United States Department of the Interior

NATIONAL PARK SERVICE
Air Resources Division
P.O. Box 25287
Denver, CO 80225

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:

April 3, 2009

N3615 (2350)

Ms. Anne Gobin
Chief, Bureau of Air Management
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, Connecticut 06106

Dear Ms. Gobin:

On February 4, 2009, the State of Connecticut 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 Wilderness Areas for future generations.

This letter acknowledges that the U.S. Department of the Interior, U.S. Fish and Wildlife Service (FWS), and National Park Service (NPS) have 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 U.S. Environmental Protection Agency (EPA) can make a final determination regarding the document's completeness and, therefore, ability to receive federal approval from EPA.

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 Manager 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 Holly Salazer (NPS) or Tim Allen (FWS) at (814) 865-3100 and (303) 914-3802, respectfully.

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

Sincerely,

Christine L. Shaver
Chief, Air Resources Division
National Park Service

Sincerely,

Sandra V. Silva
Chief, Branch of Air Quality
U.S. Fish & Wildlife Service

Enclosure

cc:
Anne McWilliams
U.S. EPA - Region 1
1 Congress Street
Suite 1100
Mail Code: CAQ
Boston, Massachusetts 02114-2023

National Park Service and U.S. Fish and Wildlife Service Comments Regarding Connecticut Draft Regional Haze Rule State Implementation Plan
April 3, 2009

On February 4, 2009, the State of Connecticut submitted a draft Regional Haze Rule State implementation plan (SIP), pursuant to federal requirements codified at 40 CFR 51.308(i)(2), to the U.S. Department of the Interior, National Park Service (NPS) and the U.S. Fish and Wildlife Service (FWS). The air program staff of the NPS and FWS have conducted a substantive review of the Connecticut draft plan, and have provided the comments listed below. We look forward to the Connecticut Department of Environmental Protection response as per section 40 CFR 51.308(i)(3). For further information regarding these comments, please contact Holly Salazer (NPS) at (814) 865-3100 or Tim Allen (FWS) at (303) 914-3802.

Overall Comments

We appreciate the hard work the State of Connecticut has done in submitting the draft Regional Haze SIP. In general, we are concerned the draft SIP does not include an analysis for the full adoption of the MANE-VU Ask (Ask). The draft SIP appears contradictory without such an analysis, because the State fully adopts the Ask as its long-term strategy early in the draft SIP, however, throughout the document the State only commits to pursuing certain elements of the Ask.

We also have concerns regarding best available retrofit technology (BART) requirements. The draft SIP is unclear with respect to the State's approach to meeting BART requirements. The SIP and supporting documentation are not sufficient for establishing a source-by-source BART emission limit. If the State wishes to rely on existing rules as the basis for an alternative to BART, then additional demonstrations of the adequacy of that alternative approach should be presented in the SIP. Please see our comments below regarding BART and the BART-alternative program.

Specific Comments

The remaining comments, below, are organized according to the priorities that we presented in our August 1, 2006, letter, which outlined the Regional Haze concepts that are of importance to the NPS and FWS. Many of the following comments will also provide direction towards building the narrative of the draft SIP to satisfy the documentation and content area deficiencies noted above.

Area of Influence

In Section 2.0 Areas Contributing to Regional Haze, the State needs to include a summary of the Contribution Assessment. The draft SIP states that Connecticut emissions have measurable impacts on Class I areas, but provides no details or comparison to other states' impacts in the region.

At a minimum, the State should include a discussion on the three criteria used by MANE-VU to determine consultation. This would at least provide context to what Connecticut determines as their contribution. In addition, the draft SIP should provide percent contributions of neighboring states to better understand the magnitude of the State's contributions.

Regional Haze Planning and Consultation

In Section 3.2.2, Connecticut agrees with the MANE-VU Ask and commits to pursuing emission reductions consistent with the Ask. However, in Section 3.2.2.2, Connecticut does not address all elements of the Ask, instead saying it will review the viability of the remainder of the Ask in the 2013 review. It is inconsistent language to conclude the State will pursue emission reductions consistent with the Ask but at the same time say it will continue to review the viability of certain measures of the Ask over the next five years.

In Section 3.2.3, Connecticut implies that addressing inconsistencies with emission inventories, both within MANE-VU and out, "caused" most States to miss the 2007 statutory submittal to EPA. This statement should be considered for accuracy and removed.

In Section 3.2.5, please include February 4, 2009, as the date of submission to FLMs.

Monitoring Strategy

In Section 5.0 Air Monitoring Strategy, Connecticut should include language that commits the State to continuing support of the IMPROVE network. Support, in this context means the State agrees IMPROVE is an appropriate monitoring network to track regional haze progress and that the State agrees to work with neighboring states and federal land managers in meeting the goals of the IMPROVE program.

Section 5.3 should be revised to reflect that Moosehorn Wilderness and Roosevelt Campobello International Park also share a monitoring site.

Emission Inventories

In Section 6.0, please provide for purposes of comparison an explanation as to why NH3 emissions go up in projected 2018 inventory (Best and Final inventory).

Reasonable Progress Goals and Long Term Strategy

In Section 11.2, the State references technical reports that were used to determine the level of emission reduction required by the State to achieve reasonable progress goals in Class I areas affected by its emissions. However, there is no statement or summary information identifying what the necessary reduction levels actually were.

For Section 11.5 Source Retirement and Replacement Schedule, please include Table B-5 from Attachment N in the text. As written, the draft SIP provides no information on source retirement in Connecticut.

In Section 11.9, please include what strategy is used to get the predicted 2018 results.

In Section 11.12 Prevention of Significant Deterioration, we appreciate the State making a clear link between its regional haze program and the importance of the PSD program in achieving reasonable progress goals. This link is especially important for protection of the twenty percent best visibility days.

Fire

The State concludes that there is no information suggesting smoke emissions will increase over the next decade (Section 11.7). Will the State track such emissions to determine if this assumption is correct?

The draft SIP states Connecticut has a smoke management program. Please include a brief summary of what that program entails. It is unclear why the State has a smoke management program, considering the draft SIP previously concludes that wood smoke is only a fraction of fine particle mass. Attachment FF is listed as Connecticut Smoke Management Documentation and does not include any information specific to the smoke management program.

BART

The State has done a commendable job in the overall level of control required of its BART-eligible sources (e.g., 0.3 percent sulfur fuel-oil). It stands out among all the states in the region in this regard. However, the State should better support its determination that existing rules provide an acceptable alternative to BART on a source-by-source basis.

The draft SIP lacks rigor required for comparison with a source-by-source BART determination. The EPA and MANE-VU 'benchmarks' as described in Section 9.2.3 as being BART are not necessarily BART. Since the overall level of control among Connecticut BART sources is significant, source-by-source BART determinations may conclude that additional controls are not cost-effective and the existing proposed controls are BART. Nevertheless, these BART determinations should be performed as an integral part of the demonstration of the "alternative measure" for BART as proposed by the State. 40 CFR 51.308 (e) (2) (i) (C) requires that a "determination of BART for each source" be performed. Approval by EPA of an "alternative method" may relieve the State from requiring *installation* of BART on certain sources, but it does not relieve the State from *performing* source-by-source BART determinations in developing a demonstration that justifies using an "alternative method".

<u>Sulfur Dioxide</u>

In attempting to comply with the 40 CFR 51.308 (e) (2) requirement that the State submit an "implementation plan" for the proposed "alternative measure", the State assumes that the EPA BART Guidelines[1] set SO_2 BART for oil-fired boilers as burning a 1.0 percent

[1] See 40 CFR Part 51, Appendix Y. The U.S. Environmental Protection Agency finalized its BART Guidelines on June 15, 2005, and published the preamble and final rule text in the Federal Register on

sulfur fuel-oil. The State then used this definition as a de facto standard to show that a requirement of 0.3 percent sulfur fuel-oil resulted in "greater reasonable progress" and the ability to use an "alternative measure" for BART. The assumption that SO_2 BART is the use of 1.0 percent sulfur fuel-oil is not correct.

The EPA BART Guidelines state that you should "evaluate limiting the sulfur content of the fuel-oil burned to 1 percent or less by weight", but this is not to be interpreted that the use of 1 percent fuel-oil is considered to be BART for oil-fired boilers. It is only *a* presumptive BART alternative that should be considered. In the EPA BART Guidelines where the process for the analysis of control options for sources subject to BART is described, it is stated that, "Best Available Retrofit Technology (BART) means an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant which is emitted by . . . [a BART-eligible source]. The emission limitation must be established, on a case-by-case basis, taking into consideration the technology available, the costs of compliance . . . and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology."[2] For this reason additional feasible control alternatives should have been considered for each source in order to determine BART. Then, greater reasonable progress could be determined by comparing the BART for all BART-eligible sources against the across-the-board 0.3 percent sulfur in fuel-oil requirement.

Examples of additional control alternatives to be considered for SO_2 BART for each emission unit include the applicability of using progressively lower sulfur oils below 0.3 percent sulfur content (e.g., #2 distillate oils of 0.0015%, 0.05% sulfur content). The associated costs should be examined for each alternative. This would show a cost gradient as the sulfur in oil decreases and selection of BART would be based on the alternative presenting the most control where the cost remains reasonable. Dispersion modeling for a unit should also determine visibility impacts of that given unit on Class I areas for each viable fuel-oil alternative. In addition, the costs and visibility impacts of wet or dry flue gas desulphurization (FGD) techniques should be considered. Retrofit FGD systems can result in 90% - 95% reductions. FGD is a well-demonstrated technology on oil-fired utility units in some other countries (e.g., Japan, South Korea and Cyprus).

The full five-factor SO_2 BART determinations described above should be performed for the facilities at Middleton Power Units 3 and 4, Montville Power Unit 6, PSEG Bridgeport Harbor Station Unit 3, and PSEG New Haven Harbor Station Unit 1.

Nitrogen Oxides

Once again we commend the State for its past efforts in implementing the ozone reasonably available control technology (RACT) provisions in the 1990s and NO_x Budget

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July 6, 2005. The rulemaking action added Appendix Y to Part 51, titled "Guidelines for BART Determinations Under the Regional Haze Rule." See Section IV.E.4.

[2] Ibid, See Section IV.A.

Program for the NO_x SIP Call to significantly reduce NO_x emission limits. Using the same line of reasoning as discussed above for SO_2, it is incumbent on the State to use a baseline emissions year (presumably 2001) and examine NO_x BART control alternatives for each BART-eligible source.

Even though the EPA BART Guidelines state that combustion control is "generally highly cost-effective and should be considered"[3] in a BART determination for oil-fired boilers, combustion controls are not a de facto BART standard. Alternative NO_x controls to achieve BART should be considered at each BART-eligible source to complete the full five-factor analysis. Oil-fired utility boilers have a variety of combustion controls available, such as, low excess air, low NO_x burners, over-fired air, flue gas recirculation and optimum staged combustion. Also, post-combustion alternatives such as Selective Non-Catalytic Reduction (SNCR) and Selective Catalytic Reduction (SCR) should be considered at facilities where they do not currently exist.

Particulate Matter

Regarding particulate matter (PM) controls at BART-eligible facilities, Table 9-16 presents cost ranges for installing electrostatic precipitators (ESP) on sources not currently controlled for PM. More documentation of these costs is necessary as provided in the EPA BART Guidelines which state, "The basis for equipment cost estimates also should be documented, either with data supplied by an equipment vendor (i.e., budget estimates or bids) or by a referenced source (such as the OAQPS Control Cost Manual...).[4] In order to maintain and improve consistency, cost estimates should be based on the OAQPS Control Cost Manual, where possible. The Control Cost Manual addresses most control technologies in sufficient detail for a BART analysis."[5] Of course, the presented costs per ton ($64,000 at a minimum) of emissions reduced, if substantiated, would make such an installation uneconomical.

For the ESPs currently operating the State should analyze cost-effective ESP upgrade alternatives as per the EPA BART Guidelines, ". . . for retrofitting existing sources in addressing BART, you should consider ways to improve the performance of existing control devices, particularly when a control device is not achieving the level of control that other similar sources are achieving in practice with the same device. For example, you should consider requiring those sources with electrostatic precipitators (ESPs) performing below currently achievable levels to improve their performance."[6]

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[3] Ibid, See Section IV.E.5.

[4] U. S. Environmental Protection Agency, Office of Air Quality Planning and Standards, OAQPS Control Cost Manual, Fifth Edition, February 1996, EPA 453/B-96-001.

[5] See 40 CFR Part 51, Appendix Y. The U.S. Environmental Protection Agency finalized its BART Guidelines on June 15, 2005, and published the preamble and final rule text in the Federal Register on July 6, 2005. The rulemaking action added Appendix Y to Part 51, titled "Guidelines for BART Determinations Under the Regional Haze Rule." See Section IV.D.4.Step 4.a.5.

[6] Ibid, See Section IV.D.3.Step 3.4.

The State determined that two BART-eligible facilities (Norwalk Power Unit 2 and Cascades Boxboard Group) had a de minimis impact of less than 0.1 deciview on the nearest Class I area, so as to not be subject to BART. The NESCAUM exemption modeling that documents these conclusions should be included in the SIP as an appendix.

Considerations for the Alternative to BART Demonstration

If the State rules cited on page 9-2 of the draft SIP apply to sources beyond those subject to BART requirements and achieve more emissions reductions than the highest level of emissions reduction technology applied to only BART sources, the demonstration of an acceptable alternative to BART could be less rigorous than what we noted above. In such a case, the State should demonstrate the emissions reductions will occur during the first implementation period of the regional haze rule, 2000 through 2018. In addition, the expected emissions reductions from the non-BART facilities should not be substantially shifted geographically from where reductions would occur under a source-by-source approach to BART. Given the relatively small size of the State, the latter demonstration could be addressed by mapping locations of emission reductions expected from the program and inclusion of nearby Class I areas and highlighting the BART facilities.