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Department of
Agriculture

Forest
Service

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Date: December 20, 2007

Ms. Catharine Fitzsimmons
Chief, Air Quality Bureau
Iowa Department of Natural Resources
7900 Hickman Rd Suite 1
Urbandale, IA 50322

Dear Ms. Fitzsimmons:

On November 26, 2007, the State of Iowa 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 our Class I wilderness areas and parks.

This letter acknowledges that the U.S. Department of Agriculture Forest Service has received and conducted a substantive review of your proposed Regional Haze Rule implementation plan. Please note, however, that only the U.S. Environmental Protection Agency (EPA) can make a final determination about the document's completeness, and therefore, only the EPA has the ability to approve the document. Participation by the Forest Service in the State of Iowa's administrative process does not waive any legal defenses or sovereignty rights it may have under the laws of the United States, including the Clean Air Act and its implementing regulations.

As outlined in a letter to the Iowa DNR dated October 13, 2006, our review focused on eight basic content areas. The content areas reflect priorities for the Federal Land Manager agencies, and we have attached comments to this letter associated with these priorities. We look forward to your response required by 40 CFR 51.308(i)(3). For further information, please contact Superior National Forest Air Resource Specialist Trent Wickman at (218) 626-4372 or Forest Service Regions 8 and 9 Air Resource Specialist Chuck Sams at (414) 297-3529.

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

Sincerely,

/s/ James W. Sanders
JAMES W. SANDERS
Forest Supervisor



cc: Charles E Sams
Robert Fenemore
Matt Rau
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Tim Allen

Technical Comments on the Regional Haze State Implementation Plan (SIP) for Iowa

Below is a detailed list of comments from the USDA Forest Service based on our review of the draft SIP. We found the draft SIP to be clear and well-organized.

Consultation and Contribution

1. In their “ask” letter to Iowa, Minnesota lists Iowa as one of the states that are “significant contributors to visibility impairment in VNP (Voyagers National Park) and the BWCAW (Boundary Waters Canoe Area Wilderness).” Yet, Iowa states on page 40 of the draft SIP, “Collectively, Iowa sources are responsible for a minimal contribution to visibility impairment at the Northern Midwest Class I area, and offer little in terms of potential visibility improvement.” Even though Iowa is some away distance from the Class I Areas, the latest Midwest Regional Planning Organization (MRPO) PSAT analysis for 2018 shows it is the third highest contributor state to the Minnesota Class I areas. As stated in the draft SIP Iowa “must demonstrate that its implementation plan includes all measures necessary to obtain *its share* of emission reductions needed to meet the RPG (reasonable progress goal) for the area (40 CFR § 51.308(d)(3)(ii)).”

We feel the final SIP should discuss the consultation Iowa has had with Minnesota regarding this apparent disagreement regarding Iowa’s approach to reasonable progress in relation to their “share” of emission reductions.

2. The draft SIP states on page 38 that “When coordinated with other State and Tribe strategies, IDNR’s long-term strategy is sufficient to meet anticipated RPGs (reasonable progress goals) for states containing Class I areas which may be affected by emissions from Iowa sources.” Given the details of Minnesota’s “ask” of Iowa, we feel the SIP should address this seeming contradiction. We also feel Iowa should provide some explanation regarding the particulars of Minnesota’s request, as detailed below:
 - a. Consider further reductions of SO₂ (sulfur dioxide) from electric generating units (EGU) in order to reduce SO₂ emissions by 2018 to a rate that is more comparable to the rate projected in 2018 for Minnesota, approximately 0.25 lbs/mmBtu.
 - b. Conduct a more detailed review of potential emission reductions from large Industrial, Commercial, and Institutional (ICI) Boilers and other point sources (such as reciprocating engines and turbines) with regulations or permit limits developed by 2013 and included in the Five Year SIP Assessment if control measures on these source categories appear to be reasonable.
 - c. The contributing states with higher emission rates should evaluate potential control measures, and should, in their initial SIPs or Five Year SIP Assessments, show either enforceable plans to reduce emissions or a rationale for why such emission reductions are not reasonable (e.g., an overly high cost in \$/ton or \$/deciview, or lack of visibility improvement).

- d. Any additional control measures found to be reasonable will be included in each state's SIP or Five Year SIP Assessment in an enforceable form. This will ensure that the control measures are on track to be implemented by the 2018 deadline for submittal of SIPs covering the second phase of the Regional Haze process.

We did not find responses to these items in the draft SIP. Iowa rejects additional controls because additional controls "may not yield any significant improvement at the Class I areas." Without an assessment of visibility improvement based on these specific measures, it is difficult to determine whether these controls would yield significant improvement.

It would be helpful for Iowa to clearly state what level of visibility improvement Iowa would consider significant and document consultation with Minnesota regarding this level. Documentation of the consultation process with the State of Minnesota is particularly important as Iowa's rejection of their "ask" could affect their achievement of reasonable progress for their Class I areas.

3. On Page 41 the draft SIP states that the deciview values in Table 11.3 averaged over the 20% worst days demonstrate that " ...Iowa's modeled 2018 contributions are imperceptible by a human observer." We believe the data presented does not support that conclusion. Winds transporting pollutants to each Midwest Class I Areas on some of the 20 percent worst days may be coming from other parts of the country (i.e East or West) rather than from Iowa (located to the South). Averaging Iowa's impacts over days where the transport is not from Iowa would underestimate Iowa's impact. Also determining whether or not visibility impacts are perceptible requires an evaluation on a daily basis, not an average over multiple days. To support the conclusion that Iowa has imperceptible impacts, Iowa should evaluate all the days in a year individually to capture all the winds that can transport pollutants from Iowa. The Iowa BART analysis in Appendix 9.1, Chapter 6 took this approach and found that Iowa's BART-eligible sources alone show maximum impacts over 4 deciviews.
4. Concerning the statement on page 49, "The CENRAP and Minnesota/MRPO modeling substantiate that Iowa sources can not effect visibility improvement at the Northern Midwest Class I areas without disproportionate and costly levels of control." We do not understand the basis for this statement. As stated in comments 10 and 11 we feel the costs are commensurate with control costs related to other EPA regulations. The latest MRPO PSAT analysis for 2018 for the Minnesota CIAs shows Iowa to be the third highest contributor state. Additional explanation in the SIP is warranted to help clarify Iowa's reasoning.
5. In the draft SIP, Iowa focuses on their contribution to visibility impairment on the 20% worst days but does not discuss their contribution to Class I areas on the 20% cleanest days. Please consider including discussion of the 20% cleanest days in the SIP.

6. Iowa cites participation in the RPOs as the primary means for consultation with the federal land managers and other states. How will Iowa continue to consult in the future if one or more of the RPOs fail to exist? Beyond the RPOs, will other consultation groups such as the Northern Class I Areas conference calls continue and, if so, will Iowa continue to participate? If so, with what frequency? If these calls will not continue, who will consult with whom, when, how, and what procedures will be followed? Since the majority of actions relied on in the future by Iowa to reduce haze will be for PM_{2.5} and ozone, how will the FLMs be consulted during that process? The SIP should outline a process for addressing these consultation concerns.

Verification, Contingencies, and New Sources

7. We found no specific discussion in the draft SIP that considered contingency measures or procedures which could be triggered if the unexpected or unforeseen occurs. For example, what would happen if projected future emissions reductions do not materialize or are distributed differently over an alternate geographic area. What would happen if emission inventories are found to be incorrect or flawed? The history of the development of Iowa's emission projections, as described in the draft SIP, illustrate that there are many reasons why the projected future emission inventory could be wrong. Are there adaptive management strategies or increased review strategies which could be implemented in those situations? What will be done in five-years if Iowa is over their projected emissions inventory? The SIP should provide a contingency plan to address these concerns.
8. A similar issue is the addition of new sources. We feel it is important that Iowa include language in their SIP making the link between the Regional Haze and New Source Review programs and continued FLM coordination through these measures. Currently there is no mechanism in the SIP to ensure that the emissions from new stationary sources and major modifications will be consistent with making reasonable progress toward the national visibility goal (40 CFR 51.307) in neighboring Class I Areas. This could be especially important for new sources that were not anticipated in the growth strategies used to generate the 2018 emission inventories.

We recently received notice of a permit application for a new 649 MW coal fired unit at the Sutherland Generating Station. The draft SIP discusses that Iowa is already aware of two new sources not predicted by IPM, but suggests it is "premature" to address the impact of their emissions on the RPGs in other states. We believe there needs to be a clear mechanism in the SIP to account for this growth. How can Iowa continue to permit new sources (such as the EGUs mentioned) and not jeopardize the RPGs in the neighboring Class I areas?

9. We believe it would be valuable to identify in this SIP the source categories and/or individual emission units in Iowa that are likely to be able to add controls most cost effectively in the future. This list can then be used as a starting point if

Iowa finds in the future that its actual emissions are in excess of its predictions and thereby threaten its commitment to its neighbors under reasonable progress. Iowa could use the information in the Midwest RPO (MRPO) EC/R “*factor analysis*” report and the CENRAP Alpine Geophysics spreadsheet to help identify these sources.

Analysis of Potential Emission Controls

10. Control Costs – The draft SIP states that the control costs in the MRPO EC/R “*factor analysis*” report and CENRAP Alpine Geophysics spreadsheet are unreasonable. In the “Scope” section of the EC/R report, it says that it is to be used as “an initial analysis of the five factors.” As such, its analysis was done primarily on an industry-wide basis. The information in the report can be used to identify the likelihood of identifying cost-effective controls at individual facilities within the industrial category analyzed. The cost ranges included in the EC/R report do indeed show that there are emission units in each source category that have cost ranges that would be cost-effective (as that term is used for other EPA regulations; several hundred to a couple thousand dollars per ton). In addition the Alpine Geophysics spreadsheet shows many individual emission units in Iowa that could install nitrogen oxides (NO_x) and/or SO₂ control equipment at less than \$1000 per ton. It would help our understanding if Iowa would clarify what their cost effectiveness threshold is.

Iowa states that its industries do not agree that the cost figures in the Alpine Geophysics spreadsheet are accurate but fails to evaluate those claims itself in the draft SIP.

11. Minnesota has clearly identified Iowa sources as being reasonably contributing to visibility impairment at their Class I areas. Therefore, Iowa’s long term strategy should address measures it could take to meet its share of emissions reductions necessary to meet the RPGs of these Class I areas. Iowa should consider all sources, not just EGUs which were the focus in this draft SIP. For example the Alpine Geophysics spreadsheet produced by CENRAP identifies numerous specific facilities in Iowa that are not EGUs with cost effective control scenarios for NO_x.

EGU Emission Inventories

12. In many places in the draft SIP, problems with the emissions predictions for EGUs made by the Integrated Planning Model (IPM) were discussed. This discussion points to the fact that there is considerable uncertainty in the model’s predictions. Due to this uncertainty, we feel that Iowa should discuss in this SIP how it will address inconsistencies between the model and the actual emissions in the out years. We also feel a deadline for this evaluation should be included in the SIP. The current language is vague – “The impact of CAIR can not be fairly addressed until *sufficient time* has been allowed for program implementation and facility responses.”

13. We are unclear of the basis of the following statement on page 39, “Through CAIR, Iowa electrical generating units (EGUs) are anticipated to reduce not only ozone season NO_x emissions, but annual emissions of SO₂ and NO_x.” If Tables 7.1 and 7.2 are compared, EGU NO_x emissions go down but SO₂ emissions go up (from 135,833 to either 160,733 or 151,354). Later in the draft SIP, Section 11 discusses that IPM 3.0 predicts 115,938 for SO₂ from EGUs. If Iowa is going to rely on the IPM 3.0 projection as part of its baseline inventory under Section 11.5, we feel that point should be clarified.

Others

14. Under section 10.1.4, Energy and non-air quality environmental impacts of compliance, we encourage Iowa to include the environmental and health benefits of installing additional controls. Page 102 of the ECR report states, “It must also be noted that the health benefits of reducing SO₂ and NO_x emissions are generally expected to outweigh the costs of control (as discussed in Section 6.3). These health benefits stem from the reduced ambient levels of PM and ozone which would result from the control of SO₂ and NO_x.” Also on page 35 “When benefits in the entire modeling domain were considered, the estimated values of these benefits outweighed the projected costs of control by more than a factor of 10 for both the EGU1 and EGU2 strategies.” This does not include other environmental benefits of controls which are harder to quantify but nonetheless important (e.g. reduction in mercury deposition).
15. We sent a comment letter, dated June 20, 2007, on an early draft of the Best Available Retrofit Technology (BART) section of the SIP and have no further comments at this time. We appreciate the efforts made by Iowa to model the impacts of their BART-eligible sources at the large distances involved.
16. Monitoring - Additional thought should be put into alternative resources for supporting monitoring should federal funds be cut. For example, other government and/or non-government partners, tribes, and non-profits should be considered as possible funding sources.
17. Determination of adequacy of the plan – It is unclear how Iowa will make the determinations listed in its “list of possible actions” on page 54. What data will be looked at and what decision thresholds will be used? How will Iowa determine if any inadequacy is due to emissions from Iowa or other states/areas?