Attachment 2

Public Notice Report, Comments Received and Responses

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Public Notice Report
For the
North Carolina Certification of Clean Air Act Section 110(a)(1) and (a)(2)
Requirements for the 2010 1-Hour Sulfur Dioxide Standard

Introduction

On December 3, 2013, a pre-hearing version of the "North Carolina Certification for Clean Air Act (CAA) Section 110(a)(1) and (2) Infrastructure State Implementation Plan for the 2010 1-Hour Sulfur Dioxide National Ambient Air Quality Standards" (SO_2 ISIP) was submitted to the United States Environmental Protection Agency (EPA). A public notice announcement, in accordance with 40 CFR 51.102 and the public comment period, were posted on the North Carolina Division of Air Quality (DAQ) website, as well as email distribution lists managed by the DAQ. The public comment period was open from December 3, 2013 through January 6, 2014. No requests for a public hearing were received. The public comment period elicited comments from the EPA and the Sierra Club (on behalf of the Sierra Club, Medical Advocates for Healthy Air, the Southern Alliance for Clean Energy, and the Southern Environmental Law Center).

Background

The EPA promulgated a new 1-hour National Ambient Air Quality Standard (NAAQS) for sulfur dioxide (SO_2) and revoked the primary annual and 24-hour SO_2 NAAQS on June 22, 2010. The new 1-hour SO_2 NAAQS is set at 75 parts per billion (ppb), measured as a three-year average of the annual 99^{th} percentile of 1-hour daily maximum concentrations (40 CFR 50.17).

On August 5, 2013, the EPA promulgated nonattainment designations in locations where existing monitoring data indicated violations of the 1-hour SO_2 standard between the period of 2009 and 2011 (78 FR 47191). At the time, all of North Carolina's ambient monitors were measuring below the 1-hour standard, and continue to attain the standard. Nevertheless, the EPA stated in its February 6, 2013 letter to North Carolina that it is deferring designation action to a later date. The EPA also stated that future designation action would be taken once additional data are gathered pursuant to the agency's comprehensive implementation strategy. The EPA is in the process of refining its strategy on an acceptable method for determining whether a state has achieved the 1-hour SO_2 NAAQS, and plans to propose the Data Requirements Rule later this year. The EPA re-released its draft technical assistance documents on December 2013 entitled, "SO_2 NAAQS Designations Modeling Technical Assistance Document", and "SO_2 NAAQS Designations Source-Oriented Monitoring Technical Assistance Document" which address modeling and monitoring approaches for assessing 1-hour SO_2 NAAQS.

On August 26, 2013, the Sierra Club and Natural Resources Defense Council initiated a law suit against the EPA regarding its actions related to SO_2 designations. A number of parties, including North Carolina, have intervened. On December 6, 2013, the U.S. District Court for the Northern District of California determined that the EPA Administrator violated her duty to promulgate

SO_2 designations by the June 2013 deadline. The court has not yet determined the appropriate remedy.

Within three years of promulgation of a new or revised NAAQS, states must show they have the authority and programs needed to implement, maintain, and enforce the standard (CAA sections 110(a)(1) and (a)(2)). The revised infrastructure State Implementation Plan (SIP) for SO_2 was due June 22, 2013. North Carolina waited to submit its SO_2 ISIP until the EPA issued nonattainment designations and released appropriate SIP development guidance for the revised SO_2 standard.

To assist air agencies develop infrastructure SIPs, the EPA released a guidance document in September 2013 (see Attachment 1a). North Carolina utilized this guidance to prepare its 2010 1-hour SO_2 ISIP, and released it for public comment on December 3, 2013. A public notice announcement was posted on the DAQ website, indicating that the SO_2 ISIP certification documentation was available for public comment until January 6, 2014. Persons wishing to submit comments or request a public hearing were invited to do so.

The SO_2 ISIP was made available at the DAQ's central office and seven regional offices for public review. The public notice announcement was also sent to a number of distribution lists managed by the DAQ. These distribution lists included numerous stakeholders from industry, environmental groups, relevant state/local agencies, and regional partners. The DAQ believes that sending the public notice announcement to these groups is more effective than publishing the notices in a few local newspapers and is consistent with the requirements described in the April 6, 2011, memorandum, "Regional Consistency for the Administrative Requirements of State Implementation Plan Submittals and the Use of Letter Notices" (see Attachment 1b) Additionally, the DAQ website has Rich Site Summary (RSS) feed which regularly delivers changes to the website content to those that have signed up.

Summary of Public Comment Period

The public notice process resulted in written comments submitted from the EPA and the Sierra Club. Both sets of comments are attached to this report. Modeling files and other exhibits related to the Sierra Club's comment are too extensive for an attachment, and are provided on a separate compact disc. Below is a summary of the comments received and responses thereto. All comments have been reviewed and responses developed based on an evaluation of the issues raised related to the intended purpose of the document under review.

EPA Comments and Responses

EPA Comment 1: The EPA requested North Carolina to include a copy of all regulations (including state only rules that are not federally approved) and relevant authority in the final SO_2 ISIP submission.

DAQ Response 1: North Carolina General Statutes referenced in the SO_2 ISIP were already included in the prehearing submission (Attachment 3a). A new attachment is added which

contains the text of state-only rules which are not part of North Carolina's federally approved SIP (Attachment 3b).

EPA Comment 2: Under section 110(a)(2)(B), the EPA requested North Carolina to document that the state submits ambient air monitoring data to the Air Quality System or monitors air quality in accordance with 40 CFR 58 requirements.

DAQ Response 2: The final SO_2 ISIP is revised to include these statements.

EPA Comment 3: Under section 110(a)(2)(C), the EPA requested the state to verify and document the state's SIP-approved minor source program and to identify the regulation that governs this provision.

DAQ Response 3: North Carolina's minor source permitting program, contained in 15A NCAC 2Q .0300, is already cited in the SO_2 ISIP. Clarifying language is added to indicate this rule contains provisions for permitting minor air pollution sources.

EPA Comment 4: Under section 110(a)(2)(C), the EPA suggested edits to the text related to North Carolina's submission of Prevention of Significant Deterioration (PSD) requirements.

DAQ Response 4: The text is revised in accordance with the EPA's suggestion.

EPA Comment 5: Under section 110(a)(2)(L), the EPA requested clarification whether all or portion of the funding for PSD and nonattainment new source review (NNSR) permits comes from permit fees, and if it does not, to document other funding sources. The EPA also requested the state to cite the Title V regulation and to clarify that the Title V program implements and enforces PSD and NNSR permits once these permits have been issued.

DAQ Response 5: Additional text is added to further emphasize that fees collected under North Carolina's 2Q .0200 rule cover the reasonable cost of review, approval, and implementation and enforcement of PSD and NNSR permits. The EPA's suggested revision related to Title V permits is incorporated in the final submittal.

Sierra Club Comments and Responses

Sierra Club Comment 1: The commenters assert that North Carolina's SO_2 ISIP must impose enforceable 1-hour SO_2 emission limits to prohibit NAAQS exceedances in areas not designated nonattainment. The commenters note that such specific emission limitations are required by the CAA, EPA regulations, EPA interpretations, Supreme Court opinions, and appellate court opinions. The commenters further assert that the SO_2 ISIP must include enforceable emission limitations to ensure attainment and maintenance of the NAAQS.

DAQ Response 1: As a general observation, the DAQ would like to emphasize that while the Sierra Club's comments would be pertinent for the development of an attainment SIP, an ISIP is not the same document as an attainment SIP, nor does it have the same requirements. An ISIP is a demonstration to EPA that a state has the infrastructure, authority (to develop rules and control

measures) and resources (e.g., staff, monitoring capabilities) to comply with the NAAQS. Conversely, an attainment SIP demonstrates to EPA how a state will achieve compliance with the NAAQS, by detailing specific emission reduction programs (including emission control requirements) to achieve the NAAQS and how those programs will be enforced. Due to the distinct differences between these two types of SIPs, North Carolina believes the Sierra Club's comments do not pertain to the ISIP process or the content of an ISIP.

The EPA issued guidance in September 2013 titled "Guidance on Infrastructure State Implementation Plan Elements under CAA Sections 110(a)(1) and 110(a)(2)" as a guidance for the development and submittal of an ISIP for criteria pollutants including the 2010 primary SO_2 NAAQS. North Carolina's SO_2 ISIP for the new 1-hour SO_2 NAAQS was developed in accordance with the applicable elements of that guidance. The September 2013 guidance states:

> *The EPA interprets section 110(a)(2) to exclude two elements that could not be governed by the 3-year submission deadline of section 110(a)(1). Both these elements pertain to part D, in title I of the CAA, which addresses SIP requirements and submission deadlines for designated nonattainment areas for a NAAQS. Therefore, the following elements are considered by the EPA to be outside the scope of infrastructure SIP actions: (1) section 110(a)(2)(C) to the extent that it refers to permit programs (known as "nonattainment new source review") under part D; and (2) section 110(a)(2)(I) in its entirety, which addresses SIP revisions for nonattainment areas. Both these elements pertain to SIP revisions that collectively are referred to as a nonattainment SIP or an attainment plan, which would be due by the dates statutorily prescribed under subparts 2 through 5 under part D, extending as far as 10 years following area designations for some elements. Because the CAA directs states to submit these plan elements on a separate schedule, the EPA does not believe it is necessary for states to include these elements in the infrastructure SIP submission due 3 years after adoption or revision of a NAAQS.*
>
> *While an infrastructure SIP submission is not expected to meet the requirements for a nonattainment SIP, the scope of an infrastructure SIP does not exclude geographical areas that have been designated nonattainment for the new or revised NAAQS or an earlier NAAQS for the same pollutant. Sections 110(a)(1) and 110(a)(2) reflect the congressional intent that each air agency have an air quality program, covering all geographical areas of the state, that includes the specified air agency authorities, requirements, and activities.*
>
> *The infrastructure SIP submission requirement does not move up the date for any required submission of a part D plan for areas designated nonattainment for the new NAAQS.*

Prior to the EPA promulgating nonattainment designations on August 5, 2013, North Carolina was aware of one ambient monitor that was exceeding the 1-hour SO_2 NAAQS. The state took immediate action to review contributing emissions sources and worked with stakeholders to revise appropriate air permits. As a result of this proactive response, the same monitor measured clean 1-hour SO_2 data, which resulted in the EPA not designating nonattainment areas in the August 5, 2013 action.

At this time, North Carolina's monitoring data show attainment of the SO_2 NAAQS. Since the EPA has deferred designations to a later time, this is the only reliable and credible basis with which to assess North Carolina's attainment status. Until credible, new information comes to light in accordance with EPA requirements, the presumption is that North Carolina is not in nonattainment with the new, 1-hour SO_2 standard. We are not aware of any nonattainment areas in North Carolina. North Carolina believes that without the EPA completing further attainment designation process, regulatory agencies cannot know what enforceable limitations on source emissions are necessary.

Sierra Club's reasoning would make all of the nonattainment provisions of the CAA (Part D, subparts 1 and 2) applicable, and would require states to prepare attainment SIPs for areas before the EPA has issued an attainment designation. Under this rationale, North Carolina would be forced, without authorization, review, or oversight from the EPA, to unilaterally define its attainment status and put in place the measures, rules and regulations necessary to achieve and maintain attainment. Such an interpretation goes against the plain language of the CAA. The CAA is clear about where and how nonattainment areas are to be addressed: "[e]ach such plan shall -…I) in the case of a plan or plan revision for an area designated as a nonattainment area, meet the applicable requirements of part D (relating to nonattainment areas)." Until such time, North Carolina has in place robust, enforceable measures to prevent violations from occurring at new sources or at major modifications to existing sources, which provides the regulatory framework and process of PSD permits.

North Carolina's SO_2 ISIP is consistent with previous ISIP submittals that have supported a number of different NAAQS. To the best of our knowledge, none of these ISIP submittals contained unit-specific emission limitations, and all have either been approved by EPA or are being processed by the EPA. This SO_2 ISIP meets all of the EPA's current guidance regarding such submittals.

No changes were made to the SO_2 ISIP due to these comments.

Sierra Club Comment 2: The commenters assert that the SO_2 ISIP for the 2010 SO_2 NAAQS must contain emission limitations for the following Duke Energy coal-fired power plant facilities: Allen Steam Station, Asheville Steam Electric Plant, Marshall Steam Station, Mayo Electric Generating Station, and Roxboro Steam Electric Plant. They assert that AERMOD modeling is the appropriate tool for evaluating SO_2 ISIPs and ensuring attainment and maintenance of the NAAQS. They also assert that limitations based on 1-hour averaging periods must be included for these facilities in the SO_2 ISIP.

DAQ Response 2: The DAQ is committed to protect and improve ambient air quality in North Carolina for the health, benefit and economic well-being of all. The DAQ further believes that after EPA takes designation actions, areas not meeting national standards are expeditiously brought into attainment. Such actions must be based on sound, scientific, technical, and legal bases that are consistent with the CAA.

As stated in Response 1, the method to determine whether a particular source or an area is violating the 1-hour NAAQS is still being developed. North Carolina is waiting for the EPA to

make an attainment determination and/or issue final implementation guidance and rule that specifies the state's requirements. In its April 12, 2012 letters to states, the EPA stated the following:

> *"we recommend for now that states focus their 2013 SIP submittals on the traditional infrastructure elements of Clean Air Act sections 110(a)(1) and (2), rather than on modeling demonstrations showing future attainment of the standard by a fixed date for unclassifiable areas."*

As mentioned earlier, in August 2013, the EPA made initial round of nonattainment designations for those areas with air quality monitors that measured violations of the 1-hour SO_2 standard. For all other areas, the EPA released an updated designation strategy paper for identifying: (1) which sources and areas would be addressed, (2) how air quality would be characterized for those sources and areas, and (3) when key steps would be taken in the overall process. This strategy paper defined a timetable for air agencies to submit plans using air quality monitoring, modeling, or a combination of both.

On December 6, 2013, the U.S. District Court for the Northern District of California determined that the EPA Administrator violated her duty to promulgate SO_2 designations by the June 2013 deadline. The court has not yet determined the appropriate remedy. The Court's pending ruling could determine when EPA promulgates designations.

Meanwhile, the EPA continues to refine its strategy on an acceptable method for determining whether a state has achieved the 1-hour SO_2 NAAQS, and plans to propose the Data Requirements Rule later this year. The EPA re-released the draft technical assistance documents on December 2013 entitled, "SO_2 NAAQS Designations Modeling Technical Assistance Document", and "SO_2 NAAQS Designations Source-Oriented Monitoring Technical Assistance Document" which address modeling and monitoring approaches for assessing 1-hour SO_2 NAAQS. According to the latest EPA guidance documents, final designations based on modeling and monitoring would be made in December 2017 and 2020, respectively.

North Carolina has already been initially designated. For future designations purposes specified by the EPA, North Carolina supports the use of ambient monitoring data for designation purposes in the case of NAAQS assessment for existing sources. North Carolina further believes that air dispersion modeling can be used as a tool to site such monitors, incorporate less expensive sensors into a state's overall monitoring strategy, and potentially validate when modeling could be used in place of monitors. The DAQ appreciates the efforts made by the commenters to develop modeling results for North Carolina facilities, and this information will be reviewed along with all other data and analyses regarding final requirements for facilities and source specific impacts as the process moves forward. The DAQ will perform this process in accordance with the EPA's timelines and with the requirements set forth in the final implementation rule and supporting guidance documents to determine whether or not emissions from these facilities (as well as other large SO_2 emitters in the state) violate the 1-hour SO_2 NAAQS. Once these evaluations have been completed, North Carolina will provide EPA with an attainment status recommendation for the entire state. If a source has been determined to

cause a violation, the state will expeditiously move forward to achieve compliance with the 1-hour SO_2 NAAQS.

At this time, the DAQ believes determining or requiring any type of unit-specific emissions limitations is premature, given the uncertainty regarding what information the final rule and guidance documents will contain. North Carolina awaits finalization of the EPA guidance and rulemaking that would allow the state to reliably and defensibly include enforceable emission limitations in relation to the SO_2 NAAQS.

No changes were made to the SO_2 ISIP due to these comments.

Sierra Club Comment 3: The commenters assert that the Allen, Asheville, Mayo, and Roxboro electric generating plants within the state are capable of causing cross-state exceedances of the NAAQS. The commenters further assert that the SO_2 ISIP fails to address cross-state impacts that are due to these sources, and North Carolina must provide provisions to ensure that in-state pollution is not preventing other states from attaining or maintaining the 1-hour SO_2 NAAQS. The commenters also stated that the Homer City decision does not apply.

DAQ Response 3: The DAQ concurs with the Sierra Club that North Carolina has an obligation under the CAA to ensure that SO_2 emissions will not cause or significantly contribute to nonattainment or interfere with maintenance of the SO_2 NAAQS in another state. However, the EPA must complete its rule making and technical assistance documents before North Carolina can determine the ambient air quality impacts of its SO_2 sources on neighboring states. Additionally, the August 21, 2012 decision by the U.S. Court of Appeals (EME Homer City Generation, L.P. v. EPA) states that a SIP cannot be deemed deficient for failing to meet the "good neighbor" obligation before the EPA quantifies that obligation. As of the submission of this document, EPA has yet to determine that North Carolina has any significant contribution of SO_2, in regards to the 1-hour SO_2 NAAQS to any downwind state. Therefore, at this time, North Carolina should not address the good neighbor provisions of the CAA in Section 110(a)(2)(D). This is consistent with November 19, 2012 EPA memorandum from Administrator Gina McCarthy that "a SIP cannot be deemed deficient for failing to meet the good neighbor obligation before EPA quantifies the obligation."

No changes were made to the SO_2 ISIP due to these comments.

Sierra Club Comment 4: The commenters assert that North Carolina may not rely on its unapproved Regional Haze program to assure compliance with SIP requirements. They also assert that the Clean Air Interstate Rule (CAIR) is not part of North Carolina's approved Regional Haze SIP and that CAIR's reductions are temporarily in place, and thus are not enforceable.

DAQ Response 4: North Carolina's mechanism for assuring compliance with the visibility component of section 110(a)(2)(D)(i)(II) is through its PSD rules and the regional haze plan. North Carolina's PSD rules require that all new major sources and major modifications to existing major sources address visibility impacts, including impacts in other states. The regional

haze plan addresses sources that are linked to impaired visibility in Class I areas, and defines the state's strategy for assuring continued progress towards a long-term goal.

North Carolina is under a separate obligation to submit a revision to the regional haze SIP which incorporates the requirements of the Cross State Air Pollution Rule (CSAPR) based on the EPA's demonstration that CSAPR achieves greater reasonable progress towards achieving visibility conditions in Class I areas than source-specific Best Available Retrofit Technology (BART). However, due to the vacature of CSAPR, the EPA has indicated that until a valid replacement rule is established, states may rely on reductions achieved by CAIR as "permanent and enforceable" for SIP purposes. In light of the ongoing uncertainty associated with interstate transport rules, North Carolina is evaluating other options per the EPA's 2005 BART Rule and 2006 Alternative to Source-Specific BART Determinations Rule. A SIP submittal addressing this requirement is planned for spring 2014.

No changes were made to the SO_2 ISIP due to these comments.

Sierra Club Comment 5: The commenters assert that North Carolina's SO_2 ISIP fails to ensure visibility in other states because the state does not have an approved 5-year regional haze progress report.

DAQ Response 5: North Carolina submitted its regional haze 5-year progress report on May 31, 2013, and is awaiting EPA approval. Until such time when the EPA deems the regional haze SIP effective or ineffective, there is nothing further North Carolina should do.

No changes were made to the SO_2 ISIP due to these comments.

Sierra Club Comment 6: The commenters assert that the SO_2 ISIP fails to ensure attainment and maintenance of the SO_2 NAAQS because North Carolina's statutes and regulations contain exemptions and variances that undermine the state's permitting and enforcement mechanisms.

DAQ Response 6: North Carolina rule 02Q .0317 "Avoidance Conditions" allows facilities to request terms and conditions be placed in their permits to avoid the applicability requirements of programs such as PSD and NNSR. The commenter is incorrect that this rule undermines the state's permitting and enforcement authority. The rule is intended for permitees to take appropriate "operational limits" to stay below applicability requirements of programs such as PSD and NNSR. Such mechanisms are commonly employed in air quality programs to enable facilities with the potential to emit air pollution to operate below major source permit thresholds. To ensure compliance, North Carolina rule requires monitoring, recordkeeping, and reporting conditions be placed in the permit.

The SO_2 ISIP states that only specific rules cited in the document are to be included in the SIP, and that General Statues cited in the plan should not be considered part of North Carolina's federally approved SIP. Nevertheless, the Sierra Club comments that North Carolina General Statues 143-215.108(c)(2) "Control of sources of air pollution; permits required" allows the Environmental Management Commission (EMC) to grant and renew temporary permits even though the action may result in pollution or increase pollution…" North Carolina has not used

this provision since 1973. The provision was put in place in the early days of implementing the air quality program to allow gradual, facilitated permitting process for thousands of sources newly subject to the CAA requirements. North Carolina General Statutes 143-215.3(e) "Variances" allows the EMC to grant variances from rules, standards, or limitations after public hearing on due notice. To the best of our knowledge, such a variance was issued only once in 1977. Since then, the EMC is required to satisfy (e)(1) and (2) which state that: "the discharge of air emissions would not endanger human health or safety and the variance would be consistent with the provisions of the CAA."

No changes were made to the SO_2 ISIP due to these comments.

Sierra Club Comment 7: The commenters assert that North Carolina's SO_2 ISIP does not adequately address public notification requirements under section 110(a)(2)(J). Specifically, the statues and regulations cited do not guarantee that the public will be notified of SO_2 NAAQS exceedances. They also assert that although NCAC 2D .0300 provides for notifications of air alerts, warnings, and emergencies, notifications begin at concentration levels of 300 ppb, not the 75 ppb level of the 2010 SO_2 NAAQS.

DAQ Response 7: The September 2013 guidance states that for section 110(a)(2)(J), the SO_2 ISIP needs to show that the air agency regularly notifies the public of instances or areas in which the new or revised primary NAAQS was exceeded, advises the public of health hazards associated with such exceedances, and enhances public awareness of measures that can prevent such exceedances. North Carolina has demonstrated this requirement by providing air pollution forecasts, education and outreach to promote voluntary reductions, and access to a website that provides information regarding current and historical air quality data (including SO_2 monitoring) across the state. North Carolina's demonstration under section 110(a)(2)(J) is consistent with the statute and the guidance.

The commenters assert that the level at which air alert notifications begin is not set at the 2010 SO_2 NAAQS. This comment is applicable under section 110(a)(2)(G), not 110(a)(2)(J) as indicated by the commenter. Section 110(a)(2)(G) requires that SIPs must provide for the authority comparable to that in section 303 which gives EPA the authority to stop emissions of air pollutants that present an imminent and substantial endangerment to public health or welfare for the environment. North Carolina rule 15A NCAC 02D .0302, which has been SIP approved for many years, provides authority comparable to that of the EPA Administrator under section 303. States are also required to demonstrate that adequate contingency plans are in place to establish emergency episode plans for responding to elevated pollutant levels in urban areas. Emergency episode plans are required based on a priority region classification in areas that record ambient pollutant concentrations in excess of threshold levels specified in 40 CFR Part 51.150. North Carolina's SIP approved 02D .0302 rule shows that the state has an adequate contingency plan to implement the air agency's emergency episode authority.

The current federal threshold concentration for a Priority I SO_2 area is 40 parts per billion (ppb) for the annual arithmetic mean concentration and 170 ppb for 24-hour maximum concentration. Areas with 24-hour average concentration below 40 ppb and 24-hour maximum concentration below 100 ppb are classified as Priority III areas. Priority I region must have an emergency

episode plan and include a contingency plan to prevent ambient pollutant concentrations from reaching a significant harm level (SHL), currently defined as 1000 ppb 24-hour SO_2 concentration. Under 40 CFR 51.152, Priority III areas do not need to develop an emergency episode plan for SO_2.

The EPA has not revised thresholds or SHL for the new 1-hour SO_2 standard. They note in the infrastructure guidance that an episode in which concentrations of SO_2 approach the SHL is likely to be due to a single facility's equipment malfunction to trigger classification in a Priority I area. There are no monitoring stations in North Carolina reporting a value greater than 40 ppb or 100 ppb for the annual arithmetic mean or 24-hour maximum concentration, respectively. Therefore, North Carolina is classified as Priority III and is not required to adopt an emergency episode plan for SO_2.

40 CFR 51.150(b)(3) states that in the absence of adequate monitoring data, models must be used to classify priority areas to achieve timely attainment and maintenance of the standard. Upon promulgation of the EPA's Data Requirement Rule and issuance of final monitoring and modeling guidances, North Carolina will implement the SO_2 standard according to the regulation and procedures. At such time or upon the EPA's issuance of revised thresholds or SHLs, North Carolina will conduct an assessment to determine if the state's priority classification has changed.

No changes were made to the SO_2 ISIP due to these comments.

Sierra Club Comment 8: The commenters stated that North Carolina incorrectly states that 110(a)(2)(E) requirement is met when the EPA performs a completeness determination for each SIP submittal. The commenters assert that North Carolina's SO_2 ISIP must include provisions to ensure there is adequate personnel, funding and legal authority under state law to carry out its SIP obligations. The commenters also assert that North Carolina must demonstrate that the SO_2 ISIP has adequate personnel and funding after North Carolina Department of Environment and Natural Resources (NCDENR's) budget was reduced by 40 percent which resulted in reductions in force and resources being transferred and/or merged.

DAQ Response 8: North Carolina's statement regarding completeness determination was made as an "in general" statement. We acknowledge the commenter's view and have clarified the SO_2 ISIP by adding that the plan's approvability is contingent upon EPA review and approval which undergoes a national public notice process.

The commenters expressed concerns about NCDENR's declining budget and the impact it has on the DAQ to carry out its ISIP obligations. Similar to other states, North Carolina has been impacted by the economic recession. Additionally, the DAQ receives no appropriated funds from the North Carolina General Assembly, and is currently fully sustained through air quality permitting fees, fuel tax receipts, vehicle inspection and maintenance fees, and federal grants. As stated under SO_2 ISIP element 110(a)(2)(L), fees collected under 2Q .0200 cover the reasonable cost of review, approval, and implementation and enforcement of the state's PSD and NNSR permit program. Once these new source and major source modification permits have

been issued, fees collected under the same rule for the state's Title V program cover the implementation and enforcement of PSD and NNSR permits.

The DAQ recognizes the potential for future declining revenues, and has implemented strategies to improve operational efficiency. The DAQ plans to continuously evaluate its operations and take appropriate measures to sustain the core air quality program whose requirements are federally mandated.

Sierra Club Comment 9: The commenters assert that North Carolina's SO_2 ISIP relies on PSD requirements established in the 2008 NSR $PM_{2.5}$ and 2010 $PM_{2.5}$ Increments-Significant Impact Levels and Significant Monitoring Concentration Rule to comply for elements (C), (D)(i), and (J) of section 110(a)(2), despite having not been approved by the EPA.

DAQ Response 9: North Carolina has submitted all provisions related to PSD requirements, and is awaiting the EPA's approval. Until the EPA approves the SO_2 ISIP submittal or requires additional information, there is nothing further North Carolina should do.

No changes were made to the SO_2 ISIP due to these comments.

Conclusion

The DAQ believes it has adequately addressed the EPA and Sierra Club comments, and is requesting that the EPA approve the North Carolina certification of CAA section 110(a)(1) and (a)(2) requirements for the 2010 1-hour SO_2 NAAQS.

Attachments to Public Notice Report

2a) Comment letter from R. Scott Davis, Chief of the Air Planning Branch, EPA, dated January 6, 2014.

2b) Comment letter from Sierra Club on behalf of the Sierra Club, Clean Air Carolina, Medical Advocates for Healthy Air, the Southern Alliance for Clean Energy, and the Southern Environmental Law Center, dated January 6, 2014.

All exhibits and supporting modeling files submitted by the Sierra Club are provided separately on a compact disc. They are also posted by Sierra Club at https://app.box.com/s/tfs3hsfh3tilgzr9gjr4.

2c) NCDENR Public notice language dated December 3, 2014.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

JAN 06 2014

Ms. Sheila C. Holman, Director
North Carolina Department of Environment
and Natural Resources
Division of Air Quality
1641 Mail Service Center
Raleigh, North Carolina 27699-1641

Dear Ms. Holman:

Thank you for your letter dated December 3, 2013, transmitting a prehearing package regarding the section 110(a)(1) and (2) Infrastructure State Implementation Plan (SIP) for the 2010 1-hour Sulfur Dioxide National Ambient Air Quality Standards (NAAQS) in North Carolina. These revisions were the subject of a public comment period beginning December 3, 2013, with written comments due by the close of business on January 6, 2013. We have completed our review of the prehearing submittal and offer the following comments in the enclosure.

We look forward to continuing to work with you and your staff. If you have any questions, please contact Ms. Lynorae Benjamin, Chief, Regulatory Development Section at (404) 562-9040, or have your staff contact Nacosta C. Ward at (404) 562-9140.

Sincerely,

Heather Common for

R. Scott Davis
Chief
Air Planning Branch

Enclosure

Enclosure – 2010 1-hour Sulfur Dioxide NAAQS Infrastructure SIP

General Comment: There are several regulations cited throughout the submission that are in the federally approved SIP, but were not included in the state's prehearing submission in Attachment 2. Please include a copy of these regulations and relevant authority in the final SIP submission per 40 CFR 51.231 as a reference.

110(a)(2)(B): North Carolina lists the state authority and its submission to EPA, but does not document that the state submits data to the Air Quality System or monitor air quality in accordance with 40 CFR 58 requirements. Please include this in your final submittal.

110(a)(2)(C):

- Please verify and document the state's SIP-approved minor source program and what state and/or SIP regulations govern this provision.
- We suggest the following edits to this sentence: "The NCDAQ recently submitted a SIP revision related to adoption of PSD requirements including the PM2.5 PSD increments ~~established in the 2008 NSR fine particulate matter (PM2.5) Rule and the 2010 PM2.5 Increments-SILs and SMC Rule~~ to comply with the 1997 and 2006 PM2.5 infrastructure requirements for elements C, (D)(i) and (J).

110(a)(2)(L): Please clarify whether all or a portion of the funding comes from permit specific fees, as located in 2Q .0200 Permit Fees, for the reasonable cost of review, approval, implementation and enforcement of a prevention of significant deterioration (PSD) and nonattainment new source review (NNSR) permits. If it does not, please document other funding sources (state law, appropriations, grants, etc.).

- Please cite the state's the title V regulations and document that the title V program implements and enforces PSD and NNSR permits once these permits have been issued.

VIA ELECTRONIC MAIL AND U.S. MAIL

January 6, 2014

Sushma Masemore
NC Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
Daq.publiccomments@ncdenr.gov

Re: Comments Concerning North Carolina's Section 110(a) Infrastructure State Implementation Plan (SIP) Submittal for 2010 Sulfur Dioxide NAAQS

Dear Ms. Masemore:

On behalf of the Sierra Club, Clean Air Carolina, Medical Advocates for Healthy Air, the Southern Alliance for Clean Energy, the Southern Environmental Law Center, and others who are adversely impacted by North Carolina's sources of sulfur dioxide ("SO_2") pollution ("the Commenters"), we submit the following comments on North Carolina's proposed Infrastructure State Implementation Plan ("SIP") addressing the requirements for the 2010 one-hour sulfur dioxide National Ambient Air Quality Standards ("NAAQS"), required by section 110(a)(1) and (2) of the Clean Air Act ("CAA" or "Act"). 42 U.S.C. § 7410(a)(1) & (2). We submit these comments and exhibits as notice that the submission fails to comply with the requirements of CAA sections 110(a)(1) and (2). [1]

The primary NAAQS define the levels of air quality that the U.S. Environmental Protection Agency ("EPA") Administrator determines to be necessary to protect public health with an adequate margin of safety. *See* 42 U.S.C. § 7409(b)(1). In 2010, EPA determined that a primary SO_2 NAAQS of 75 parts per billion ("ppb") is necessary to protect public health from the serious threats posed by short-term exposure to SO_2, including decreased lung function, increased respiratory symptoms such as chest tightness, wheezing, and shortness of breath, and

[1] All exhibits, supporting modeling files, and a copy of these comments can be found at https://app.box.com/s/tfs3hsfh3tilgzr9gjr4.

other serious indicators of respiratory illness, especially in asthmatics, children, and the elderly. *See generally* Primary National Ambient Air Quality Standard for Sulfur Dioxide; Final Rule, 75 Fed. Reg. 35,520, 35,526-27 (June 20, 2010) [hereinafter "Final SO_2 NAAQS Rule"]. The health data relied upon by EPA in promulgating the new standard overwhelmingly indicates that increased asthma attacks and hospital visits are attributable to short-term concentrations of sulfur compounds in the air. *Id*. Due to these and other serious impairments caused by short-term SO_2 exposure, the North Carolina Department of Environment and Natural Resources ("NCDENR") must properly implement the one-hour SO_2 NAAQS to protect public health.

I. LEGAL BACKGROUND

The Clean Air Act creates a framework for the "development of cooperative Federal, State, regional, and local programs to prevent and control air pollution." 42 U.S.C. § 7401(a)(4). Pursuant to section 109(b)(1) of the Act, EPA has established primary NAAQS for six criteria air pollutants, "the attainment and maintenance of which . . . are requisite to protect the public health." *Id.* § 7409(b)(1). States have "primary responsibility" for assuring air quality within the state. *Id*. § 7407(a). Following promulgation of a NAAQS, the Act requires that a state shall "adopt and submit to the Administrator . . . a plan which provides for implementation, maintenance, and enforcement of such primary [NAAQS]." *Id.* § 7410(a)(1). For attainment and unclassifiable areas, section 110(a)(2)(A) requires that these plans (which EPA refers to as Infrastructure SIPs or "I-SIPs") "include enforceable emission limitations . . . as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements" of the Clean Air Act, including the requirement to maintain the NAAQS. 42 U.S.C. §§ 7410(a)(2)(A), 7410(a)(1); *Conn. Fund for Env't, Inc. v. EPA*, 696 F.2d 169, 172 (2d Cir. 1982) (CAA requires that SIPs contain "measures necessary to ensure the attainment and maintenance of NAAQS"); *Mont. Sulphur & Chem. Co. v. EPA*, 666 F.3d 1174, 1180 (9th Cir. 2012) (*"*The Clean Air Act directs states to develop implementation plans—SIPs—that 'assure' attainment and maintenance of national ambient air quality standards ("NAAQS") through enforceable emission limitations.") (citing 42 U.S.C. §§ 7407(a), 7410(a)(2)(A)); Hall *v. EPA*, 273 F.3d 1146, 1153 (9th Cir. 2001) ("Each State must submit a [SIP] that specif[ies] the manner in which [NAAQS] will be achieved and maintained within each air quality control region in the State") (internal citations omitted); *see also* EPA, "Sulfur Dioxide Implementation—Programs and Requirements for Reducing Sulfur Dioxide," *available at* http://www.epa.gov/airquality/sulfurdioxide/implement.html.

EPA may approve an Infrastructure SIP only if it finds that the SIP meets a number of requirements identified in section 110(a)(2) of the Act. *See* 42 U.S.C. § 7410(a)(2)(A)-(M). The state bears the burden of demonstrating that its SIP submission satisfies the standards of section 110(a)(2). *Mich. Dept. of Envtl. Quality v. Browner*, 230 F.3d 181, 183, 185 (6th Cir. 2000) (affirming EPA's rejection of a SIP proposal where the state "failed to offer evidence that [the] proposed rules will not interfere with the attainment and maintenance of the NAAQS."). For a plan to be adequate, it "must demonstrate that the measures, rules, and regulations contained in it are adequate to provide for the timely attainment and maintenance of the national standard that it implements." 40 C.F.R. § 51.112(a) (noting also the adequacy of a plan's control measures "shall be demonstrated by means of applicable air quality models . . .")

A. The Plain Language and Legislative History of the Clean Air Act Require That Infrastructure SIPs Impose Emission Limits Adequate to Prevent NAAQS Exceedances in Areas Not Designated Nonattainment

The Clean Air Act, on its face, requires I-SIPs to be adequate to prevent exeedances of the NAAQS. As noted above, following promulgation of a NAAQS, a state must "adopt and submit to the Administrator . . . a plan which provides for implementation, maintenance, and enforcement of such [NAAQS]." 42 U.S.C. § 7410(a)(1). Pursuant to section 110(a)(2)(A), this I-SIP must "include *enforceable emission limitations* . . . as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements" of the Clean Air Act (which include the requirement to maintain compliance with the NAAQS). *Id.* § 7410(a)(2)(A) (emphasis added). As defined by the Act, the term "emission limitation" means "a requirement established by the State or the Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or operational standard promulgated under this chapter." *Id.* § 7602(k). Thus, the plain language of section 110(a)(2)(A) requires that I-SIPs include enforceable emission limitations on sources sufficient to ensure maintenance of the NAAQS.

The legislative history of the Clean Air Act supports this interpretation. As the Senate Committee Report accompanying the 1970 Clean Air Act explained, the Act "would establish certain tools as potential parts of an implementation plan and *would require that emission requirements be established by each State for sources of air pollution agents or combinations of such agents in such region* and that these emission requirements be monitored and enforceable." Sen. Cmte. on Pub. Works Rpt. at 12 (Sept. 17, 1970) (emphasis added), attached hereto as Exhibit 1. This was reaffirmed in the subsequent Senate Conference Report, which stated that: "In order to implement the national ambient air quality standards, these [state implementation] plans *must provide for emission limitations on all services in the region covered by the plan*, together with schedules and timetables of compliance, systems for monitoring both ambient air and emissions from individual sources, and adequate enforcement authority." Sen. Conf. Rpt., 116 Cong. Rec. 42,381, 42,384 (Dec. 18, 1970) (emphasis added), attached hereto as Exhibit 2.[2]

[2] Although the language of current section 110(a)(2)(A) was originally found in section 110(a)(2)(B), the substance has remained true to the statements found in the Senate Committee Reports. There were only two substantive changes between 1970 and the present. First, the addition of former section 172(c)'s requirement that SIPs' emission limitations, schedules, and timetables be "enforceable." *See* Rpt. of the Senate Cmte. on Envt. and Pub. Works accompanying the Clean Air Act Amendments of 1989 at 20 (explaining that "Paragraph (1) of rewritten section 110(c) combines and streamlines existing section 110(a)(2)(b) and the enforceability requirements of section 172(c) of current law"), attached hereto as Exhibit 3; *see also* 42 U.S.C. § 7502(c) (section 172(c)) (requiring that a SIP revision submitted before July 1, 1982 pursuant to a demonstration under subsection (a)(2) "shall contain enforceable measures to assure attainment of the applicable standard not later than December 1, 1987"). Second, the clarification in the 1990 Clean Air Act Amendments that the "means[] or techniques" for meeting the requirements of the Act included "economic incentives such as fees, marketable permits, and auctions of emissions rights." 42 U.S.C § 7410(a)(2)(A).

B. EPA Regulations Implementing the Clean Air Act Require That Infrastructure SIPs Impose Emission Limits Adequate to Prohibit NAAQS Exceedances in Areas Not Designated Nonattainment

EPA regulations implementing section 110(a)(2) also require that I-SIPs must be adequate to prohibit exceedances of the NAAQS. Pursuant to these regulations, in order for a SIP to be approved by EPA, it "must demonstrate that the measures, rules, and regulations contained in it are adequate to provide for the timely attainment and maintenance of the national standard that it implements." 40 C.F.R. § 51.112(a).[3] The regulation clearly states that all SIPs must contain emission limits that adequately ensure the NAAQS is achieved. *See* 40 C.F.R. § 51.112(a). Although these regulations were developed before the Clean Air Act separated Infrastructure SIPs from nonattainment SIPs—a process that began with the 1977 amendments and was completed by the 1990 amendments—the regulations nonetheless apply to I-SIPs. EPA has not changed the regulation since 1990 and in the preamble to the final rule promulgating 40 C.F.R. § 51.112 EPA expressly identifies that its new regulations were *not* implementing Subpart D, the new nonattainment provisions of the Act. *See* Air Quality Implementation Plans; Restructuring SIP Preparation Regulations, 51 Fed. Reg. 40,656, 40,656 (Nov. 7, 1986) ("It is beyond the scope of th[is] rulemaking to address the provisions of Part D of the Act . . . ."). Consequently, 40 C.F.R. § 51.112 was intended to apply to I-SIPs. Thus, it is clear that I-SIPs must contain "measures, rules, and regulations" sufficient to ensure maintenance of the NAAQS.

C. Prior EPA Interpretations of the Act Require That Infrastructure SIPs Impose Emission Limits Adequate to Prohibit NAAQS Exceedances in Areas Not Designated Nonattainment

EPA has relied on section 110(a)(2)(A) and 40 C.F.R. § 51.112 on multiple occasions to reject Infrastructure SIPs that did not contain specific emissions limits sufficient to demonstrate attainment and maintenance of the NAAQS. For example, in March 2006, EPA disapproved Missouri's attempt to revise the sulfur dioxide emission limits in its I-SIP for two power plants because the new emission limits would not ensure maintenance of the short-term sulfur dioxide NAAQS. *See* Approval and Promulgation of Implementation Plans; State of Missouri, 71 Fed. Reg. 12,623, 12,624 (Mar. 13, 2006). In so doing, EPA explained that "Section 110(a)(2)(A) of the [Act] requires, in part, that the [state implementation] plan include emission limitations to meet the requirements of the Act, including the requirement in section 110(a)(1) that the plan must be adequate to attain and maintain ambient air quality standards." *Id*. EPA further explained that "40 CFR 51.112 requires that the plan demonstrate that rules contained in the SIP are adequate to attain the ambient air quality standards." *Id.* In the case of Missouri's proposed I-SIP, EPA expressed concern that the sulfur dioxide emission rates for the two power plants in question were "not protective of the short-term sulfur dioxide NAAQS" because while Missouri had lowered the emission rates for the facilities, it had dramatically increased the averaging

[3] 40 C.F.R. § 51.112(a)(1) further specifies that "[t]he adequacy of a control strategy shall be demonstrated by means of applicable *air quality models*, data bases, and other requirements specified in appendix W of this part (Guideline on Air Quality Models)." (emphasis added). Consequently, 40 C.F.R. § 51.112(a)(1) supports the use of sulfur dioxide air dispersion modeling to evaluate the adequacy of sulfur dioxide I-SIPs for maintaining the one-hour sulfur dioxide NAAQS.

times (from a 3-hour average to an annual average) without providing "a demonstration, as required by the [Clean Air Act] and EPA regulations, that the [sulfur dioxide national ambient air quality] standards, and particularly the three-hour and the twenty-four hour standards, can be protected by an annual emission limit." *Id.*

More recently, in December 2013, EPA rejected a revision to Indiana's sulfur dioxide SIP pursuant to 40 C.F.R. § 51.112, because Indiana failed to demonstrate that the SIP, as revised, was sufficient to ensure maintenance of the sulfur dioxide NAAQS. *See* Approval of Air Quality Implementation Plans; Indiana; Disapproval of State Implementation Plan Revision for ArcelorMittal Burns Harbor; Final Rule, 78 Fed. Reg. 78,720, 78,721 (Dec. 27, 2013). Indiana had submitted a request to EPA to revise its sulfur dioxide SIP for the ArcelorMittal Burns Harbor facility to remove the sulfur dioxide emission limit for the blast furnace flare at the facility. *Id.* In the proposed disapproval, EPA explained that "[u]nder 40 CFR 51.112(a), each SIP must demonstrate that the measures, rules, and regulations it contains are adequate to provide for the timely attainment and maintenance of the NAAQS." *See* Approval of Air Quality Implementation Plans; Indiana; Disapproval of State Implementation Plan Revision for ArcelorMittal Burns Harbor; Proposed Rule, 78 Fed. Reg. 17,157, 17,158 (Mar. 20, 2013). Because Indiana did not demonstrate that the ArcelorMittal blast furnace gas flare's existing emission limit was "redundant, unnecessary, or that its removal would not result in or allow an increase in actual SO_2 emissions," and, consequently, that removal of the limit would not "affect the validity of the emission rates used in the existing attainment demonstration, thus undermining the SIP's ability to ensure protection of the SO_2 NAAQS," EPA rejected the proposed amendment. *Id.* at 17,159; *see also* 78 Fed. Reg. at 78,721

Indeed, while in its recent Infrastructure SIP guidance EPA purported to postpone certain I-SIP start-up, shutdown, and malfunction (SSM) requirements, nowhere in that guidance does EPA discuss postponement of any other I-SIP requirement.[4] *See* U.S. EPA, Guidance on Infrastructure State Implementation Plan (SIP) Elements under Clean Air Act Section 110(a)(1) and 110(a)(2), at 19-20 (Sept. 13, 2013) [hereinafter "EPA I-SIP Guidance"]. This is simply a further indication that the CAA requires I-SIPs to include emission limits adequate to ensure attainment of the NAAQS and that the imposition of such limits may not be delayed.

D. Supreme and Appellate Court Opinions Hold That Infrastructure SIPs Impose Emission Limits Adequate to Prohibit NAAQS Exceedances in Areas Not Designated Nonattainment

Since the inception of the modern Clean Air Act in 1970, courts have interpreted the language presently found in section 110(a)(2)(A) to require that SIPs contain enforceable emission limits sufficient to prevent exceedances of the NAAQS. In *Train v. NRDC*, a seminal case on SIP approval requirements, the Supreme Court explained that:

> In complying with this requirement [that a SIP provide for attainment and maintenance of the NAAQS] a State's plan must include 'emission limitations,' which are regulations of the composition of substances emitted into the ambient

[4] The Commenters disagree, moreover, with EPA's apparent postponement of those same SSM requirements; such postponement is unsupported by the CAA.

> air from such sources as power plants, service stations, and the like. They are the specific rules to which operators of pollution sources are subject, and which if enforced should result in ambient air which meets the national standards.

421 U.S. at 78; *see also id.* at 67 (citing language from then-current section 110(a)(2)(B) now found in section 110(a)(2)(A)).

Courts of appeals have echoed the same conclusion. For example, in *Pennsylvania Department of Environmental Resources v. EPA*, the Third Circuit stated that the Clean Air Act "directs the EPA to withhold approval from a state implementation plan if the 'maintenance of [the] standard' cannot be assured." 932 F.2d 269, 272 (3rd Cir. 1991).[5] The court observed that the "need to maintain the Clean Air Act standards once they are reached is well-recognized by the Courts." *Id.* Other courts have provided similar analyses. In *Mision Industrial, Inc. v. EPA*, for example, the First Circuit explained that, "[b]efore approving an air quality implementation plan or revision, the Administrator must determine that it 'includes emission limitations . . . and such other measures as may be necessary to insure attainment and maintenance of (the) primary or secondary standard . . . .'" 547 F.2d 123, 129 (1st Cir. 1976) (quoting former section 110(a)(2)(B)).

The 1990 Clean Air Act amendments do not alter this picture. Court decisions since the 1990 amendments have continued to hold that I-SIPs must have emission limits that maintain the NAAQS. In *Alaska Department of Environmental Conservation v. EPA*, the Supreme Court explained that an Infrastructure SIP under CAA section 110(a)(1) must be a "'plan which provides for implementation, maintenance, and enforcement of [NAAQS].'" 540 U.S. 461, 470 (2004) (quoting section 110(a)(1)). "While States have wide discretion in formulating their plans . . . SIPs must include certain measures Congress specified to assure that national ambient air quality standards are achieved." *Id.* (internal citations and quotations omitted). Thus, in order for EPA to approve, a SIP, it "must 'include enforceable emission limitations and other control measures, means, or techniques . . . as may be necessary or appropriate to meet the applicable [CAA] requirements.'" *Id.* (quoting 42 U.S.C. § 7410(a)(2)(A)).

The circuit courts have also been clear that section 110(a)(2)(A) from the post-1990 Clean Air Act requires enforceable emission limits in I-SIPs. For example, as noted above, the Ninth Circuit recently affirmed that "[t]he Clean Air Act directs states to develop implementation plans—SIPs—that 'assure' attainment and maintenance of national ambient air quality standards ('NAAQS') *through enforceable emission limitations*." *Mont. Sulphur & Chem. Co.*, 666 F.3d at 1180 (citing 42 U.S.C. §§ 7407(a), 7410(a)(2)(A)) (emphasis added). And the Sixth Circuit has explained that "EPA's deference to a state is conditioned on the state's submission of a plan 'which satisfies the standards of § 110(a)(2)' and which includes emission limitations that result in compliance with the NAAQS." *Mich. Dept. of Envtl Quality*, 230 F.3d at 185 (*quoting Train*, 421 U.S. at 79).

[5] The court was interpreting the 1977 version of the statute in which Subpart 1 of Part D had been added, *id.* at 271 n.1, but relied on the language of then-current section 110(a)(2)(B) (now found in section 110(a)(2)(A)). *Pennsylvania Department of Environmental Resources,* 32 F.2d at 272.

Additionally, in *Hall v. EPA*, the Ninth Circuit held that EPA had not fulfilled its responsibility under another provision—section 110(l)[6]—to evaluate whether a revised air quality plan will achieve the pollution reductions required under the Act. 273 F.3d at 1152. In *Hall*, EPA approved a revision to an air quality plan solely on the basis that the revisions did not relax the existing SIP, rather than "measur[ing] the existing level of pollution, compar[ing] it with the national standards, and determin[ing] the effect on this comparison of specified emission modifications." *Id*. at 1157-58 (*quoting Train*, 421 U.S. at 93). EPA claimed a statutory equivalence between non-relaxation of rules approved in 1981 and non-interference with current attainment requirements. *Id.* at 1155. The court rejected EPA's application of the "no relaxation" rule, finding it inconsistent with the Act because it set an improper baseline that failed to take into consideration the 1990 amendments, which set new deadlines for attainment and established other new requirements for incremental progress towards attainment. *Id*. at 1160-61. Those current attainment requirements were the baseline from which EPA should have measured "non-interference." *Id.* EPA's analysis was required to reflect consideration of the prospects of meeting current attainment requirements under a revised air quality plan. *Id*. Based on the Ninth Circuit's analysis, just as a plan revision must not interfere with attainment of the NAAQS under section 110(l), an I-SIP must likewise include enforceable limits sufficient to ensure the initial plan provides for maintenance of the NAAQS under 110(a)(2)(A).

II. THE NORTH CAROLINA INFRASTRUCTURE SIP IMPERMISSIBLY FAILS TO INCLUDE ENFORCEABLE ONE-HOUR SO_2 EMISSION LIMITATIONS TO ENSURE ATTAINMENT AND MAINTENANCE OF THE NAAQS.

Even though the 2010 SO_2 NAAQS requirements impose a new, more protective standard for ambient air, North Carolina's proposed I-SIP fails to include restrictions on major SO_2 sources to ensure that areas not designated nonattainment will attain and maintain the new one-hour SO_2 NAAQS.

A. North Carolina must include enforceable one-hour SO_2 emission limits for sources currently allowed to cause exceedances of the NAAQS, including the Allen Steam Station, Asheville Steam Electric Plant, Marshall Steam Station, Mayo Electric Generating Station, and Roxboro Steam Electric Plant.

NCDENR fails to include adequate enforceable emission limitations for sources of SO_2 sufficient to ensure attainment and maintenance of the 2010 SO_2 NAAQS. Emission limits are especially important for meeting the one-hour SO_2 NAAQS, given the "strong source-oriented nature of SO2 ambient impacts." Final SO_2 NAAQS Rule, 75 Fed. Reg. at 35,570. Nationally, large point sources account for 95 percent of SO_2 emissions, 66 percent of which come from fossil fuel combustion at electric facilities. *Id*. at 35,524. Of the SO_2 emissions generated in North Carolina, 64 percent are caused by coal-fired power plants alone (based on 2011 National

[6] Section 110(*l*) provides, in relevant part, that "[t]he Administrator shall not approve a revision of a [state implementation] plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress . . ., or any other applicable requirement of this chapter." 42 U.S.C. § 7410(*l*).

Emissions Inventory Data). *See* North Carolina SO2 Emissions By Source Type, attached hereto as Exhibit 4; *see also* EPA, 2011 National Emissions Inventory, available at http://www.epa.gov/ttn/chief/net/2011inventory.html. Specifically, coal-fired power plants, including Allen Steam Station in Belmont, Asheville Steam Electric Plant in Arden, Marshall Steam Station in Terrell, Mayo Electric Generating Station in Roxboro, and Roxboro Steam Electric Plant in Semora, currently lack emission limits that prevent exceedances of the 2010 SO_2 NAAQS. In order to comply with section 110(a)(2)(A), the North Carolina proposed SIP must be amended to ensure these sources cannot cause exceedances of the 2010 SO_2 NAAQS.

NCDENR has not even attempted to demonstrate that emissions allowed by the proposed I-SIP will ensure compliance with the one-hour SO_2 standard, nor could it. As determined by modeling conducted at the Sierra Club's request, the limits in place under the current I-SIP are insufficient to attain and maintain the NAAQS. *See* Steven Klafka, *Allen Steam Station, Belmont, North Carolina, Sierra Club Evaluation of Compliance with 1-hour SO_2 NAAQS* (Dec. 23, 2013), [hereinafter "Allen Modeling Report"], attached hereto as Exhibit 5; Steven Klafka, *Asheville Steam Electric Plant, Arden, North Carolina, Sierra Club Evaluation of Compliance with 1-hour SO_2 NAAQS* (July 5, 2012), [hereinafter "Asheville Modeling Report"], attached hereto as Exhibit 6; Steven Klafka, *Marshall Steam Station, Terrell, North Carolina, Sierra Club Evaluation of Compliance with 1-hour SO_2 NAAQS* (Dec. 23, 2013), [hereinafter "Marshall Modeling Report"], attached hereto as Exhibit 7; Steven Klafka, *Mayo Electric Generating Station, Roxboro, North Carolina, Sierra Club Evaluation of Compliance with 1-hour SO_2 NAAQS* (Dec. 23, 2013), [hereinafter "Mayo Modeling Report"], attached hereto as Exhibit 8; Steven Klafka, *Roxboro Steam Electric Plant, Semora, North Carolina, Sierra Club Evaluation of Compliance with 1-hour SO_2 NAAQS* (Dec. 5, 2013), [hereinafter "Roxboro Modeling Report"], attached hereto as Exhibit 9.

The modeling reports contain an air dispersion modeling analysis for each plant that compares the modeled ambient air concentrations from each plant's emissions with the 2010 one-hour SO_2 NAAQS. The modeling reports used EPA's AERMOD program to model the plants' "allowable" (based on the current Title V permit) and "actual" (based on maximum plant-wide hourly emissions obtained from EPA's Clean Air Markets Data and Maps database) emissions to determine whether the plant can cause exceedances of the one-hour SO_2 NAAQS. *See* Allen Modeling Report at 3, fnt 4-5; Asheville Modeling Report at 4, fnt 3-4; Marshall Modeling Report at 3, fnt 4-5; Mayo Modeling Report at 4, fnt 3-4; Roxboro Modeling Report at 4, fnt 3-4. While the reports include both analyses, the modeling based on the allowable emission is crucial to a determination of whether the North Carolina I-SIP is adequate to attain and maintain the NAAQS. The modeling protocol employed is consistent with all available technical guidance, including Appendix W and EPA's March 2011 guidance for implementing the one-hour SO_2 NAAQS. Additionally, it used the most recent version of AERMOD available at the time of the studies. Allen Modeling Report at 2, 7; Asheville Modeling Report at 2, 5; Marshall Modeling Report at 2, 7; Mayo Modeling Report at 2, 5; Roxboro Modeling Report at 2, 5. Where any assumptions were made in the running of the models, the modeler, Mr. Klafka, employed conservative inputs, which favor the prediction of lower impacts from the plants so that the results may *understate* the plants' SO_2 emission impacts. Allen Modeling Report at 4; Asheville Modeling Report at 3; Marshall Modeling Report at 4; Mayo Modeling Report at 3; Roxboro Modeling Report at 3.

The modeling reports demonstrate that, based on the existing I-SIP, these plants are authorized to cause exceedances of the one-hour SO_2 NAAQS based on their allowable emission rates. *See* Allen Modeling Report at 2-3; Asheville Modeling Report at 2-4; Marshall Modeling Report at 2-3; Mayo Modeling Report at 2-4; Roxboro Modeling Report at 2-4. The modeling also shows that actual emissions from these facilities are high enough to cause exceedances of the one-hour SO_2 NAAQS. *Id*.[7] These SO_2 NAAQS exceedances based on both permitted emission limits and actual maximum emissions are impacting at least 16 counties in North Carolina. The modeling results are above the NAAQS, even without adding in a background concentration. Nevertheless, NCDENR did not recommend that a single county be designated as nonattainment. *See* Letter from Dee Freeman, Secretary, North Carolina Department of Environment and Natural Resources to Gwendolyn Keyes Fleming, Regional Administrator, EPA Region 4, 1 (June 2, 2011), *available at* http://www.epa.gov/so2designations/recletters/R4_NC_rec_wtechanalysis.pdf, [hereinafter "Freeman Letter"] (requesting deferment of nonattainment designation for New Hanover County and not recommending any other county to be designated nonattainment). EPA has yet to issue designations for areas aside from those containing monitors that recorded exceedances of the NAAQS. *See* Air Quality Designations for the 2010 Sulfur Dioxide (SO_2) Primary National Ambient Air Quality Standard, 78 Fed. Reg. 47,191, 47,191 (Aug. 5, 2013) (designating areas with monitor violations from 2009-2011 as nonattainment), [hereinafter "SO_2 Designations Final Rule"]; *see also* Final Nonattainment Areas for 2010 SO2 Standards Round 1 – July 2013 (not designating any part of North Carolina as nonattainment), *available at* http://www.epa.gov/so2designations/pdfs/july2013SO2nonattainmentcounties.pdf. Because these power plants are in areas that are not currently designated nonattainment, *see generally* SO_2 Designations Final Rule, NCDENR must submit an I-SIP that "provides for implementation, maintenance, and enforcement of [the NAAQS] within such State." 42 U.S.C. § 7410(a)(1).

[7] In fact, emissions data from EPA's Clean Air Markets Database shows that actual emissions from the Roxboro Steam Electric Plant, for example, are high enough to cause exceedances of the NAAQS over half of the time. *See* 2013 SO2 Emissions at the Roxboro Plant, As Reported in EPA's Clean Air Markets Database, attached hereto as Exhibit 10.

The findings from each of the modeling reports are summarized in the table below.

Power Plant	**Emission Rates**	**Facility Impact** ($\mu g/m^3$)	**Background** ($\mu g/m^3$)[8]	**Total Impact** Facility Impact plus Background ($\mu g/m^3$)	**SO_2 NAAQS** ($\mu g/m^3$)[9]	**Counties Impacted**[10]
Allen Steam Station	Allowable	1,094.5	13.1	1,107.6	196.2	Gaston & Mecklenburg
	Maximum	305.5	13.1	318.6	196.2	
Asheville Steam Electric Plant	Allowable	11,429.6	52.3	11,481.9	196.2	Buncombe, Henderson, Polk, Rutherford, Transylvania, Haywood, & Northampton
	Maximum	3,647.3	52.3	3,699.6	196.2	
Marshall Steam Station	Allowable	770.7	13.1	783.8	196.2	Catawba, Iredell, Mecklenburg, & Lincoln
	Maximum	1,607.9	13.1	1,621.0	196.2	
Mayo Electric Generating Station	Allowable	404.6	18.3	422.9	196.2	Person & Granville
	Maximum	312.3	18.3	330.6	196.2	
Roxboro Steam Electric Plant	Allowable	721.8	18.3	740.1	196.2	Caswell, Person Granville, Orange
	Maximum	340.6	18.3	358.9	196.2	

Allen Modeling Report at Table 1, Figure 1; Asheville Modeling Report at Table 1, Figure 1; Marshall Modeling Report at Table 1, Figure 1; Mayo Modeling Report at Table 1, Figure 1; Roxboro Modeling Report at Table 1, Figure 1.

[8] The varying background concentrations reflect the most accurate background levels from when the plant emissions and permits were analyzed. Even without background concentrations, every plant discussed is violating the 2010 SO_2 NAAQS.

[9] The 75 ppb to $\mu g/m^3$ calculation is 75/0.3823 = 196.2 $\mu g/m^3$.

[10] Emissions from Allen Steam Station, Asheville Steam Electric Plant, Mayo Electric Generating Station, and Roxboro Steam Electric Plant. also cause cross-state impacts, resulting in SO_2 NAAQS exceedances in a neighboring states; this is discussed further below.

Based on the modeling results summarized above, NCDENR must promulgate enforceable one-hour averaging time emission limits into its SIP that are no less stringent than the following limits to achieve and maintain the one-hour SO_2 NAAQS. These limits represent the maximum rate that each facility can emit without causing NAAQS exceedances, thus reducing each total plant's allowable emissions by the corresponding percentage. These emission limits must apply at all times including during periods of start-up, shutdown, and malfunction.

Plant	Maximum Total Facility Emission Rate (lbs/hr)	Required Total Facility Emission Reduction (%)
Allen Steam Station	2,363.0	83.3%
Asheville Steam Electric Plant	123.3	98.7%
Marshall Steam Station	3,017.4	76.2%
Mayo Electric Generating Station	4,761.9	56.0%
Roxboro Steam Electric Plant	3,839.2	75.4%

Allen Modeling Report at Table 3; Asheville Modeling Report at Table 3; Marshall Modeling Report at Table 3; Mayo Modeling Report at Table 3; Roxboro Modeling Report at Table 3.

As demonstrated by the modeling reports, the Allen Steam Station, Asheville Steam Electric Plant, Marshall Steam Station, Mayo Electric Generating Station, and Roxboro Steam Electric Plant are currently authorized to cause exceedances of the one-hour SO_2 NAAQS based on their allowable emission rates. Therefore NCDENR must impose additional emission limits on the plants that ensure attainment and maintenance of the NAAQS at all times.[11] As the

[11] NCDENR recognized that corrective actions to reduce SO_2 levels from major sources may be necessary, including emission limits. Freeman Letter at 1 (considering "additonal controls or permit limitations" on major SO_2 sources to ensure NAAQS attainment and maintanence); . *See* Letter from Dee Freeman, Secretary, North Carolina Department of Environment and Natural Resources to Gwendolyn Keyes Fleming, Regional Administrator, EPA Region 4, 1 (Jan. 23, 2013), *available at* http://www.epa.gov/so2designations/recletters/R4NCupdate.pdf (reporting

Infrastructure SIP submission does not include these emission limitations, and North Carolina's current regulations do not suffice, the I-SIP fails to comply with CAA section 110(a)(2)(A).

B. AERMOD modeling, such as that provided by the Sierra Club, is the appropriate tool for evaluating the adequacy of Infrastructure SIPs and ensuring attainment and maintenance of the NAAQS.

As outlined by EPA in the Final SO_2 NAAQS Rule, 75 Fed. Reg. at 35,551, air dispersion modeling is the best method for evaluating the short-term impacts of large SO_2 sources. This is consistent with EPA's historic use of air dispersion modeling for attainment designations and SIP revisions. Furthermore, an agency may not ignore information put in front of it, such as Sierra Club's modeling submitted with these comments. *See generally Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43 (1983) (holding that it was arbitrary and capricious for the agency to ignore an important aspect of an issue placed before it); *see also NRDC v. EPA,* 571 F.3d 1245, 1254 (D.C. Cir.2009) (restating EPA's own statement that additional information presented in a notice-and-comment rulemaking must be considered during the rulemaking by the corresponding state and EPA) (*citing* 70 Fed. Reg. 71,612, 71,655).

NCDENR has long been on notice that modeling data is an important resource in the NAAQS attainment and maintenance process. In fact, NCDENR expected EPA to use modeling for SO_2 designations. Freeman Letter, Attachment: State of North Carolina's Recommendation on Boundaries Fort the 1-hour Sulfur Dioxide National Ambient Air Quality Standards at 1 ("for identifying attainment areas . . . USEPA does not believe it would be appropriate to designate areas attainment without appropriate refined dispersion modeling and, where available, air quality monitoring data indicating no violations of the NAAQS."). Moreover, EPA has historically used modeling in determining attainment for the SO_2 standard. *See e.g.*, U.S. EPA, *Implementation of the 1-Hour SO_2 NAAQS Draft White Paper for Discussion* at 3, fn. 1, [hereinafter "EPA White Paper"], *available at* http://www.epa.gov/airquality/sulfurdioxide/pdfs/20120522whitepaper.pdf; *see also* Respondent's Opposition to Motion of the State of North Dakota for a Stay of EPA's 1-Hour Sulfur Dioxide Ambient Standard Rule at 3, *National Environmental Development Association's Clean Air Project v. EPA* (D.C. Cir. 2010) (No. 10-1252), attached hereto as Exhibit 11 ("the Agency has historically relied on modeling to make designations for sulfur dioxide").

For example, in EPA's 1994 SO_2 Guideline Document, EPA noted that "for SO_2 attainment demonstrations, monitoring data alone will generally not be adequate," U.S. EPA, 1994 SO_2 Guideline Document, [hereinafter "1994 SO_2 Guideline Document"], *available at* http://www.epa.gov/ttn/oarpg/t1/memoranda/so2_guide_092109.pdf, at 2-5, and that "[a]ttainment determinations for SO_2 will generally not rely on ambient monitoring data alone, but instead will be supported by an acceptable modeling analysis which quantifies that the SIP strategy is sound and that enforceable emission limits are responsible for attainment." *Id*. at 2-1. The 1994 SO_2 Guideline Document goes on to note that monitoring alone is likely to be inadequate: "[f]or SO_2, dispersion modeling will generally be necessary to evaluate

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that three permits were reopened and conditions changed to address SO_2 exceedances in New Hanover County).

comprehensively a source's impacts and to determine the areas of expected high concentrations based upon current conditions." *Id*. at 2-3.

EPA's acceptance of modeling for making attainment designations stretches back decades and demonstrates that modeling is equally applicable to determining the adequacy of an Infrastructure SIP. In 1983, the Office of Air Quality Planning and Standards ("OAQPS") issued a Section 107 Designation Policy Summary. *See* Sheldon Meyers Memorandum re Section 107 Designation Policy Summary (April 21, 1983), attached hereto as Exhibit 12. OAQPS explained that "air quality modeling emissions data, etc., should be used to determine if the monitoring data accurately characterize the worst case air quality in the area." *Id*. at 1. Without modeling data, the worst case air quality may not be accurately characterized. In certain instances, EPA relied solely on modeling data to determine nonattainment designations, demonstrating modeling is accepted and trustworthy. *Id*. at 2. In fact, reliance on modeling for nonattainment designations stretches back to the Carter Administration. In 1978, EPA designated Laurel, Montana as nonattainment "due to measured and modeled violations of the primary SO_2 standard." *Mont. Sulphur & Chemical Co. v. EPA*, 666 F.3d at 1181 (citing 43 Fed. Reg. 8,962 (Mar. 3, 1978)).

As such, EPA's final 2010 SO_2 NAAQS rule simply continued and built upon EPA's historical practice of using modeling to determine attainment and nonattainment status for SO_2 NAAQS. In doing so, EPA properly recognized the "strong source-oriented nature of SO_2 ambient impacts," Final SO_2 NAAQS Rule at 35,370, and concluded that the appropriate methodology for purposes of determining compliance, attainment, and nonattainment with the new NAAQS is modeling. *See id*. at 35,551 (describing dispersion modeling as "the most technically appropriate, efficient and readily available method for assessing short-term ambient SO_2 concentrations in areas with large point sources."). Accordingly, in promulgating the 2010 SO_2 NAAQS, EPA explained that, for the one-hour standard, "it is more appropriate and efficient to principally use modeling to assess compliance for medium to larger sources . . . ." *Id* at 35,570. Similarly, EPA then explained in the EPA White Paper that using modeling to determine attainment for the SO_2 standard "could better address several potentially problematic issues than would the narrower monitoring-focused approach discussed in the proposal for the SO_2 NAAQS, including the unique source-specific impacts of SO_2 emissions and the special challenges SO_2 emissions have historically presented in terms of monitoring short-term SO_2 levels for comparison with the NAAQS in many situations (75 FR 35550)." EPA White Paper at 3-4.

Moreover, the courts have upheld EPA's use of modeling. For example, in *Montana Sulphur*, the company challenged a SIP call, a SIP disapproval, and a Federal Implementation Plan ("FIP") promulgation, because they were premised on a modeling analysis that showed the Billings/Laurel, Montana area was in nonattainment for SO_2. 666 F.3d at 1184. The court rejected Montana Sulphur's argument that EPA's reliance on modeling was arbitrary and capricious or otherwise unlawful. *Id*. at 1185; *see also Sierra Club v. Costle*, 657 F.2d 298, 332 (D.C. Cir. 1981) ("Realistically, computer modeling is a useful and often essential tool for performing the Herculean labors Congress imposed on EPA in the Clean Air Act"); *Republic Steel Corp. v. Costle*, 621 F.2d 797, 805 (6th Cir. 1980) (approving use of modeling to predict future violations and incorporating "worst-case" assumptions regarding weather and full-capacity operations of pollutant sources). Further demonstrating the superiority of modeling, the

D.C. Circuit has acknowledged the inherent problem of using monitored data for criteria pollutants, namely that "a monitor only measures air quality in its immediate vicinity." *Catawba County v. EPA*, 571 F.3d 20, 30 (D.C. Cir 2009).

EPA uses modeling because the agency is well aware that modeling produces reliable results. For example, as John C. Vimont, EPA Region 9's Regional Meteorologist, has stated under oath:

> EPA does recognize the usefulness of ambient measurements for information on background concentrations, provided reliable monitoring techniques are available. EPA does not recommend, however, that ambient measurements be used as the sole basis of setting emission limitations or determining the ambient concentrations resulting from emissions from an industrial source. These should be based on an appropriate modeling analysis.

Declaration of John C. Vimont at 1, 11 (emphasis added), attached hereto as Exhibit 13.

Similarly, Roger Brode is a physical scientist in EPA's Air Quality Modeling Group and co-chairs the AMS/EPA Regulatory Model Improvement Committee (AERMIC) and the AERMOD Implementation Workgroup. Declaration of Roger W. Brode at 1, 2, attached hereto as Exhibit 14. Mr. Brode has stated under oath that AERMOD is "readily capable of accurately predicting whether the revised primary SO_2 NAAQS is attained and whether individual sources cause or contribute to a violation of the SO_2 NAAQS." *Id*. at 2. Mr. Brode has explained:

> As part of the basis for EPA adopting the AERMOD model as the preferred model for nearfield applications in the *Guideline on Air Quality Models*, Appendix W to 40 CFR Part 51, the performance of the AERMOD model was extensively evaluated based on a total of 17 field study data bases (AERMOD: Latest Features and Evaluation Results. EPA-454/R-03-003. U.S. Environmental Protection Agency, Research Triangle Park (2003), portions of which are attached to this affidavit) ("EPA 2003"). The scope of the model evaluations conducted for AERMOD far exceeds the scope of evaluations conducted on any other model that has been adopted in Appendix W to Part 51. These evaluations demonstrate the overall good performance of the AERMOD model based on technically sound model evaluation procedures, and also illustrate the significant advancement in the science of dispersion modeling represented by the AERMOD model as compared to other models that have been used in the past. In particular, adoption of the AERMOD model has significantly reduced the potential for overestimation of ambient impacts from elevated sources in complex terrain compared to other-models.

Id. at 3-4 (emphasis added). The power plants discussed in these comments are clearly elevated sources.

EPA's practice in a number of other contexts also demonstrates that modeling is a technically superior approach for ascertaining impacts on NAAQS, as well as the extensive

history of EPA's preference for modeling over monitoring to evaluate compliance. For example, all nitrogen dioxide, particulate matter with a diameter smaller than 2.5 microns, SO_2 NAAQS, and Prevention of Significant Deterioration ("PSD") increment compliance verification analyses are performed with air dispersion modeling, such as running AERMOD in a manner consistent with the Guideline on Air Quality Models. 40 C.F.R. § 52.21(l)(1). Indeed, in order to ensure consistency in how air impacts are determined, both existing sources and newly permitted sources should be assessed using the same methods. AERMOD modeling performs particularly well in evaluating emission sources with one or a handful of large emission points. The stacks are well characterized in terms of location, dimensions, and exhaust parameters, and have high release heights. In addition many plants have SO_2 continuous emission monitoring system ("CEMS") data. AERMOD accurately models medium-to-large SO_2 sources—even with conditions of low wind speed, the use of off-site meteorological data, and variable weather conditions. Indeed, AERMOD has been tested and performs very well during conditions of low wind speeds:

> AERMOD's evaluation analyses included a number of site-specific meteorological data sets that incorporate low wind speed conditions. For example, the Tracy evaluation included meteorological data with wind speeds as low as 0.39 meter/second (m/s); the Westvaco evaluation included wind speeds as low as 0.31 m/s; the Kincaid SO_2 evaluation included wind speeds as low as 0.37 m/s; and the Lovett evaluation included wind speeds as low as 0.30 m/s. Concerns . . . regarding AERMOD's ability to model low wind speed conditions seem to neglect the data used in actual AERMOD evaluations.

Comments of Camille Sears 1, at 10, attached hereto as Exhibit 15 (citing AERMOD evaluations and modeled meteorological data, *available at* http://www.epa.gov/ttn/scram/dispersion_prefrec.htm). EPA has noted as much for years: "[a]mbient monitoring data and air quality modeling data for a particular area can sometimes appear to conflict. This is primarily due to the fact-that modeling results may predict maximum SO_2 concentrations at receptors where no monitors are located." 1994 SO_2 Guideline Document at 2-6.

Finally, EPA's use of air dispersion modeling and AERMOD in particular was recently upheld in the context of a Clean Air Act § 126 petition for cross-state impacts. *See Genon Rema, LLC v. U.S. EPA*, 722 F.3d 513, 526 (3rd Cir. 2013). In this case, the EPA granted the New Jersey Department of Environmental Protection's 126 petition, finding that trans-boundary sulfur dioxide emissions from the Portland coal-fired power plant in Pennsylvania were significantly contributing to nonattainment and interference with the maintenance of the one-hour SO_2 NAAQS in New Jersey. *Id*. at 518. The EPA based its finding on a review of the AERMOD dispersion modeling submitted by New Jersey, its independent assessment of AERMOD, and other highly technical analyses. *Id*. The court upheld the EPA's decision after examining the record, which showed that EPA had thoroughly examined the relevant scientific data and clearly articulated a satisfactory explanation of the action that established a rational connection between the facts found and the choice made. *Id*. at 525-28.

In sum, the North Carolina SIP does not ensure that counties in North Carolina will achieve and maintain the 2010 one-hour SO_2 NAAQS. To satisfy the Act's obligations, NCDENR must include adequate emissions limits in the SIP with one-hour averaging periods. EPA has acknowledged that, for the one-hour SO_2 NAAQS, modeling is the most accurate means of determining attainment with the NAAQS. Final SO_2 NAAQS Rule at 35,551, 35,570. Accordingly, NCDENR must include source-specific SO_2 emission limits in the SIP that, when modeled, show no exceedances of the NAAQS.

C. North Carolina must include enforceable SO_2 emission limits with a one-hour averaging period that apply at all times.

As discussed, the emission limitations necessary to comply with section 110(a)(2)(A) mean "a requirement established by the State or the Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or operational standard promulgated under this chapter." 42 U.S.C. at § 7602(k). Therefore, the emission limitations must also contain proper averaging times—in this instance, a one-hour averaging period.

EPA has stated that one-hour averaging times are necessary to comply with the one-hour SO_2 NAAQS. In 2011, EPA disagreed with the Kansas Department of Health and Environment's ("KDHE") issuance of a PSD permit that contained a 30-day averaging time rather than a one-hour averaging period. *See* Letter from Karl Brooks, Regional Administrator, EPA Region 7 to Dr. Robert Moser, Secretary, Kansas Department of Health and Environment (Feb. 3, 2011), attached hereto as Exhibit 16. EPA explained

> [i]t is well known that there can be considerable variability in actual 1-hour emission rates. Therefore, to ensure protection of the 1-hour . . . SO_2 NAAQS . . . the permit needs to contain . . . SO_2 1-hour average emission limits for both new and existing steam generating units. To ensure the source does not cause or contribute to air pollution in violation of the NAAQS, the emission limits should be consistent with the modeling rates and have the same averaging period, i.e. in this case maximum hourly emission limits consistent with the 1-hour NAAQS.

Id. at 2. Although this determination was made in the PSD permitting context, there is no functional difference between this review process by EPA and the I-SIP approval, as PSD permits reflect the provisions of a state's SIP including federal standards and requirements. Similarly, in its disapproval of Missouri's SIP in 2006, EPA determined that the emission rates in the SIP were "not protective of the short-term sulfur dioxide NAAQS" because they were based on an annual average. *See* Approval and Promulgation of Implementation Plans; State of Missouri, 71 Fed. Reg. 12,623, 12,624 (Mar. 13, 2006).

In addition, the I-SIP must require monitoring of these SO_2 emission limits on a continuous basis using a continuous emission monitor system or systems. Monitoring performed pursuant to the New Source Performance Standard ("NSPS") requirements in 40 C.F.R. Part 60 is not adequate because the NSPS requirements do not call for monitoring during every hour of

operation. In order to ensure the emission limits protect the one-hour SO_2 NAAQS, the emission limits must be monitored during every hour of operation.

The I-SIP is meant to implement, maintain, and enforce the NAAQS and therefore must include "enforceable emission limitations" to ensure its effectiveness. 42 U.S.C. § 7410(a)(2)(A). EPA has stated that only one-hour averaging periods can ensure compliance with the one-hour SO_2 NAAQS. Therefore, North Carolina must include emission limitations for the Allen Steam Station, Asheville Steam Electric Plant, Marshall Steam Station, Mayo Electric Generating Station, and Roxboro Steam Electric Plant that reflect the new one-hour SO_2 NAAQS limitation and the proper averaging period.

D. North Carolina's Infrastructure SIP is currently inadequate to comply with 110(a)(2)(A) of the Act.

North Carolina's Infrastructure SIP submission fails to include measures that sufficiently demonstrate that it will comply with section 110(a)(2)(A), and therefore it cannot ensure the proper implementation, maintenance, and enforcement of the NAAQS as required. As discussed, under section 110(a)(2)(A), the I-SIP must "include *enforceable emission limitations* . . . as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements" of the Clean Air Act (which include the requirement to maintain compliance with the NAAQS). Yet, North Carolina's submission does not reference emission limitations or other required measures that ensure compliance. *See* NCDENR, North Carolina Certification For Clean Air Act Section 110(a)(1) and (2) Infrastructure State Implementation Plan for the 2010 1-hour Sulfur Dioxide National Ambient Air Quality Standards, [hereinafter "I-SIP Submission"].

The regulations that NCDENR cites are insufficient to ensure compliance with the 2010 SO_2 NAAQS. NCDENR cites 15A NCAC 2D .0500, "Emission Control Standards," as the provision that purportedly serves to establish emission limits for SO_2. I-SIP Submission at 2. Yet this section establishes a limit of only 2.3 pounds of SO_2 per million British thermal unit input for combustion sources. *See* 15A NCAC 02D .0516. As the following table show, this limit is far too high to ensure that facilities' emissions comply with the one-hour SO_2 NAAQS.

Plant	Total Facility 1-hour Average Emission Rate Required to Meet 1-hour SO_2 NAAQS (lbs/mmbtu)
Allen Steam Station	0.17
Asheville Steam Electric Plant	0.023
Marshall Steam Station	0.13
Mayo Electric Generating Station	0.53
Roxboro Steam Electric Plant	0.13

Allen Modeling Report at Table 3; Asheville Modeling Report at Table 3; Marshall Modeling Report at Table 3; Mayo Modeling Report at Table 3; Roxboro Modeling Report at Table 3.

NCDENR also cites 15 NCAC 2D.0600 "Monitoring: Recordingkeeping: Reporting" and 15 NCAC 2D.02600 "Source Testing." I-SIP Submission at 2. These codes help identify exceedances and lay out the proper testing procedures and methodologies, but they do not actually help address exceedances once they are discovered. Moreover, 15A NCAC 2D.1000 "Motor Vehicles Emission Control Standards, 15A NCAC 2D.1200 "Control of Emissions from Incinerators", 15A NCAC 2D.1600 "General Conformity", and 15A NCAC 2D.2000 "Transport Conformity" do not address emissions from some of the largest SO_2 sources in North Carolina: coal-fired power plants. I-SIP Submission at 2.

In addition, 15A NCAC 2D.2400 "Clean Air Interstate Rules", I-SIP Submission at 2, does not provide permanent and enforceable reductions such as those required under the CAA to maintain and attain the NAAQS. As discussed in detail in Section III, the D.C. Circuit vacated the Clean Air Interstate Rule ("CAIR"), because it failed to require sufficient and timely reductions to meet the needs of downwind states. *See North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir. 2008), *on reh'g in part*, 550 F.3d 1176 (2008). The North Carolina CAIR program was created to implement the federal CAIR; thus, when the EPA replaces CAIR, which the D.C. Circuit has ordered it to do, *id*., North Carolina will follow.

Additionally, NCDENR cites Emission of oxides of nitrogen (NOx) and SO_2 from certain coal-fired generating units, N.C. Gen. Stat. § 143-215.107D, I-SIP Submission Attachment 2, 3, but the modeling reports show that even with this statute in place at least five plants may be exceeding the 2010 SO_2 NAAQS. Indeed, under the proffered statute, a plant can emit between

50,000 to 80,000 tons of SO_2 per year and still be in compliance. This limit is insufficient to attain and maintain the 2010 hourly standard, meant to protect public health.

All of these regulations contain the same fatal flaw: not ensuring that the standards actually are met by addressing the large sources that have already been shown to be violating the NAAQS. North Carolina must revise its SIP to include enforceable emission limits that address the dramatic exceedances demonstrated by Sierra Club's modeling analyses submitted with these comments. The regulations NCDENR cites as ensuring attainment and maintenance of the NAAQS do nothing of the sort. NCDENR has made no demonstration that these regulations are sufficient to ensure the attainment and maintenance of the NAAQS, and therefore its submission fails to comply with 110(a)(2)(A). NCDENR must update its emission regulations to ensure that proper mass limitations and one-hour averaging periods are imposed on fuel-burning sources, which will ensure attainment and maintenance of the NAAQS.

III. THE NORTH CAROLINA INFRASTRUCTURE SIP IMPERMISSIBLY FAILS TO ADDRESS SOURCES SIGNIFICANTLY CONTRIBUTING TO NONATTAINMENT OR INTERFERENCE WITH MAINTENANCE OF THE NAAQS IN DOWNWIND STATES.

In addition to causing exceedances of the one-hour SO_2 NAAQS in various counties in North Carolina, Allen Steam Station, *see* Allen Modeling Report at Figure 1, Asheville Steam Electric Plant, *see* Asheville Modeling Report at Figure 1, Mayo Electric Generating Station, *see* Mayo Modeling Report at Figure 1, and Roxboro Steam Electric Plant, *see* Roxboro Modeling Report at Figure 1, are capable of causing cross-state exceedances of the NAAQS. NCDENR must address these sources in its Infrastructure SIP revisions in order to comply with the Act. Under section 110(a)(2)(D), a SIP must contain "adequate provisions (i) prohibiting . . . any source . . . from emitting any air pollutant in amounts which will—(I) contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard . . . ." 42 U.S.C. § 7410(a)(2)(D)(i)(I). North Carolina's Infrastructure SIP, as proposed, fails to address any cross-state impacts that are due to sources within the state. Indeed, North Carolina has failed to address this requirement. *See* I-SIP Submission at 6-8. This is inadequate and should result in EPA disapproving the submittal.

The Clean Air Act sets a mandatory duty for states to submit I-SIPs within three years of promulgation of a NAAQS. 42 U.S.C. § 7410(a)(1). Under CAA section 110, there is no prerequisite action required, such as EPA issuing guidance, before states must fulfill their mandatory duty. *Compare with Oklahoma v. EPA*, 723 F.3d 1201, 1205 (recognizing that certain provisions of the CAA require EPA to create guidance) (citing 42 U.S.C. § 7491(b)(1)). Therefore, North Carolina must create a SIP to address Prongs 1 and 2 of the Interstate provisions and provide the public with an opportunity to comment on it.

Just as EPA has historically used air dispersion modeling in attainment designations and SIP revisions, so has the agency relied on modeling to assess cross-state impacts under the Act's Good Neighbor provision—section 110(a)(2)(D)(i)(I). Under CAIR and the Cross-State Air Pollution Rule ("CSAPR"), as well as the 2003 NO_x SIP Call, EPA has used modeling to

determine pollutants' cross-state impacts. Although the D.C. Circuit has subsequently struck down CAIR and CSAPR, the court never questioned the agency's use of modeling to assess cross-state impacts. *See generally North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir. 2008).

Unlike the situation with CAIR and CSAPR, in which the D.C. Circuit Court faulted EPA for failing to sufficiently quantify the contributions of individual upwind states and allocate reductions appropriately, the situation of North Carolina's large SO_2 sources is distinct. Sierra Club's air dispersion modeling for these sources clearly identifies the precise contribution to nonattainment caused by each individual source and identifies the reductions necessary to ensure that each source will not cause nonattainment or interfere with maintenance in the downwind state. The modeling reports of Allen Steam Station, Asheville Steam Electric Plant, Mayo Electric Generating Station, and Roxboro Steam Electric Plant demonstrate not only clear cross-state impacts, but in fact, the emission limits North Carolina sets for these facilities are incapable of ensuring that pollution from the plants alone do not cause a downwind failure to attain the standard. At the emission limits North Carolina has set: Allen Steam Station is impermissibly permitted to cause NAAQS exceedances in York County, South Carolina; Asheville Steam Electric Plant is impermissibly permitted to cause NAAQS exceedances in Greenville County, South Carolina; Mayo Electric Generating Station is impermissibly permitted to cause NAAQS exceedances in Halifax County, Virginia; and Roxboro Steam Electric Plant is impermissibly permitted to cause NAAQS exceedances in Halifax County, Pittsylvania County, and Danville, Virginia. As such, NCDENR must include proper emission limitations in its SIP for these plants that ensure that they do not contribute significantly to nonattainment or interfere with maintenance of the NAAQS in any downwind state.

NCDENR cannot use *Homer City* as an excuse to ignore its obligations under Clean Air Act § 110(a)(2)(D)(i)(I). Although in dicta *Homer City* suggests that EPA must quantify upwind states' emission reduction obligations in order for states to submit SIPs addressing those obligations, this interpretation conflicts with the plain language of CAA section 110(a)(1), which indisputably requires states to submit Infrastructure SIPs within three years of promulgation or revision of any primary or secondary NAAQS. CAA section 110(a)(2)(D)(i)(I) requires these Infrastructure SIPs contain adequate provisions prohibiting sources in upwind states from contributing significantly to nonattainment or interfering with maintenance of the NAAQS in any downwind state.[12] Moreover, there is no issue with North Carolina being unable to determine without EPA's help what its SO_2 contributions to downwind states may be: here it is very clear what reductions NCDENR must require from specific individual sources. In any event, EPA's action on NCDENR's SIP is reviewable in the U.S. Court of Appeals for the Fourth Circuit, not the D.C. Circuit. Thus, *Homer City* provides no protection for NCDENR's failure to address section 110(a)(2)(D)(i)(I). NCDENR must provide provisions in its I-SIP to ensure that pollution from North Carolina is not preventing other states from attaining or maintaining the one-hour SO_2 NAAQS.

[12] Indeed, the *Homer City* majority opinion acknowledges that it was not overturning EPA's prior finding of a failure on the part of the states to submit SIPs addressing interstate impacts, nor did it take issue with the concordant commencement of the two-year FIP clock. *Homer City*, 696 F.3d at 37, n.34.

IV. THE NORTH CAROLINA INFRASTRUCTURE SIP IMPERMISSABLY RELIES ON ITS REGIONAL HAZE SIP TO PROTECT THE VISIBILITY IN OTHER STATES.

North Carolina cannot rely on visibility protection from its Regional Haze State Implementation Plan ("Haze SIP") because North Carolina does not have a fully approved Haze SIP. Rather, EPA disapproved in part North Carolina's Haze SIP and then promulgated a Federal Implementation Plan ("FIP") to set CSAPR as North Carolina's Best Available Retrofit Technology ("BART") alternative program. *See* 40 CFR 52.1776 (stating the Haze SIP submitted on Dec. 17, 2007 was given a limited disapproval); *see also* 77 Fed. Reg. 33,642, 33,643 (June 7, 2012) (stating EPA is disapproving North Carolina's reliance on CAIR and issuing a FIP). EPA has said that states cannot rely on FIPs to satisfy any part of requirements of CAA section 110(a). *See* EPA I-SIP Guidance at 12-13 (stating that when a FIP addresses a gap in a SIP, "the EPA cannot give 'credit' for the FIP when determining whether an air agency has met any later obligations under these sections"). As EPA detailed in its guidance, a FIP is not a SIP and cannot be relied upon by the state to satisfy later requirements, such as those imposed in subsequent NAAQS. Moreover, North Carolina cannot rely on any benefits from CSAPR because CSAPR has been vacated. A Haze SIP based on a vacated rule cannot adequately protect visibility in other states.

In addition, North Carolina cannot rely on CAIR as its BART alternative to protect visibility in other states. To begin with, CAIR is not part of North Carolina's approved Haze SIP. *See* 40 CFR 52.1776; *see also* 77 Fed. Reg. at 33,643. The fact that EPA has said it may, at some unspecified time in the future, approve CAIR as part of North Carolina's Haze SIP is of no consequence. 78 Fed. Reg. 11,805, 11807 (Feb. 20, 2013). EPA's prior statement is not an approval of a SIP. CAIR is not a part of North Carolina's approved Haze SIP and thus cannot be relied upon to adequately protect visibility in other states.

Furthermore, CAIR's reductions are not acceptable because CAIR has been remanded, and thus is only temporarily in place. Therefore, its reductions are not permanent and enforceable. Even if CAIR was found to be permanent and enforceable, CAIR does not meet the standards of the visibility program mandated by Congress in section 169A. Thus, North Carolina cannot use its Haze SIP to satisfy section 110(A)(2)(D)(i)(II) or 110(a)(2)(J).[13]

In 2008, the D.C. Circuit vacated CAIR because it failed to require sufficient and timely reductions to meet the needs of downwind states. *See North Carolina*, 531 F.3d at 906 (stating CAIR had "more than several fatal flaws") *on reh'g in part*, 550 F.3d 1176 (2008). EPA attempted to replace CAIR with CSAPR; however, CSAPR has since been vacated. The D.C.

[13] The Commenters disagree that North Carolina can ignore its duty to address visbility requirements under the CAA section 110(a)(2)(J). *See* I-SIP Submission at 17. The statute clearly states that each plan shall meet the requirements relating to visibility protection. *See* 42 U.S.C. § 7410(a)(2)(J). North Carolina cannot rely on EPA guidance that is clearly wrong and ignores a state's mandatory duty to meet section 110(a)(2)(J). North Carolina does not have a fully approved Haze SIP, thus it cannot rely on the Haze SIP to meet the requirements of 110(a)(2)(J).

Circuit has allowed CAIR to remain in place only until a valid replacement is promulgated to help reduce pollution that both CAIR and CSAPR were meant to address. *See Homer City*, 696 F.3d at 38. CAIR is temporary and will only be enforceable until EPA promulgates an acceptable replacement. *See North Carolina*, 550 F.3d at 1178 ("allowing CAIR to remain in effect until it is replaced by a rule consistent with [the court's] opinion that would at least temporarily preserve the environmental values covered by CAIR."); *see also Homer City*, 696 F.3d at 38 (directing EPA to "continue administering CAIR pending the promulgation of a valid replacement.") (emphasis added). The D.C. Circuit has made it clear that CAIR is a stopgap and not a valid, permanent program; thus, North Carolina cannot rely on CAIR to meet the requirements of sections 110(a)(2)(D)(i)(II) and 110(a)(2)(J).

Further, EPA has long held that CAIR reductions are temporary and insufficient to satisfy 110(a)(2)(D)(i)(II) of the Act. During the CSAPR rulemaking, EPA stated that CAIR SIPs "remained in force for the limited purpose allowed by the [*North Carolina*] Court – that is, to achieve interim reductions until EPA promulgated a rule to replace CAIR," which EPA intended CSAPR to do. EPA, Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals, 76 Fed. Reg. 48,408, 48,419 (Aug. 8, 2011). EPA held to its position that emission reductions under CAIR were not considered permanent, even after the D.C. Circuit stayed CSAPR pending review, keeping CAIR in place. *See* Order, No. 11-1302, 2 (D.C. Cir. Dec. 30, 2011), *available at* http://www.epa.gov/crossstaterule/pdfs/CourtDecision.pdf. In the "CSAPR Better than BART" rulemaking, which was issued after the *Homer City* court stayed CSAPR pending review, EPA found that "as CAIR has been remanded and only remains in place temporarily, we cannot fully approve these regional haze SIP revisions that have relied on the now-temporary reductions from CAIR." EPA, Regional Haze: Revisions to Provisions Governing Alternatives to Source-Specific Best Available Retrofit Technology (BART) Determinations, Limited SIP Disapprovals, and Federal Implementation Plans, 77 Fed. Reg. 33,642, 33,645 (June 7, 2012).[14]

Similarly, after EPA promulgated CSAPR and before the *Homer City* panel decision, EPA recognized that under *North Carolina*, emission reductions under CAIR could not be considered "permanent." Instead, in several infrastructure SIPs, redesignation requests, and associated maintenance SIPs that relied on CAIR, EPA proposed to find that interim CAIR reductions *in tandem with* CSAPR reductions on a going-forward basis could create "permanent and enforceable" emissions reductions. Taken alone, however, EPA did not believe that CAIR provided permanent emission reductions. *See, e.g.*, EPA, Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; Kentucky; Redesignation of the Kentucky Portion of the Cincinnati-Hamilton 1997 Annual Fine Particulate Matter Nonattainment Area to Attainment, 76 Fed. Reg. 65,458, 65,460 (proposed Oct. 21, 2011)

[14] EPA reiterated its position that it could not fully approve SIP revisions that relied on temporary reductions from CAIR in a number of other regional haze rulemakings. *See, e.g.*, EPA, Approval and Promulgation of Air Quality Implementation Plans; Virginia; Regional Haze State Implementation Plan, 77 Fed. Reg. 35,287, 35,287-88 (June 13, 2012); EPA, Approval and Promulgation of Implementation Plans; Commonwealth of Kentucky; Regional Haze State Implementation Plan, 77 Fed. Reg. 19,098, 19,100 (Mar. 30, 2012); EPA, Approval and Promulgation of Air Quality Implementation Plans; West Virginia; Regional Haze State Implementation Plan, 77 Fed. Reg. 16,937, 16,938 (Mar. 23, 2012).

("As a result of these court rulings, the power plant emission reductions that resulted solely from the development, promulgation, and implementation of CAIR, and the associated contribution to air quality improvement that occurred solely as a result of CAIR in the Northern Kentucky Area could not be considered to be permanent. . . . [But] CAIR emission reduction requirements limit emissions in Kentucky and states upwind of Kentucky through 2011, and the CSAPR requires similar or greater reductions in the relevant areas in 2012 and beyond . . . and may be considered to be permanent and enforceable."); EPA, Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; Alabama; Redesignation of the Birmingham 2006 24-Hour Fine Particulate Matter Nonattainment Area to Attainment, 76 Fed. Reg. 70,091, 70,093-94 (proposed Nov. 10, 2011) (similar language); EPA, Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; North Carolina: Redesignation of the Greensboro-Winston-Salem-High Point 1997 Annual Fine Particulate Matter Nonattainment Area to Attainment, 76 Fed. Reg. 59,345, 59,347 (proposed Sept. 26, 2011) (similar language). In these comments, we incorporate by reference all of EPA's own arguments used to support its prior determination that states cannot use CAIR to meet their BART obligations.

Even if CAIR, despite the D.C. Circuit vacating the rule, was found to be a permanent and enforceable program, it does not meet the standards of section 169A that are required for CAIR to be an adequate substitute for a visibility program. The visibility program mandated by Congress in section 169A has two major components. The first requires states to submit SIPs that are adequate to reduce visibility-impairing pollutants in order to make reasonable progress toward the national goal of remedying visibility impairment in all Class I areas. Those SIPs must meet certain requirements and receive EPA approval, but states have substantial discretion in choosing the sources that must be controlled. 42 U.S.C. §7491(b)(2). In the second component, Congress defined an explicit subset of pollution sources that would be subjected to emission controls by states and EPA; Congress not only defined the sources, it also defined the degree of control—*i.e.*, best available retrofit technology, or BART—and mandated specific procedures and factors to be considered in establishing those controls. 42 U.S.C. §§ 7491(b)(2)(A), 7491(g).

Neither EPA nor the states can ignore these statutory BART mandates. CAIR is plainly inconsistent with section 169A of the Act and the judicial gloss added to those provisions by the D.C. Circuit Court of Appeals in *American Corn Growers, Ass'n v. EPA*, 291 F.3d 1 (D.C. 2002). EPA and the states cannot use a cap-and-trade program (or any other emission reductions program) as a substitute for or exemption from the explicitly mandated BART provisions of the Act, unless, among other things, the alternate program (a) results in emission reductions that are truly "better than BART" with respect to *each and every* individual Class I area impacted by the exempted BART sources, (b) does not completely usurp the states' role in implementing the BART requirements and reasonable progress provisions of section 169A, and (c) does not include reductions that are otherwise required under other CAA regulatory control programs, but does include reductions from all sources that are subject to BART. North Carolina's submittal does not meet these requirements and is therefore illegal.

The exemption of BART-eligible power plants that are subject to a state cap-and-trade program under CAIR is in plain violation of section 169A of the Act. It would be contrary to law and an abuse of discretion to conclude that the reductions required by CAIR categorically

satisfy BART requirements for all affected Class I areas. While the reductions required under CAIR may improve visibility on the 20% worst days at some Class I areas, such reductions cannot supplant the manifest protections under the Clean Air Act's visibility program. Section 169A(b)(2) of the CAA requires states to adopt plans that "contain such emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress toward meeting the national goal." The plans must, at a minimum, include the requirement to "procure, install, and operate, as expeditiously as practicable . . . the best available retrofit technology" for each major source that is in existence on August 7, 1977 but which has not been in operation for more than fifteen years as of that date and that emits any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility in a Class I area. 42 U.S.C. §7491(b)(2)(A). The statute, in turn, delineates relevant factors that must be considered in determining reasonable progress and BART. 42 U.S.C. §7491(g)(1)-(2). It also prescribes the 26 source categories—including power plants with more than 250 million Btu/hour heat input—that constitute "major stationary sources" for purposes of BART, provided they have the potential to emit 250 tons or more of any pollutant. 42 U.S.C. §7491(g)(7).

Thus, Congress plainly required that, at a minimum, state implementation plans address all 26-source categories contributing to regional haze and meeting the BART size and age requirements. Congress singled out these sources for the application of BART; North Carolina cannot now categorically exempt them from the visibility protection requirements. There is no basis in law or fact for such a far-reaching exemption to plain statutory commands. Section 169A of the Act sets forth explicit conditions pursuant to which EPA may grant an exemption from the BART requirements. To the extent that EPA's "better than BART" provision purports to exempt BART-eligible sources from BART, it is arbitrary and capricious and in clear violation of the Act. Furthermore, to the extent that EPA's "better than BART" provision can be interpreted as not providing an exemption from BART, but rather an alternate approach, it must nevertheless meet the mandates of section 169A as interpreted by the federal courts, including the D.C. Circuit Court of Appeals decision in *American Corn Growers*.

Moreover, compliance with CAIR by a source subject to BART is relevant under section 169A only in the context of the determination of appropriate BART controls for that source. Reductions from other emissions control programs such as the Title IV Acid Rain Program and the NO_x SIP Call must be achieved in addition to, not as a substitute for, BART controls. CAIR, of course, is another such emissions control program. Therefore, such reductions cannot be used as the basis for exempting sources from BART or for declining to apply BART to such sources; rather, such reductions are relevant only in determining the appropriate level of BART control by evaluation of the statutory BART factor relating to "existing pollution control technology in use at the source." 42 U.S.C. §7491(g)(2).

EPA's "better than BART" provision also violates the explicit language of section 169A(b)(2)(A), which requires BART for sources that emit any pollutant that may contribute to any visibility impairment in *any* Class I area. In proposing a BART exemption in the CAIR context, EPA did not find superior visibility improvement resulting from application of CAIR compared to source-by-source BART controls in *each and every* Class I area that may be impacted by BART-eligible sources in the CAIR region. Rather, EPA evaluated the comparative visibility impact of BART and CAIR in some—but not all—relevant Class I areas. Then, EPA

averaged those impacts over the selected areas that had been evaluated, and simply pronounced that because *overall average* visibility improvement was projected to be greater under CAIR than under BART, power plants subject to CAIR could be exempted from BART requirements. Supplemental Proposal for the Rule To Reduce Interstate Transport of Fine PM and Ozone (CAIR), 69 Fed. Reg. 32684, 32704-706 (June 10, 2004). In so doing, EPA has essentially fundamentally changed the BART requirements as currently set forth in the Clean Air Act. There is simply no basis in the Act—or the Regional Haze Rule, for that matter—to support a BART substitute that has not been demonstrated to produce greater visibility improvement in *all* Class I areas. This is so because section 169A and the RHR are designed to reduce and eventually eliminate visibility impairment in *each and every* Class I area. Congress explicitly made any eligible source that impacts visibility in *any* Class I area subject to BART requirements. 42 U.S.C. §7491(b)(2)(A). EPA cannot declare these SIP requirements satisfied by fiat, by broadly averaging emissions or visibility over a number of different Class I areas, either in- or out-of-state. Rather, reasonable progress towards the visibility goal is to be measured on an area-by-area basis. This makes perfect sense, as visibility conditions and source contributions can vary substantially from area to area. For example, in measuring reasonable progress towards the natural visibility goal for each of its Class I areas, a state cannot exempt sources from emission reductions necessary to meet reasonable progress in that state by pointing to greater progress in Class I areas located in some other state—in other words, visibility improvement is not a commodity that can be "traded" among states or Class I areas—each state and park will have a different required rate of visibility progress and different emission reduction requirements to meet its specific visibility progress rate.

Finally, we note that because one effect of EPA's CAIR-based exemption is to substitute emission reductions by non-BART sources for those from BART sources, BART sources will be controlled at levels less stringent than the application of source-by-source BART would require. EPA estimates that the CAIR SO_2 reductions will approximate 70% when the CAIR caps are fully implemented—sometime after 2020. Moreover, in 2015, EPA estimates an overall SO_2 reduction of about 58%. Rule To Reduce Interstate Transport of Fine PM and Ozone (Interstate Air Quality Rule), 69 Fed. Reg. 4,566, 4,579 (Jan. 30, 2004). This is substantially lower than the 95% SO_2 reduction presumed by EPA for uncontrolled sources in the reproposed BART Guidelines. Regional Haze Regulations and Guidelines for Best Available Retrofit Technology (BART) Determinations, 69 Fed. Reg. 25,184, 199-201 (May 5, 2004).

Because CAIR has been vacated, it cannot be considered a permanent and enforceable measure to address visibility in other states. Moreover, using CAIR does not meet the requirements of section 169A, thus it is not adequate to meet the visibility prong requirements under 110(a)(2)(D)(i)(II) and 110(a)(2)(J). Thus, North Carolina cannot rely on its Haze SIP. North Carolina must provide new provisions that satisfy 110(a)(2)(D)(i)(II) and 110(a)(2)(J).

V. THE NORTH CAROLINA INFRASTRUCTURE SIP IMPERMISSIBLY FAILS TO ENSURE VISIBILITY IN OTHER STATES BECAUSE NORTH CAROLINA DOES NOT HAVE AN APPROVED 5-YEAR REGIONAL HAZE PROGRESS REPORT.

North Carolina must provide EPA and EPA must approve a five-year regional haze progress report to satisfy Clean Air Act sections 110(a)(2)(D)(i)(II)(visibility prong) and 110(a)(2)(J). However, EPA has not approved its five-year regional haze progress report. Until EPA approves the five-year regional haze progress report, North Carolina cannot rely on its Haze SIP to show that it is has demonstrated the requirements of sections 110(a)(2)(D)(i)(II)(visibility prong) and 110(a)(2)(J) of the CAA. In addition, the Commenters incorporate comments by National Parks Conservation Association and Sierra Club on the five-year regional haze progress report submitted in April 2013. *See* Pre-hearing Draft of Regional Haze 5-Year Periodic Review State Implementation Plan (SIP) for North Carolina Class I Area, April 1, 2013, attached hereto as Exhibit 17.

North Carolina claims its visibility requirements are satisfied by its Haze SIP. *See* I-SIP Submission at 7. 40 C.F.R. § 51.308(g) mandates that a state must submit to EPA a report, as a SIP revision, evaluating progress towards reasonable progress goals five years after the submittal of the initial implementation plan. In EPA's recent guidance, EPA reiterated that the visibility prong may be satisfied by a "SIP that *fully* meets the requirements of 40 CFR 51.308 or 51.309." *See* EPA I-SIP Guidance at 33 (emphasis added). EPA further underscored the importance of 5-year regional haze progress reports by stating that if the progress report indicates the Haze SIP is deficient a state would need to explain how its SIP is meeting its visibility obligations despite the Haze SIP's failures. *See id*. at 33-34.

North Carolina's initial submittal was on December 17, 2007. *See* 77 Fed. Reg. 38,185 . Thus, its 5-year Regional Haze Progress Report was due on December 17, 2012 However, North Carolina did not submit its five-year regional haze progress report until May 31, 2013. *See* Letter from Shelia C. Holman, Director of State Division of Air Quality, North Carolina Department of Environment and Natural Resources to Gwendolyn Keyes Fleming, Regional Administrator, EPA Region 4, 1 (May 31, 2013), *available at* http://www.ncair.org/planning/RH_Fleming_transmittal_letter_05312013.pdf. While it appears the report has been submitted, until EPA evaluates the report, EPA cannot propose to approve North Carolina's submission regarding the visibility prong because EPA does not know if the Haze SIP is actually effective in improving visibility in other states. After evaluation of the five-year progress report, if EPA deems the Haze SIP ineffective, EPA must disapprove North Carolina's visibility elements and require North Carolina to supplement its Haze SIP with additional measures to ensure improvements in visibility in other states. North Carolina cannot satisfy this part of 110(a)(2) until EPA has approved its 5-year Regional Haze Progress Report, and EPA will not be able to approve it.

VI. THE NORTH CAROLINA INFRASTRUCTURE SIP IMPERMISSIBLY FAILS TO ENSURE ATTAINMENT AND MAINTENANCE OF THE SO_2 NAAQS BECAUSE ITS STATUTES AND REGULATIONS CONTAIN EXEMPTIONS AND VARIANCES THAT UNDERMINE ITS PERMITTING AND ENFORCEMENT MECHANISMS.

North Carolina's statutes and regulations for its air program contain exemptions and variances that undermined its permitting and enforcement mechanisms, thus failing to ensure the attainment and maintenance of the SO_2 NAAQS. For example, the Environmental Management Commission has the power to grant temporary permits that may allow pollution increases, *see* NCGS § 143-215.108(c)(2), and is allowed to grant variances under NCGS § 143.215.3(e). Local governing bodies are also allowed to grant variances and temporary permits, which may inhibit the CAA. *See* § 143-215.112(c)(4). Moreover, under 15a NCAC 02q .0317, the owner or operator of a plant may ask the Environmental Management Commission for a wide range of exceptions that undercut many of the requirements of the Clean Air Act, including the Prevention of Significant Deterioration program. These statutes and regulations, as well as others, allow for exceptions that frustrate the purpose of the I-SIP and prevent North Carolina from ensuring attainment and maintenance of the NAAQS. North Carolina must revise these provisions before EPA can approve the infrastructure SIP.

VII. THE NORTH CAROLINA INFRASTRUCTURE SIP IMPERMISSABLY FAILS TO INCLUDE PROVISIONS TO ENSURE PUBLIC NOTIFICATION.

North Carolina's proposed I-SIP does not adequately address public notification requirements under section 110(a)(2)(J). Each Infrastructure SIP must meet the applicable requirements of section 127. Section 127 states that "[e]ach State plan shall contain measures which will be effective to notify the public during any calendar on a regular basis of instances or areas in which any national primary ambient air quality standard is exceeded or was exceeded during any portion of the preceding calendar year . . . ." However, the statutes and regulations that NCDENR cites do not guarantee that the public will be notified of SO_2 NAAQS exceedances. While North Carolina Administrative Code Air Pollution Emergencies, NCAC 2D .0300, provides for notification of air alerts, warnings, and emergencies, notifications begin at concentration levels of 300 ppb, not the 75 ppb level of the 2010 SO_2 NAAQS. Perhaps realizing that it has not met its duty, NCDENR says that North Carolina participates in the EPA AirNOW program and has its own ambient monitoring webpage. However, nothing in the provisions provides a guarantee that the public will be informed of exceedances of the NAAQS. Thus, North Carolina must revise its SIP to adequately address the public notification requirements under section 110(a)(2)(J).

VIII. THE NORTH CAROLINA INFRASTRUCTURE SIP IMPERMISSABLY RELIES ON EPA'S COMPLETENESSS DETERMINATION TO STATISFY THE REQUIREMENTS TO DEMONSTRATE THAT IT HAS ADEQUATE PERSONEL, FUNDING, AND LEGAL AUTHORITY.

Under section 110(a)(2)(E), North Carolina must demonstrate that the I-SIP has adequate personnel, funding, and legal authority. North Carolina incorrectly states that this requirement is "met when the EPA performs a completeness determination for each SIP submittal." *See* I-SIP Submittal at 10. Rather, North Carolina must demonstrate to EPA that the state has met the requirements of 110(a)(2)(E). A completeness determination is limited to whether a state has provide the necessary information to make a determination of whether the plan complies with section 110(a), *see* 42 U.S.C. § 7410(k)(1)(A), not whether any part of the plan is sufficient to meet the requirements. From 2008 to 2011, NCDENR's budget was cut by over 40 percent. *See* Email from D. Freeman (then NCDENR Secretary) to NCDENR staff (June 28, 2011), attached hereto as Exhibit 18. In the face of these budget cuts, important resource protection divisions were transferred and merged, and NCDENR shed almost 1,050 employees. *Id.* North Carolina must demonstrate that the I-SIP has adequate personnel and funding despite these drastic reductions in recent years. North Carolina, not EPA, must demonstrate that the I-SIP has adequate personnel, funding, and legal authority.

IX. THE NORTH CAROLINA INFRASTRUCTURE SIP IMPERMISSABLY RELIES ON SIP REVISIONS THAT HAVE NOT BEEN APPROVED BY EPA.

North Carolina cites a SIP revision related to adoption of PSD requirements established in the 2008 NSR fine $PM_{2.5}$ and the 2010 $PM_{2.5}$ Increments-Significant Impact Levels and Significant Monitoring Concentration Rule to comply with the 2006 $PM_{2.5}$ infrastructure requirements for elements (C), (D)(i), and (J) of section 110(a)(2). *See* I-SIP Submission at 4. But, EPA has not taken action on this submittal. Until EPA does, the revision cannot be incorporated in the PSD program and cannot be relied upon by North Carolina to meet its obligations under section 110(a)(2).

X. CONCLUSION

The proposed SIP fails to ensure that the one-hour SO_2 NAAQS is attained and maintained, as described above. NCDENR must adopt new provisions into the SIP to protect the public health and comply with the Act's requirements. The Sierra Club would be happy to provide any other information that might assist NCDENR in evaluating the impacts of these sources and developing a SIP in full compliance with the Act.

Respectfully submitted,

/s/Elizabeth Toba Pearlman

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On behalf of Sierra Club

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES
PUBLIC NOTICE

PURPOSE:

The North Carolina Department of Environment and Natural Resources, Division of Air Quality (DAQ) hereby gives notice regarding its Certification of Clean Air Act Section 110(a)(1) and (2) Requirements for the 2010 1-Hour Sulfur Dioxide (SO_2) National Ambient Air Quality Standards. The certification describes basic program "infrastructure" elements that address the provisions of Section 110(a)(1) and (2). The certification, once finalized, will be submitted to the United States Environmental Protection Agency to be included in the State Implementation Plan as required by the Clean Air Act. Persons wishing to submit comments or request a public hearing regarding the certification are invited to do so.

COMMENT PROCEDURES:

Any person wishing to comment may submit a written statement for inclusion in the record of proceedings regarding the Certification of Clean Air Act Section 110(a)(1) and (2) Requirements for 2010 1-Hour SO_2 standards.
Written comments should be received by no later than January 6, 2014.

REQUESTS FOR A PUBLIC HEARING:

Requests for a public hearing must be in writing and include a statement supporting the need for such a hearing, an indication of your interest in the subject and a brief summary of the information intended to be offered at such hearing. A public hearing will be scheduled if requested. A separate notice will be announced for the hearing including the date, time and location. Written requests for a public hearing should be received no later than January 6, 2014 and addressed to Sushma Masemore, Division of Air Quality, 1641 Mail Service Center, Raleigh, North Carolina 27699-1641.

INFORMATION:

Comments can be submitted electronically to the following:
daq.publiccomments@ncdenr.gov
(Please type "SO_2 Infrastructure SIP" in the subject line)
Comments can be mailed to:
Sushma Masemore
NC Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641
Comments can be FAXed to the attention of Sushma Masemore:
(919) 707-8700

Copies of the certification may be downloaded from the NCDAQ web site at http://www.ncair.org/planning/nc_cert.shtml

The certification may be reviewed in person during normal business hours at the following North Carolina Department of Environment and Natural Resources, Division of Air Quality offices:

Raleigh Central Office, Planning Section	919-707-8404		
Asheville	828/296-4500	Fayetteville	910/433-3300
Mooresville	704/663-1699	Raleigh	919/791-4200
Washington	252/946-6481	Wilmington	910/796-7215
Winston-Salem	336/771-5000		

Date: 12/3/13

Sheila C. Holman, Director