



United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, DC 20240

OCT 09 2007



C. Earl Hunter, Commissioner
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Dear Mr. Hunter:

On August 17, 2007, the State of South Carolina submitted a draft implementation plan describing your proposal to improve air quality regional haze impacts at mandatory Class I areas across your region. We appreciate the opportunity to work closely with the State through the initial evaluation, development, and, now, subsequent review of this plan. Cooperative efforts such as these ensure that, together, we will continue to make progress toward the Clean Air Act's goal of natural visibility conditions at all of our most pristine National Parks and Wildernesses Areas for future generations.

This letter acknowledges that the U.S. Fish and Wildlife Service has received and conducted a substantive review of your proposed Regional Haze Rule implementation plan in fulfillment of your requirements under the Federal regulations 40 CFR 51.308(i)(2). Please note, however, that only the Environmental Protection Agency (EPA) can make a final determination regarding the document's completeness and its ability to receive Federal approval.

As outlined in a letter to each State dated August 1, 2006, our review focused on eight basic content areas. The content areas reflect priorities for the Federal Land Management Agencies, and we have enclosed comments associated with these priorities. We look forward to your response, as per section 40 CFR 51.308(i)(3). For further information, please contact Tim Allen, Physical Scientist, Branch of Air Quality, at (303) 914-3802.

Again, we appreciate the opportunity to work closely with the State of South Carolina and compliment you on your hard work and dedication to significant improvement in our Nation's air quality values and visibility.

Sincerely,

Acting Assistant Secretary for Fish
and Wildlife and Parks

Enclosures (2)

U.S. Fish and Wildlife Service Comments Regarding South Carolina Draft Regional Haze Rule State Implementation Plan

On August 17, 2007, the State of South Carolina submitted a draft Regional Haze Rule State implementation plan (SIP), pursuant to the requirements codified in federal rule at 40 CFR 51.308(i)(2), to the U.S. Department of the Interior, U.S. Fish and Wildlife Service (FWS), and National Park Service (NPS). The air program staff of the FWS has conducted a substantive review of the South Carolina draft plan, and provide the comments listed below. The comments which are highlighted in bold face are those that we believe warrant additional consultation prior to public release of the South Carolina Regional Haze Plan. We look forward to your response as per section 40 CFR 51.308(i)(3). For further information, please contact Tim Allen (FWS Branch of Air Quality) at (303) 914-3802.

HIGHLIGHTED COMMENTS:

The SIP indicates that there are several Best Available Retrofit Technology (BART)¹ eligible sources which made significant modifications to the published “New IMPROVE” equation in analyzing their individual contributions to haze in the Cape Romain Wilderness Area. By means of targeted modifications to the IMPROVE equation, these sources were able to demonstrate a less than 0.5 deciview impact at Cape Romain. Therefore, these sources were exempt from further BART consideration.

The SIP does not provide discussion or justifications for these changes to the new IMPROVE equation, nor are these modifications applied consistently throughout the regional haze analyses. It appears that these modifications were applied for the purpose of exempting sources from the full BART analysis and therefore creates inconsistency with respect to the entirety of the SIP. In addition, the SIP does not provide information that indicates that the US Environmental Protection Agency (EPA) has approved these specific IMPROVE equation modifications.

The Fish & Wildlife Service strongly requests that the State present the results of the BART exemption analysis, for each source, using an unmodified version of the new IMPROVE equation. We also request that sources which do not demonstrate BART exemption, using the unmodified IMPROVE equation, conduct the requisite five factor analysis.

¹ BART-eligible sources are those sources that have the potential to emit 250 tons or more of a visibility-impairing air pollutant, were put in place or under construction between August 7, 1962 and August 7, 1977, and whose operations fall within one or more of 26 specifically listed source categories. Under CAA section 169A(b)(2)(A), BART is required for any BART-eligible source which “emits any air pollutant that may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area.”

General Comments:

1. The following appendices were not included with the August 17, 2007 draft submittal:
 - Appendix D: Emissions Preparation and Results
 - Appendix F: Model Performance Evaluation
 - Appendix G: Modeling Results and Supplemental Analysis
 - Appendix H: Reasonable Progress Evaluation/Long Term Strategy
 - Appendix J: Documentation of Consultation Among States and RPO's
 - Appendix L: WINHAZE Images for the Class I Federal Areas
 - Appendix M: Reductions Under CAIR
 - Appendix N: Supplemental AOI Analysis
 - Appendix O: Supplemental New IMPROVE Algorithm Analysis.
2. We are especially interested in the information contained in Appendix H: Reasonable Progress Evaluation/Long Term Strategy. We understand that much of the BART information is also contained in this appendix. We cannot provide full evaluation and comment on the SIP without having a complete submittal, which includes all appendices. Therefore, comments presented here do not consider the BART and Reasonable Progress portions of the SIP.
3. The Regional Haze regulations, 40 CFR 51.308(i)(4), specify that "The plan (or plan revision) must provide procedures for continuing consultation between the State and the Federal Land Managers on the implementation of the visibility protection program required by this subpart, including development and review of implantation plan revisions and 5-year progress reports, and on the implementation of other programs having the potential to contribute to impairment of visibility in mandatory Class I Federal areas." Therefore, the FWS requests that additional information be provided by the State to address continued consultation with the FLMs on programs having potential to contribute to visibility impairment. For example, we recommend that South Carolina's Smoke Management Plan (SMP) be included as a potential contributing program to visibility impairment and therefore included as part of the periodic review. Attached is a suggested list of SMP review elements for consideration.
4. Please add discussion of the South Carolina Department of Health and Environmental Control's (SC DHEC) evaluation of impacts to Class I areas beyond South Carolina to Section 10. 'InterState Consultation on SC Contribution to Visibility Impairment in Class I Federal Areas in Neighboring States'. This discussion is referenced as part of an appendix; we would like to see this added to the SIP narrative.

5. The SIP and the South Carolina SMP should identify Cape Romain as a smoke sensitive area and prescribed burners should be required to apply the appropriate smoke management techniques to minimize smoke impacts.
6. The SIP identifies Particulate Organic Matter (POM) and Elemental Carbon (EC) as being the second and third most important contributors to light extinction on the 20 percent worst and 20 percent best visibility days at Cape Romain. While POM is identified as being the second most important contributor to fine particulate matter (see page 21), the discussion concludes that controlling anthropogenic sources will have little effect. Please clarify this assertion by adding a discussion of the ratios of anthropogenic and non-anthropogenic POM contributions to total fine particulate matter. It should be noted that elevated levels of POM and EC are indicative of impact from wildfire and prescribed fire. Therefore, the SIP and the SMP should better address what is required of prescribed burners relative to minimizing impacts in the Class I area.
7. Table 2.3-1 in the draft SIP illustrates natural background and baseline conditions for Cape Romain. Recently, errors in these estimates were discovered by CIRA. New estimates are available on both the IMPROVE and VIEWS websites. Also, please verify that all baseline and natural condition numbers match throughout the documents and State if these estimates were generated using the old or the new IMPROVE equation.
8. Ammonia emissions are identified as important for the 20% worst, winter time visibility at Cape Romain. Figure 7.4-1 illustrates a single significant contributor to ammonia in South Carolina. Please clarify the source of this contribution and discuss South Carolina's consultations regarding ammonia emission controls.
9. Industrial point sources are estimated to contribute 20% of the Sulfur Dioxide (SO₂) emissions (see page 31, figures 4.2-1 and 7.4-1) and are an important contributor to visibility impacts at Cape Romain. However, SC DHEC determined that non-electric generating unit (EGU) controls are not cost effective. We would like to see more discussion regarding the cost-effectiveness of controlling these sources addressed in the "Reasonable Progress" sections of the SIP narrative.
10. For clarity, please define the following terms in the text of the document: "RRF", "GCVTC", "GEOS-Chem", and "PSAT".
11. Please identify whether glide slopes were produced using actual model output or the results of using a relative reduction factor. If these numbers were the result of a relative reduction, please provide a discussion of how they were generated.
12. We recommend that a discussion be added which describes the reliability of the GEOS-Chem and PSAT data sets, similar to that addressing reliability of the CMAQ model.

13. Please include a discussion about the certainty of CAIR reductions in South Carolina. In other words, please include a discussion that expresses SC DHEC's confidence in the near-term level of reductions associated with CAIR.
14. The SIP indicates that area source emissions are projected to increase (see pages 56-57). Fire is indicated to be included in these area source projections. We would like the portion of these estimates, which is attributable to wildland or prescribed fire, to be specified.
15. The SIP should detail how the emissions inventory for prescribed fire was generated, specifically whether this inventory considered planned burns or actual burns. For example, prescribed fire emissions inventories based on planned burned acres can significantly over estimate emissions should the actual burned acres be less than predicted. Also, please include a discussion of the anthropogenic contribution to international fire emissions.
16. Some of the graphics contained in the document are difficult to read. We recommend that the graphics be updated with a higher resolution, so that the reader can better decipher the information being presented.
17. We would like to see a list of the sources located within the Area of Influence (AOI) of each Class I area. A summary list of these sources should be included in the SIP narrative, much like the identification and listing of BART eligible sources. Providing these sources by name will add clarity to the reasonable progress discussion, especially with respect to the cost effectiveness of controls for the non-EGU sources.
18. Figure 7.5.5-2 entitled "Emission Contribution from Major Source Categories in the AOI for Cape Romain" lists source categories and their contribution to total SO₂. Several fonts were utilized in the table, presumably to signify relative importance. Please apply fonts (bolding, size) consistently to better express the information presented in the table.
19. Please provide more information regarding VISTAS modifications to EPA's AirControlNET database.
20. In light of the uncertainties recognized by SC DHEC with respect to reductions predicted by the IPM in meeting the CAIR requirements, please add a discussion of other programs that will balance growth or relocation of emissions and the regional haze goals. For example, SC DHEC should include a discussion of the Prevention of Significant Deterioration /New Source Review program as a tool for considering emissions growth and its effect on the regional haze plan.

21. Please express reasonable progress goals in terms of deciviews, not delta-deciviews (see page 92, Table 8.0).
22. Section 8, 'Reasonable Progress Goals', concludes that no cost effective controls are available for the sources evaluated in determining reasonable progress. The SIP narrative should include a list of the sources evaluated, as well as a summary of the cost/benefit analysis performed.

Attachment 1: Recommendations for Annual Smoke Management Program Evaluation

The following data is recommended to be collected as part of an annual SMP evaluation

- Number of prescribed burns conducted and/or permits issued in South Carolina
- Number of acres treated (black acres) by prescribed burning
- Estimated emissions of PM 2.5 from prescribed burning
- Estimated prescribed burning emissions reduced as a result of the application of smoke management techniques
- Number of acres treated by wildland fire use fires
- Estimated emissions of PM 2.5 from wildland fire use fires
- Number of acres burned (black acres) by wildfires
- Estimated emissions of PM 2.5 from wildfires
- Number of wildland acres treated by methods other than prescribed fire and wildland fire use fires
- Number of public complaints resulting from prescribed fire smoke
- Number of public complaints resulting from wildland fire use fire smoke
- Number of public complaints from resulting wildfire smoke
- Number of monitored exceedances of air quality standards related to prescribed fires
- Number of monitored exceedances of air quality standards related to wildland fire use fires
- Number of monitored exceedances of air quality standards related to wildfires
- Number of times monitored air quality data related to wildland fire was flagged by the State as an exceptional event, as well as by fire type (wildfire, prescribed fire and wildland fire use fire)

- Smoke management research needs identified by South Carolina users of wildland fire
- Training conducted on the application of smoke management techniques (number of courses presented in South Carolina and number of persons trained)
- Public outreach conducted addressing the role of fire in wildland ecosystems and the tools and efforts wildland fire managers are using to minimize the amount and/or impact of air pollutant emissions from wildland fire