i.e.*, set a standard) that attains and maintains a degree of protection that the Administrator judges is requisite. If EPA cannot make a reasoned determination that any particular air quality level will attain and maintain any particular degree of protection that the Administrator determines to be requisite, then a revision would

not be in accordance with section 7409(b). EPA is not required to make a revision that would not be in accordance with section 7409(b).

In *American Farm Bureau Federation*, EPA did revise a NAAQS, and the Court recognized that a central step in that process is EPA's determination of what degree of protection is judged by the Administrator to be requisite. But that does not address the case where, as here, EPA is not able to make a reasoned determination that a revised standard would meet the criteria of section 7409(b). Here, EPA's proposal discussed a range of possible values for the national level of acid neutralizing capacity and a range of percentile of waterbodies that must meet that level, amounting to a range of potential protection. The final rule did not determine what degree of protection would be requisite, because EPA could not determine that any specific level of air quality would achieve any particular degree of protection that EPA might judge to be requisite. 77 Fed. Reg. at 20,255/3 (JA0115). This stemmed from EPA's inability to determine for many areas of the country the degree of protection any standard based on the Index would actually achieve. *Id.* at 20,255/3; *see also id. at* 22,262/3 ("At present, in the Administrator's judgment, the unique uncertainties present in this review are of such significance that they preclude a reasoned understanding of the degree of protectiveness that would be afforded to various ecoregions across the country by a new standard defined in terms of a specific nationwide target ANC level and a

specific percentile of water bodies for acid-sensitive ecoregions, together with an [Index] defined in terms of ecoregion-speci fic F factors.") (JA0115, 0122). Based on this, the Administrator judged that the current data limitations and uncertainties in specifying the elements of the Index prevented her from reaching a reasoned judgment as to what standard would provide any degree of protection that the Administrator might determine was requisite. *Id.* at 20,255/3 (JA0115).

In this context, it was not necessary for the Administrator to go further and decide in the abstract what degree of protection was requisite, as this would not change her decision to not revise the standard. No matter what degree of protection EPA were to determine to be requisite, EPA would still be unable to make a reasoned determina tion that any standard based on the chosen national level of acid neutralizing capacity and percentile of waterbodies, using the modeled F factors for the ecoregions, would be sufficient but not more than necessary to achieve this desired degree of protection. *See Whitman*, 531 U.S. at 476 ("requisite" means "not lower or higher than necessary").

EPA therefore reasonably interpreted section 7409(d)'s obligation to revise the standard "as may be appropriate in accordance with" section 7409(b) to mean that EPA is not required to revise the standard when, in the Administrator's judgment, the uncertainties are so high that the Administrator is not able to make a

reasoned determination that the revised standard would meet the criteria of section 7409(b).

Petitioners' contrary interpretation of 7409(d)(1) not only reads the phrase "as may be appropriate" out of the statute, but is also inconsistent with their focus on aquatic acidification. EPA has identified four different effects on public welfare due to the deposition of oxides of nitrogen and sulfur: acidification of aquatic ecosystems, acidification of terrestrial ecosystems, nutrient enrichment in terrestrial ecosystems, and nutrient enrichment in aquatic ecosystems. EPA found that the existing secondary NAAQS for NO2 and SO2 are not requisite to protect against any of these effects, but based on the state of the science, EPA was only able to even attempt to develop a framework to address one of these four effects, aquatic acidification. Policy Assessment at 7-77 (information is insufficient to address anything except aquatic acidification) (JA0325); 77 Fed. Reg. at 20,222/2-3 (EPA chose to focus on aquatic acidification because that is the area in which scientific linkages among atmospheric concentrations, deposition, and environmental effects are most clearly established) (JA0082); 77 Fed. Reg. at 20,242/2 (Clean Air Scientific Advisory Committee agreed focus should be on aquatic acidification) (JA0102). Petitioners' interpretation would require EPA to revise the NAAQS to specify a level of air quality that is requisite to protect against *all* of these effects.

Congress required EPA to revise the standards when that can be done in accordance with section 7409(b). Here, EPA determined that it could not adopt a standard that would be in accordance with section 7409(b) and there is nothing in section 7409(d)(1) to indicate that Congress unambiguously required EPA to revise a NAAQS even if EPA cannot make a reasoned determination that the revised NAAQS meets the criteria of section 7409(b). EPA reasonably interpreted section 7409(b) as not requiring a revision under these circumstances.

B. Revision Of A NAAQS Is Not Appropriate Where EPA Cannot Make A Reasoned Determination That The Standard Will Provide The Requisite Degree Of Protection.

Independent of the statutory text, Petitioners argue that uncertainty can never be a sufficient reason to justify a decision not to set a NAAQS. Pet. Br. at 31-32. But Petitioners' argument conflicts with the requirement that a revised standard be one that is judged by the Administrator to be "requisite," because Petitioners would require EPA to set a NAAQS even if the Administrator cannot make a reasoned determination that the standard will not be over- or under-protective.

EPA agrees with Petitioners that perfect knowledge is not required before the Agency can act. Pet. Br. at 32. Thus, in *Coal. of Battery Recyclers Ass'n v. EPA*, 604 F.3d 613 (D.C. Cir. 2010), although there was uncertainty about the precise degree of risk posed by ambient concentrations of lead, EPA understood the effect on public health (in that case, IQ loss) and had a reasoned basis to set the

standard at a level that would provide the requisite degree of protection against that adverse effect. 604 F.3d at 616-17; *see also id.* at 619. Similarly, EPA in this case has a good understanding of the science underlying the relationship between ambient concentrations of nitrogen and sulfur compounds and the aquatic acidification related to the deposition of those compounds, such that the general structure of an Index based standard is well grounded. 77 Fed. Reg. at 20,260/1 (JA0120). The Index thus does a good job in general of predicting how much deposition of oxides of nitrogen and sulfur will fall in a particular ecoregion given a particular concentration of these air pollutants. This, however, is not the uncertainty that EPA cited in deciding not to revise the standards, as discussed below and in Argument III. Petitioners set up a straw man, Pet. Br. at 43, by pointing to uncertainties that exist but that are not the main uncertainties that prevent EPA from revising the secondary NAAQS. *See, e.g.*, 77 Fed. Reg. at 20,255/1 (explaining that EPA's decision is based on uncertainties "in the elements needed to derive the quantified F factors for ecoregions across the country and our ability to evaluate the representativen ess of those F factors for an entire ecoregion"); *id.* at 20,262/1-2 (recognizing that the uncertainties at issue in this NAAQS review are "in sharp contrast" to the types of uncertainties present in other NAAQS reviews) (JA0115, 0122).

EPA also has a good understanding, for some specific lakes and streams, of what those waterbodies' critical loads are, *i.e.*, what level of deposition will allow the waterbody to meet a target level of acid neutralizing capacity. However, NAAQS are not set waterbody-by-waterbody. The Index requires more than the target critical load for a particular waterbody, or even for a sample of waterbodies. Instead, EPA must determine the critical load that is representative of the desired percentile of waterbodies across an entire ecoregion, and do so for 84 separate ecoregions (the F1 factor). EPA must also determine the deposition of reduced nitrogen for each of the 84 ecoregions (the F2 factor), and the "transference ratios" by which EPA converts ambient concentrations of NOy and SOx into the deposition of these oxides (the F3 and 4 factors). Without adequate information to quantify these factors, there is no reasoned way to determine that an Index-based standard is protective enough, or too protective, to achieve the desired level of acid neutralizing capacity for the desired percentile of waterbodies. 77 Fed. Reg. at 20,255/3 (JA0115). In other words, the great uncertainties surrounding representative critical loads and deposition of reduced nitrogen (the F1 and F2 factors), in combination with the uncertainties related to deposition of oxides of nitrogen and sulfur (the F3 and 4 factors), go directly to whether EPA can make a reasoned determination that a standard it sets will provide the requisite degree of protection. This is a different type of uncertainty than what Petitioners focus on,

and it goes directly to EPA's ability to revise the NAAQS in accordance with section 7409(b).

If EPA had proceeded to revise the standard by selecting a level of air quality that was more protective than the existing NAAQS, but EPA did not or could not judge that the standard would provide the "requisite" degree of protection, EPA's action would have been subject to challenge for that reason.

Massachusetts v. EPA, 549 U.S. 497 (2007) supports EPA's decision, contrary to Petitioners assertion. Pet. Br. at 33. The statutory provision at issue in *Massachusetts*, 42 U.S.C. § 7521(a)(1), required EPA to "prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 549 U.S. at 506. After finding that at least one petitioner had standing and that the statute allows EPA to regulate the emissions of greenhouse gases as "pollutants," *id.* at 532, the Court reversed EPA's decision not to exercise that authority. EPA had concluded that it would be neither effective nor appropriate to make a determination concerning endangerment and issue regulations, for various policy-related reasons. The Court faulted EPA for relying on reasons "divorced from the statutory text." *Id.* Specifically, the Court held that

under section 7521(a)(1), "EPA can avoid taking further action only if it determines that greenhouse gases do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do." *Id.* at 533. The Court found that instead of making such a determination, EPA had relied on "policy judgments" such as a preference for using other regulatory programs and a concern over impairing the President's ability to conduct foreign policy. *Id.* The Court explained that none of these reasons have anything "to do with whether greenhouse gas emissions contribute to climate change," which is the relevant statutory question. Nor are they a "reasoned justification for declining to form a scientific judgment. *Id.* at 533-34.

EPA's decision regarding the secondary NAAQS is different. Unlike in *Massachusetts*, here EPA did provide a reasoned justification for declining to proceed, based on the state of the science, and that justification is tied directly to the relevant statutory question, *i.e.*, would a revised standard provide the requisite degree of protection. EPA did not rely on policy considerations unrelated to this statutory question. In fact, EPA has consistently taken the position that it is inappropriate to revise a NAAQS, even if there is information that the current standard is no longer sufficient to ensure the requisite degree of protection, where there is sufficient uncertainty that a revised standard will do so. *See supra* at 6-9

(discussing history of EPA's prior considerations of the secondary NAAQS for oxides of nitrogen and sulfur).

In the administrative decision under review in *Massachusetts*, EPA also pointed to scientific uncertainty as a reason for declining to act. *Id.* at 513. According to the Court, EPA in that case gave "controlling importance" to its inability unequivocally to establish a causal link between increased concentrations of greenhouse gases as a result of human activities and increased global surface air temperatures. *Id.* EPA decided that "it would therefore be better not to regulate at this time." *Id.* at 534. The *Massachusetts* Court recognized that an endangerment determination might not need to be made "[i]f the scientific uncertainty is so profound that it precludes EPA from making a reasoned judgment as to whether greenhouse gases contribute to global warming," but noted that EPA did not make that conclusion. Instead, EPA concluded it would not be appropriate to proceed, whereas the "statutory question is whether sufficient information exists to make an endangerment finding." *Id.* at 534.

Here, in contrast, EPA determined it was not appropriate to proceed, *because* the scientific uncertainty is so profound that the Administrator could not make a reasoned judgment as to whether a revised standard would be in accordance with section 7409(b), *i.e.*, whether or not a revised NAAQS would be requisite to protect public welfare against the impacts on the aquatic environment

from acidifying deposition of oxides of nitrogen and sulfur – much less against other impacts, such as terrestrial acidification and nutrient enrichment. 77 Fed. Reg. at 20,256/1 (JA0116). As the Court in *Massachusetts* directed EPA to do, EPA has grounded its reason for inaction in the statute, by concluding that because the Administrator could not make a reasoned determination whether or not a revised standard would provide the requisite level of protection from these impacts, it would be inappropriate to revise the secondary NAAQS. While the reasonableness of that determination depends on the administrative record, discussed in Argument III, below, nothing in the statute unambiguously precludes EPA from declining to revise a NAAQS based on such a determination.

III. EPA'S DECISION NOT TO ESTABLISH A NEW SECONDARY NAAQS AT THIS TIME IS SUPPORTED BY THE ADMINISTRATIVE RECORD AND ADEQUATELY EXPLAINED.

A. The Administrative Record Supports EPA's Determination Not To Revise The Standard At This Time.

EPA's decision not to establish a new secondary standard at this time is well-supported by the administrative record. The difficulty of establishing a representative value for the F1 factor in the Index for all 84 ecoregions illustrates the uncertainties the Administrator faced. As noted above, the F1 factor is designed to identify the "critical load" of deposition for a particular ecoregion that is associated with a desired level of acid neutralizing capacity and a desired

percentile of waterbodies. This critical load identifies the amount of deposition that can occur and still achieve the desired acid neutralizing capacity for the desired percentile of waterbodies in the specific ecoregion.

However, the natural ability of any particular waterbody in an ecoregion to neutralize acid is affected by many characteristics of the ecoregion. For example, base cations are positive ions of calcium, magnesium, potassium, and sodium, which counteract acidification and affect the natural ability of a waterbody to neutralize acid. Policy Assessment at xiv, 2-67, 3-2, 7-62 (JA0220, 0243, 0246, 0310). The supply of base cations depends on factors such as weathering, erosion, and the pre-industrial composition of the soil. *Id.* at 7-19 (JA0267). The amount of nitrogen taken up by plants also affects a waterbody's ability to neutralize acid. *Id.* at 7-28 (JA0276). In addition, the runoff rate in a particular basin also influences the natural ability of the waterbodies in an ecoregion to neutralize acid. *Id.* at ES-9 (JA0205); *see generally* 77 Fed. Reg. at 20,245 (JA0105). Both the base cation supply and the runoff rate at the basin level are aspects of the Index where the uncertainty is high. Policy Assessment at 7-74 to 7-75 (JA0322-0323); *see also* 77 Fed. Reg. at 20,249/2 (the critical load-related component of the Index has "much higher uncertainties") (JA0109). Each of these characteristics is unique to each waterbody and can vary among waterbodies in different ecoregions as well as within the same ecoregion. Each of these characteristics must be evaluated on

an ecoregion-wide basis, in order to develop a critical load that represents the entire ecoregion, and that achieves a national target level of acid neutralizing capacity and percentile of waterbodies.

Data can be collected for a specific waterbody, and the average surface runoff rate, in meters per year, for a particular basin can be calculated, and together these can be used to estimate a particular waterbody's base cation supply and nitrogen uptake, and thus the critical load for that waterbody, *i.e.*, the amount of deposition that can occur and still attain the desired level of acid neutralizing capacity for that waterbody. However, a national standard must address aquatic acidification for waterbodies across all 84 ecoregions. In order to do so, EPA must have information and data on the characteristics of the ecoregions and its waterbodies, across the range of waterbodies in the ecoregion. EPA then uses modeling to estimate the representative critical load for that ecoregion. There is a wide disparity across ecoregions as to degree of data available to EPA to determine the representative critical load for the ecoregion. While EPA had a reasonable supply of information for some of the more well-studied ecoregions, especially in the eastern United States, for many ecoregions the supply of information was much more limited. 77 Fed. Reg. at 20,261/2 (JA0121). As a result, for many ecoregions there was great uncertainty in modeling the appropriate F1 factor for

that ecoregion that would achieve the desired level of acid neutralizing capacity and the desired percentile of waterbodies in the ecoregion.

The Clean Air Scientific Advisory Committee echoed this concern, noting that "the available data may reflect the more sensitive waterbodies and thus, the selection of percentiles of waterbodies to be protected could be conservatively biased." Committee Comments at 2 (JA0351). Petitioners assert that this concern is limited to the context of "future" EPA work and does not express any view by the Committee that EPA should not revise the secondary NAAQS. Pet. Br. at 46. But, the Committee's actual comment is that "[a]s EPA moves forward in *this* regulatory process, we recommend some attention be given to our concern" regarding potential bias in the Index due to data limitations. Committee Comments at 2 (JA0351). The "process" to which the Committee refers is not a decision how to implement such a standard once it is adopted, as Petitioners suggest. Rather, the process is the rulemaking at issue in this case, *i.e.*, the decision whether or not to adopt an Index-based standard.

EPA also faced significant uncertainties regarding the F2 factor in the Index, which addresses the deposition of reduced forms of nitrogen, such as ammonia, as opposed to oxides of nitrogen. The "high uncertainty" involved in characterizing this aspect of aquatic acidification is due to the lack of field information about ammonia deposition, the difficulty in obtaining such information (due to the

diffuse nature of its sources, which are both area-wide and non-point), and the complex chemistry and dispersal patterns that ammonia presents. 77 Fed. Reg. at 20,249/3 (JA0109), 76 Fed. Reg. at 46,131/2 ("Field measurements of [reduced nitrogen] have been extremely limited, but have begun to be enhanced") (JA0061). Although the F3 and F4 factors also suffer from important and significant uncertainties, the F1 and F2 factors are the greatest sources of uncertainty. *Id.* at 20,255/1 (JA0115).

As Petitioners note, Pet. Br. at 47-48, the Clean Air Scientific Advisory Committee did conclude that EPA has a "broad but reasonable range of minimally to substantially protective options for the standard." Committee Comments at 9 (JA0358). But that misses the point; as explained above, there is no need for EPA to establish the requisite degree of protection, if the uncertainties regarding the representative nature of the Index are so great that EPA cannot ensure that any degree of protection that is desired will be obtained. Because the administrative record supports EPA's conclusion that it is not appropriate to revise the NAAQS to address acidification of aquatic ecosystems at this time, EPA's decision should be upheld, given the deference due EPA's evaluation of the complex scientific and technical issues facing the Agency.

Finally, although Petitioners argue that there is an ample basis on which the Administrator can establish a secondary NAAQS to address aquatic acidification,

Pet. Br. at 36-41, nowhere do Petitioners assert that the Administrator has any basis on which to establish a NAAQS to address terrestrial acidification or nutrient enrichment. As noted above, EPA devoted its resources on aquatic acidification, with the concurrence of the Clean Air Scientific Advisory Committee, and the Index only addresses that welfare effect. Because there is absolutely nothing in the record to indicate that EPA could select a standard that would ensure a level of air quality requisite to protect the public welfare from terrestrial acidification or nutrient enrichment, EPA's decision that it is not appropriate to establish a NAAQS at this time to address those effects should also be upheld.

B. EPA Adequately Explained The Basis For Its Decision.

Petitioners assert that EPA simply recited several uncertainties, such as limitations in the available data and uncertainty regarding models, all of which were discussed in the Policy Assessment and the Clean Air Scientific Advisory Committee review, and that EPA "asserted in conclusory fashion" that a standard could not be set. Pet. Br. at 43-44. Although EPA did note these uncertainties, they are not the primary bases for EPA's decision, and Petitioners' attempt to focus the Court's attention on these "red herrings" should be rejected.

Instead, the key uncertainties, as EPA explained, are not merely data gaps or limitations in modeling but the direct impact these shortcomings have on determining whether the information that EPA possesses is representative of

conditions on an ecoregion-wide basis. EPA explicitly explained its reasoning in the preamble. *See, e.g.*, 77 Fed. Reg. at 20,261/1 (reciting the uncertainty of quantifying the F factors and "their representativeness at an ecoregion scale"); *id.* at 20,261/2 (explaining that even where data exists for a particular ecoregion, "small sample sizes in some areas impede efforts to characterize the representativeness of the available data at an ecoregion scale"); *id.* (explaining that the nature of uncertainties "fundamentally different than uncertainties that have been relevant in other NAAQS reviews"); *id.* at 20,261/3 (noting that an important uncertainty "relates to limitations in the extent to which the representativeness of various factors can be determined at an ecoregion scale, which has not been a consideration in other NAAQS"); *id.* (explaining that uncertainties affect how well an Index-based standard "would predict the actual relationship" and therefore EPA's ability to characterize the protectiveness) (JA0121).

Aside from the complexity of the undertaking, this is unlike most NAAQS rulemakings. EPA's typical approach is to establish standards which compare monitored concentrations of an air pollutant against a numerical metric of atmospheric concentration that does not vary geographically. This approach has appropriately protected public health, as at-risk populations are widely distributed throughout the nation. In contrast, in order to provide the requisite level of protection to public welfare from effects on sensitive ecosystems from pollutants

such as oxides of nitrogen and sulfur, EPA must consider variable factors such as atmospheric variables and location-specific characteristics of ecosystems. Policy Assessment at 1-13 (JA0235). This secondary NAAQS review thus presents unique scientific and technical challenges, because in it EPA is attempting to develop a standard that relies not just on ecological and atmospheric modeling, but also on the ability of those models to generate values that are representative throughout an entire ecosystem. *See, e.g.*, 77 Fed. Reg. at 20,261/2-3 (JA0121).

EPA explained the areas where there is greater certainty, such as the scientific concepts at issue and the boundaries of the ecoregions, and EPA explained in detail the sources of uncertainty and how these uncertainties relate to the science-based public welfare decision before the Agency. Specifically, EPA explained how these uncertainties affect the Agency's ability to determine the protectiveness of any specific standard. EPA also explained the Administrator's final decision, and the Agency's plans for the future development of a pilot project. EPA's explanation carefully tied its decision to the factual record and explained how this record supported its decision. This more than satisfies the Agency's obligation to explain its decision based on the record before it.

IV. THE COURT SHOULD NOT IMPOSE A DEADLINE FOR EPA TO ESTABLISH A NEW SECONDARY NAAQS.

The Court should decline Petitioners' request to set a 14-month deadline for EPA to act if the Court remands EPA's decision for further consideration. Pet. Br. at 48-49. *See Natural Res. Def. Council v. EPA*, 489 F.3d 1364, 1375 (D.C. Cir. 2007) ("We decline to set a two year limit on EPA's proceedings on remand as the NRDC requests; mandamus affords a remedy for undue delay."); *North Carolina v. EPA*, 550 F.3d 1176, 1178 (D.C. Cir. 2008) (per curiam) (declining invitation to "impose a definitive deadline by which EPA must correct [clean air rule's] flaws" and reminding petitioners of availability of mandamus). Although Petitioners point out that they had to sue EPA and obtain a consent decree in order for the Agency to complete this review, Pet. Br. at 48, EPA did act within the decree's timeframe. The Court can and should presume that in the event of a remand, EPA will act diligently to reach a final decision consistent with the Court's opinion.

CONCLUSION

For the foregoing reasons, the petition should be denied.

Respectfully submitted,

IGNACIA S. MORENO
Assistant Attorney General

__/s/ Daniel R. Dertke _____
DANIEL R. DERTKE
Environmental Defense Section

Environment and Natural Resources Div.
United States Department of Justice
P.O. Box 7611
Washington, D.C. 20044
(202) 514-0994

May 20, 2013

CERTIFICATE OF COMPLIANCE WITH WORD LIMITS

Pursuant to Fed. R. App. P. 37(a)(7)(C), and exclusive of the components of the brief excluded from the word limit pursuant to Fed. R. App. P. 32(a)(7)(B)(iii) and Circuit Rule 32 (a)(1), I certify that the foregoing Brief for Respondent contains 11,184 words, as counted by the "word count" feature of my Microsoft Office Word software.

/s/ Daniel R. Dertke
DANIEL R. DERTKE

CERTIFICATE OF SERVICE

I hereby certify that all counsel of record who have consented to electronic service are being served with a copy of the foregoing Final Brief for Respondents via the Court's CM/ECF system on this 20th day of May, 2013.

/s/ Daniel R. Dertke
DANIEL R. DERTKE

ORAL ARGUMENT NOT YET SCHEDULED

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

NO. 12-1238

CENTER FOR BIOLOGICAL DIVERSITY, ET AL.,

PETITIONERS,

V.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

RESPONDENTS.

ON PETITION FOR REVIEW OF FINAL AGENCY ACTION OF THE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

BRIEF FOR RESPONDENTS

IGNACIA S. MORENO
ASSISTANT ATTORNEY GENERAL
ENVIRONMENT AND NATURAL
RESOURCES DIVISION

DANIEL R. DERTKE
ENVIRONMENTAL DEFENSE SECTION
U.S. DEPARTMENT OF JUSTICE
P.O. BOX 7611
WASHINGTON, D.C. 20044
TEL: (202) 514-0994
FAX: (202) 514-8865

FEBRUARY 19, 2013

RESPONDENT'S CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

A. Parties and *Amici*

All parties appearing in this Court are accurately identified in the Brief of Petitioners, with the exception of Lisa P. Jackson, Administrator, EPA; Bob Perciasepe is currently the Acting Administrator.

B. Rulings Under Review

The agency action under review is EPA's final rule entitled *Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur*, published in the Federal Register at 77 Fed. Reg. 20,218 (Apr. 3, 2012).

C. Related Cases

This case was not previously before this Court or any other court.

Respectfully submitted,

/s/ Daniel R. Dertke
DANIEL R. DERTKE, Attorney
Environmental Defense Section
U.S. Department of Justice

February 19, 2013

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GLOSSARY

ANC	acid neutralizing capacity
CAA	Clean Air Act
CASAC	Clean Air Scientific Advisory Committee
NAAQS	National Ambient Air Quality Standards
NO_2	nitrogen dioxide
NOx	the sum of nitric oxide (NO) and nitrogen dioxide (NO_2)
NOy	total reactive oxidized nitrogen; the complete set of oxidized nitrogen compounds
PA	Policy Assessment
Pet. Br.	Brief of Petitioners
ppm	parts per million
SO_2	sulfur dioxide
SOx	the sum of gaseous sulfur dioxide (SO_2) and particulate sulfate (SO_4); virtually all of the oxidized sulfur mass in the atmosphere
ueq/L	microequivalents per liter

JURISDICTIONAL STATEMENT

On April 3, 2012, acting pursuant to the Clean Air Act ("CAA" or "the Act"), EPA published a final rule declining to establish new secondary National Ambient Air Quality Standards ("NAAQS") to address acidification and nutrient enrichment in aquatic and terrestrial ecosystems caused by the deposition of oxides of nitrogen and sulfur. In the final rule EPA also decided to establish a field pilot program to enhance EPA's understanding of the degree of protectiveness that a new standard to address the acidification of aquatic ecosystems would afford. 77 Fed. Reg. 20,218 (Apr. 3, 2012) (JAxxxx). Petitioners Center for Biological Diversity, Clean Air Council, and National Parks Conservation Association ("Petitioners") timely filed this petition for judicial review. The Court has jurisdiction under 42 U.S.C. § 7607(b). However, as demonstrated in Argument I, below, Petitioners lack standing to challenge EPA's decision not to establish a new secondary NAAQS to address nutrient enrichment in aquatic and terrestrial ecosystems.

STATUTES AND REGULATIONS

All applicable statutes and regulations are contained in the Brief for Petitioners ("Pet. Br.").

ISSUES PRESENTED

1. Whether Petitioners have standing to challenge EPA's decision not to revise the secondary NAAQS to address nutrient enrichment in terrestrial or aquatic ecosystems, where Petitioners have not alleged any harm to any of their members from nutrient enrichment.

2. Whether the Clean Air Act requires EPA to revise the secondary NAAQS even if the scientific uncertainties are so substantial that the Administrator cannot make a reasoned determination whether or not the revised standard would provide the requisite degree of protection.

3. Whether the administrative record supports and EPA explained the basis for its decision that EPA cannot make a reasoned determination whether or not a revised standard would provide the requisite degree of protection.

STATEMENT OF THE CASE

I. NATURE OF THE CASE

This case involves "by far the most complex form of a NAAQS standard" that EPA has ever considered. 77 Fed. Reg. at 20,262/1 (JAxxxx). It concerns an "innovative and unique" attempt to link ambient concentrations of two pollutants (oxides of nitrogen and of sulfur), their deposition through mechanisms such as acid rain, and the resulting acidification of aquatic ecosystems. *Id.* at 20,260/3 (JAxxxx). Unlike most other NAAQS, it must take into account geographic

variability and the specific characteristics of separate ecosystems throughout the nation.

The Aquatic Acidification Index ("Index") seeks to provide a degree of protection from these effects that is uniform throughout the country, by allowing for varying concentrations of pollutants depending on atmospheric conditions and other ecological variables. It depends on the ability of ecological and atmospheric models to generate values that are representative throughout an entire ecosystem. But, like any model, the Index may be scientifically sound in theory or general concept yet, without the appropriate inputs, too uncertain to apply in practice.

Although EPA has devoted enormous amounts of time and resources to the development of the Index, EPA is not yet in a position to determine with a sufficient degree of certainty some of these key inputs. Without greater scientific certainty, the Administrator judged that she could not make a reasoned determination that a NAAQS based on the Index would be protective enough, but not too protective, against the effects on welfare of acidifying deposition of oxides of nitrogen and sulfur. The Administrator's decision should be upheld, and the petition for judicial review should be dismissed.

II. STATUTORY BACKGROUND

The Clean Air Act, 42 U.S.C. §§ 7401-7671q, is intended to "protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare." *Id.* § 7401(b)(1). NAAQS are a central element of the Act.

The NAAQS process begins with the development of "air quality criteria," which must "accurately reflect the latest scientific knowledge" regarding "all identifiable effects on public health or welfare" that may result from a pollutant's presence in the ambient air. *Id.* § 7408(a)(2). Section 7408 requires EPA to establish air quality criteria for certain pollutants, and Section 7409 then requires EPA to establish NAAQS for these pollutants. *Id.* §§ 7408(a), 7409(a). Based on the air quality criteria, EPA promulgates "primary" and "secondary" NAAQS to protect against a pollutant's effects on public health and welfare. *Id.* § 7409(b). "Primary" standards must be set at levels that, "in the judgment of the Administrator," are requisite to protect public health with "an adequate margin of safety." *Id.* § 7409(b)(1). The "secondary" standards must

> specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator . . . is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air.

Id. § 7409(b)(2). The term "requisite," in reference to both primary and secondary standards, means "not lower or higher than necessary." *Whitman v. Am. Trucking*

Ass'ns, 531 U.S. 457, 476 (2001). The Act defines "effects on welfare" broadly to include effects on soils, water, vegetation, and personal comfort and well-being, among other things. *Id.* § 7602(h). The NAAQS establish permissible concentrations of these pollutants in the "ambient," or outside, air. States must then establish State Implementation Plans ("SIPs") to attain and maintain the NAAQS within their borders. *Id.* § 7410.

A NAAQS has four components: an indicator, which defines what compound or compounds in the ambient air will be measured, such as nitrogen dioxide (NO_2), or particulate matter of 2.5 microns or less (PM2.5); a level, which specifies the maximum acceptable concentration of the indicator in the ambient air; an averaging time, which specifies the span of time across which the amount of the indicator will be averaged (such as annually, or daily, or 3 hours); and a form, which defines how compliance with the level will be determined within the averaging time. *See generally Am. Farm Bureau Fed'n v. EPA*, 559 F.3d 512, 516 (D.C. Cir. 2009). For example, to meet the current secondary NAAQS for sulfur oxides, the standard specifies that the average concentration over every three-hour period (*i.e.*, the averaging time) of sulfur dioxide (SO_2, the indicator) in the ambient air cannot exceed 0.5 parts per million (the level) more than once per year (the form). *See* 40 C.F.R. § 50.5.

Primary and secondary NAAQS, and air quality criteria, must be reviewed at five-year intervals, at which time the Administrator

> shall make such revisions in such criteria and standards and promulgate such new standards as may be appropriate in accordance with section 7408 of this title and subsection (b) of this section.

42 U.S.C. § 7409(d)(1). In its review, EPA must consider, and explain any significant departure from, the recommendations of the Clean Air Scientific Advisory Committee ("CASAC," or the "Committee"), an independent scientific review committee established to advise the Administrator on air quality criteria and NAAQS. *Id.* §§ 7409(d)(2)(B), 7607(d)(3). When a new NAAQS is issued, or an existing NAAQS is revised, EPA is required to designate as "nonattainment" any area that does not meet the new or revised standard. 42 U.S.C. § 7407(d)(1). Such areas are subject to "additional restrictions over and above the implementation requirements imposed generally by [the Clean Air Act]." *Whitman*, 531 U.S. at 476.

III. REGULATORY BACKGROUND

A. EPA's Regulation of Oxides of Sulfur

EPA first set secondary NAAQS for sulfur oxides in 1971, establishing both a short-term 0.5 ppm 3-hour standard and a 0.02 ppm annual standard. 36 Fed. Reg. 8186, 8187/2 (Apr. 30, 1971) (JAxxxx). Both of these standards addressed the direct effects of SO_2 on vegetation. EPA revoked the annual standard in 1973,

after that standard was remanded by this Court for further explanation of its basis. *See Kennecott Copper Corp. v. EPA*, 462 F.2d 846 (D.C. Cir. 1972). In response to comments that the annual standard should be retained because it provides some protection against, among other things, the occurrence of acid rain, EPA explained that although the formation and effects of acid rain were under investigation, the "data needed for standard-setting are not now available." 38 Fed. Reg. 25,678, 25,679/2 (Sept. 14, 1973) (JAxxxx). EPA further noted that the "relationships between the specific ambient air concentrations of sulfur dioxide, either alone or in combination with other environmental factors, and the adverse effects caused by those concentrations must be demonstrable or predictable prior to establishing any [NAAQS]." *Id.* at 25,679/2-3.

In 1980, the Clean Air Scientific Advisory Committee recommended that prior to attempting to control acid deposition through a NAAQS, EPA prepare a separate, comprehensive document on that issue. The Committee noted that "acid deposition is a topic of extreme scientific complexity" due to the difficulty in quantifying the relationship among the emissions of oxides of sulfur (and nitrogen), the formation of deposition products, and the effects on terrestrial and aquatic ecosystems. 77 Fed. Reg. at 20,220/1 (JAxxxx).

EPA produced assessments of acidic deposition in 1984 and 1985, and in 1993, during its most recent prior review of the secondary NAAQS for sulfur

oxides, EPA determined that although the "acid deposition phenomenon" is "[a]mong the major welfare effects associated with SO_2 emissions and their transformation products," revision of the secondary NAAQS for SO_2 to address acid deposition was not appropriate at that time. 58 Fed. Reg. 21,351, 21,355/2, 21,358/1 (Apr. 21, 1993) (JAxxxx). EPA reasoned that the better course was to develop more information and see how successful the Acid Rain program enacted in 1990 as Title IV of the Act would be in addressing the problem of acidifying deposition of oxides of sulfur. *Id.* at 21,357/3 (JAxxxx). EPA's determination that revision of the secondary standard was not appropriate was not challenged.

B. EPA's Regulation of Oxides of Nitrogen

EPA issued a secondary NAAQS for NO_2 in 1971, set at 0.053 parts per million NO_2 as an annual average, also directed solely to direct effects on vegetation. 36 Fed. Reg. at 8,187/3 (JAxxxx). EPA retained this standard in 1985, 50 Fed. Reg. 25,532 (June 19, 1985), and in 1987 EPA began its most recent prior review of the secondary NAAQS for NO_2. EPA released a draft criteria document in 1991, which EPA finalized in 1993 after receiving comments from the Clean Air Scientific Advisory Committee. 77 Fed. Reg. at 20,219/2-3 (JAxxxx). In 1996, EPA determined that revision of the secondary NAAQS for oxides of nitrogen was not appropriate at that time. EPA noted the scientific complexity of nitrogen deposition, and the significant uncertainties regarding the relationship between

atmospheric deposition and the appearance of nitrogen in surface water. 61 Fed. Reg. 52,852, 52,854/2 (Oct. 8, 1996) (JAxxxx). EPA therefore could not determine what levels of airborne reductions would be necessary. *Id.* at 52,854/3. Neither that decision, nor EPA's 1985 decision to retain the secondary standard, was challenged.

C. EPA's Current Rulemaking

1. Development of the Aquatic Acidification Index

EPA initiated the current review of the secondary NAAQS for oxides of nitrogen and for oxides of sulfur in December 2005, with a call for information to develop a revised Integrated Science Assessment, which is a comprehensive review, synthesis, and evaluation of the most relevant science. 77 Fed. Reg. at 20,221/2 (JAxxxx). EPA issued the final Integrated Science Assessment in December 2008, and a Risk and Exposure Assessment in September 2009. *Id.* EPA then prepared a Policy Assessment, which is a "bridge" between the relevant scientific and technical information and the judgments required of the Administrator in determining whether, and if so, how, it is appropriate to revise the secondary NAAQS for oxides of nitrogen and sulfur. Policy Assessment for the Review of the Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Oxides of Sulfur (Feb. 2011) ("Policy Assessment") at ES-1 (JAxxxx). EPA finalized the Policy Assessment in February 2011, and received

the Clean Air Scientific Advisory Committee's comments on the final version in May 2011. 77 Fed. Reg. at 20,221/2 (JAxxxx).

In the Policy Assessment, EPA developed and described the Aquatic Acidification Index as the potential form of a secondary NAAQS to address the acidifying impacts of the deposition of oxides of nitrogen and sulfur on aquatic ecosystems. Policy Assessment at ES-7 to ES-9 (JAxxxx). The Index is designed to link the concentrations of most oxides of nitrogen (NOy)[1] and sulfur (SOx)[2] in the ambient air, based on the propensity of those pollutants to be deposited on water, or on land and then reach water, with the ecological factors that govern acid sensitivity to such deposition in different aquatic habitats. *Id.*; *see also* 77 Fed. Reg. at 20,244/1 (JAxxxx).

The Index relies on the concept of acid neutralizing capacity ("ANC"), which is an ecological indicator of the health of acid-sensitive aquatic ecosystems. Policy Assessment at ES-2, ES-6 (JAxxxx, xxxx). At high levels of acid neutralizing capacity, aquatic biota are generally not harmed, but at lower levels the health and diversity of fish populations and other biota decline. *Id.* at ES-3

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[1] NOy represents total reactive oxidized nitrogen, *i.e.,* the complete set of oxidized nitrogen compounds, in contrast to NOx which represents the sum of nitric oxide (NO) and nitrogen dioxide (NO_2).

[2] SOx is the sum of gaseous sulfur dioxide (SO_2) and particulate sulfate (SO_4), and represents virtually all of the oxidized sulfur mass in the atmosphere.

(JAxxxx). The appropriate degree of protection for aquatic life is a policy judgment, and the Index is a mechanism to translate this policy judgment into allowable ambient air concentrations of NOy and SOx that would achieve that degree of protection. The policy judgment regarding the appropriate degree of protection would be specified, in part, in terms of a national target level of acid neutralizing capacity. 77 Fed. Reg. at 20,242/3 to 243-1; 20,257/2-3 (JAxxxx-xxxx; xxxx); *see also* Policy Assessment at ES-9; *id.* at 1-11, 1-14 (JAxxxx, xxxx, xxxx).

Because different parts of the country have different sensitivities to acid deposition and the resulting acidification, the Index would be applied on an ecoregion basis, with each ecoregion representing a geographic area with similar characteristics relevant to acid neutralizing capacity. Policy Assessment at ES-7 to ES-8 (JAxxxx-xxxx). Based on the available information, EPA considered an approach that would divide the United States into 84 ecoregions. *Id.*

The degree of protection from an Index based standard would also be based on the percentage of waterbodies in an ecoregion that are intended to meet the national target level of acid neutralizing capacity. Thus, one possible degree of protection that the Administrator might determine is requisite could be a national

target acid neutralizing capacity level of 75 ueq/L,[3] with that degree of protectiveness afforded to 90% of the waterbodies in each ecoregion. 77 Fed. Reg. at 20,247/3, 20,249/1 (JAxxxx, xxxx).

Although the Index can mathematically be expressed in a relatively short equation, Index = F1 – F2 – F3[NOy] – F4[SOx], each term in this equation necessarily takes into account numerous elements, and the apparent simplicity of this equation belies the complicated relationship between ambient concentrations of NOy and SOx and these pollutants' acidifying effect on aquatic habitats. *See, e.g.*, Individual comments of Dr. Rudolph Husar, attached to Clean Air Scientific Advisory Committee Comments on the Policy Assessment for the Review of the Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Oxides of Sulfur (Feb. 2011) ("Committee Comments") at 34 ("The equation may be simple but the complications are embedded in the factors F1 to F4. Also, these factors rely heavily on model estimates, so these 'simple' terms in [the Index] arise from very complicated calculations and they are also the carriers of much of the uncertainty in [the Index's] determination.") (JAxxxx).

For example, the F1 term represents the ability of the aquatic ecosystems in an ecoregion to neutralize acid deposition. For each ecoregion, EPA would

[3] Microequivalent units per liter, which is a means of comparing amounts of a substance by reference to their reactivity.

determine a representative "critical load" of acidifying deposition. The critical load for any one waterbody reflects the amount of deposition that the waterbody can receive and still sustain, for example, the national target level of acid neutralizing capacity for that waterbody. The representative critical load for an *ecoregion* would be based on a calculation of the critical loads for each waterbody within the ecoregion, for which sufficient data are available, and a specified percentile of this distribution of individual critical loads. If this representative critical load were to occur across the ecoregion, the goal would be that the target percentage of waterbodies within the ecoregion would achieve the national target level of acid neutralizing capacity or better. 77 Fed. Reg. at 20,247/2-3 (JAxxxx).

The ecoregion critical load varies by ecoregion, as it depends on geologic and other characteristics relevant to determining acid sensitivity, such as the runoff rate that is representative for the ecoregion. *Id.* at 20,247/2. In order to establish the value for F1, EPA must also consider a host of other ecological characteristics, such as topography and geology, which can vary widely from ecoregion to ecoregion and, in some cases, from waterbody to waterbody within an ecoregion.

While the F1 factor relates to the ability of an ecoregion to neutralize acidifying deposition, the factors F2-F4 relate to the amount of acidifying deposition that will occur based on reduced forms of nitrogen compounds in the ambient air, such as ammonia (the F2 factor), and oxdized forms of nitrogen and

sulfur compounds in the ambient air (the F3 and F4 factors). Each of these F factors are based on modeling, and face many uncertainties, as discussed below.

The target level of acid neutralizing capacity would be the same throughout the nation. The target percentage of waterbodies would be the same across the nation for acid-sensitive ecoregions, while the target percentage of waterbodies for non acid-sensitive regions might be somewhat less, to avoid overprotection in less sensitive areas. 77 Fed. Reg. at 20,247/3-248/1 (JAxxxx-xxxx). Achieving this national uniformity in targets requires that each of the F factors be established separately for each ecoregion. These ecoregion-specific factors would be based on modeling designed to characterize the effects of the many relevant physical and other characteristics of the ecoregion and its waterbodies, the deposition of nitrogen from its reduced forms in the ambient air, and the deposition of nitrogen and sulfur from the oxides of nitrogen and sulfur in the ambient air. In concept, the Index would therefore establish, for each of the 84 ecoregions, the ambient levels of oxides of nitrogen and oxides of sulfur that will result in achieving the national level of acid neutralizing capacity for the desired percentile of waterbodies.

The Index, however, does not attempt to address the acidification of terrestrial ecosystems, nor does it address nutrient enrichment in terrestrial or aquatic ecosystems. The Clean Air Scientific Advisory Committee supported

EPA's decision to focus on aquatic acidification as opposed to terrestrial acidification or nutrient enrichment. Policy Assessment at 1-10 to 1-11 (JAxxxx-xxxx). The Committee expressed general support for the conceptual framework of an Index-based standard, based on the underlying scientific information, and for the conclusions in the Policy Assessment with regard to the indicators, averaging time, form and level of the standard that are appropriate for the Agency to consider in reaching decisions on the review of the secondary NAAQS. 77 Fed. Reg. at 20,250-51 (JAxxxx-xxxx). The Committee also noted various caveats and concerns, including the importance of continuing to evaluate the performance of the models to account for model uncertainties and identifying potential biases in critical load calculations and in the regional representativeness of available water chemistry data. *Id.* at 20,251/1 (JAxxxx). These potential biases led the Committee to recommend that "some attention be given to our residual concern that the available data may reflect the more sensitive water bodies and thus, the selection of the percentiles of waterbodies to be protected could be conservatively biased." *Id.*

2. EPA's proposal.

On July 12, 2011, in satisfaction of one of the deadlines in a consent decree with Center for Biological Diversity and others, EPA signed its proposed decision. 76 Fed. Reg. 46,084 (Aug. 1, 2011) (JAxxxx). In the proposal, EPA determined

that the current secondary standards, which as noted above were developed to address direct effects on vegetation, are not ecologically relevant to deposition-related effects. *Id.* at 46,111/1 (JAxxxx). EPA also determined that current levels of oxides of sulfur and nitrogen are sufficient to cause acidification of both aquatic and terrestrial ecosystems and nutrient enrichment of terrestrial ecosystems, and contribute to nutrient enrichment in ways that could be considered adverse in some aquatic ecosystems. EPA also determined that current secondary standards do not provide adequate protection from these effects. *Id.* Because of the quantity and quality of the available information associated with aquatic acidification as compared to the information available for other deposition-related effects, EPA focused on developing a new multi-pollutant standard to address aquatic acidification. *Id.* EPA therefore considered whether a standard based on the Index would be appropriate to address the effect of acidifying deposition in aquatic ecosystems. *Id.*

EPA invited comment on all elements of the Index, on a range of potential national target levels of acid neutralizing capacity, and on a range of percentiles of waterbodies. *Id.* at 46,128/1-2 (JAxxxx). EPA proposed F factors for each of the 84 ecoregions, and discussed the sources and types of uncertainty associated with the development of the Index. *Id.* at 46,130-132 (JAxxxx-xxxx). However, EPA proposed not to adopt a standard based on the Index because the Administrator

could not determine whether key elements of the Index are representative of conditions throughout a given ecoregion, and thus whether compliance with such a standard would ensure a level of air quality requisite to protect the public welfare from aquatic acidification. *Id.* at 46,134/3-135/1 (JAxxxx-xxxx). Instead, EPA proposed to reduce the 1971 standards to the levels of the 1-hour primary standards for NO_2 and SO_2, set in 2010, which are 100 parts per billion NO_2 and 75 parts per billion SO_2. *Id.* at 46,135/2 (JAxxxx). EPA opined that this would "directionally benefit" the environment. *Id.* EPA also proposed to establish a field pilot program, to address several of the uncertainties regarding the Index and to better understand the degree of protectiveness that an Index-based standard would likely provide. *Id.* at 46,135/3-136/1 (JAxxxx-xxxx).

Industry groups supported EPA's decision not to propose an Index-based revision of the secondary NAAQS; some argued that further information and analysis is needed, while others criticized the entire Index-based approach. 77 Fed. Reg. at 20,253/1 (JAxxxx). Many commenters noted that air deposition modeling, critical load modeling, and the lack of water quality and watershed data preclude EPA from setting a standard at this time. *Id.* Other commenters, including several environmental groups, argued that the underlying scientific evidence supports the Index, and that the Index adequately accounts for the uncertainties in, and limitations of, that evidence. *Id.* at 20,253/2. Some commenters also argued that

despite the uncertainties and incomplete data, EPA must err in favor of stronger protection. *Id.* at 20,253/3. Some states, such as New York, supported the Index, while others, such as Pennsylvania and North Carolina, felt that additional information should be gathered before proposing a revised standard. *Id.* at 20,253/3-254/1 (JAxxxx-xxxx). Almost all commenters criticized EPA's proposal to set 1-hour NO_2 and SO_2 secondary standards identical to the primary standards. *Id.* at 20,258/3-259/3 (JAxxxx-xxxx).

3. EPA's final action.

After reiterating its conclusion that the current secondary standards do not provide adequate protection from the acidification of aquatic and terrestrial ecosystems, and nutrient enrichment in terrestrial ecosystems, EPA decided that it was not appropriate under section 7409(b) to set any new secondary standards at this time. 77 Fed. Reg. at 20,255/3, *see also id.* at 20,263/3 (JAxxxx, xxxx). As in the proposal, EPA focused on the potential for using the Index to establish a secondary standard to address acidifying deposition, not nutrient enrichment, and to address acidification in aquatic rather than terrestrial ecosystems. *Id.* at 20,222/2-3; *see also id.* at 20,242/2 (JAxxxx, xxxx). EPA recognized the "strong scientific foundation" for the Index, *id.* at 20,261/1 (JAxxxx), but noted significant uncertainties and complexities remain, in particular regarding the quantification of the F factors "and their representativeness at an ecoregion scale." *Id.* The

uncertainties involve, among other things, insufficient data "to characterize the representativeness of the available data at an ecoregion scale," which the Clean Air Scientific Advisory Committee and others noted as a particular concern. *Id.* EPA needs to have a sufficient degree of confidence that the F factors are representative for each ecoregion. For example, the factor F2 represents for the ecoregion the deposition of reduced nitrogen, however there is high uncertainty in developing this factor based on lack of field measurements and inherent complexity in modeling source emissions and dry deposition. 77 Fed. Reg. at 20,249/3 (JAxxxx); *see also* 76 Fed. Reg. at 46,131/2 (field measurements of reduced nitrogen have been "extremely limited") (JAxxxx). EPA also noted the data gaps in water quality and other factors relevant to developing representative F1 factors. 76 Fed. Reg. at 46,130/2-3 (preindustrial conditions, used in developing F1, are by definition not observable); *id.* at 46,131 (disparity in water quality data across the country) (JAxxxx, xxxx). EPA needs to have a sufficient degree of certainty that it has representative F factor values for the entire ecosystem, otherwise the Index may be far too restrictive, or not restrictive enough to provide the desired degree of protection against acidifying effects from deposition of oxides of nitrogen and sulfur.

EPA considered whether these uncertainties could be addressed by selecting either a more or less protective national target level of acid neutralizing capacity,

or a higher or lower national percentile of waterbodies. 77 Fed. Reg. at 20,262/3 (JAxxxx). EPA rejected this approach because it could not reasonably ascertain either the direction or the magnitude of the change from the national target level that these uncertainties cause. *Id.* *See also* Policy Assessment at 7-70 to 7-75 (Table 7-3, describing for the various elements used to develop the F factors the level of uncertainty, the impact of the uncertainty, and whether the uncertainty likely biases the Index towards less protection, more protection, or in both directions) (JAxxxx-xxxx). Because of EPA's current level of knowledge of the representativeness of the F factors developed for the 84 ecoregions, EPA could not reach "a reasoned understanding of the degree of protectiveness that would be afforded to various ecoregions across the country by a new standard defined in terms of a specific nationwide target [acid neutralizing capacity] level and a specific percentile of water bodies for acid-sensitive ecoregions." 77 Fed. Reg. at 20,255 (JAxxxx). Because EPA could not determine that a revised standard would be in accordance with section 7409(b), EPA concluded that it would not be appropriate under section 7409(d) to revise the secondary NAAQS. *Id.* at 20,263/3 (JAxxxx).

EPA also rejected the proposed option of adopting a secondary standard at the level of the primary standard, *id.*, but did decide to implement the field pilot program. *Id.* at 20,264 (JAxxxx).

Petitioners timely filed this petition for judicial review on June 1, 2012.

SUMMARY OF ARGUMENT

Petitioners challenge EPA's decision not to revise the secondary NAAQS for oxides of nitrogen and sulfur, to address the public welfare effects of acidification and nutrient enrichment in both aquatic and terrestrial ecosystems. Petitioners lack standing regarding nutrient enrichment, for failure to offer any evidence that any of their members are injured by this effect. Even if Petitioners had standing, the Clean Air Act does not compel EPA to revise the secondary NAAQS where, as here, EPA could not make a reasoned decision that such a revision would be in accordance with the statute. Furthermore, EPA adequately explained, and the record supports, EPA's conclusion that the uncertainties surrounding a potential revised standard to address aquatic acidification are so substantial that such a reasoned decision could not be made. The uncertainties regarding the other public welfare effects are even greater, and Petitioners do not seriously contend that the state of the science is sufficient for EPA to revise the NAAQS to address those effects.

The Clean Air Act requires EPA to revise secondary NAAQS "as may be appropriate in accordance with" section 7409(b), which in turn requires secondary NAAQS to be set at a level of air quality judged by EPA to be requisite to protect public welfare. 42 U.S.C. §§ 7409(d), (b)(2). If uncertainties regarding the

potential revised standards are judged by the Administrator to be so substantial that she cannot make a reasoned decision that the revision would be in accordance with section 7409(b)(2) – *i.e.*, that the revised standard would provide the requisite degree of protection, then it is not appropriate for the Administrator to revise the NAAQS. Petitioners' contrary argument, that EPA must revise the standard any time EPA finds an existing NAAQS to be inadequate, ignores the affirmative requirement in section 7409(b)(2) and would place EPA in the untenable position of being required to establish a standard that EPA cannot determine complies with the statute.

Petitioners would also create an independent duty to *determine* the requisite degree of protection, as a preliminary and independent step towards compliance with section 7409(b)(2)'s duty to specify an air quality level that *achieves* the requisite degree of protection. But there is no basis in the statute for two separate duties, and no need for EPA to determine the requisite degree of protection in isolation. It is only appropriate for EPA to take action if EPA can determine that a new standard, *i.e.*, an air quality level, will achieve a degree of protection that is "requisite."

EPA did not base its decision on the types of routine scientific uncertainties that underlie most models and predictions. Rather, EPA cannot make the necessary conclusion that the critical load calculation, which addresses the amount

of acidifying deposition a waterbody can withstand, is representative of all waterbodies within a particular ecoregion, for all ecoregions across the country. Nor can EPA adequately evaluate the models that address the deposition of reduced nitrogen and the oxides of nitrogen and sulfur. These are not the types of uncertainties that can be addressed through conservative assumptions or margins of error. Instead, they go directly to whether EPA can make a reasoned determination that a standard will provide the requisite degree of protection.

The record supports EPA's judgment that there is presently no reasoned way to determine whether a revised standard would be stringent enough, or too stringent, to achieve any intended degree of protection. Without the ability to make that determination, EPA cannot fulfill the statutory mandate in section 7409(b)(2), and EPA's decision that it is not appropriate to revise the secondary NAAQS should be upheld.

In the alternative, if the Court disagrees and remands EPA's decision, the Court should decline Petitioners' request to set a deadline for EPA to act. Instead, the Court should presume that EPA will continue in good faith to evaluate revising the NAAQS in accordance with section 7409(b)(2) and this Court's opinion.

STANDARD OF REVIEW

Under Clean Air Act section 307(d)(9), the Court may reverse EPA's action if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance

with law," or "in excess of statutory jurisdiction, authority, or limitations, or short of statutory right." 42 U.S.C. § 7607(d)(9)(A), (C). This standard is narrow, and a court is not to substitute its judgment for the agency's. *Bluewater Network v. EPA*, 370 F.3d 1, 11 (D.C. Cir. 2004). Where EPA has considered the relevant factors and articulated a rational connection between the facts found and the choices made, its regulatory choices must be upheld. *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983); *see also Lead Indus. Ass'n v. EPA*, 647 F.2d 1130, 1158 (D.C. Cir. 1980) ("[W]here there is evidence in the record which supports [the Administrator's] judgments, this court is not at liberty to substitute its judgment for the Administrator's."). It is not the court's "function to resolve disagreement among the experts or to judge the merits of competing expert views." *Lead Indus. Ass'n*, 647 F.2d at 1160. "That the evidence in the record may also support other conclusions, even those that are inconsistent with the [EPA] Administrator's, does not prevent [the court] from concluding that [her] decisions were rational and supported by the record." *Id.* (citations omitted). *See also American Trucking Ass'ns v. EPA*, 283 F.3d 355, 362 (D.C. Cir. 2002) (on the merits, courts presume the validity of agency actions and face only the limited task of ascertaining that the choices made by the Administrator were reasonable and supported by the record; that the evidence may support other conclusions, even

those inconsistent with the Administrator's, does not mean her decision was arbitrary).

Although a court must apply the language of the statute where it reflects "the unambiguously expressed intent of Congress," if the statute is "silent or ambiguous with respect to the specific issue," the court must defer to the agency's interpretation so long as it is "based on a permissible construction of the statute." *Chevron U.S.A., Inc. v. NRDC, Inc.*, 467 U.S. 837, 842-43 (1984).

ARGUMENT

I. PETITIONERS LACK STANDING TO CHALLENGE EPA'S DECISION NOT TO ESTABLISH A NEW SECONDARY NAAQS TO ADDRESS NUTRIENT ENRICHMENT IN AQUATIC AND TERRESTRIAL ECOSYSTEMS.

Petitioners have the burden of establishing standing, *Sierra Club v. EPA*, 292 F.3d 895, 899 (D.C. Cir. 2002), and must do so for each of their claims. *Davis v. Fed. Elections Comm.*, 554 U.S. 724, 733-34 (2008). *See also* D.C. Cir. Rule 28(a)(7). The constitutionally minimal requirements for standing are an injury-in-fact, causation, and redressability. *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992). Petitioners claim they are injured by both acidification and nutrient enrichment, in both aquatic and terrestrial ecosystems, caused by the deposition of nitrogen and sulfur compounds. Pet. Br. at 24.

However, none of Petitioners' declarations alleges that any member of any of the petitioning associations is harmed by nutrient enrichment, in either aquatic or terrestrial ecosystems. All but one of Petitioners' declarations are focused explicitly and solely on acid deposition, sometimes referred to as acid rain. *See, e.g.*, Decl. of John Davis ¶¶ 5, 10, 15 (Pet. Br. at DEC3, 6, 8); Decl. of Gregory Gorman ¶¶ 6, 7 (Pet. Br. at DEC10); Decl. of Mollie Matteson ¶¶ 4, 5, 9, 13 (Pet. Br. at DEC13, 14, 16, 18); Decl. of Elizabeth Norcross ¶¶ 4, 8, 9 (Pet. Br. at DEC 21-22). None of Petitioners' declarations mentions nutrient enrichment at all. Petitioners therefore lack standing to challenge EPA's decision not to revise the secondary NAAQS to address nutrient enrichment in either aquatic or terrestrial ecosystems.

II. THE CLEAN AIR ACT DOES NOT REQUIRE EPA TO REVISE A NAAQS WHERE EPA CANNOT MAKE A REASONED DETERMINATION WHETHER THE REVISED STANDARD WOULD ATTAIN AND MAINTAIN THE REQUISITE DEGREE OF PROTECTION.

Under section 7409(d)(1), EPA must revise secondary NAAQS "as may be appropriate in accordance with" section 7409(b). 42 U.S.C. § 7409(d)(1). Section 7409(b)(2) requires secondary NAAQS to be a level of air quality judged by the Administrator as requisite to protect public welfare, so a revision to a NAAQS is only appropriate if EPA can judge that the revised standard provides the requisite degree of protection. If uncertainties regarding the potential revised standards are

judged by the Administrator to be so substantial that she cannot make a reasoned decision that the revision would be in accordance with section 7409(b)(2), then it is not appropriate for the Administrator to revise the NAAQS.

A. The Clean Air Act Only Requires EPA to Revise a NAAQS "As May Be Appropriate In Accordance With" Section 7409(b).

Petitioners' argument is that whenever EPA determines that an existing secondary NAAQS is no longer requisite to protect against a particular adverse impact on the public welfare, EPA must revise the secondary standard. Pet. Br. at 26. However, EPA's obligation is to revise a NAAQS "as may be appropriate in accordance with" section 7409(b). 42 U.S.C. § 7409(d)(1). Thus, a revision is only "appropriate" when it is in accordance with section 7409(b), which requires a reasoned judgment by EPA that the revised standard would provide the requisite degree of protection. *See* 42 U.S.C. § 7409(b)(2) (standards must "specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator . . . is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air"). If, as here, EPA cannot make that reasoned determination, then EPA is not required to revise the NAAQS.

This interpretation of section 7409(d)(1) is consistent with this Court's precedents regarding EPA's decision to revise a NAAQS. For example, in

American Farm Bureau Federation, the Court addressed a case where EPA revised a secondary standard, but failed to determine the requisite degree of protection that the standard needed to achieve. The Court held that when EPA revises a standard EPA must determine the degree of protection that is requisite to protect public welfare. 559 F.3d at 530. Revising the standard without determining the degree of protection needed to meet the criteria of section 7409(b) is not "in accordance with" section 7409(b), and leaves EPA's standard without a reasoned basis. *Id.* *American Farm Bureau Federation* establishes that when EPA revises a NAAQS, the revised standard must be one that EPA judges will provide the requisite degree of protection, *i.e.*, be in accordance with section 7409(b). EPA's interpretation of section 7409(d) is consistent with this opinion. Where EPA cannot make a reasoned determination that a revision provides the requisite degree of protection, and therefore would be "in accordance with" section 7409(b), then EPA is not required to revise the standard.

Similarly, in *American Trucking Ass'ns v. EPA*, 175 F.3d 1027, 1040-41 (D.C. Cir. 1999), *rev'd on other grounds, Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457 (2001), the Court addressed the argument that consideration of costs is one pertinent factor in determining whether revision of a NAAQS is "appropriate." The Court rejected this argument, stating that it "ignores the clause immediately following 'appropriate,' which incorporates [section 7409(b)] and thereby

affirmatively precludes consideration of costs in revising NAAQS." 175 F.3d at 1040. Likewise, the Court addressed the argument that certain provisions in Title I of the CAA, adopted to reduce ozone levels throughout the country, preclude EPA from revising the primary and secondary ozone NAAQS by rendering revisions "inappropriate" within the meaning of section 7409(d)(1). *Id.* at 1045-45; 1047. The Court held that "appropriateness" under section 7409(d)(1) "is to be determined 'in accordance with section 7408 ... and [section 7409(b)],'" and noted that, in the Court's view, the phrase "in accordance with" sections 7408 and 7409(b) "means exclusively in accord with those sections." *Id.* at 1047. Because under *American Trucking* section 7409(b) is the sole measure of whether or not it is appropriate to revise a NAAQS, a revised standard would not be appropriate if the revision establishes a level of air quality that EPA cannot reasonably determine would meet the criteria of section 7409(b). By the same reasoning, EPA can decide it is not appropriate to revise a standard where EPA cannot make a reasoned determination that a revision would be in accordance with section 7409(b).

Under Petitioners' reading, the phrase in section 7409(d), "as may be appropriate in accordance with" section 7409(b), becomes superfluous. This is contrary to traditional canons of statutory interpretation. *See Consumer Fed'n of Am. & Public Citizen v. U.S. Dept. of Health & Human Services*, 83 F.3d 1497, 1503 (D.C. Cir. 1996) ("If 'as appropriate' is to have any effect, then, it must mean

that the agency must specifically include the risks and consequences factors in its regulations only to the extent appropriate. To conclude otherwise, as Consumer Federation advocates, would violate a basic canon of statutory construction by treating the two words as surplusage.”).

Petitioners incorrectly assume that EPA has an independent duty to determine the national target, or requisite, degree of protection, separate and apart from the duty to specify an air quality level that achieves the target degree of protection. Pet. Br. at 27-28. *See also id.* at 34 (arguing that EPA has a mandatory duty first to identify a requisite level of protection and then to set the standard to achieve that level of protection). Petitioners’ argument flows from a misreading of *American Farm Bureau Federation*. According to Petitioners, that case requires EPA to “first identify the requisite level of protection for the affected welfare value and then set the secondary NAAQS to achieve that level of protection.” Pet. Br. at 30. However, there is no free-standing independent duty to determine the requisite degree of protection separate from the process of setting the standard. Instead, the statutory duty under section 7409(b) is to specify an air quality level (*i.e.*, set a standard) that attains and maintains a degree of protection that the Administrator judges is requisite. If EPA cannot make a reasoned determination that any particular air quality level will attain and maintain any particular degree of protection that the Administrator determines to be requisite, then a revision would

not be in accordance with section 7409(b). EPA is not required to make a revision that would not be in accordance with section 7409(b).

In *American Farm Bureau Federation*, EPA did revise a NAAQS, and the Court recognized that a central step in that process is EPA's determination of what degree of protection is judged by the Administrator to be requisite. But that does not address the case where, as here, EPA is not able to make a reasoned determination that a revised standard would meet the criteria of section 7409(b). Here, EPA's proposal discussed a range of possible values for the national level of acid neutralizing capacity and a range of percentile of waterbodies that must meet that level, amounting to a range of potential protection. The final rule did not determine what degree of protection would be requisite, because EPA could not determine that any specific level of air quality would achieve any particular degree of protection that EPA might judge to be requisite. 77 Fed. Reg. at 20,255/3 (JAxxxx). This stemmed from EPA's inability to determine for many areas of the country the degree of protection any standard based on the Index would actually achieve. *Id.* at 20,255/3; *see also id. at* 22,262/3 ("At present, in the Administrator's judgment, the unique uncertainties present in this review are of such significance that they preclude a reasoned understanding of the degree of protectiveness that would be afforded to various ecoregions across the country by a new standard defined in terms of a specific nationwide target ANC level and a

specific percentile of water bodies for acid-sensitive ecoregions, together with an [Index] defined in terms of ecoregion-speci fic F factors.") (JAxxxx, xxxx). Based on this, the Administrator judged that the current data limitations and uncertainties in specifying the elements of the Index prevented her from reaching a reasoned judgment as to what standard would provide any degree of protection that the Administrator might determine was requisite. *Id.* at 20,255/3 (JAxxxx).

In this context, it was not necessary for the Administrator to go further and decide in the abstract what degree of protection was requisite, as this would not change her decision to not revise the standard. No matter what degree of protection EPA were to determine to be requisite, EPA would still be unable to make a reasoned determina tion that any standard based on the chosen national level of acid neutralizing capacity and percentile of waterbodies, using the modeled F factors for the ecoregions, would be sufficient but not more than necessary to achieve this desired degree of protection. *See Whitman*, 531 U.S. at 476 ("requisite" means "not lower or higher than necessary").

EPA therefore reasonably interpreted section 7409(d)'s obligation to revise the standard "as may be appropriate in accordance with" section 7409(b) to mean that EPA is not required to revise the standard when, in the Administrator's judgment, the uncertainties are so high that the Administrator is not able to make a

reasoned determination that the revised standard would meet the criteria of section 7409(b).

Petitioners' contrary interpretation of 7409(d)(1) not only reads the phrase "as may be appropriate" out of the statute, but is also inconsistent with their focus on aquatic acidification. EPA has identified four different effects on public welfare due to the deposition of oxides of nitrogen and sulfur: acidification of aquatic ecosystems, acidification of terrestrial ecosystems, nutrient enrichment in terrestrial ecosystems, and nutrient enrichment in aquatic ecosystems. EPA found that the existing secondary NAAQS for NO2 and SO2 are not requisite to protect against any of these effects, but based on the state of the science, EPA was only able to even attempt to develop a framework to address one of these four effects, aquatic acidification. Policy Assessment at 7-77 (information is insufficient to address anything except aquatic acidification) (JAxxxx-xxxx); 77 Fed. Reg. at 20,222/2-3 (EPA chose to focus on aquatic acidification because that is the area in which scientific linkages among atmospheric concentrations, deposition, and environmental effects are most clearly established) (JAxxxx); 77 Fed. Reg. at 20,242/2 (Clean Air Scientific Advisory Committee agreed focus should be on aquatic acidification) (JAxxxx). Petitioners' interpretation would require EPA to revise the NAAQS to specify a level of air quality that is requisite to protect against *all* of these effects.

Congress required EPA to revise the standards when that can be done in accordance with section 7409(b). Here, EPA determined that it could not adopt a standard that would be in accordance with section 7409(b) and there is nothing in section 7409(d)(1) to indicate that Congress unambiguously required EPA to revise a NAAQS even if EPA cannot make a reasoned determination that the revised NAAQS meets the criteria of section 7409(b). EPA reasonably interpreted section 7409(b) as not requiring a revision under these circumstances.

B. Revision Of A NAAQS Is Not Appropriate Where EPA Cannot Make A Reasoned Determination That The Standard Will Provide The Requisite Degree Of Protection.

Independent of the statutory text, Petitioners argue that uncertainty can never be a sufficient reason to justify a decision not to set a NAAQS. Pet. Br. at 31-32. But Petitioners' argument conflicts with the requirement that a revised standard be one that is judged by the Administrator to be "requisite," because Petitioners would require EPA to set a NAAQS even if the Administrator cannot make a reasoned determination that the standard will not be over- or under-protective.

EPA agrees with Petitioners that perfect knowledge is not required before the Agency can act. Pet. Br. at 32. Thus, in *Coal. of Battery Recyclers Ass'n v. EPA*, 604 F.3d 613 (D.C. Cir. 2010), although there was uncertainty about the precise degree of risk posed by ambient concentrations of lead, EPA understood the effect on public health (in that case, IQ loss) and had a reasoned basis to set the

standard at a level that would provide the requisite degree of protection against that adverse effect. 604 F.3d at 616-17; *see also id.* at 619. Similarly, EPA in this case has a good understanding of the science underlying the relationship between ambient concentrations of nitrogen and sulfur compounds and the aquatic acidification related to the deposition of those compounds, such that the general structure of an Index based standard is well grounded. 77 Fed. Reg. at 20,260/1 (JAxxxx). The Index thus does a good job in general of predicting how much deposition of oxides of nitrogen and sulfur will fall in a particular ecoregion given a particular concentration of these air pollutants. This, however, is not the uncertainty that EPA cited in deciding not to revise the standards, as discussed below and in Argument III. Petitioners set up a straw man, Pet. Br. at 43, by pointing to uncertainties that exist but that are not the main uncertainties that prevent EPA from revising the secondary NAAQS. *See, e.g.*, 77 Fed. Reg. at 20,255/1 (explaining that EPA's decision is based on uncertainties "in the elements needed to derive the quantified F factors for ecoregions across the country and our ability to evaluate the representativen ess of those F factors for an entire ecoregion"); *id.* at 20,262/1-2 (recognizing that the uncertainties at issue in this NAAQS review are "in sharp contrast" to the types of uncertainties present in other NAAQS reviews) (JAxxxx, xxxx).

EPA also has a good understanding, for some specific lakes and streams, of what those waterbodies' critical loads are, *i.e.*, what level of deposition will allow the waterbody to meet a target level of acid neutralizing capacity. However, NAAQS are not set waterbody-by-waterbody. The Index requires more than the target critical load for a particular waterbody, or even for a sample of waterbodies. Instead, EPA must determine the critical load that is representative of the desired percentile of waterbodies across an entire ecoregion, and do so for 84 separate ecoregions (the F1 factor). EPA must also determine the deposition of reduced nitrogen for each of the 84 ecoregions (the F2 factor), and the "transference ratios" by which EPA converts ambient concentrations of NOy and SOx into the deposition of these oxides (the F3 and 4 factors). Without adequate information to quantify these factors, there is no reasoned way to determine that an Index-based standard is protective enough, or too protective, to achieve the desired level of acid neutralizing capacity for the desired percentile of waterbodies. 77 Fed. Reg. at 20,255/3 (JAxxxx). In other words, the great uncertainties surrounding representative critical loads and deposition of reduced nitrogen (the F1 and F2 factors), in combination with the uncertainties related to deposition of oxides of nitrogen and sulfur (the F3 and 4 factors), go directly to whether EPA can make a reasoned determination that a standard it sets will provide the requisite degree of protection. This is a different type of uncertainty than what Petitioners focus on,

and it goes directly to EPA's ability to revise the NAAQS in accordance with section 7409(b).

If EPA had proceeded to revise the standard by selecting a level of air quality that was more protective than the existing NAAQS, but EPA did not or could not judge that the standard would provide the "requisite" degree of protection, EPA's action would have been subject to challenge for that reason.

Massachusetts v. EPA, 549 U.S. 497 (2007) supports EPA's decision, contrary to Petitioners assertion. Pet. Br. at 33. The statutory provision at issue in *Massachusetts*, 42 U.S.C. § 7521(a)(1), required EPA to "prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 549 U.S. at 506. After finding that at least one petitioner had standing and that the statute allows EPA to regulate the emissions of greenhouse gases as "pollutants," *id.* at 532, the Court reversed EPA's decision not to exercise that authority. EPA had concluded that it would be neither effective nor appropriate to make a determination concerning endangerment and issue regulations, for various policy-related reasons. The Court faulted EPA for relying on reasons "divorced from the statutory text." *Id.* Specifically, the Court held that

under section 7521(a)(1), "EPA can avoid taking further action only if it determines that greenhouse gases do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do." *Id.* at 533. The Court found that instead of making such a determination, EPA had relied on "policy judgments" such as a preference for using other regulatory programs and a concern over impairing the President's ability to conduct foreign policy. *Id.* The Court explained that none of these reasons have anything "to do with whether greenhouse gas emissions contribute to climate change," which is the relevant statutory question. Nor are they a "reasoned justification for declining to form a scientific judgment. *Id.* at 533-34.

EPA's decision regarding the secondary NAAQS is different. Unlike in *Massachusetts*, here EPA did provide a reasoned justification for declining to proceed, based on the state of the science, and that justification is tied directly to the relevant statutory question, *i.e.*, would a revised standard provide the requisite degree of protection. EPA did not rely on policy considerations unrelated to this statutory question. In fact, EPA has consistently taken the position that it is inappropriate to revise a NAAQS, even if there is information that the current standard is no longer sufficient to ensure the requisite degree of protection, where there is sufficient uncertainty that a revised standard will do so. *See supra* at 6-9

(discussing history of EPA's prior considerations of the secondary NAAQS for oxides of nitrogen and sulfur).

In the administrative decision under review in *Massachusetts*, EPA also pointed to scientific uncertainty as a reason for declining to act. *Id.* at 513. According to the Court, EPA in that case gave "controlling importance" to its inability unequivocally to establish a causal link between increased concentrations of greenhouse gases as a result of human activities and increased global surface air temperatures. *Id.* EPA decided that "it would therefore be better not to regulate at this time." *Id.* at 534. The *Massachusetts* Court recognized that an endangerment determination might not need to be made "[i]f the scientific uncertainty is so profound that it precludes EPA from making a reasoned judgment as to whether greenhouse gases contribute to global warming," but noted that EPA did not make that conclusion. Instead, EPA concluded it would not be appropriate to proceed, whereas the "statutory question is whether sufficient information exists to make an endangerment finding." *Id.* at 534.

Here, in contrast, EPA determined it was not appropriate to proceed, *because* the scientific uncertainty is so profound that the Administrator could not make a reasoned judgment as to whether a revised standard would be in accordance with section 7409(b), *i.e.*, whether or not a revised NAAQS would be requisite to protect public welfare against the impacts on the aquatic environment

from acidifying deposition of oxides of nitrogen and sulfur – much less against other impacts, such as terrestrial acidification and nutrient enrichment. 77 Fed. Reg. at 20,256/1 (JAxxxx). As the Court in *Massachusetts* directed EPA to do, EPA has grounded its reason for inaction in the statute, by concluding that because the Administrator could not make a reasoned determination whether or not a revised standard would provide the requisite level of protection from these impacts, it would be inappropriate to revise the secondary NAAQS. While the reasonableness of that determination depends on the administrative record, discussed in Argument III, below, nothing in the statute unambiguously precludes EPA from declining to revise a NAAQS based on such a determination.

III. EPA'S DECISION NOT TO ESTABLISH A NEW SECONDARY NAAQS AT THIS TIME IS SUPPORTED BY THE ADMINISTRATIVE RECORD AND ADEQUATELY EXPLAINED.

A. The Administrative Record Supports EPA's Determination Not To Revise The Standard At This Time.

EPA's decision not to establish a new secondary standard at this time is well-supported by the administrative record. The difficulty of establishing a representative value for the F1 factor in the Index for all 84 ecoregions illustrates the uncertainties the Administrator faced. As noted above, the F1 factor is designed to identify the "critical load" of deposition for a particular ecoregion that is associated with a desired level of acid neutralizing capacity and a desired

percentile of waterbodies. This critical load identifies the amount of deposition that can occur and still achieve the desired acid neutralizing capacity for the desired percentile of waterbodies in the specific ecoregion.

However, the natural ability of any particular waterbody in an ecoregion to neutralize acid is affected by many characteristics of the ecoregion. For example, base cations are positive ions of calcium, magnesium, potassium, and sodium, which counteract acidification and affect the natural ability of a waterbody to neutralize acid. Policy Assessment at xiv, 2-67, 3-2, 7-62 (JAxxxx, xxxx, xxxx, xxxx). The supply of base cations depends on factors such as weathering, erosion, and the pre-industrial composition of the soil. *Id.* at 7-19 (JAxxxx). The amount of nitrogen taken up by plants also affects a waterbody's ability to neutralize acid. *Id.* at 7-28 (JAxxxx). In addition, the runoff rate in a particular basin also influences the natural ability of the waterbodies in an ecoregion to neutralize acid. *Id.* at ES-9 (JAxxxx); *see generally* 77 Fed. Reg. at 20,245 (JAxxxx). Both the base cation supply and the runoff rate at the basin level are aspects of the Index where the uncertainty is high. Policy Assessment at 7-74 to 7-75 (JAxxxx-xxxx); *see also* 77 Fed. Reg. at 20,249/2 (the critical load-related component of the Index has "much higher uncertainties") (JAxxxx). Each of these characteristics is unique to each waterbody and can vary among waterbodies in different ecoregions as well as within the same ecoregion. Each of these characteristics must be evaluated on

an ecoregion-wide basis, in order to develop a critical load that represents the entire ecoregion, and that achieves a national target level of acid neutralizing capacity and percentile of waterbodies.

Data can be collected for a specific waterbody, and the average surface runoff rate, in meters per year, for a particular basin can be calculated, and together these can be used to estimate a particular waterbody's base cation supply and nitrogen uptake, and thus the critical load for that waterbody, *i.e.*, the amount of deposition that can occur and still attain the desired level of acid neutralizing capacity for that waterbody. However, a national standard must address aquatic acidification for waterbodies across all 84 ecoregions. In order to do so, EPA must have information and data on the characteristics of the ecoregions and its waterbodies, across the range of waterbodies in the ecoregion. EPA then uses modeling to estimate the representative critical load for that ecoregion. There is a wide disparity across ecoregions as to degree of data available to EPA to determine the representative critical load for the ecoregion. While EPA had a reasonable supply of information for some of the more well-studied ecoregions, especially in the eastern United States, for many ecoregions the supply of information was much more limited. 77 Fed. Reg. at 20,261/2 (JAxxxx). As a result, for many ecoregions there was great uncertainty in modeling the appropriate F1 factor for

that ecoregion that would achieve the desired level of acid neutralizing capacity and the desired percentile of waterbodies in the ecoregion.

The Clean Air Scientific Advisory Committee echoed this concern, noting that "the available data may reflect the more sensitive waterbodies and thus, the selection of percentiles of waterbodies to be protected could be conservatively biased." Committee Comments at 2 (JAxxxx). Petitioners assert that this concern is limited to the context of "future" EPA work and does not express any view by the Committee that EPA should not revise the secondary NAAQS. Pet. Br. at 46. But, the Committee's actual comment is that "[a]s EPA moves forward in *this* regulatory process, we recommend some attention be given to our concern" regarding potential bias in the Index due to data limitations. Committee Comments at 2 (JAxxxx). The "process" to which the Committee refers is not a decision how to implement such a standard once it is adopted, as Petitioners suggest. Rather, the process is the rulemaking at issue in this case, *i.e.*, the decision whether or not to adopt an Index-based standard.

EPA also faced significant uncertainties regarding the F2 factor in the Index, which addresses the deposition of reduced forms of nitrogen, such as ammonia, as opposed to oxides of nitrogen. The "high uncertainty" involved in characterizing this aspect of aquatic acidification is due to the lack of field information about ammonia deposition, the difficulty in obtaining such information (due to the

diffuse nature of its sources, which are both area-wide and non-point), and the complex chemistry and dispersal patterns that ammonia presents. 77 Fed. Reg. at 20,249/3 (JAxxxx), 76 Fed. Reg. at 46,131/2 ("Field measurements of [reduced nitrogen] have been extremely limited, but have begun to be enhanced") (JAxxxx). Although the F3 and F4 factors also suffer from important and significant uncertainties, the F1 and F2 factors are the greatest sources of uncertainty. *Id.* at 20,255/1 (JAxxxx).

As Petitioners note, Pet. Br. at 47-48, the Clean Air Scientific Advisory Committee did conclude that EPA has a "broad but reasonable range of minimally to substantially protective options for the standard." Committee Comments at 9. But that misses the point; as explained above, there is no need for EPA to establish the requisite degree of protection, if the uncertainties regarding the representative nature of the Index are so great that EPA cannot ensure that any degree of protection that is desired will be obtained. Because the administrative record supports EPA's conclusion that it is not appropriate to revise the NAAQS to address acidification of aquatic ecosystems at this time, EPA's decision should be upheld, given the deference due EPA's evaluation of the complex scientific and technical issues facing the Agency.

Finally, although Petitioners argue that there is an ample basis on which the Administrator can establish a secondary NAAQS to address aquatic acidification,

Pet. Br. at 36-41, nowhere do Petitioners assert that the Administrator has any basis on which to establish a NAAQS to address terrestrial acidification or nutrient enrichment. As noted above, EPA devoted its resources on aquatic acidification, with the concurrence of the Clean Air Scientific Advisory Committee, and the Index only addresses that welfare effect. Because there is absolutely nothing in the record to indicate that EPA could select a standard that would ensure a level of air quality requisite to protect the public welfare from terrestrial acidification or nutrient enrichment, EPA's decision that it is not appropriate to establish a NAAQS at this time to address those effects should also be upheld.

B. EPA Adequately Explained The Basis For Its Decision.

Petitioners assert that EPA simply recited several uncertainties, such as limitations in the available data and uncertainty regarding models, all of which were discussed in the Policy Assessment and the Clean Air Scientific Advisory Committee review, and that EPA "asserted in conclusory fashion" that a standard could not be set. Pet. Br. at 43-44. Although EPA did note these uncertainties, they are not the primary bases for EPA's decision, and Petitioners' attempt to focus the Court's attention on these "red herrings" should be rejected.

Instead, the key uncertainties, as EPA explained, are not merely data gaps or limitations in modeling but the direct impact these shortcomings have on determining whether the information that EPA possesses is representative of

conditions on an ecoregion-wide basis. EPA explicitly explained its reasoning in the preamble. *See, e.g.*, 77 Fed. Reg. at 20,261/1 (reciting the uncertainty of quantifying the F factors and "their representativeness at an ecoregion scale"); *id.* at 20,261/2 (explaining that even where data exists for a particular ecoregion, "small sample sizes in some areas impede efforts to characterize the representativeness of the available data at an ecoregion scale"); *id.* (explaining that the nature of uncertainties "fundamentally different than uncertainties that have been relevant in other NAAQS reviews"); *id.* at 20,261/3 (noting that an important uncertainty "relates to limitations in the extent to which the representativeness of various factors can be determined at an ecoregion scale, which has not been a consideration in other NAAQS"); *id.* (explaining that uncertainties affect how well an Index-based standard "would predict the actual relationship" and therefore EPA's ability to characterize the protectiveness) (JAxxx).

Aside from the complexity of the undertaking, this is unlike most NAAQS rulemakings. EPA's typical approach is to establish standards which compare monitored concentrations of an air pollutant against a numerical metric of atmospheric concentration that does not vary geographically. This approach has appropriately protected public health, as at-risk populations are widely distributed throughout the nation. In contrast, in order to provide the requisite level of protection to public welfare from effects on sensitive ecosystems from pollutants

such as oxides of nitrogen and sulfur, EPA must consider variable factors such as atmospheric variables and location-specific characteristics of ecosystems. Policy Assessment at 1-13 (JAxxxx). This secondary NAAQS review thus presents unique scientific and technical challenges, because in it EPA is attempting to develop a standard that relies not just on ecological and atmospheric modeling, but also on the ability of those models to generate values that are representative throughout an entire ecosystem. *See, e.g.*, 77 Fed. Reg. at 20,261/2-3 (JAxxxx).

EPA explained the areas where there is greater certainty, such as the scientific concepts at issue and the boundaries of the ecoregions, and EPA explained in detail the sources of uncertainty and how these uncertainties relate to the science-based public welfare decision before the Agency. Specifically, EPA explained how these uncertainties affect the Agency's ability to determine the protectiveness of any specific standard. EPA also explained the Administrator's final decision, and the Agency's plans for the future development of a pilot project. EPA's explanation carefully tied its decision to the factual record and explained how this record supported its decision. This more than satisfies the Agency's obligation to explain its decision based on the record before it.

IV. THE COURT SHOULD NOT IMPOSE A DEADLINE FOR EPA TO ESTABLISH A NEW SECONDARY NAAQS.

The Court should decline Petitioners' request to set a 14-month deadline for EPA to act if the Court remands EPA's decision for further consideration. Pet. Br. at 48-49. *See Natural Res. Def. Council v. EPA*, 489 F.3d 1364, 1375 (D.C. Cir. 2007) ("We decline to set a two year limit on EPA's proceedings on remand as the NRDC requests; mandamus affords a remedy for undue delay."); *North Carolina v. EPA*, 550 F.3d 1176, 1178 (D.C. Cir. 2008) (per curiam) (declining invitation to "impose a definitive deadline by which EPA must correct [clean air rule's] flaws" and reminding petitioners of availability of mandamus). Although Petitioners point out that they had to sue EPA and obtain a consent decree in order for the Agency to complete this review, Pet. Br. at 48, EPA did act within the decree's timeframe. The Court can and should presume that in the event of a remand, EPA will act diligently to reach a final decision consistent with the Court's opinion.

CONCLUSION

For the foregoing reasons, the petition should be denied.

Respectfully submitted,

IGNACIA S. MORENO
Assistant Attorney General

__/s/ Daniel R. Dertke _____
DANIEL R. DERTKE
Environmental Defense Section

Environment and Natural Resources Div.
United States Department of Justice
P.O. Box 7611
Washington, D.C. 20044
(202) 514-0994

February 19, 2013

CERTIFICATE OF COMPLIANCE WITH WORD LIMITS

Pursuant to Fed. R. App. P. 37(a)(7)(C), and exclusive of the components of the brief excluded from the word limit pursuant to Fed. R. App. P. 32(a)(7)(B)(iii) and Circuit Rule 32 (a)(1), I certify that the foregoing Brief for Respondent contains 11,269 words, as counted by the "word count" feature of my Microsoft Office Word software.

/s/ Daniel R. Dertke
DANIEL R. DERTKE

CERTIFICATE OF SERVICE

I hereby certify that all counsel of record who have consented to electronic service are being served with a copy of the foregoing Brief for Respondents via the Court's CM/ECF system on this 19th day of February, 2013.

/s/ Daniel R. Dertke
DANIEL R. DERTKE

Oral Argument Not Yet Scheduled

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

No. 12-1238

Center for Biological Diversity, et al.,

Petitioners,

v.

United States Environmental Protection Agency, et al.,

Respondents.

On Petition For Review Of Final Agency Action Of The
United States Environmental Protection Agency

Brief For Respondents

Ignacia S. Moreno
Assistant Attorney General
Environment and Natural
Resources Division

Daniel R. Dertke
Environmental Defense Section
U.S. Department of Justice
P.O. Box 7611
Washington, D.C. 20044
Tel: (202) 514-0994
Fax: (202) 514-8865

February 19, 2013

RESPONDENT'S CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

A. Parties and *Amici*

All parties appearing in this Court are accurately identified in the Brief of Petitioners.

B. Rulings Under Review

The agency action under review is EPA's final rule entitled *Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Sulfur*, published in the Federal Register at 77 Fed. Reg. 20,218 (Apr. 3, 2012).

C. Related Cases

This case was not previously before this Court or any other court.

Respectfully submitted,

/s/ Daniel R. Dertke
DANIEL R. DERTKE, Attorney
Environmental Defense Section
U.S. Department of Justice

February 19, 2013

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American Trucking Ass'ns, Inc. v. EPA,
283 F.3d 355 (D.C. Cir. 2002)

Chevron U.S.A. Inc. v. NRDC, Inc.,
467 U.S. 837 (1984)

Consumer Federation of America v. U.S. Dept. of Health & Human Services,
83 F.3d 1497, 1503 (D.C. Cir. 1996)

**Massachusetts v. EPA*,
549 U.S. 497 (2007)

* Authorities upon which we chiefly rely are marked with asterisks.

STATUTES

Clean Air Act:

42 U.S.C. § 7409(b)(2)

42 U.S.C. § 7409(d)(1)

42 U.S.C. § 7607(b)

42 U.S.C. § 7607(b)(1)

42 U.S.C. § 7607(d)(9)(A),(C)

CODE OF FEDERAL REGULATIONS

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38 Fed. Reg. 25,678 (Sept. 14, 1973)

58 Fed. Reg. 21,353 (Apr. 21, 1993)

76 Fed. Reg. 46,084 (Aug. 1, 2011)

77 Fed. Reg. 20,218 (Apr. 3, 2012)

GLOSSARY

ANC	acid neutralizing capacity
CAA	Clean Air Act
CASAC	Clean Air Scientific Advisory Committee
NAAQS	National Ambient Air Quality Standards
NO_2	nitrogen dioxide
NOx	the sum of nitric oxide (NO) and nitrogen dioxide (NO_2)
NOy	total reactive oxidized nitrogen; the complete set of oxidized nitrogen compounds
PA	Policy Assessment
Pet. Br.	Brief of Petitioners
ppm	parts per million
SO_2	sulfur dioxide
SOx	the sum of gaseous sulfur dioxide (SO_2) and particulate sulfate (SO_4); virtually all of the oxidized sulfur mass in the atmosphere
ueq/L	microequivalents per liter

JURISDICTIONAL STATEMENT

On April 3, 2012, acting pursuant to the Clean Air Act ("CAA" or "the Act"), EPA published a final rule declining to establish new secondary National Ambient Air Quality Standards ("NAAQS") to address acidification and nutrient enrichment in aquatic and terrestrial ecosystems caused by the deposition of oxides of nitrogen and sulfur. In the final rule EPA also decided to establish a field pilot program to enhance EPA's understanding of the degree of protectiveness that a new standard to address the acidification of aquatic ecosystems would afford. 77 Fed. Reg. 20,218 (Apr. 3, 2012) (JAxxxx). Petitioners Center for Biological Diversity, Clean Air Council, and National Parks Conservation Association ("Petitioners") timely filed this petition for judicial review. The Court has jurisdiction under 42 U.S.C. § 7607(b). However, as demonstrated in Argument I, below, Petitioners lack standing to challenge EPA's decision not to establish a new secondary NAAQS to address nutrient enrichment in aquatic and terrestrial ecosystems.

STATUTES AND REGULATIONS

All applicable statutes and regulations are contained in the Brief for Petitioners ("Pet. Br.").

ISSUES PRESENTED

1. Whether Petitioners have standing to challenge EPA's decision not to revise the secondary NAAQS to address nutrient enrichment in terrestrial or aquatic ecosystems, where Petitioners have not alleged any harm to any of their members from nutrient enrichment.

2. Whether the Clean Air Act requires EPA to revise the secondary NAAQS even if the scientific uncertainties are so substantial that the Administrator cannot make a reasoned determination whether or not the revised standard would provide the requisite degree of protection.

3. Whether the administrative record supports and EPA explained the basis for its decision that EPA cannot make a reasoned determination whether or not a revised standard would provide the requisite degree of protection.

STATEMENT OF THE CASE

I. NATURE OF THE CASE

This case involves "by far the most complex form of a NAAQS standard" that EPA has ever considered. 77 Fed. Reg. at 20,262/1 (JAxxxx). It concerns an "innovative and unique" attempt to link ambient concentrations of two pollutants

(oxides of nitrogen and of sulfur), their deposition through mechanisms such as acid rain, and the resulting acidification of aquatic ecosystems. *Id.* at 20,260/3 (JAxxxx). Unlike most other NAAQS, it must take into account geographic variability and the specific characteristics of separate ecosystems throughout the nation.

The Aquatic Acidification Index ("Index") seeks to provide a degree of protection from these effects that is uniform throughout the country, by allowing for varying concentrations of pollutants depending on atmospheric conditions and other ecological variables. It depends on the ability of ecological and atmospheric models to generate values that are representative throughout an entire ecosystem. But, like any model, the Index may be scientifically sound in theory or general concept yet, without the appropriate inputs, too uncertain to apply in practice.

Although EPA has devoted enormous amounts of time and resources to the development of the Index, EPA is not yet in a position to determine with a sufficient degree of certainty some of these key inputs. Without greater scientific certainty, the Administrator judged that she could not make a reasoned determination that a NAAQS based on the Index would be protective enough, but not too protective, against the effects on welfare of acidifying deposition of oxides

of nitrogen and sulfur. The Administrator's decision should be upheld, and the petition for judicial review should be dismissed.

II. STATUTORY BACKGROUND

The Clean Air Act, 42 U.S.C. §§ 7401-7671q, is intended to "protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare." *Id.* § 7401(b)(1). NAAQS are a central element of the Act.

The NAAQS process begins with the development of "air quality criteria," which must "accurately reflect the latest scientific knowledge" regarding "all identifiable effects on public health or welfare" that may result from a pollutant's presence in the ambient air. *Id.* § 7408(a). Section 7408 requires EPA to establish air quality criteria for certain pollutants, and Section 7409 then requires EPA to establish NAAQS for these pollutants. *Id.* § 7408(a), 7409(a). Based on the air quality criteria, EPA promulgates "primary" and "secondary" NAAQS to protect against a pollutant's effects on public health and welfare. *Id.* § 7409(b). "Primary" standards must be set at levels that, "in the judgment of the Administrator," are requisite to protect public health with "an adequate margin of safety." *Id.* The "secondary" standards must

> specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator . . . is requisite to protect the

> public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air.

Id. § 7409(b)(2). The term "requisite," in reference to both primary and secondary standards, means "not lower or higher than necessary." *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 476 (2001). The Act defines "effects on welfare" broadly to include effects on soils, water, vegetation, and personal comfort and well-being, among other things. *Id.* § 7602(h). The NAAQS establish permissible concentrations of these pollutants in the "ambient," or outside, air. States must then establish State Implementation Plans ("SIPs") to attain and maintain the NAAQS within their borders. *Id.* § 7410.

A NAAQS has four components: an indicator, which defines what compound or compounds in the ambient air will be measured, such as nitrogen dioxide (NO_2), or particulate matter of 2.5 microns or less (PM2.5); a level, which specifies the maximum acceptable concentration of the indicator in the ambient air; an averaging time, which specifies the span of time across which the amount of the indicator will be averaged (such as annually, or daily, or 3 hours); and a form, which defines how compliance with the level will be determined within the averaging time. *See generally American Farm Bureau Fed'n v. EPA*, 559 F.3d 512, 516 (D.C. Cir. 2009). For example, to meet the current secondary NAAQS

for sulfur oxides, the standard specifies that the average concentration over every three-hour period (*i.e.*, the averaging time) of sulfur dioxide (SO_2, the indicator) in the ambient air cannot exceed 0.5 parts per million (the level) more than once per year (the form). *See* 40 C.F.R. § 50.5.

Primary and secondary NAAQS, and air quality criteria, must be reviewed at five-year intervals, at which time the Administrator

> shall make such revisions in such criteria and standards and promulgate such new standards as may be appropriate in accordance with section 7408 of this title and subsection (b) of this section.

42 U.S.C. § 7409(d)(1). In its review, EPA must consider, and explain any significant departure from, the recommendations of the Clean Air Scientific Advisory Committee ("CASAC," or the "Committee"), an independent scientific review committee established to advise the Administrator on air quality criteria and NAAQS. *Id.* §§ 7409(d)(2)(B), 7607(d)(3). When a new NAAQS is issued, or an existing NAAQS is revised, EPA is required to designate as "nonattainment" any area that does not meet the new or revised standard. 42 U.S.C. § 7407(d)(1). Such areas are subject to "additional restrictions over and above the implementation requirements imposed generally by [the Clean Air Act]." *Whitman*, 531 U.S. at 476.

III. REGULATORY BACKGROUND

A. EPA's Regulation of Oxides of Sulfur

EPA first set secondary NAAQS for sulfur oxides in 1971, establishing both a short-term 0.5 ppm 3-hour standard and a 0.02 ppm annual standard. 36 Fed. Reg. 8186, 8187/2 (April 30, 1971) (JAxxxx). Both of these standards addressed the direct effects of SO_2 on vegetation. EPA revoked the annual standard in 1973, after that standard was remanded by this Court for further explanation of its basis. *See Kennecott v. EPA*, 462 F.2d 846 (D.C. Cir. 1972). In response to comments that the annual standard should be retained because it provides some protection against, among other things, the occurrence of acid rain, EPA explained that although the formation and effects of acid rain were under investigation, the "data needed for standard setting are not now available." 38 Fed. Reg. 25,678, 25,679/2 (Sept. 14, 1973) (JAxxxx). EPA further noted that the "relationships between the specific ambient air concentrations of sulfur dioxide, either alone or in combination with other environmental factors, and the adverse effects caused by those concentrations must be demonstrable or predictable prior to establishing any [NAAQS]." *Id.* at 25,679/2-3.

In 1980, the Clean Air Scientific Advisory Committee recommended that

prior to attempting to control acid deposition through a NAAQS, EPA prepare a separate, comprehensive document on that issue. The Committee noted that "acid deposition is a topic of extreme scientific complexity" due to the difficulty in quantifying the relationship among the emissions of oxides of sulfur (and nitrogen), the formation of deposition products, and the effects on terrestrial and aquatic ecosystems. 77 Fed. Reg. at 20,220/1 (JAxxxx).

EPA produced assessments of acidic deposition in 1984 and 1985, and in 1993, during its most recent prior review of the secondary NAAQS for sulfur oxides, EPA determined that although the "acid deposition phenomenon" is "[a]mong the major welfare effects associated with SO_2 emissions and their transformation products," revision of the secondary NAAQS for SO_2 to address acid deposition was not appropriate at that time. 58 Fed. Reg. 21,351, 21,355/2, 21,358/1 (Apr. 21, 1993) (JAxxxx). EPA reasoned that the better course was to develop more information and see how successful the Acid Rain program enacted in 1990 as Title IV of the Act would be in addressing the problem of acidifying deposition of oxides of sulfur. *Id.* at 21,357/3 (JAxxxx). EPA's determination that revision of the secondary standard was not appropriate was not challenged.

B. EPA's Regulation of Oxides of Nitrogen

EPA issued a secondary NAAQS for NO_2 in 1971, set at 0.053 parts per million NO_2 as an annual average, also directed solely to direct effects on vegetation. 36 Fed. Reg. at 8,187/3 (JAxxxx). EPA retained this standard in 1985, 50 Fed. Reg. 25,532 (June 19, 1985), and in 1987 EPA began its most recent prior review of the secondary NAAQS for NO_2. EPA released a draft criteria document in 1991, which EPA finalized in 1993 after receiving comments from the Clean Air Scientific Advisory Committee. 77 Fed. Reg. at 20,219/2-3 (JAxxxx). In 1996, EPA determined that revision of the secondary NAAQS for oxides of nitrogen was not appropriate at that time. EPA noted the scientific complexity of nitrogen deposition, and the significant uncertainties regarding the relationship between atmospheric deposition and the appearance of nitrogen in surface water. 61 Fed. Reg. 52,852, 52,854/2 (Oct. 8, 1996) (JAxxxx). EPA therefore could not determine what levels of airborne reductions would be necessary. *Id.* at 52,854/3. All of the commenters in that 1996 rulemaking agreed with EPA's determination that revision of the secondary standard was not appropriate, *id.*, and neither that decision, nor EPA's 1985 decision to retain the secondary standard, was challenged.

C. EPA's Current Rulemaking

1. Development of the Aquatic Acidification Index

EPA initiated the current review of the secondary NAAQS for oxides of nitrogen and for oxides of sulfur in December 2005, with a call for information to develop a revised Integrated Science Assessment, which is a comprehensive review, synthesis, and evaluation of the most relevant science. 77 Fed. Reg. at 20,221/2 (JAxxxx). EPA issued the final Integrated Science Assessment in December 2008, and a Risk and Exposure Assessment in September 2009. *Id.* EPA then prepared a Policy Assessment, which is a "bridge" between the relevant scientific and technical information and the judgments required of the Administrator in determining whether, and if so, how, it is appropriate to revise the secondary NAAQS for oxides of nitrogen and sulfur. Policy Assessment for the Review of the Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Oxides of Sulfur (Feb. 2011) ("Policy Assessment") at ES-1 (JAxxxx). EPA finalized the Policy Assessment in February 2011, and received the Clean Air Scientific Advisory Committee's comments on the final version in May 2011. 77 Fed. Reg. at 20,221/2 (JAxxxx).

In the Policy Assessment, EPA developed and described the Aquatic Acidification Index as the potential form of a secondary NAAQS to address the

acidifying impacts of the deposition of oxides of nitrogen and sulfur on aquatic ecosystems. Policy Assessment at ES-7 to ES-9 (JAxxxx). The Index is designed to link the concentrations of most oxides of nitrogen (NOy)[1] and sulfur (SOx)[2] in the ambient air, based on the propensity of those pollutants to be deposited on water, or on land and then reach water, with the ecological factors that govern acid sensitivity to such deposition in different aquatic habitats. *Id.*; *see also* 77 Fed. Reg. at 20,244/1 (JAxxxx).

The Index relies on the concept of acid neutralizing capacity ("ANC"), which is an ecological indicator of the health of acid-sensitive aquatic ecosystems. Policy Assessment at ES-2, ES-6 (JAxxxx, xxxx). At high levels of acid neutralizing capacity, aquatic biota are generally not harmed, but at lower levels the health and diversity of fish populations and other biota decline. *Id.* at ES-3 (JAxxxx). The appropriate degree of protection for aquatic life is a policy judgment, and the Index is a mechanism to translate this policy judgment into allowable ambient air concentrations of NOy and SOx that would achieve that

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[1] NOy represents total reactive oxidized nitrogen, *i.e.,* the complete set of oxidized nitrogen compounds, in contrast to NOx which represents the sum of nitric oxide (NO) and nitrogen dioxide (NO_2).

[2] SOx is the sum of gaseous sulfur dioxide (SO_2) and particulate sulfate (SO_4), and represents virtually all of the oxidized sulfur mass in the atmosphere.

degree of protection. The policy judgment regarding the appropriate degree of protection would be specified, in part, in terms of a national target level of acid neutralizing capacity. 77 Fed. Reg. at 20,242/3 to 243-1; 20,257/2-3 (JAxxxx-xxxx; xxxx); *see also* Policy Assessment at ES-9; *id.* at 1-11, 1-14 (JAxxxx, xxxx, xxxx).

Because different parts of the country have different sensitivities to acid deposition and the resulting acidification, the Index would be applied on an ecoregion basis, with each ecoregion representing a geographic area with similar characteristics relevant to acid neutralizing capacity. Policy Assessment at ES-7 to ES-8 (JAxxxx-xxxx). Based on the available information, EPA considered an approach that would divide the United States into 84 ecoregions. *Id.*

The degree of protection from an Index based standard would also be based on the percentage of waterbodies in an ecoregion that are intended to meet the national target level of acid neutralizing capacity. Thus, one possible degree of protection that the Administrator might determine is requisite could be a national target acid neutralizing capacity level of 75 ueq/L,[3] with that degree of protectiveness afforded to 90% of the waterbodies in each acid-sensitive ecoregion.

[3] Microequivalent units per liter, which is a means of comparing amounts of a substance by reference to their reactivity.

77 Fed. Reg. at 20,247/3, 20,249/1 (JAxxxx, xxxx).

Although the Index can mathematically be expressed in a relatively short equation, Index = F1 – F2 – F3[NOy] – F4[SOx], each term in this equation necessarily takes into account numerous elements, and the apparent simplicity of this equation belies the complicated relationship between ambient concentrations of NOy and SOx and these pollutants' acidifying effect on aquatic habitats. *See, e.g.*, Individual comments of Dr. Rudolph Husar, attached to Clean Air Scientific Advisory Committee comments on the Policy Assessment for the Review of the Secondary National Ambient Air Quality Standards for Oxides of Nitrogen and Oxides of Sulfur (Feb. 2011) ("Committee Comments") at 34 ("The equation may be simple but the complications are embedded in the factors F1 to F4. Also, these factors rely heavily on model estimates, so these 'simple' terms in [the Index] arise from very complicated calculations and they are also the carriers of much of the uncertainty in [the Index's] determination.") (JAxxxx).

For example, the F1 term represents the ability of the aquatic ecosystems in an ecoregion to neutralize acid deposition. For each ecoregion, EPA would determine a representative "critical load" of acidifying deposition. The critical load for any one waterbody reflects the amount of deposition that the waterbody

can receive and still sustain, for example, the national target level of acid neutralizing capacity for that waterbody. The representative critical load for an *ecoregion* would be based on a calculation of the critical loads for each waterbody within the ecoregion, for which sufficient data are available, and a specified percentile of this distribution of individual critical loads. If this representative critical load were to occur across the ecoregion, the goal would be that the target percentage of waterbodies within the ecoregion would achieve the national target level of acid neutralizing capacity or better. 77 Fed. Reg. at 20,247/2-3 (JAxxxx).

The critical load for an ecoregion would vary by ecoregion, as it would depend on geologic and other characteristics of the ecoregion relevant to determining acid sensitivity, such as the runoff rate that is representative for the ecoregion. *Id.* at 20,247/2. In order to establish the value for F1, EPA must also consider a host of other ecological characteristics such as topography and geology, which can vary widely from ecoregion to ecoregion and from waterbody to waterbody within the ecoregion, and EPA must rely on the data and other information available for the ecoregions.

While the F1 factor relates to the ability of an ecoregion to neutralize acidifying deposition, the factors F2-F4 relate to the amount of acidifying

deposition that will occur based on reduced forms of nitrogen compounds in the ambient air, such as ammonia (F2), and oxdized forms of nitrogen and sulfur compounds in the ambient air (F3 and F4). Like the F1 factor, these factors are based on modeling and face many of the same uncertainties related to the F1 factor.

The target level of acid neutralizing capacity would be the same throughout the nation. The target percentage of waterbodies would be the same across the nation for acid-sensitive ecoregions, while the target percentage of waterbodies for non acid-sensitive regions might be somewhat less, to avoid overprotection in less sensitive areas. 77 Fed. Reg. at 20,247/3-248/1 (JAxxxx-xxxx). Achieving this national uniformity in targets requires that each of the F factors be established separately for each ecoregion. These ecoregion-specific factors would be based on modeling designed to characterize the effects of the many relevant physical and other characteristics of the ecoregion and its waterbodies, the deposition of nitrogen from its reduced forms in the ambient air, and the deposition of nitrogen and sulfur from the oxides of nitrogen and sulfur in the ambient air. In concept, the Index would therefore establish, for each of the 84 ecoregions, the ambient levels of oxides of nitrogen and oxides of sulfur that will result in achieving the national level of acid neutralizing capacity for the desired percentile of waterbodies.

The Index, however, does not attempt to address the acidification of terrestrial ecosystems, nor does it address nutrient enrichment in terrestrial or aquatic ecosystems. The Clean Air Scientific Advisory Committee supported EPA's decision to focus on aquatic acidification as opposed to terrestrial acidification or nutrient enrichment. Policy Assessment at 1-10 to 1-11 (JAxxxx-xxxx). The Committee expressed general support for the conceptual framework of an Index-based standard, based on the underlying scientific information, and for the conclusions in the Policy Assessment with regard to the indicators, averaging time, form and level of the standard that are appropriate for the Agency to consider in reaching decisions on the review of the secondary NAAQS. 77 Fed. Reg. at 20,250-51 (JAxxxx-xxxx). The Committee also noted various caveats and concerns, including the importance of continuing to evaluate the performance of the models to account for model uncertainties and identifying potential biases in critical load calculations and in the regional representativeness of available water chemistry data. *Id.* at 20,251/1 (JAxxxx). These potential biases led the Committee to recommend that "some attention be given to our residual concern that the available data may reflect the more sensitive water bodies and thus, the selection of the percentiles of waterbodies to be protected could be conservatively biased." *Id.*

2. EPA's proposal.

On July 12, 2011, in satisfaction of one of the deadlines in a consent decree with Center for Biological Diversity and others, EPA signed its proposed decision. 76 Fed. Reg. 46,084 (Aug. 1, 2011) (JAxxxx). In the proposal, EPA determined that the current secondary standards, which as noted above were developed to address direct effects on vegetation, are not ecologically relevant to deposition-related effects. *Id.* at 46,111/1 (JAxxxx). EPA also determined that current levels of oxides of sulfur and nitrogen are sufficient to cause acidification of both aquatic and terrestrial ecosystems and nutrient enrichment of terrestrial ecosystems, and contribute to nutrient enrichment in ways that could be considered adverse in some aquatic ecosystems. EPA also determined that current secondary standards do not provide adequate protection from these effects. *Id.* Because of the quantity and quality of the available information associated with aquatic acidification as compared to the information available for other deposition-related effects, EPA focused on developing a new multi-pollutant standard to address aquatic acidification. *Id.* EPA therefore considered whether a standard based on the Index would be appropriate to address the effect of acidifying deposition in aquatic ecosystems. *Id.*

EPA invited comment on all elements of the Index, on a range of potential national target levels of acid neutralizing capacity, and on a range of percentiles of waterbodies. *Id.* at 46,128/1-2 (JAxxxx). EPA proposed F factors for each of the 84 ecoregions, and discussed the sources and types of uncertainty associated with the development of the Index. *Id.* at 46,130-32 (JAxxxx-xxxx). However, EPA proposed not to adopt a standard based on the Index because the Administrator could not determine whether key elements of the Index are representative of conditions throughout a given ecoregion, and thus whether compliance with such a standard would ensure a level of air quality requisite to protect the public welfare from aquatic acidification. *Id.* at 46,134/3-135/1 (JAxxxx-xxxx). Instead, EPA proposed to reduce the 1971 standards to the levels of the 1-hour primary standards for NO_2 and SO_2, set in 2010, which are 100 parts per billion NO_2 and 75 parts per billion SO_2. *Id.* at 46,135/2 (JAxxxx). EPA opined that this would "directionally benefit" the environment. *Id.* EPA also proposed to establish a field pilot program, to address several of the uncertainties regarding the Index and to better understand the degree of protectiveness that an Index-based standard would likely provide. *Id.* at 46,135/3-136/1 (JAxxxx-xxxx).

Industry groups supported EPA's decision not to propose an Index-based revision of the secondary NAAQS; some argued that further information and

analysis is needed, while others criticized the entire Index-based approach. 77 Fed. Reg. at 20,253/1 (JAxxxx). Many commenters noted that air deposition modeling, critical load modeling, and the lack of water quality and watershed data preclude EPA from setting a standard at this time. *Id.* Other commenters, including several environmental groups, argued that the underlying scientific evidence supports the Index, and that the Index adequately accounts for the uncertainties in, and limitations of, that evidence. *Id.* at 20,253/2. Some commenters also argued that despite the uncertainties and incomplete data, EPA must err in favor of stronger protection. *Id.* at 20,253/3. Some states, such as New York, supported the Index, while others, such as Pennsylvania and North Carolina, felt that additional information should be gathered before proposing a revised standard. *Id.* at 20,253/3-254/1 (JAxxxx-xxxx). Almost all commenters criticized EPA's proposal to set 1-hour NO_2 and SO_2 secondary standards identical to the primary standards. *Id.* at 20,258/3-59/3 (JAxxxx-xxxx).

3. EPA's final action.

After reiterating its conclusion that the current secondary standards do not provide adequate protection from the acidification of aquatic and terrestrial ecosystems, and nutrient enrichment in terrestrial ecosystems, EPA decided that it

was not appropriate under section 7409(b) to set any new secondary standards at this time. 77 Fed. Reg. at 20,255/3, *see also id.* at 20,263/3 (JAxxxx, xxxx). As in the proposal, EPA focused on the potential for using the Index to establish a secondary standard to address acidifying deposition, not nutrient enrichment, and to address acidification in aquatic rather than terrestrial ecosystems. *Id.* at 20,222/2-3; *see also id.* at 20,242/2 (JAxxxx, xxxx). EPA recognized the "strong scientific foundation" for the Index, *id.* at 20,261/1 (JAxxxx), but noted significant uncertainties and complexities remain, in particular regarding the quantification of the F factors "and their representativeness at an ecoregion scale." *Id.* The uncertainties involve, among other things, insufficient data "to characterize the representativeness of the available data at an ecoregion scale," which the Clean Air Scientific Advisory Committee and others noted as a particular concern. *Id.* EPA needs to have a sufficient degree of confidence that the F factors are representative for each ecoregion. For example, the factor F2 represents for the ecoregion the deposition of reduced nitrogen, however there is high uncertainty in developing this factor based on lack of field measurements and inherent complexity in modeling source emissions and dry deposition. 77 Fed. Reg. at 20,249/3; 76 Fed. Reg. at 46,131/2 (field measurements of reduced nitrogen have been "extremely limited") (JAxxxx, xxxx). EPA also noted the data gaps in water quality and other

factors relevant to developing representative F1 factors. 76 Fed. Reg. at 46,130/2-3 (preindustrial conditions, used in developing F1, are by definition not observable); *id.* at 46,131 (disparity in water quality data across the country) (JAxxxx, xxxx). EPA needs to have a sufficient degree of certainty that it has representative F factor values for the entire ecosystem, otherwise the Index may be far too restrictive, or not restrictive enough to provide the desired degree of protection against acidifying effects from deposition of oxides of nitrogen and sulfur.

EPA considered whether these uncertainties could be addressed by selecting either a more or less protective national target level of acid neutralizing capacity, or a higher or lower national percentile of waterbodies. 77 Fed. Reg. at 20,262/3 (JAxxxx). EPA rejected this approach because it could not reasonably ascertain either the direction or the magnitude of the change from the national target level that these uncertainties cause. *Id.* *See also* Policy Assessment at 7-70 to 7-75 (Table 7-3, describing for the various components of each F factor the level of uncertainty, the impact of the uncertainty, and whether the uncertainty likely biases the Index towards less protection, more protection, or in both directions) (JAxxxx-xxxx). Because of EPA's current level of knowledge of the representativeness of the F factors developed for the 84 ecoregions, EPA could not reach "a reasoned

understanding of the degree of protectiveness that would be afforded to various ecoregions across the country by a new standard defined in terms of a specific nationwide target [acid neutralizing capacity] level and a specific percentile of water bodies for acid-sensitive ecoregions." 77 Fed. Reg. at 20,255 (JAxxxx). Because EPA could not determine that a revised standard would be in accordance with section 7409(b), EPA concluded that it would not be appropriate under section 7409(d) to revise the secondary NAAQS. *Id.* at 20,263/3 (JAxxxx).

EPA also rejected the proposed option of adopting a secondary standard at the level of the primary standard, *id.*, but did decide to implement the field pilot program. *Id.* at 20,264 (JAxxxx).

Petitioners timely filed this petition for judicial review on June 1, 2012.

SUMMARY OF ARGUMENT

Petitioners challenge EPA's decision not to revise the secondary NAAQS for oxides of nitrogen and sulfur, to address the public welfare effects of acidification and nutrient enrichment in both aquatic and terrestrial ecosystems. Petitioners lack standing regarding nutrient enrichment, for failure to offer any evidence that any of their members are injured by this effect. Even if Petitioners had standing, the Clean Air Act does not compel EPA to revise the secondary

NAAQS where, as here, EPA could not make a reasoned decision that such a revision would be in accordance with the statute. Furthermore, EPA adequately explained, and the record supports, EPA's conclusion that the uncertainties surrounding a potential revised standard to address aquatic acidification are so substantial that such a reasoned decision could not be made. The uncertainties regarding the other public welfare effects are even greater, and Petitioners do not seriously contend that the state of the science is sufficient for EPA revise the NAAQS to address those effects.

The Clean Air Act requires EPA to revise secondary NAAQS "as may be appropriate in accordance with" section 7409(b), which in turn requires secondary NAAQS to be set at a level of air quality judged by EPA to be requisite to protect public welfare. 42 U.S.C. §§ 7409(d), (b)(2). If uncertainties regarding the potential revised standards are judged by the Administrator to be so substantial that she cannot make a reasoned decision that the revision would be in accordance with section 7409(b)(2) – *i.e.*, that the revised standard would provide the requisite degree of protection, then it is not appropriate for the Administrator to revise the NAAQS. Petitioners' contrary argument, that EPA must revise the standard any time EPA finds an existing NAAQS to be inadequate, ignores the affirmative requirement in section 7409(b)(2) and would place EPA in the untenable position

of being required to establish a standard that EPA cannot determine complies with the statute.

Petitioners would also create an independent duty to *determine* the requisite degree of protection, as a preliminary and independent step towards compliance with section 7409(b)(2)'s duty to specify an air quality level that *achieves* the requisite degree of protection. But there is no basis in the statute for two separate duties, and no need for EPA to determine the requisite degree of protection in isolation. It is only appropriate for EPA to take action if EPA can determine that a new standard, *i.e.*, an air quality level, will achieve a degree of protection that is "requisite."

EPA did not base its decision on the types of routine scientific uncertainties that underlie most models and predictions. Rather, EPA cannot make the necessary conclusion that the critical load calculation, which addresses the amount of acidifying deposition a waterbody can withstand, is representative of all waterbodies within a particular ecoregion. Nor can EPA adequately evaluate the models that address the deposition of reduced nitrogen and the oxides of nitrogen and sulfur. These are not the types of uncertainties that can be addressed through conservative assumptions or margins of error. Instead, they go directly to whether

EPA can make a reasoned determination that a standard will provide the requisite degree of protection.

The record supports EPA's judgment that there is presently no reasoned way to determine whether a revised standard would be stringent enough, or too stringent, to achieve any intended degree of protection. Without the ability to make that determination, EPA cannot fulfill the statutory mandate in section 7409(b)(2), and EPA's decision that it is not appropriate to revise the secondary NAAQS should be upheld.

In the alternative, if the Court disagrees and remands EPA's decision, the Court should decline Petitioners' request to set a deadline for EPA to act. Instead, the Court should presume that EPA will continue in good faith to evaluate revising the NAAQS in accordance with section 7409(b)(2) and this Court's opinion.

STANDARD OF REVIEW

Under Clean Air Act section 307(d)(9), the Court may reverse EPA's action if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law," or "in excess of statutory jurisdiction, authority, or limitations, or short of statutory right." 42 U.S.C. § 7607(d)(9)(A), (C). This standard is narrow, and a court is not to substitute its judgment for the agency's. *Bluewater Network v. EPA*,

370 F.3d 1, 11 (D.C. Cir. 2004). Where EPA has considered the relevant factors and articulated a rational connection between the facts found and the choices made, its regulatory choices must be upheld. *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983); *see also Lead Indus. Ass'n v. EPA*, 647 F.2d 1130, 1158 (D.C. Cir. 1980) ("[W]here there is evidence in the record which supports [the Administrator's] judgments, this court is not at liberty to substitute its judgment for the Administrator's."). It is not the court's "function to resolve disagreement among the experts or to judge the merits of competing expert views." *Lead Indus. Ass'n*, 647 F.2d at 1160. "That the evidence in the record may also support other conclusions, even those that are inconsistent with the [EPA] Administrator's, does not prevent [the court] from concluding that his decisions were rational and supported by the record." *Id.* (citations omitted). *See also American Trucking Ass'ns v. EPA*, 283 F.3d at 362 (on the merits, courts presume the validity of agency actions and face only the limited task of ascertaining that the choices made by the Administrator were reasonable and supported by the record; that the evidence may support other conclusions, even those inconsistent with the Administrator's, does not mean her decision was arbitrary).

Although a court must apply the language of the statute where it reflects "the unambiguously expressed intent of Congress," if the statute is "silent or ambiguous

with respect to the specific issue," the court must defer to the agency's interpretation so long as it is "based on a permissible construction of the statute." *Chevron U.S.A. Inc. v. NRDC, Inc.*, 467 U.S. 837, 842-43 (1984).

ARGUMENT

I. PETITIONERS LACK STANDING TO CHALLENGE EPA'S DECISION NOT TO ESTABLISH A NEW SECONDARY NAAQS TO ADDRESS NUTRIENT ENRICHMENT IN AQUATIC AND TERRESTRIAL ECOSYSTEMS.

Petitioners have the burden of establishing standing, *Sierra Club v. EPA*, 292 F.3d 895 (D.C. Cir. 2002), and must do so for each of their claims. *Davis v. FEC*, 554 U.S. 724, 733 (2008). *See also* D.C. Cir. Rule 28(a)(7). The constitutionally minimal requirements for standing are an injury-in-fact, causation, and redressability. *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992). Petitioners claim they are injured by both acidification and nutrient enrichment, in both aquatic and terrestrial ecosystems, caused by the deposition of nitrogen and sulfur compounds. Pet. Br. at 24.

However, none of Petitioners' declarations alleges that any member of any of the petitioning associations is harmed by nutrient enrichment, in either aquatic or terrestrial ecosystems. All but one of Petitioners' declarations are focused

explicitly and solely on acid deposition, sometimes referred to as acid rain. *See, e.g.*, Decl. of John Davis ¶¶ 5, 10, 15 (Pet. Br. at DEC3, 6, 8); Decl. of Gregory Gorman ¶¶ 6, 7 (Pet. Br. at DEC10); Decl. of Mollie Matteson ¶¶ 4, 5, 9, 13 (Pet. Br. at DEC13, 14, 16, 18); Decl. of Elizabeth Norcross ¶¶ 4, 8, 9 (Pet. Br. at DEC 21-22). None of Petitioners' declarations mentions nutrient enrichment at all. Petitioners therefore lack standing to challenge EPA's decision not to revise the secondary NAAQS to address nutrient enrichment in either aquatic or terrestrial ecosystems.

II. THE CLEAN AIR ACT DOES NOT REQUIRE EPA TO REVISE A NAAQS WHERE EPA CANNOT MAKE A REASONED DETERMINATION WHETHER THE REVISED STANDARD WOULD ATTAIN AND MAINTAIN THE REQUISITE DEGREE OF PROTECTION.

Under section 7409(d)(1), EPA must revise secondary NAAQS "as may be appropriate in accordance with" section 7409(b). 42 U.S.C. § 7409(d)(1). Section 7409(b)(2) requires secondary NAAQS to be a level of air quality judged by the Administrator as requisite to protect public welfare, so a revision to a NAAQS is only appropriate if EPA can judge that the revised standard provides the requisite degree of protection. If uncertainties regarding the potential revised standards are judged by the Administrator to be so substantial that she cannot make a reasoned

decision that the revision would be in accordance with section 7409(b)(2), then it is not appropriate for the Administrator to revise the NAAQS.

A. The Clean Air Act Only Requires EPA to Revise a NAAQS "As May Be Appropriate In Accordance With" Section 7409(b).

Petitioners' argument is that whenever EPA determines that an existing secondary NAAQS is no longer requisite to protect against a particular adverse impact on the public welfare, EPA must revise the secondary standard. Pet. Br. at 26. However, EPA's obligation is to revise a NAAQS "as may be appropriate, in accordance with" section 7409(b). 42 U.S.C. § 7409(d)(1). Thus, a revision is only "appropriate" when it is in accordance with section 7409(b), which requires a reasoned judgment by EPA that the revised standard would provide the requisite degree of protection. *See* 42 U.S.C. § 7409(b)(2) (standards must

"specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator . . . is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air"). If, as here, EPA cannot make that reasoned determination, then EPA is not required to revise the NAAQS.

This interpretation of section 7409(d)(1) is consistent with this Court's

precedents regarding EPA's decision to revise a NAAQS. For example, in *American Farm Bureau Fed'n*, the Court addressed a case where EPA revised a secondary standard, but failed to determine the requisite degree of protection that the standard needed to achieve. The Court held that when EPA revises a standard EPA must determine the degree of protection that is requisite to protect public welfare. 559 F.3d at 530. Revising the standard without determining the degree of protection needed to meet the criteria of section 7409(b) is not "in accordance with" section 7409(b), and leaves EPA's standard without a reasoned basis. *Id.* *American Farm Bureau Fed'n* establishes that when EPA revises a NAAQS, the revised standard must be one that EPA judges will provide the requisite degree of protection, *i.e.*, be in accordance with section 7409(b). EPA's interpretation of section 7409(d) is consistent with this opinion. Where EPA cannot make a reasoned determination that a revision provides the requisite degree of protection, and therefore would be "in accordance with" section 7409(b), then EPA is not required to revise the standard.

Similarly, in *American Trucking Ass'ns v. EPA*, 175 F.3d 1027, 1040-41 (D.C. Cir. 1999), *rev'd on other grounds, Whitman v. American Trucking Ass'ns*, 531 U.S.457 (2001), the Court addressed the argument that consideration of costs is one pertinent factor in determining whether revision of a NAAQS is

"appropriate." The Court rejected this argument, stating that it "ignores the clause immediately following 'appropriate,' which incorporates [section 7409(b)] and thereby affirmatively precludes consideration of costs in revising NAAQS." 175 F.3d at 1040. Likewise, the Court addressed the argument that certain provisions in Title I of the CAA, adopted to reduce ozone levels throughout the country, preclude EPA from revising the primary and secondary ozone NAAQS by rendering revisions "inappropriate" within the meaning of section 7409(d)(1). *Id.* at 1045-45; 1047. The Court held that "appropriateness" under section 7409(d)(1) "is to be determined 'in accordance with section 7408 ... and [section 7409(b)],'" and noted that, in the Court's view, the phrase "in accordance with" sections 7408 and 7409(b) "means exclusively in accord with those sections." *Id.* at 1047. Because under *American Trucking* section 7409(b) is the sole measure of whether or not it is appropriate to revise a NAAQS, a revised standard would not be appropriate if the revision establishes a level of air quality that EPA cannot reasonably determine would meet the criteria of section 7409(b). By the same reasoning, EPA can decide it is not appropriate to revise a standard where EPA cannot make a reasoned determination that a revision would be in accordance with section 7409(b).

Under Petitioners' reading, the phrase in section 7409(d), "as may be

appropriate in accordance with" section 7409(b), becomes superfluous. This is contrary to traditional canons of statutory interpretation. *See Consumer Federation of America v. U.S. Dept. of Health & Human Services*, 83 F.3d 1497, 1503 (D.C. Cir. 1996) ("If 'as appropriate' is to have any effect, then, it must mean that the agency must specifically include the risks and consequences factors in its regulations only to the extent appropriate. To conclude otherwise, as Consumer Federation advocates, would violate a basic canon of statutory construction by treating the two words as surplusage.").

Petitioners incorrectly assume that EPA has an independent duty to determine the national target, or requisite, degree of protection, separate and apart from the duty to specify an air quality level that achieves the target degree of protection. Pet. Br. at 27-28. *See also id.* at 34 (arguing that EPA has a mandatory duty first to identify a requisite level of protection and then to set the standard to achieve that level of protection). Petitioners' argument flows from a misreading of *American Farm Bureau Federation*. According to Petitioners, that case requires EPA to "first identify the requisite level of protection for the affected welfare value and then set the secondary NAAQS to achieve that level of protection." Pet. Br. at 30. However, there is no free-standing independent duty to determine the requisite degree of protection separate from the process of setting the standard. Instead, the

statutory duty under section 7409(b) is to specify an air quality level (*i.e.*, set a standard) that attains and maintains a degree of protection that the Administrator judges is requisite. If EPA cannot make a reasoned determination that any particular air quality level will attain and maintain any particular degree of protection that the Administrator determines to be requisite, then a revision would not be in accordance with section 7409(b). EPA is not required to make a revision that would not be in accordance with section 7409(b).

In *American Farm Bureau Fed'n*, EPA did revise a NAAQS, and the Court recognized that a central step in that process is EPA's determination of what degree of protection is judged by the Administrator to be requisite. But that does not address the case where, as here, EPA is not able to make a reasoned determination that a revised standard would meet the criteria of section 7409(b). Here, EPA's proposal discussed a range of possible values for the national level of acid neutralizing capacity and a range of percentile of waterbodies that must meet that level, amounting to a range of potential protection. The final rule did not determine what degree of protection would be requisite, because EPA could not determine that any specific level of air quality would achieve any particular degree of protection that EPA might judge to be requisite. 77 Fed. Reg. at 20,255/3 (JAxxxx). This stemmed from EPA's inability to determine for many areas of the

country the degree of protection any standard based on the Index would actually achieve. *Id.* at 20,255/3; *see also id. at* 22,262/3 ("At present, in the Administrator's judgment, the unique uncertainties present in this review are of such significance that they preclude a reasoned understanding of the degree of protectiveness that would be afforded to various ecoregions across the country by a new standard defined in terms of a specific nationwide target ANC level and a specific percentile of water bodies for acid-sensitive ecoregions, together with an [Index] defined in terms of ecoregion-specific F factors.") (JAxxxx, xxxx). Based on this the Administrator judged that the current data limitations and uncertainties in specifying the elements of the Index prevented her from reaching a reasoned judgment as to what standard would provide any degree of protection that the Administrator might determine was requisite. *Id.* at 20,255/3 (JAxxxx).

In this context, it was not necessary for the Administrator to go further and decide in the abstract what degree of protection was requisite, as this would not change her decision to not revise the standard. No matter what degree of protection EPA were to determine to be requisite, EPA would still be unable to make a reasoned determination that any standard based on the chosen national level of acid neutralizing capacity and percentile of waterbodies, using the modeled F factors for the ecoregions, would be sufficient but not more than necessary to

achieve this desired degree of protection. *See Whitman*, 531 U.S. at 476 ("requisite" means "not lower or higher than necessary").

EPA therefore reasonably interpreted section 7409(d)'s obligation to revise the standard "as may be appropriate in accordance with" section 7409(b) to mean that EPA is not required to revise the standard when, in the Administrator's judgment, the uncertainties are so high that the Administrator is not able to make a reasoned determination that the revised standard would meet the criteria of section 7409(b).

Petitioners' contrary interpretation of 7409(d)(1) not only reads the phrase "as may be appropriate" out of the statute, but is also inconsistent with their focus on aquatic acidification. EPA has identified four different effects on public welfare due to the deposition of oxides of nitrogen and sulfur: acidification of aquatic ecosystems, acidification of terrestrial ecosystems, nutrient enrichment in terrestrial ecosystems, and nutrient enrichment in aquatic ecosystems. EPA found that the existing secondary NAAQS for NO2 and SO2 are not requisite to protect against any of these effects, but based on the state of the science, EPA was only able to even attempt to develop a framework to address one of these four effects, aquatic acidification. Policy Assessment at 7-77 (information is insufficient to

address anything except aquatic acidification) (JAxxxx-xxxx); 77 Fed. Reg. at 20,222/2-3 (EPA chose to focus on aquatic acidification because that is the area in which scientific linkages among atmospheric concentrations, deposition, and environmental effects are most clearly established) (JAxxxx); 77 Fed. Reg. at 20,242/2 (Clean Air Scientific Advisory Committee agreed focus should be on aquatic acidification) (JAxxxx). Petitioners' interpretation would require EPA to revise the NAAQS to specify a level of air quality that is requisite to protect against *all* of these effects.

Congress required EPA to revise the standards when that can be done in accordance with section 7409(b). Here, EPA determined that it could not adopt a standard that would be in accordance with section 7409(b) and there is nothing in section 7409(d)(1) to indicate that Congress unambiguously required EPA to revise a NAAQS even if EPA cannot make a reasoned determination that the revised NAAQS meets the criteria of section 7409(b). EPA reasonably interpreted section 7409(b) as not requiring a revision under these circumstances.

B. Revision Of A NAAQS Is Not Appropriate Where EPA Cannot Make A Reasoned Determination That The Standard Will Provide The Requisite Degree Of Protection.

Independent of the statutory text, Petitioners argue that uncertainty can never

be a sufficient reason to justify a decision not to set a NAAQS. Pet. Br. at 31-32. But Petitioners' argument conflicts with the requirement that a revised standard be one that is judged by the Administrator to be "requisite," because Petitioners would require EPA to set a NAAQS even if the Administrator cannot make a reasoned determination that the standard will not be over- or under-protective.

EPA agrees with Petitioners that perfect knowledge is not required before the Agency can act. Pet. Br. at 32. Thus, in *Coalition of Battery Recyclers Ass'n v. EPA*, 604 F.3d 613 (D.C. Cir. 2010), although there was uncertainty about the precise degree of risk posed by ambient concentrations of lead, EPA understood the effect on public health (in that case, IQ loss) and had a reasoned basis to set the standard at a level that would provide the requisite degree of protection against that adverse effect. 604 F.3d at 616-17; *see also id.* at 619. Similarly, EPA in this case has a good understanding of the science underlying the relationship between ambient concentrations of nitrogen and sulfur compounds and the aquatic acidification related to the deposition of those compounds, such that the general structure of an Index based standard is well grounded. 77 Fed. Reg. at 20,260/1 (JAxxxx). The Index thus does a good job in general of predicting how much deposition of oxides of nitrogen and sulfur will fall in a particular ecoregion given a particular concentration of these air pollutants. This, however, is not the

uncertainty that EPA cited in deciding not to revise the standards, as discussed below and in Section III, below. Petitioners set up a straw man, Pet. Br. at 43, by pointing to uncertainties that exist but that are not the main uncertainties that prevent EPA from revising the secondary NAAQS. *See, e.g.*, 77 Fed. Reg. at 20,255/1 (explaining that EPA's decision is based on uncertainties "in the elements needed to derive the quantified F factors for ecoregions across the country and our ability to evaluate the representativeness of those F factors for an entire ecoregion"); *id.* at 20,262/1-2 (recognizing that the uncertainties at issue in this NAAQS review are "in sharp contrast" to the types of uncertainties present in other NAAQS reviews) (JAxxxx, xxxx).

EPA also has a good understanding, for some specific lakes and streams, of what those waterbodies' critical loads are, *i.e.*, what level of deposition will allow the waterbody to meet a target level of acid neutralizing capacity. However, NAAQS are not set waterbody-by-waterbody. The Index requires more than the target critical load for a particular waterbody, or even for a sample of waterbodies. Instead, EPA must determine the critical load that is representative of the desired percentile of waterbodies across an entire ecoregion, and do so for 84 separate ecoregions (the F1 factor). EPA must also determine the deposition of reduced nitrogen for each of the 84 ecoregions (the F2 factor), and the "transference ratios"

by which EPA converts ambient concentrations of NOy and SOx into the deposition of these oxides (the F3 and 4 factors). Without adequate information to quantify these factors, there is no reasoned way to determine that an Index-based standard is protective enough, or too protective, to achieve the desired level of acid neutralizing capacity for the desired percentile of waterbodies. 77 Fed. Reg. at 20,xxx/x (JAxxxx). In other words, the great uncertainties surrounding representative critical loads and deposition of reduced nitrogen (the F1 and F2 factors), in combination with the uncertainties related to deposition of oxides of nitrogen and sulfur (the F3 and 4 factors), go directly to whether EPA can make a reasoned determination that a standard it sets will provide the requisite degree of protection. This is a different type of uncertainty than what Petitioners focus on, and it goes directly to EPA's ability to revise the NAAQS in accordance with section 7409(b).

If EPA had proceeded to revise the standard by selecting a level of air quality that was more protective than the existing NAAQS, but EPA did not or could not judge that the standard would provide the "requisite" degree of protection, EPA's action would have been subject to challenge for that reason.

Massachusetts v. EPA, 549 U.S. 497(2007) supports EPA's decision,

contrary to Petitioners assertion. Pet. Br. at 33. The statutory provision at issue in *Massachusetts*, 42 U.S.C. § 7521(a)(1), required EPA to "prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 549 U.S. at 506. After finding that at least one petitioner had standing and that the statute allows EPA to regulate the emissions of greenhouse gases as "pollutants," *id.* at 532, the Court reversed EPA's decision not to exercise that authority. EPA had concluded that it would be neither effective nor appropriate to make a determination concerning endangerment and issue regulations, for various policy-related reasons. The Court faulted EPA for relying on reasons "divorced from the statutory text." *Id.* at 532. Specifically, the Court held that under section 7521(a)(1), "EPA can avoid taking further action only if it determines that greenhouse gases do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do." *Id.* at 533. The Court found that instead of making such a determination, EPA had relied on "policy judgments" such as a preference for using other regulatory programs and a concern over impairing the

President's ability to conduct foreign policy. *Id.* The Court explained that none of these reasons have anything "to do with whether greenhouse gas emissions contribute to climate change," which is the relevant statutory question. Nor are they a "reasoned justification for declining to form a scientific judgment. *Id.* at 534.

EPA's decision regarding the secondary NAAQS is different. Unlike in *Massachusetts*, here EPA did provide a reasoned justification for declining to proceed, based on the state of the science, and that justification is tied directly to the relevant statutory question, *i.e.*, would a revised standard provide the requisite degree of protection. EPA did not rely on policy considerations unrelated to this statutory question. In fact, EPA has consistently taken the position that it is inappropriate to revise a NAAQS, even where there is information that the current standard is no longer sufficient to ensure the requisite degree of protection, where there is sufficient uncertainty that a revised standard will do so. *See supra* at xx (discussing history of EPA's prior considerations of the secondary NAAQS for oxides of nitrogen and sulfur).

In the administrative decision under review in *Massachusetts*, EPA also pointed to scientific uncertainty as a reason for declining to act. *Id.* at 513.

According to the Court, EPA in that case gave "controlling importance" to its inability unequivocally to establish a causal link between increased concentrations of greenhouse gases as a result of human activities and increased global surface air temperatures. *Id.* EPA decided that "it would therefore be better not to regulate at this time." *Id.* at 534. The *Massachusetts* Court recognized that an endangerment determination might not need to be made "[i]f the scientific uncertainty is so profound that it precludes EPA from making a reasoned judgment as to whether greenhouse gases contribute to global warming," but noted that EPA did not make that conclusion. Instead, EPA concluded it would not be appropriate to proceed, whereas the "statutory question is whether sufficient information exists to make an endangerment finding." *Id.* at 534.

Here, in contrast, EPA determined it was not appropriate to proceed, *because* the scientific uncertainty is so profound that the Administrator could not make a reasoned judgment as to whether a revised standard would be in accordance with section 7409(b), *i.e.*, whether or not a revised NAAQS would be requisite to protect public welfare against the impacts on the aquatic environment from acidifying deposition of oxides of nitrogen and sulfur – much less against other impacts, such as terrestrial acidification and nutrient enrichment. 77 Fed. Reg. at 20,256/1 (JAxxxx). As the Court in *Massachusetts* directed EPA to do,

EPA has grounded its reason for inaction in the statute, by concluding that because the Administrator could not make a reasoned determination whether or not a revised standard would provide the requisite level of protection from these impacts, it would be inappropriate to revise the secondary NAAQS. While the reasonableness of that determination depends on the administrative record, discussed in Argument III, below, nothing in the statute unambiguously precludes EPA from declining to revise a NAAQS based on such a determination.

III. EPA'S DECISION NOT TO ESTABLISH A NEW SECONDARY NAAQS AT THIS TIME IS SUPPORTED BY THE ADMINISTRATIVE RECORD AND ADEQUATELY EXPLAINED.

A. The Administrative Record Supports EPA's Determination Not To Revise The Standard At This Time.

EPA's decision not to establish a new secondary standard at this time is well-supported by the administrative record. The difficulty of establishing a value for the F1 factor in the Index for all 84 ecoregions illustrates the uncertainties the Administrator faced. As noted above, the F1 factor is designed to identify the "critical load" of deposition for a particular ecoregion that is associated with a desired level of acid neutralizing capacity and a desired percentile of waterbodies. This critical load identifies the amount of deposition that can occur and still

achieve the desired acid neutralizing capacity for the desired percentile of waterbodies in the specific ecoregion.

However, the natural ability of any particular waterbody in an ecoregion to neutralize acid is affected by many characteristics of the ecoregion. For example, base cations are positive ions of calcium, magnesium, potassium, and sodium, which counteract acidification and affect the natural ability of a waterbody to neutralize acid. Policy Assessment at xiv, 2-67, 3-2, 7-62 (JAxxxx, xxxx, xxxx, xxxx). The supply of base cations depends on factors such as weathering, erosion, and the pre-industrial composition of the soil. *Id.* at 7-19 (JAxxxx). The amount of nitrogen taken up by plants also affects a waterbody's ability to neutralize acid. *Id.* at 7-28 (JAxxxx). In addition, the runoff rate in a particular basin is also an important influence on a waterbody's natural ability to neutralize acid. *See generally* 77 Fed. Reg. at 20,245 (JAxxxx). Both the base cation supply and the runoff rate at the basin level are aspects of the Index where the uncertainty is high. *Id.* at 7-74 to 7-75 (JAxxxx-xxxx); *see also* 77 Fed. Reg. at 20,249/2 (the critical load-related component of the Index has "much higher uncertainties") (JAxxxx). Each of these characteristics is unique to each waterbody and can vary among waterbodies in different ecoregions as well as within the same ecoregion. Each of these characteristics must be evaluated on an ecoregion-wide basis, in order to

develop a critical load that represents the entire ecoregion, and that achieves a national target level of acid neutralizing capacity and percentile of waterbodies.

Data can be collected for a specific waterbody, and the average surface runoff rate, in meters per year, for a particular basin can be calculated, and together these can be used to estimate a particular waterbody's base cation supply and nitrogen uptake, and thus the critical load for that waterbody, *i.e.*, the amount of deposition that can occur and still attain the desired level of acid neutralizing capacity for that waterbody. However, a national standard must address aquatic acidification for waterbodies across all 84 ecoregions. In order to do so, EPA must have information and data on the characteristics of the ecoregions and its waterbodies, across the range of waterbodies in the ecoregion. EPA then uses modeling to estimate the representative critical load for that ecoregion. There is a wide disparity across ecoregions as to degree of data available to EPA to determine the representative critical load for the ecoregion. While EPA had a reasonable supply of information for some of the more well-studied ecoregions, especially in the eastern United States, for many ecoregions the supply of information was much more limited. 77 Fed. Reg. at 20,261/2 (JAxxxx). As a result, for many ecoregions there was great uncertainty in modeling the appropriate F1 factor for that ecoregion that would achieve the desired level of acid neutralizing capacity

and the desired percentile of waterbodies in the ecoregion.

The Clean Air Scientific Advisory Committee echoed this concern, noting that "the available data may reflect the more sensitive waterbodies and thus, the selection of percentiles of waterbodies to be protected could be conservatively biased." Committee Comments at 2 (JAxxxx). Petitioners assert that this concern is limited to the context of "future" EPA work and does not express any view by the Committee that EPA should not revise the secondary NAAQS. Pet. Br. at 46. But, the Committee's actual comment is that "[a]s EPA moves forward in *this* regulatory process, we recommend some attention be given to our concern" regarding potential bias in the Index due to data limitations. Committee Comments at 2 (JAxxxx). The "process" to which the Committee refers is not a decision how to implement such a standard once it is adopted, as Petitioners suggest. Rather, the process is the rulemaking at issue in this case, *i.e.*, the decision whether or not to adopt an Index-based standard.

EPA also faced significant uncertainties regarding the F2 factor in the Index, which addresses the deposition of reduced forms of nitrogen, such as ammonia, as opposed to oxides of nitrogen. The "high uncertainty" involved in characterizing this aspect of aquatic acidification is due to the lack of field information about

ammonia deposition, the difficulty in obtaining such information (due to the diffuse nature of its sources, which are both area-wide and non-point), and the complex chemistry and dispersal patterns that ammonia presents. 77 Fed. Reg. at 20,249/3 (JAxxxx), 76 Fed. Reg. at 46,131/2 ("Field measurements of [reduced nitrogen] have been extremely limited, but have begun to be enhanced") (JAxxxx). Although the F3 and F4 factors also suffer from important and significant uncertainties, the F1 and F2 factors are the greatest sources of uncertainty. *Id.* at 20, 255/1 (JAxxxx).

As Petitioners note, Pet. Br. at 47-48, the Clean Air Scientific Advisory Committee did conclude that EPA has a "broad but reasonable range of minimally to substantially protective options for the standard." Committee Comments at 9. But that misses the point; as explained above, there is no need for EPA to establish the requisite degree of protection, if the uncertainties regarding the representative nature of the Index are so great that EPA cannot ensure that any degree of protection will be obtained. Because the administrative record supports EPA's conclusion that it is not appropriate to revise the NAAQS to address acidification of aquatic ecosystems at this time, EPA's decision should be upheld.

Finally, although Petitioners argue that there is an ample basis on which the

Administrator can establish a secondary NAAQS to address aquatic acidification, Pet. Br. at 36-41, nowhere do Petitioners assert that the Administrator has any basis on which to establish a NAAQS to address terrestrial acidification or nutrient enrichment. As noted above, EPA devoted its resources on aquatic acidification, with the concurrence of the Clean Air Scientific Advisory Committee, and the Index only addresses that welfare effect. Because there is absolutely nothing in the record to indicate that EPA could select a standard that would ensure a level of air quality requisite to protect the public welfare from terrestrial acidification or nutrient enrichment, EPA's decision that it is not appropriate to establish a NAAQS at this time to address those effects should also be upheld.

B. EPA Adequately Explained The Basis For Its Decision.

Petitioners assert that EPA simply recited several uncertainties, such as limitations in the available data and uncertainty regarding models, all of which were discussed in the Policy Assessment and the Clean Air Scientific Advisory Committee review, and that EPA "asserted in conclusory fashion" that a standard could not be set. Pet. Br. at 43-44. Although EPA did note these uncertainties, they are not the primary bases for EPA's decision, and Petitioners' attempt to focus the Court's attention on these "red herrings" should be rejected.

Instead, the key uncertainties, as EPA explained, are not merely data gaps or limitations in modeling but the direct impact these shortcomings have on determining whether the information that EPA possesses is representative of conditions on an ecoregion-wide basis. EPA explicitly explained its reasoning in the preamble. *See, e.g.*, 77 Fed. Reg. at 20,261/1 (reciting the uncertainty of quantifying the F factors and "their representativeness at an ecoregion scale"); *id.* at 20,261/2 (explaining that even where data exists for a particular ecoregion, "small sample sizes in some areas impede efforts to characterize the representativeness of the available data at an ecoregion scale"); *id.* (explaining that the nature of uncertainties "fundamentally different than uncertainties that have been relevant in other NAAQS reviews"); *id.* at 20,261/3 (noting that an important uncertainty "relates to limitations in the extent to which the representativeness of various factors can be determined at an ecoregion scale, which has not been a consideration in other NAAQS"); *id.* (explaining that uncertainties affect how well an Index-based standard "would predict the actual relationship" and therefore EPA's ability to characterize the protectiveness).

Aside from the complexity of the undertaking, this is unlike most NAAQS rulemakings. EPA's typical approach is to establish standards which compare monitored concentrations of an air pollutant against a numerical metric of

atmospheric concentration that does not vary geographically. This approach has appropriately protected public health, as at-risk populations are widely distributed throughout the nation. In contrast, in order to provide the requisite level of protection to public welfare from effects on sensitive ecosystems from pollutants such as oxides of nitrogen and sulfur, EPA must consider variable factors such as atmospheric variables and location-specific characteristics of ecosystems. Policy Assessment at 1-13 (JAxxxx). This secondary NAAQS review thus presents unique challenges, because in it EPA is attempting to develop a standard that relies not just on ecological and atmospheric modeling, but also on the ability of those models to generate values that are representative throughout an entire ecosystem. *See, e.g.*, 77 Fed. Reg. at 20,261/2-3 (JAxxxx).

EPA explained the areas where there is greater certainty, such as the scientific concepts at issue and the boundaries of the ecoregions, and EPA explained in detail the sources of uncertainty and how these uncertainties relate to the science-based public welfare decision before the Agency. Specifically, EPA explained how these uncertainties affect the Agency's ability to determine the protectiveness of any specific standard. EPA also explained the Administrator's final decision, and the Agency's plans for the future development of a pilot project. EPA's explanation carefully tied its decision to the factual record and explained

how this record supported its decision. This more than satisfies the Agency's obligation to explain its decision based on the record before it.

IV. THE COURT SHOULD NOT IMPOSE A DEADLINE FOR EPA TO ESTABLISH A NEW SECONDARY NAAQS.

The Court should decline Petitioners' request to set a 14-month deadline for EPA to act if the Court remands EPA's decision for further consideration. Pet. Br. at 48-49. *See Natural Res. Def. Council v. EPA*, 489 F.3d 1364, 1375 (D.C. Cir. 2007) ("We decline to set a two year limit on EPA's proceedings on remand as the NRDC requests; mandamus affords a remedy for undue delay."); *North Carolina v. EPA*, 550 F.3d 1176, 1178 (D.C. Cir. 2008) (per curiam) (declining invitation to "impose a definitive deadline by which EPA must correct [clean air rule's] flaws" and reminding petitioners of availability of mandamus). Although Petitioners point out that they had to sue EPA and obtain a consent decree in order for the Agency to complete this review, Pet. Br. at 48, EPA did act within the decree's timeframe. The Court can and should presume that in the event of a remand, EPA will act diligently to reach a final decision consistent with the Court's opinion.

CONCLUSION

For the foregoing reasons, the petition should be denied.

Respectfully submitted,

IGNACIA S. MORENO
Assistant Attorney General

__/s/ Daniel R. Dertke _____
DANIEL R. DERTKE
Environmental Defense Section
Environment and Natural Resources Div.
United States Department of Justice
P.O. Box 7611
Washington, D.C. 20044
(202) 514-0994

February 19, 2013

CERTIFICATE OF COMPLIANCE WITH WORD LIMITS

Pursuant to Fed. R. App. P. 37(a)(7)(C), and exclusive of the components of the brief excluded from the word limit pursuant to Fed. R. App. P. 32(a)(7)(B)(iii) and Circuit Rule 32 (a)(1), I certify that the foregoing Brief for Respondent contains x,xxx words, as counted by the "word count" feature of my Microsoft Office Word software.

/s/ Daniel R. Dertke

DANIEL R. DERTKE

CERTIFICATE OF SERVICE

I hereby certify that all counsel of record who have consented to electronic service are being served with a copy of the foregoing Brief for Respondents via the Court's CM/ECF system on this 19th day of February, 2013.

/s/ Daniel R. Dertke

DANIEL R. DERTKE

To: Martin, Karen[Martin.Karen@epa.gov]
From: Hubbell, Bryan
Sent: Mon 4/8/2013 1:58:25 PM
Subject: RE: General structure for one pager on NOx/SOx implementation challenges
Strategy for NAAQS secondary standards Apr3 - BH edits.docx

Thanks for putting this together. I agree with your overall structure and approach. I had a few additions and comments which are in the attached. Let me know if you want to discuss further.

Bryan

From: Martin, Karen
Sent: Wednesday, April 03, 2013 4:20 PM
To: Hubbell, Bryan
Subject: RE: General structure for one pager on NOx/SOx implementation challenges

Attached is my take on outlining a strategy for secondary standards (drawing heavily from your draft), including a two page outline of challenges and approaches to overcoming challenges, as well as a table, as per Mike's suggestion, that offers specifics in overcoming challenges for ozone, NOx/SOx and PM visibility -- I filled in the ozone column and pulled from your draft to fill in the NOx/SOx column -- I thought I'd share this with you for your reaction before doing any more on PM. Let me know what you think.

Karen

From: Hubbell, Bryan
Sent: Monday, March 18, 2013 4:12 PM
To: Martin, Karen
Subject: General structure for one pager on NOx/SOx implementation challenges

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[redacted]

(b) (5)

[redacted]

To: Dunkins, Robin[Dunkins.Robin@epa.gov]; Schrock, Bill[Schrock.Bill@epa.gov]
Cc: Evarts, Dale[Evarts.Dale@epa.gov]; Tennant, Ginger[Tennant.Ginger@epa.gov]
From: Waite, Randy
Sent: Tue 11/19/2013 2:55:15 PM
Subject: RE: RMNP Draft Milestone Report - Request for Assistance

Here are our suggested edits. Let me know if I can help any further.

Thanks,

Randy

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[redacted]

(b) (5)

[redacted]

From: Dunkins, Robin
Sent: Thursday, November 14, 2013 2:42 PM
To: Schrock, Bill; Waite, Randy
Subject: RE: RMNP Draft Milestone Report - Request for Assistance

Actually please send it back to me. I need to send through our office first. I'd like just one set of OAQPS comments sent.

Thanks

robin

Robin Dunkins, Leader

Natural Resource Group

Office of Air Quality Planning and Standards

U.S. Environmental Protection Agency

phone: 919-541-5335 fax: 919-541-3470

dunkins.robin@epa.gov

From: Schrock, Bill
Sent: Thursday, November 14, 2013 2:38 PM
To: Waite, Randy
Cc: Dunkins, Robin
Subject: FW: RMNP Draft Milestone Report - Request for Assistance

Randy - I think you are probably the right person to review the language below on the secondary NAAQS and also the Integrated Nitrogen Study. Can you review the short write-up and provide any feedback you might have to Rebecca? If you are the wrong person let me know who I should forward it to. Thanks

Bill Schrock
U.S. EPA
RTP, NC 27709
(919) 541-5032
(919) 541-3470 (fax)

From: Dunkins, Robin
Sent: Thursday, November 14, 2013 2:33 PM
To: Perrin, Rebecca; Elmore, Larry
Cc: Pratt, Steven; Schrock, Bill
Subject: RE: RMNP Draft Milestone Report - Request for Assistance

Rebecca, thanks for you voicemail and we can help coordinate review/input by our office. I will Bill Schrock to be point on reviewing and compiling comments since all highlighted topics fall under HQ office but not all of them are in our group/office. I do expect we may have comments on how some of the highlighted sections are worded.

Thanks

robin

Robin Dunkins, Leader

Natural Resource Group

Office of Air Quality Planning and Standards

U.S. Environmental Protection Agency

phone: 919-541-5335 fax: 919-541-3470

dunkins.robin@epa.gov

From: Perrin, Rebecca
Sent: Thursday, November 14, 2013 1:20 PM
To: Dunkins, Robin; Elmore, Larry
Cc: Pratt, Steven
Subject: RMNP Draft Milestone Report - Request for Assistance

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[redacted]

Thanks!

Rebecca Perrin

Region 8 Agriculture Advisor | Office of the Regional Administrator | USEPA

1595 Wynkoop Street | Denver CO 80202 | DL: 303-312-6311 | FAX: 303-312-6882

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To: Waite, Randy[Waite.Randy@epa.gov]; Schrock, Bill[Schrock.Bill@epa.gov]
Cc: Tennant, Ginger[Tennant.Ginger@epa.gov]
From: Dunkins, Robin
Sent: Thur 11/14/2013 8:33:00 PM
Subject: RE: RMNP Draft Milestone Report - Request for Assistance

Thanks Randy!!!!!

Robin Dunkins, Leader

Natural Resource Group

Office of Air Quality Planning and Standards

U.S. Environmental Protection Agency

phone: 919-541-5335 fax: 919-541-3470

dunkins.robin@epa.gov

From: Waite, Randy
Sent: Thursday, November 14, 2013 2:59 PM
To: Dunkins, Robin; Schrock, Bill
Cc: Tennant, Ginger
Subject: RE: RMNP Draft Milestone Report - Request for Assistance

We will have something for you early Tuesday at the latest.

From: Dunkins, Robin
Sent: Thursday, November 14, 2013 2:47 PM
To: Waite, Randy; Schrock, Bill
Cc: Tennant, Ginger
Subject: RE: RMNP Draft Milestone Report - Request for Assistance

Is it possible to get it to me by COB Monday or Tuesday am so I have time to coordinate with OAQPS/OAR if necessary. This is one of the projects Janet asked was I following so depending on our comments, I need to make sure there's nothing here I need to alert her to.

Thanks

robin

Robin Dunkins, Leader

Natural Resource Group

Office of Air Quality Planning and Standards

U.S. Environmental Protection Agency

phone: 919-541-5335 fax: 919-541-3470

dunkins.robin@epa.gov

From: Waite, Randy
Sent: Thursday, November 14, 2013 2:45 PM
To: Dunkins, Robin; Schrock, Bill
Cc: Tennant, Ginger
Subject: RE: RMNP Draft Milestone Report - Request for Assistance

Sounds good. I will also ask Ginger to take a look at the NOxSOx language and we will get back to you by Tuesday afternoon.

From: Dunkins, Robin
Sent: Thursday, November 14, 2013 2:42 PM
To: Schrock, Bill; Waite, Randy
Subject: RE: RMNP Draft Milestone Report - Request for Assistance

Actually please send it back to me. I need to send through our office first. I'd like just one set of OAQPS comments sent.

Thanks

robin

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To: Waite, Randy
Cc: Dunkins, Robin
Subject: FW: RMNP Draft Milestone Report - Request for Assistance

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(919) 541-3470 (fax)

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To: Perrin, Rebecca; Elmore, Larry
Cc: Pratt, Steven; Schrock, Bill

Subject: RE: RMNP Draft Milestone Report - Request for Assistance

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Thanks

robin

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Office of Air Quality Planning and Standards

U.S. Environmental Protection Agency

phone: 919-541-5335 fax: 919-541-3470

dunkins.robin@epa.gov

Duplicate

[redacted]

To: Tennant, Ginger[Tennant.Ginger@epa.gov]
From: Waite, Randy
Sent: Thur 11/14/2013 7:58:29 PM
Subject: RE: RMNP Draft Milestone Report - Request for Assistance

Thanks. Definitely feeling better than I was earlier in the week. I will tell Robin early Tuesday.

From: Tennant, Ginger
Sent: Thursday, November 14, 2013 2:53 PM
To: Waite, Randy
Subject: RE: RMNP Draft Milestone Report - Request for Assistance

I can meet early next week (I have a deadline today). I have a dentist apt Monday morning but I should be in by 10. I hope you are feeling better!

Ginger

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