USDA United States Department of Agriculture | Forest Service | Eastern Region | 626 E. Wisconsin Suite 800 Milwaukee, WI 53202

File Code: 2580
Date: FEB 25 2009

Ms. Jennifer Hunter
Environmental Manager State Implementation Plan
(SIP) Development
Ohio Environmental Protection Agency, DAPC
Lazarus Government Center
P.O. Box 1049
Columbus, OH 43216-1049

Dear Ms. Hunter:

This is in response to the proposed Ohio Regional Haze Rule State Implementation Plan (Plan). Since you are the responsible agency, we are providing you our technical review comments which focus on the eight content areas as outlined in our October 13, 2006, letter to Bob Hodanbosi. We believe our major concerns in bold typeface warrant further consultation prior to final adoption of the Plan.

The Forest Service has a new Air Resource Management Team available to work with you and your staff on all air resource issues. Please add the Air Resources Specialist for Ohio, Edward Huffman at (304) 636-1800 x192 or elhuffman@fs.fed.us, to your Federal Land Manager list. As required in the Code of Federal Regulations, consultation and collaboration with our Agency can be maintained through Mr. Huffman.

We look forward to working with you to improve air quality values, including progress towards the visibility goal set by Congress for our Class I areas. In spite of our legal involvement in this process, it is our understanding that only the United States Environmental Protection Agency can make a determination about the document's completeness and provide final approval.

We would appreciate a response to this letter and our comments per Code of Federal Regulations (CFR) listed in section 40 CFR 51.308(i)(3). Please contact Mr. Huffman if you have technical questions about the substance of our comments.

Sincerely,

/s/ Dennis Roberts
for KENT P. CONNAUGHTON
Regional Forester

Enclosures (2)

cc: Ann Acheson, Edward L Huffman, Richard Gillam, Paul Stockinger, Scott A Copeland, John Summerhays, Cheryl Newton

Enclosure 1

USDA Forest Service Comments Regarding
Ohio Draft Regional Haze Rule State Implementation Plan (SIP)

February 24, 2009

The air program staff of the Forest Service conducted a substantive review of the Ohio draft Regional Haze State Implementation Plan and has provided the comments listed below. We look forward to the Ohio Environmental Protection Agency response as required in the Code of Federal Regulations (CFR) per section 40 CFR 51.308(i)(3). For further information regarding these comments, please contact Edward Huffman (304) 636-1800 x 192 or Scott Copeland at (307) 332-9737. The comments below are categorized by the emphasis areas outlined in our letter to Mr. Hodanbosi (10/13/2006). That letter discussed our perspectives relevant to Regional Haze SIP preparation.

Overall Comments:
We are interested in the Ohio Regional Haze SIP because Ohio sources have been shown to affect visibility in Forest Service Class I areas in the states of Vermont, New Hampshire, Missouri, Arkansas, West Virginia, and Virginia (see Table 14, Regional Air Quality Analyses for Ozone, PM2.5, and Regional Haze: Final Technical Support Document dated April 25, 2008, done by Lake Michigan Air Directors Consortium (LADCO) and included in your SIP.

Specific Comments:

Natural Condition and Uniform Rate (Ohio SIP for Regional Haze p. 4)

- No comments on this section

Emission Inventories (Ohio SIP for Regional Haze p. 5-15)

- The US Forest Service would like Ohio to commit to annually tracking emissions and reporting how the projected emissions compare to actual emissions in 2012 and 2018.
- The emission reductions in 2018 for Ohio appear to be rather impressive. Please clarify the reductions based on known projects (e.g. Clean Air Interstate Rule (CAIR), source retirements) versus those projected by the Integrated Planning Model.
- Please clarify whether the emissions inventory data in section 6 is the same as that used in section 7 for the modeling assessment. If not, please explain any differences between the data in Section 6 and the information provided in the LADCO summary reports referenced in Section 7. It is also important to understand any differences for future comparisons with actual emissions in 2012 and 2018 as discussed above.

Area of Influence (Ohio SIP for Regional Haze p. 22-26)

- We are pleased that Ohio adopted the work of the Midwest Regional Planning organization (MRPO) and listed the potentially impacted Class I areas in the SIP.

- The New Hampshire SIP for Regional Haze lists Ohio as impacting both of their Class I areas: Great Gulf Wilderness and Presidential Range-Dry River Wilderness. Ohio indicates they impact Great Gulf but not the adjacent Presidential Range-Dry River, Forest Service Class I areas. As the Mid-Atlantic/Northeast Visibility Union (MANE-VU) analysis lumps the two Class I areas and New Hampshire lists Ohio as impacting both areas please include Presidential Range-Dry River as a "Yes" in the table on page 23.

Reasonable Progress Goals and Long Term Strategy (Ohio SIP for Regional Haze p. 26-35)

- **On page 35, Ohio indicates it does not significantly contribute to visibility problems in the upper Great Lakes, New Jersey, Maine or Missouri, which are areas where MRPO's analyses show that the uniform rate-of-progress "glide path" will not be achieved. However, page 36 displays predicted contributions above 2 percent (both in 2005 and 2018), which is the contribution threshold defined by MRPO. Further, the table on page 23 displays these same Class I areas as being impacted by emissions from Ohio. Please explain this discrepancy and further explain Ohio's rationale for considering these contributions to be insignificant.**
- **Based on Ohio EPA's data and analysis presented in the SIP, the Forest Service concludes that Ohio emission sources have a significant effect on visibility within FS Class I areas in Missouri. These effects occur even when Ohio's contribution to Regional Haze is reduced in the future, as is projected to occur by 2018 (the table on page 36 shows the impacts are still projected to be greater than the 2 percent contribution threshold). Please provide additional justification for Ohio's decision that the existing "on-the-books" controls for Ohio sources represents its "fair share" of emissions reductions to meet the reasonable progress goals established by Missouri for its Class I areas. This discussion should specifically explain how the decision is supported by the Clean Air Act Reasonable Progress factor-analysis. Please also provide specific information regarding consultation with Missouri on impacts from Ohio's emission sources.**
- **We have concerns about the factor-analysis done by Ohio EPA (pages 29-31 and summarized on page 27). The discussion refers to an analysis done by MRPO (contained in Appendix F) which is based on an evaluation of four specific Class I areas in the upper mid-west (Voyageurs, Boundary Waters, Isle Royale, and Seney). This factor-analysis may not be applicable to the other Class I areas impacted by emissions from Ohio sources, including the Missouri Class I areas discussed above. Further, the conclusions and statements within the text are not validated by the analysis. The analysis and past EPA cost figures actually appear to show that beyond "on-the-books" controls are justified and cost-effective. There are several assertions on page 27 highlighting why beyond "on-the-books" controls are not justified.**
    - **"controlling beyond CAIR at this time cannot be justified because Ohio utilities are still in the process of installing controls for CAIR",**

- **"[Industrial, Commercial and Institutional] ICI boiler controls are estimated to be a little more expensive than [electrical generating unit] EGU controls and have much less impact on visibility improvements than EGUs", and**
- **"With the current bleak economic condition in Ohio, pursuing controls on these other sectors for haze reduction cannot be justified."**

These reasons are not relevant issues within a 5-factor analysis as prescribed by EPA and are not supported by the analysis. Please address beyond "on-the-books" within the 5-factors and provide the information supporting the analysis. Our understanding is that the costs presented within the "factor analysis" for beyond-on the-books-controls for EGUs are in the same range as those for other EPA regulations.

- **Please clarify Ohio's response to MANE-VU's "ASK" from 2007. Vermont and New Hampshire use emissions reductions from the ASK to show reasonable progress for the Class I areas in their states (Lye Brook, Great Gulf, Presidential Range-Dry River wilderness areas managed by FS).**
- We request that Ohio provide language in their SIP linking the Regional Haze and New Source Review programs and continued FLM coordination between these programs. Currently there is no mechanism in the SIP to ensure that the emissions from new stationary sources or major modifications of existing sources will make reasonable progress toward the national visibility goal (40 CFR 51.307). This could be especially important for emissions from new sources that were not anticipated in 2018 emission inventories.
- Page 27 states that ICI boiler controls are more expensive and less effective than controls on EGUs. However this conflicts with statements on page 30 "...ICI controls were slightly less expensive than control for EGUs on a $/deciview basis..." Please clarify these statements and the metrics associated with them.
- The section discussing Ohio's share of emission reductions appears to imply that Ohio needs reductions in other states to meet its own "fair share" of emission reductions (p. 28 section 10.2). "*Ohio has determined that its fair share of emission reductions needed to meet reasonable progress constitutes on-the-books controls and other controls that upwind states will implement, but that are not yet in place.*" Please clarify this sentence as 40 CFR 51.308(d)(3) does not allow for the use of another State's emission reductions to be accounted for in Ohio's fair share of emission reductions.

Wildland Fire (Ohio SIP for Regional Haze p. 13, 33-34)

- We are pleased to see that Ohio will be developing a Smoke Management Program. The Forest Service would like to assist in the development of such a program.
- We agree that smoke from wildfires and prescribed fires is not a significant emission source for Ohio or a contributor to regional haze in downwind Class I areas at this time.

Regional Consistency (Ohio SIP for Regional Haze p. 2-3)

- There is an inconsistency in Regional Haze SIPs among states, for instance between Vermont and Ohio. Vermont assumes the MANE-VU ASK is being addressed by Ohio

and VT includes the associated emission reductions while Ohio has not committed to these emission reductions. This could lead to Class I areas within MANE-VU states not meeting reasonable progress goals set by those states. Consultation between Ohio and other states within MANE-VU that have asked for emissions reductions beyond "on-the-books" controls has not been resolved.

Verification and Contingencies (Ohio SIP for Regional Haze p. 37)

- There is uncertainty regarding how CAIR might be modified in the future by EPA in response to the recent court decisions. The number, size and location of new EGU and non-EGU sources between now and 2018 are also unknown. How will the SIP address this uncertainty and respond if in 2012 and/or 2018 conditions are quite different from those predicted?

  We would also like Ohio to consider contingency measures or procedures for unexpected or unforeseen circumstances; e.g., future emissions are not reduced to the same degree or in the same geographic area as projected, or emission inventories are incorrect or flawed. Are there adaptive management or increased review strategies which could be implemented in those situations?

Coordination and Consultation (Ohio SIP for Regional Haze p. 3-4, 36)

- **As part of the SIP and the strategy to implement the SIP, we request that Ohio express its intent to improve consultation and coordination with all impacted FLMs, including the Forest Service.** For example, the Forest Service did not receive your original draft plan dated September 9, 2008, until September 12 through a NPS colleague. We were made aware that the plan was being withdrawn prior to being able to provide comments on the plan. While we work closely with our counterparts in the Department of the Interior our comments were not addressed in this draft as stated on page 3-4 of Ohio's SIP. We also did not receive the current SIP until forwarded by the same NPS colleague. We are disappointed by this lack of coordination and consultation and are committed to improving this situation.
- Given the withdraw of the previous (September 2008) draft and significant changes made to the current draft of the SIP the FLM has not had 60 days to comment prior to the hearing to be held on February 26, 2009. Additionally, we request that Ohio provides FLM comments and Ohio's response to these comments to the public at or before the public meeting.
- **Also, coordination should occur during SIP revisions (including reasonable progress reports) and at steps necessary to address adequacy of the SIP.**

The EPA has addressed FLM consultation in its September 2006 Question and Answer (Q and A) document as follows:

Q - What are EPA's expectations and the basis for consultation requirements regarding formal consultative procedures? What constitutes effective FLM communication? Can it be

assumed that if the FLM attends the RPO meetings and calls and doesn't raise any concerns it has no problems with a State's SIP?

A - "40 CFR 51.308(i) requires that States consult with FLMs before adopting and submitting their RH SIPs. These requirements are summarized as follows:

States must provide the FLM an opportunity for consultation, in person and at least 60 days prior to holding any public hearing on the SIP. The State must also provide the opportunity for the FLMs to discuss their: (i) assessment of impairment of visibility in any Class I area; and, (ii) recommendations on the development of the RPG and on the development and implementation of strategies to address visibility impairment. Further, the State must include in the SIP a description of how it addressed any comments provided by the FLMs. Lastly, the SIP must provide procedures for continuing consultation between the State and FLMs on the implementation of 51.308, including development and review of SIP revisions and 5-year progress reports, and on the implementation of other programs having the potential to contribute to impairment of visibility in Class I areas.

This is a formal consultative process. The basis for requiring written consultation procedures is 40 CFR 51.308(i)(4). To satisfy this requirement, States should contact the FLMs to ensure their input to the RH SIP process is solicited and documented. While effective FLM consultation relies on both parties (States and FLMs) communicating early and often, the State is only required to meet the provisions of 40 CFR 51.308(i) and is not responsible if a FLM chooses not to participate in the either the RPO activities or the SIP development and review process. In such cases, the State should document its outreach efforts to the FLM."

Best Available Retrofit Technology (BART) (Ohio SIP for Regional Haze p. 16-22)

We have concerns about the initial analysis to determine sources subject to BART. The "screen-out" analysis done by LADCO specifies that it uses the Q/D metric for its analysis (where Q should equal the sum of tons per year of SO_2 + NO_x + PM^{10} + H_2SO_4), but in fact a metric of L/D was used (where L = tons per year of SO_2 + NO_x). The change in numerator values could result in fewer emission sources being considered as subject to BART. Please address whether additional sources would have been considered had the Q/D metric been applied instead of L/D.

Our understanding of EPA direction is that particulate matter (PM) emissions from EGU sources should be considered in the BART analysis for the regional haze SIP. In a September, 2006 Question and Answer (Q and A) document the EPA wrote: "*States subject to and participating in the CAIR cap and trade program for SO2 and NOx are allowed to treat the CAIR requirements for EGUs as a substitute for the application of BART controls per 40 CFR 51.308(e)(4). This does not mean EGUs are exempt for SO2 and NOx, only that CAIR satisfies the BART requirement for those pollutants. The*

remaining visibility pollutants to consider for determining BART-eligible sources are PM, and, using judgment, VOCs, and ammonia. For PM, the July 6, 2005, final BART rule at 70 FR 39160 notes PM10 may be used an indicator for PM in this step of the determination and thus, PM10 can be used for the exemption modeling." – **Our review indicates the proposed OH Regional Haze SIP is counter to EPA direction.**

We have concerns about the BART control options and the methodology used to reach a conclusion. The standard approach to determining BART control options is that it should primarily be an engineering determination not an air quality modeling exercise. A BART limit is defined as "an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction…". With regard to the P.H. Glatfelter facility, please clarify why one of two higher performing control options (90% removal) should not be considered BART as opposed to the 60% removal proposed by the company. Our understanding is the cost per ton for each of the final three control options are essentially equivalent for sulfur dioxide.

USDA United States Department of Agriculture | Forest Service | Eastern Region | 626 E. Wisconsin Suite 800 Milwaukee, WI 53202

File Code: 2580-2
Date: October 13, 2006

Mr. Bob Hodanbosi
Chief, Division of Air Pollution Control
Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, OH 43216-1049

Dear Mr. Hodanbosi:

Over the past several years, members of both our staff and yours have participated with neighboring states and tribes in the Central States Regional Air Partnership to develop best approaches and tools for preparing plans that will reduce haze in Class I areas. With preparation of your Regional Haze State Implementation Plan (SIP) at hand, we want to focus on collaboration with you and your staff to ensure success. As you know, consultation with you is required in the Regional Haze Rule (RHR). This is a priority for our air program.

Our focus will be on Class I wildernesses, which the United States Department of Agriculture (USDA) Forest Service (FS) is responsible for. We are coordinating with the other Class I area managers, the National Park Service, and the US Fish and Wildlife Service to facilitate a common message from all federal land managers (FLM). We anticipate leveraging strengths of each FLM to our joint advantage. Since the FLM will be seeking a close working relationship with every state in this SIP writing process, the expectation is to share ideas from across the nation. The objective of every SIP is to play a critical role in a national emissions reduction plan.

Enclosed are detailed perspectives pertinent to the SIP preparation. Any comments or questions should be directed to Chuck Sams, the principal FS point of contact, at (414) 297-3529 or csams@fs.fed.us. He will consult on your SIP throughout the required 60-day comment period, sharing our best insights and recommendations. Chuck will also work with others on our staff, especially our National Haze Coordinator, Ann Mebane and the Department of Interior. Ann can be contacted at (307) 587-4597 or amebane@fs.fed.us.

As required in the RHR, please identify, at your earliest convenience, your key point(s) of contact. Send all correspondence electronically to both Trent Wickman and Ann Mebane to ensure a successful consultation and SIP.

Sincerely,

/s/ Forrest L. Starkey (for)
RANDY MOORE
Regional Forester

Enclosure

Enclosure 1

Subject: Ohio and Regional Haze Rule Consultation with the United States Department of Agriculture (USDA) Forest Service (FS)
September 2006

The following perspectives are merely suggestions or recommendations not direction or requirements. They are deliberately very similar to those prepared by the Department of Interior to contribute to a common sense of purpose for improving haze in all Class I areas. We are sending these perspectives to each state. In so doing, we hope to facilitate inter-state coordination. At the same time, we fully acknowledge the discretion afforded in the Regional Haze Rule (RHR) for unique and creative solutions by individual states in writing plans that reduce haze.

Natural Condition and Uniform Rate
These factors apply mainly to states that have Class I areas. Other states that contribute to visibility impairment in Class I areas located in a different state might consider including discussion and conclusions on these factors in their individual plans.

The basic calculation of baseline, natural condition, and uniform rate builds the foundation for the entire RHR State Implementation Plan (SIP) process. Considerable discussion and debate at the science and policy level has occurred regarding appropriate methods to be used. As a consequence, several equations that include varying parameters or multipliers are available. Because these calculations can have a significant effect on the resulting progress goal, it is important to provide a detailed description of the methods used in the SIP. Calculations that include only portions of established methods or utilize unique approaches will be better understood if the rationale for these differences is fully explained in the SIP or its supporting documentation. We encourage states to use calculations that are based on equations recommended by the Interagency Monitoring of Protected Visual Environments (IMPROVE) steering committee and that are consistent with recommended approaches from the pertinent Regional Planning Organization (RPO) and the Environmental Protection Agency (EPA) region.

Emission Inventories
Given the complexities associated with modern comprehensive emission inventories, spending some considerable effort in describing how these inventories were developed and used will be important. Emission descriptions will be most informative if they include an evolutionary discussion that includes an actual, base-year inventory used to evaluate model performance; a typical base-year inventory that represents the five year, average state which establishes modeled visibility impacts; and various future year, controlled inventories that demonstrate future visibility conditions. Consider adding future year inventories that are clearly partitioned to delineate source types (by text, charts, or graphics) that are included in each model simulation. Benefits to future visibility conditions suggested in the SIP that are not also clearly linked to a future inventory or are not clearly included in future model analysis, will warrant additional discussion.

One part of your emission inventory includes the implementation of "Best Available Retrofit Technology" (BART) on a subset of pre-Prevention of Significant Deterioration sources. The BART source identification, elimination, and level determination will be of particular interest for review. We would prefer to see a clear progression through the three basic BART phases and a thorough description of the RHR prescribed factor analysis (if applicable). Consider discussing whether BART levels apply to individual or grouped source categories.

Area of Influence
The area of influence of significant visibility-impairing sources is an important SIP element. We suggest that that each state clearly identify and apportion by state, or other geographic means, the significant levels of pollutants contributed to each Class I area by source. Developing this information together with neighboring States and Tribes will facilitate consistency. Discussions of changing source area contributions at both the base- and future-year levels will help demonstrate SIP progress. Consider the benefits of presenting this information in the form of transported mass by pollutant or through individually calculated visibility impairment measures. Using a percentage or "Top 10" ranking for current contributions by geographic area may or may not clearly describe progress over time.

Reasonable Progress Goals and Long Term Strategy
Establishing reasonable progress goals for Class I areas in your state and/or acknowledging reasonable progress goals for Class I areas in other states that are affected by emissions from your state, as well as defining associated emissions strategies to meet these goals, form the basis of the SIP process under the RHR.

In developing the statute's required Long Term Strategy (LTS), your state is offered broad flexibility when determining reasonable progress goals and associated emissions. As noted earlier, the RHR includes a requirement for states to assess a uniform rate of progress and compare that rate to the reasonable progress goals set by those states with Class I areas. We feel that this uniform rate of progress assessment is useful in determining the geographic and economic extent a state can consider when developing the LTS associated with the reasonable progress goals.

In general, we will be looking at the degree to which the LTS is supported by RPO technical work and at the level of consistency among the contributing states. For Class I areas where your state is setting a year 2018 reasonable progress goal of equal or less impairment compared to the uniform rate of progress, our review will focus holistically on (1) whether strategies are applied equitably across source types; (2) if both local and regional emission strategies have been fully examined; and (3) how consistent assessments and strategies are applied regionally.

For Class I areas where the reasonable progress goal is more impaired than the uniform rate of progress, consider presenting information on a component basis. Components could consist of emission source category as before, but also include contributions from individual pollutants or by geographic source area. Our intent is to better understand where and why a strategy falls short of the uniform progress rate goal.

Because each region has focused their emission control strategy on different conditions, presenting results in a component format may assist in showing what level of progress was made in the focus area, verses other less controllable factors.

Wildland Fire
Your state has considerable flexibility as it addresses all anthropogenic sources of visibility impairment, including fire. The RHR requires consideration of smoke management techniques for agricultural and forestry management practices in the development of the LTS part of the SIP. On a short-term basis, fire has the potential to cause significant visibility reduction in Class I areas. If fire contributes to the index used to track long-term, reasonable progress in a Class I area, the visibility SIP should identify how it will be addressed. Your state may already have a smoke

management program (SMP) that adequately describes how visibility impairment from fire will be addressed. If fire has been determined to contribute to visibility impairment, we suggest including a fire emissions inventory along with a comment about its reliability and a projection for changes to the future inventory. If your state has a SMP, is it a basic smoke management program or an enhanced smoke management plan? And has the SMP been certified by the Environmental Protection Agency (EPA) Interim Air Quality Policy on Wildland and Prescribed Fire? Identify the specific SMP requirements for minimizing visibility impairment in Class I areas. Are there differences in state regulation for the way in which smoke from agricultural burning and forest fires are treated? Is there a difference in the way emissions from wildfire, prescribed fire, and wildland-fire-use (WFU) fire are identified and treated on private, state, and federal lands?

Regional Consistency

The RPOs have been working toward regionally-consistent approaches to address visibility impairment throughout the SIP development process. There may be circumstances when different methods were used or impairment assessments reached different conclusions. The FLM understands that each state knows what emission control methods or air quality management strategies work best for its areas. Each state may wish to develop strategies that are independent from RPO or neighboring areas.

In this context, our review of "regional consistency" will have less to do with individual discretion each state has in making decisions, and more on how well a group of states identifies and addresses similar agreed upon goals for each Class I area within a common area of influence.

Regional consistency can also be difficult to evaluate if neighboring SIPs (or portions of SIPs) are released for review at different times. We expect that thorough inter-state consultation processes will lead to consistent descriptions of apportionment and emission control goals, thus resulting in development of similar progress goals, regardless of release dates.

Verification and Contingencies

Little emphasis has been placed in the RHR on verification and even less on contingency planning. By rule, each SIP must identify the monitoring data used to specify the original baseline and also as part of an ongoing progress review at five year intervals.

Given the uncertain future of any individual monitoring site, we suggest that the SIP address the representation of both primary and alternative data sites for each Class I area.

Consider not only the data necessary to measure progress, but also how to account for and mitigate both unexpected and reasonably foreseeable emissions growth, changes to the geographic distribution of emissions, and substantive errors that may be found in emission inventories or other technical bases of the SIPs. These factors, as well as other unanticipated circumstances, may adversely affect your state's ability to achieve the emissions reductions projected by the SIP. Considering these factors through adaptive management or continual review strategies may assist in avoiding these circumstances.

Coordination and Consultation

The 1999 RHR requires states to consult with the FLM agencies at least 60 days prior to holding any public hearing on a RHR, SIP, or SIP revision (40 CFR 51.308(i). As named in the cover letter to this enclosure, a single FS air specialist has been assigned to your state.