Office of the Registrar of Regulations,
Legislative Council,
State of Delaware

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington, D.C. 20240

JUN 27 2008

Mr. John Hughes, Secretary
Delaware Department of
Natural Resources and Environmental Control
89 Kings Highway
Dover, Delaware 19901

Dear Mr. Hughes:

On April 28, 2008, the State of Delaware submitted a draft implementation plan describing its proposal to improve air quality regional haze impacts at mandatory Class I areas across your region. The U.S. Fish and Wildlife Service (Service) appreciates the opportunity to work closely with the State of Delaware through the initial evaluation, development, and 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, and the Service, in consultation with the National Park Service, has received and conducted a substantive review of the proposed Regional Haze Rule implementation plan in fulfillment of the requirements under the federal regulations 40 CFR 51.308(i)(2). Please note, however, that only the U.S. Environmental Protection Agency can make a final determination regarding the document's completeness and ability to receive federal approval.

As outlined in a previous letter to each State dated August 1, 2006, our review focused on eight basic content areas. These content areas reflect priorities for the Federal Land Management agencies, and we have attached comments associated with these priorities. Note that we have highlighted comments in bold face that we feel warrant additional consultation prior to public release.

We appreciate the opportunity to work closely with the State of Delaware and compliment you on your hard work and dedication to achieving significant improvement in our nation's air quality values and visibility. We look forward to your response as per section 40 CFR 51.308(i)(3). If you have further questions or concerns please do not hesitate to contact me or Dale Hall, Director, U.S. Fish and Wildlife Service at 202-208-4717.

Sincerely,

Lyle Laverty

Lyle Laverty
Assistant Secretary for Fish
and Wildlife and Parks

Enclosure

TAKE PRIDE® IN AMERICA

U.S. Fish and Wildlife Service Comments
Delaware Draft Regional Haze Rule State Implementation Plan
June 5, 2008

On April 28, 2008, the State of Delaware (DE) 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).

The Fish and Wildlife Service Branch of Air Quality staff, in consultation with the National Park Service's (NPS) Air Resources Division, has conducted a substantive review of the DE draft plan, and provides the comments listed below. It is our opinion that the concerns that are described below are significant enough in nature to warrant discussion.

We look forward to your response as per section 40 CFR 51.308(i)(3), and would be willing to work with the DE Department of Natural Resources and Environmental Control, Division of Air And Waste Management staff towards resolving the major issues discussed below. For further information, please contact Tim Allen, FWS Regional Haze lead at (303) 914-3802.

Overall Comment

The FWS has a significant concern that the information provided in the DE SIP revision for the Regional Haze Program fails to describe or address content elements required by the Regional Haze Rule. These major elements of concern are:

- **deficient analysis of Reasonable Progress (RP) and Long Term Strategy (LTS) for regional haze that is specific to DE**
- **general references to MANE-VU documents without specific explanation as to how the information applies to DE including how, what, and why DE is using the information**

In some cases, the State makes statements that it adopts and depends upon MANE-VU analyses and conclusions for meeting sufficient emission controls to "reasonable" levels. The State even goes to the extent to acknowledge the requirement each State must evaluate and meet these levels. Delaware needs to add a specific sub-section to the LTS section to specifically summarize, provide reasoning, and declare Delaware's belief that it meets reasonable control levels to address progress.

The State has the responsibility to review and permit New Source Review (NSR) and Prevention of Significant Deterioration (PSD) modification applications. This permitting system has the ability to allow emission growth and relocation in ways that can have a profound effect on regional haze progress. The State should include a sub-section in the LTS section discussing the State's commitment to ensure NSR/PSD permitting activity will consider and support State haze commitments.

We ask that the DE review the eight elements identified by the Fish & Wildlife Service letter dated, August 1, 2006 (see enclosure 1), and expand its discussion in the document regarding how the State approached, evaluated, and drew conclusions on these important rule elements.

The remaining comments below are organized according to the priorities that we presented in our August 1, 2006, letter (referenced above). 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.

Baseline, Natural Conditions, Uniform Rate

1. **Page 22, bullet (3)(i) – A statement is made indicating the inclusion of emission reductions "...not yet finalized but likely to achieve additional reductions..." in the "on-the-way/on-the-books" (OTW/OTB) emission inventories. Please address the uncertainty of reasonable progress goals and modeled visibility progress considering the lack of enforceability of emission reductions.**

2. Page 23, second paragraph – The first sentence refers to the visibility SIP as an "attainment" demonstration. The State only has to demonstrate progress towards the Nation's visibility goals. This is not an attainment demonstration. Please consider rewording this section.

Emission Inventories

3. Comment #1 applies here as well ***"Page 22, bullet (3)(i) – A statement is made indicating the inclusion of emission reductions "...not yet finalized but likely to achieve additional reductions..." in the "on-the-way/on-the-books" (OTW/OTB) emission inventories. Please address the uncertainty of reasonable progress goals and modeled visibility progress considering the lack of enforceability of emission reductions."***

4. Comment #2 applies here as well *"Page 23, second paragraph – The first sentence refers to the visibility SIP as an "attainment" demonstration. The State only has to demonstrate progress towards the Nation's visibility goals. This is not an attainment demonstration. Please consider rewording this section."*

5. Page 25, first paragraph, second to last sentence – It is suggested that aircraft, railroad, and commercial marine emissions are grown and controlled into the future consistent with Clean Air Interstate Rule (CAIR) analysis. Please explain how this was done and whether these controls are enforceable.

6. Pages 26-36 – The SIP draft shows figures comparing NEI 1996, NEI 1999, and MV 2002 v.2 emission inventories. It is not clear how this comparison of pre-baseline inventories relate to the SIP. It is not clear why MV 2002 v.2 is referenced considering MV2002 v.3 is identified as the final 2002 inventory on page 37.

7. Page 28, first paragraph - second to last sentence - indicates that "Recent efforts to reduce manmade organic carbon emission have been undertaken...." Organic Carbon (OC) is identified as the second most significant contributor in MANE-VU. Can you expand your discussion on what efforts were made to control OC? Please relate this to the wood stove discussion on page 86.

8. **Page 71 - Similar to comments on page 22, a statement indicates that the 2018**

"beyond on the way" (BOTW) emissions inventory includes controls that are "not yet finalized but are likely." This statement should be discussed if the State relied on this inventory for planning purposes. Please summarize how this inventory was used by the State and consider additional discussion if necessary.

Best Available Retrofit Technology (BART)

9. **The BART determination for Indian River, LLC, utilized 98th percentile (8th high per year) modeling results in conjunction with MANE-VU generated CALMET fields. These data are used to evaluate visibility benefits from emission control options. This approach is inconsistent with methods identified by MANE-VU's BART evaluation process/protocol.**

   The concept of using 8th high results with CALMET/CALPUFF modeling is identified by EPA rule/guidance for BART exemption. EPA further provides guidance (in its Q&A document) indicating its acceptance of delta deciview based on 8th high values for BART determinations. EPA does not address how modeling that does not meet BART exemption or 40 CFR Part 51 Appendix W guidance would be considered.

   The FWS has a strong concern that MANE-VU generated CALMET data sets are not of sufficient quantity or quality to address BART exemption or determination expectations. MANE-VU did not intend this modeling for exemption purpose and voluntarily used 1st high results (and possibly 20% best background values) for all of its assessments. The FWS was satisfied with MANE-VU's use of conservative assumptions to satisfy modeling concerns. However, elimination of these conservative measures negates our acceptance of the MANE-VU modeling approach.

   If the State intends to use 8th high results from the CALMET/CALPUFF modeling system, the FWS expects modeling of sufficient quantity and quality to meet the guidance provided for BART exemption standards.

10. Three facilities located in Delaware were determined to be BART-eligible and submitted BART determinations. The three facilities are the City of Dover – McKee Run Generating Station, Indian River Operations, LLC – Indian River Generating Station and Conectiv Delmarva Generation, Inc. – Edge Moor Power Plant. All three are electric generation units (EGUs) and since Delaware is affected by the Clean Air Interstate Rule (CAIR), the DNREC is only required to perform a BART determination for PM_{10}. Additional source-specific BART recommendations are as follows:

    a. Indian River Operations, LLC – Indian River Generating Station and Conectiv Delmarva Generation, Inc. – Edge Moor Power Plant

       Both of these facilities declared that the PM_{10} control equipment already in place was deemed to be state-of-the-art, best available control technology or maximum achievable control technology. As such, these facilities did not need to finish the cost analysis portion of a BART determination, but each went on to demonstrate excessive cost per ton and cost per deciview of alternative controls. If DNREC agrees with the companies' conclusions, it should make an affirmative statement in the Regional Haze

SIP document that the control technology currently deployed is considered to be BART.

b. City of Dover – McKee Run Generating Station

The City of Dover performed a BART determination for the McKee Run Generating Station in an effort to show that, based on excessive cost, that additional BART controls would not be required.

Section 3.2.2 discusses that Boiler 3 will be required to reduce the sulfur content of the fuel oil to comply with Delaware's Multi-Point regulation for SO_2 and that this action is considered a control option for PM_{10}. Section 5, item 4 states that since Boiler 3 will be required under Delaware's Multi-Point regulation for SO_2 to meet the 0.5% sulfur in residual fuel requirement, "Therefore, the consideration of BART controls for Boiler 3 should be compared above and beyond the control level expected from compliance with the fuel sulfur specification of Delaware's Multi-Pollutant regulations. It should be noted that a BART determination is required to be performed using a 'pre-control' baseline, rather than a baseline assumption that includes a yet-to-be-installed improved sulfur content fuel employed for purposes of another regulatory program.

A wet electrostatic precipitator (ESP) is considered as a BART alternative, but cost analysis of the alternative is not performed. It is stated at the bottom of page 3-8 that the wet ESP alternative will not be analyzed since it offers a similar or lesser level of PM_{10} control than those already identified in the fuel switching options, but when all fuel switching alternatives are later deemed to be too expensive for BART, the wet ESP is never analyzed separately. The cost of a wet ESP should be analyzed as a BART alternative.

Even though a 0.5% sulfur in residual fuel requirement was deemed too expensive to be considered BART, it will nevertheless be deployed under Delaware's Multi-Point regulation for SO_2. In a 'backdoor' fashion this will result in some visibility improvement, even though it is not technically a BART control. We suggest that DE document this control within the BART discussion of the SIP narrative as well.

<u>Area of Influence</u>

11. **Page 8, second to last paragraph; Page 10, Table 1-2; and, Page 54, third paragraph – In these sections, DE communicates that the State is a contributor to visibility impacts at Shenandoah National Park and the Dolly Sods Wilderness Area. Yet, the VISTAS assessment concludes that DE does not contribute to visibility impacts at these Class I areas. The State should consider the VISTAS assessment which does not identify DE as a significant contributor to these areas. Because Virginia (VA) and West Virginia (WV) are the States setting the reasonable progress goals for these Class I areas, it is consistent to address your attribution as described by VISTAS. Please evaluate and summarize the Area of Influence (AOI) information produced by VISTAS and identified by VA and WV. If DE continues to consider its emissions as contributing, it should document consultation between itself and both VA and WV.**

12. Page 11 – Please add a map showing the Class I areas in VA and WV.

Reasonable Progress Goals and Long Term Strategy

13. Page 59, first paragraph – The description of Q/d (emissions/distance) data multiplied by a "prevailing wind factor" should be renamed when displaying data identified in following figures. Q/d is an established ratio for BART and RH use. If modified with an additional modifying factor, a new name representing the unit label should be considered to avoid confusion.

14. **Page 68, fourth paragraph – A small reference is offered suggesting MANE-VU air quality model performance meets EPA guidance. Model performance is a critical element to establish when using a non-guideline model for air quality purposes. The Regional Planning Organization (RPO) and State rely on model analysis and subsequent predictions as the primary basis for demonstrating progress. The August, 2006, NPS/FWS letter to the States identified model performance evaluation as a priority element. Please provide sufficient discussion and conclusions at a regional and local level regarding model performance in the main body of the SIP.**

15. Page 78, Section 10.4 – The reference to 40 CFR Section 51.308(d)(3)(v) is incorrect. The requirement for each State to evaluate reasonable progress is stated in Statute 169A (b)(2). References in 51.308 for non-Class I States to evaluate reasonable progress controls using the 4 factors is indirectly implied. We encourage the State to keep the statement to review reasonable progress in the SIP. Please consider referencing the Statute.

16. Page 79, following bullets – Please summarize how DE will adopt and apply the previous MANE-VU bulleted statements in this section.

17. Page 86, second to last paragraph – Wood smoke is considered a negligible or low contributor to visibility impairment at the nearby Class I areas because it accounts to "less than 10%." It is not clear what this "10%" means. In prior discussion, MANE-VU determined that all States with contribution greater than 2% of sulfur on the 20% worst visibility days were significant. Please address what 10% is related to (i.e., 20% best or worst visibility days? all data? etc...) and why such a high apportionment is necessary when dealing with the second most apportioned pollutant.

18. Page 88-90 – Figures with glide slope information are too coarse to read. From what we can see, the charts indicate how the MANE-VU models predict visibility progress at the affected Class I areas. There is too little information describing what the figures are intended to represent and how to read them. Are these charts presenting direct model results or relative response factors? Please describe this important data with a wide, non-technical audience in mind.

19. PSD permit review should be discussed as to how this program will benefit visibility. Please make direct statements on how DE has committed to review PSD actions in a way that supports progress goals in the regional haze program.

Fire

20. Page 87 – The State provides a good description on prescribed burning. Can you discuss whether visibility impacts at Class I areas are considered when issuing a burning authorization? If not, would the State consider adding this provision to make a more direct connection between visibility protection and prescribed burning activities?

Regional Consistency

21. **Final modeling by Northeast States for Coordinated Air Use Management (NESCAUM) is identified for 2008. Significant issues have been raised regarding these final runs. These runs seem to contradict assumptions and possibly go against known controls in other States. Please add a significant discussion on these differences in regards to emission inventory assumptions, uncertainty, and differences from both MANE-VU and VISTAS results.**

22. **A detailed discussion of emission/modeling uncertainty and the conflict with the VISTAS modeling is needed. The final modeling conducted by MANE-VU is not enough for DE. Inclusion of VISTAS modeling, performance, and AOI is important to the impacts since DE contributes to Class I areas in WV. The latest "Best and Final" MANE-VU modeling runs indicate that a Class I area in WV may not be meeting the URP. Delaware must explain this discrepancy and could discuss it in the context that VISTAS concluded that the URP would be met.**

Verification and Contingencies

23. Section 12 of the Draft SIP discusses the options for action following the five-year review. However, the document does not provide any criteria that DE will use in evaluating the five-year progress report to decide which of the listed actions would be indicated. Please include discussion of the anticipated criteria that DE will use to both evaluate the progress at the five-year review and to select the course of action that will be taken based upon that review.

Consultation

24. Page 16, third paragraph – The Fish & Wildlife Service and National Park Service received the Delaware SIP on April 28, 2008. Please adjust the date indicating the start of DE's FLM draft SIP review.

Department of Natural Resources and Environmental Control
Air Quality Management Section (AQMS) responses to United States Department of Interior, Fish and Wildlife Service June 27, 2008 Comments on Delaware's DRAFT Visibility State Implementation Plan (SIP)

Comment 1: Page 22, bullet (3)(i) – A statement is made indicating the inclusion of emission reductions "...not yet finalized but likely to achieve additional reductions..." in the "on-the-way/on-the-books" (OTW/OTB) emission inventories. Please address the uncertainty of reasonable progress goals and modeled visibility progress considering the lack of enforceability of emission reductions.

Response: The draft SIP has been revised to clarify that DE is not relying on any control measure that is not yet finalized. The draft SIP now clearly states that Delaware's 2018 emissions projections are based only on adopted and finalized control measures, and are less than MANE-VU modeled OTB/OTW emissions. As such, there is no uncertainty regarding the lack of enforceability of emission reductions in the DE SIP.

Comment 2: Page 23, second paragraph – The first sentence refers to the visibility SIP as an "attainment" demonstration. The State only has to demonstrate progress towards the Nation's visibility goals. This is not an attainment demonstration. Please consider rewording this section.

Response: The draft SIP has been reworded as suggested.

Comment 3: Comment #1 applies here as well "*Page 22, bullet (3)(i) – A statement is made indicating the inclusion of emission reductions "...not yet finalized but likely to achieve additional reductions..." in the "on-the-way/on-the-books" (OTW/OTB) emission inventories. Please address the uncertainty of reasonable progress goals and modeled visibility progress considering the lack of enforceability of emission reductions.*"

Response: The draft SIP language has been clarified. See response to Comment 1 above.

Comment 4: Comment #2 applies here as well "*Page 23, second paragraph – The first sentence refers to the visibility SIP as an "attainment" demonstration. The State only has to demonstrate progress towards the Nation's visibility goals. This is not an attainment demonstration. Please consider rewording this section.*"

Response: The draft SIP has been reworded as suggested.

Comment 5: Page 25, first paragraph, second to last sentence – It is suggested that aircraft, railroad, and commercial marine emissions are grown and controlled into the future consistent with Clean Air Interstate Rule (CAIR) analysis. Please explain how this was done and whether these controls are enforceable.

Response: The draft SIP has been clarified to state that Aircraft, railroad, and commercial

marine emissions were grown and controlled using combined growth and control factors taken directly from EPAs Clean Air Interstate Rule (CAIR) analysis, and that no changes or adjustments were made to the EPA methodology. Any control measures relied on for these categories are based solely on adopted and enforceable federal rules.

Comment 6: Pages 26-36 - The SIP draft shows figures comparing NEI 1996, NEI 1999, and MV 2002 v.2 emission inventories. It is not clear how this comparison of pre-baseline inventories relate to the SIP. It is not clear why MV 2002 v.2 is referenced considering MV2002 v.3 is identified as the final 2002 inventory on page 37.

Response: Delaware believes that emissions inventory trend analysis relates to this SIP as it is a valuable tool in emissions characterization and for evaluating progress in air pollution control on a per-pollutant basis. For example, this comparison of inventories clearly show that sulfur dioxide our largest emitted visibility impairing pollutant. All references to MV2002 v.2 have been updated to MC2002 v.3 as suggested.

Comment 7: Page 28, first paragraph – second to last sentence – indicates that "Recent efforts to reduce manmade organic carbon emission have been undertaken…." Organic Carbon (OC) is identified as the second most significant contributor in MANE-VU. Can you expand your discussion on what efforts were made to control OC? Please relate this to the wood stove discussion on page 86.

Response: Organic carbon (OC) compounds are a subset of volatile organic compounds (VOCs.) Delaware has adopted, implemented, and enforced numerous (VOC) control measures over the past 40 years, to include measures that cover thirty eight (38) source categories under DE Regulation 1124. These measures are projected to reduce 2018 emissions by 12,306 tons per year (a 32% decrease) from 2002 levels. Tables 7-4 and 7-5 present this information. Based on this comment changes were made to the narrative to expand discussion on VOC/OC controls. VOC Regulations which are adopted and in effect are now listed in a new Appendix 7-6 of the proposed SIP. Regarding wood stoves, the draft SIP has been revised to note that residential woodstoves are controlled through federal New Source Performance Standards, 40 C.F.R. Part 60 Subpart AAA.

Comment 8: Page 71 – Similar to comments on page 22, a statement indicates that the 2018 "beyond on the way" (BOTW) emissions inventory includes controls that are "not yet finalized but are likely." This statement should be discussed if the State relied on this inventory for planning purposes. Please summarize how this inventory was used by the State and consider additional discussion if necessary.

Response: Delaware has revised the draft SIP to specifically reflect Delaware's emissions inventory based only on finalized and enforceable control measures. The draft SIP now clearly shows that current Delaware/federal rules and regulations demonstrate that Delaware meets its fair share of the reasonable progress goals. Section 11 discusses these measures in detail.

Comment 9: The BART determination for Indian River, LLC, utilized 98th percentile (8th high per year) modeling results in conjunction with MANE-VU generated CALMET fields. These

data are used to evaluate visibility benefits from emission control options. This approach is inconsistent with methods identified by MANE-VU's BART evaluation process/protocol.

The concept of using 8th high results with CALMET/CALPUFF modeling is identified by EPA rule/guidance for BART exemption. EPA further provides guidance (in its Q&A document) indicating its acceptance of delta deciview based on 8th high values for BART determinations. EPA does not address how modeling that does not meet BART exemption or 40 CFR Part 51 Appendix W guidance would be considered.

The FWS has a strong concern that MANE-VU generated CALMET data sets are not of sufficient quantity or quality to address BART exemption or determination expectations. MANE-VU did not intend this modeling for exemption purpose and voluntarily used 1st high results (and possibly 20% best background values) for all of its assessments. The FWS was satisfied with MANE-VU's use of conservative assumptions to satisfy modeling concerns. However, elimination of these conservative measures negates our acceptance of the MANE-VU modeling approach.

If the State intends to use 8th high results from the CALMET/CALPUFF modeling system, the FWS expects modeling of sufficient quantity and quality to meet the guidance provided for BART exemption standards.

Response: Delaware agrees with this comment, and the draft SIP has been revised to reflect Indian River's BART analysis based on the new assumption of 1st highest day (i.e., the most conservative approach). An Addendum to NRG-Indian River's BART analysis has been added to Appendix 8. The results of the re-analysis show that proper operation of the existing electrostatic precipitator constitutes BART controls for particulate matter.

Comment 10: Three facilities located in Delaware were determined to be BART-eligible and submitted BART determinations. The three facilities are the City of Dover – McKee Run Generating Station, Indian River Operations, LLC – Indian River Generating Station and Conectiv Delmarva Generation, Inc. – Edge Moor Power Plant. All three are electric generation units (EGUs) and since Delaware is affected by the Clean Air Interstate Rule (CAIR), the DNREC is only required to perform a BART determination for PM_{10}. Additional source-specific BART recommendations are as follows:

a. Indian River Operations, LLC – Indian River Generating Station and Conectiv Delmarva Generation, Inc. – Edge Moor Power Plant

Both of these facilities declared that the PM_{10} control equipment already in place was deemed to be state-of-the-art, best available control technology or maximum achievable control technology. As such, these facilities did not need to finish the cost analysis portion of a BART determination, but each went on to demonstrate excessive cost per ton and cost per deciview of alternative controls. If DNREC agrees with the companies' conclusions, it should make an affirmative statement in the Regional Haze SIP document that the control technology currently deployed is considered to be BART.

b. City of Dover – McKee Run Generating Station

The City of Dover performed a BART determination for the McKee Run Generating Station in an effort to show that, based on excessive cost, that additional BART controls would not be required.

Section 3.2.2 discusses that Boiler 3 will be required to reduce the sulfur content of the fuel oil to comply with Delaware's Multi-Point regulation for SO_2 and that this action is considered a control option for PM_{10}. Section 5, item 4 states that since Boiler 3 will be required under Delaware's Multi-Point regulation for SO_2 to meet the 0.5% sulfur in residual fuel requirement, "Therefore, the consideration of BART controls for Boiler 3 should be compared above and beyond the control level expected from compliance with the fuel sulfur specification of Delaware's Multi-Pollutant regulations. It should be noted that a BART determination is required to be performed using a 'pre-control' baseline, rather than a baseline assumption that includes a yet-to-be-installed improved sulfur content fuel employed for purposes of another regulatory program.

A wet electrostatic precipitator (ESP) is considered as a BART alternative, but cost analysis of the alternative is not performed. It is stated at the bottom of page 3-8 that the wet ESP alternative will not be analyzed since it offers a similar or lesser level of PM_{10} control than those already identified in the fuel switching options, but when all fuel switching alternatives are later deemed to be too expensive for BART, the wet ESP is never analyzed separately. The cost of a wet ESP should be analyzed as a BART alternative.

Even though a 0.5% sulfur in residual fuel requirement was deemed too expensive to be considered BART, it will nevertheless be deployed under Delaware's Multi-Point regulation for SO_2. In a 'backdoor' fashion this will result in some visibility improvement, even though it is not technically a BART control. We suggest that DE document this control within the BART discussion of the SIP narrative as well.

Response: Delaware agrees with these comments, and has updated Section 8 - BART revisions, and Appendix 8-2 of the proposed SIP accordingly.

Comment 11: Page 8, second to last paragraph; Page 10, Table 1-2; and, Page 54, third paragraph – In these sections, DE communicates that the State is a contributor to visibility impacts at Shenandoah National Park and the Dolly Sods Wilderness Area. Yet, the VISTAS assessment concludes that DE does not contribute to visibility impacts at these Class I areas. The State should consider the VISTAS assessment which does not identify DE as a significant contributor to these areas. Because Virginia (VA) and West Virginia (WV) are the States setting the reasonable progress goals for these Class I areas, it is consistent to address your attribution as described by VISTAS. Please evaluate and summarize the Area of Influence (AOI) information produced by VISTAS and identified by VA and WV. If DE continues to consider its emissions as contributing, it should document consultation between itself and both VA and WV.

Response: Delaware agrees with this comment, and with the analysis of VA and WV that

conclude that DE does not significantly contribute to visibility impact at Shenandoah National Park and the Dolly Sods Wilderness Area. The draft SIP has been revised to clearly indicate that DE only contributes significantly to the Brigantine Class 1 area.

Comment 12: Page 11 – Please add a map showing the Class I areas in VA and WV.

Response: Based on comment 11 above all discussions related to non-Brigantine Class I areas have been deleted from the proposed SIP. Because of this a map including VA and WV is not relevant and has not been added to the proposed SIP.

Comment 13: Page 59, first paragraph – The description of Q/d (emissions/distance) data multiplied by a "prevailing wind factor" should be renamed when displaying data identified in following figures. Q/d is an established ratio for BART and RH use. If modified with an additional modifying factor, a new name representing the unit label should be considered to avoid confusion.

Response: Since REMSAD modeling of annual average percent sulfate was the chosen methodology in determining contributions to Class I areas, the proposed SIP has been revised to reflect that Q/d multiplied by the prevailing wind factor is not relevant to this proposed SIP. All references to prevailing winds have been deleted.

Comment 14: Page 68, fourth paragraph – A small reference is offered suggesting MANE-VU air quality model performance meets EPA guidance. Model performance is a critical element to establish when using a non-guideline model for air quality purposes. The Regional Planning Organization (RPO) and State rely on model analysis and subsequent predictions as the primary basis for demonstrating progress. The August, 2006, NPS/FWS letter to the States identified model performance evaluation as a priority element. Please provide sufficient discussion and conclusions at a regional and local level regarding model performance in the main body of the SIP.

Response: We agree with this comment and have added a discussion regarding model performance in the proposed SIP (see new Section 9.6)

Comment 15: Page 78, Section 10.4 – The reference to 40 CFR Section 51.308(d)(3)(v) is incorrect. The requirement for each State to evaluate reasonable progress is stated in Statute 169A (b)(2). References in 51.308 for non-Class I States to evaluate reasonable progress controls using the 4 factors is indirectly implied. We encourage the State to keep the statement to review reasonable progress in the SIP. Please consider referencing the Statute.

Response: Delaware agrees that the reference to 40 CFR Section 51.308(d)(3)(v) is incorrect. The draft SIP has been changed to reference that "*40 CFR Section 51.308(d)(1), was promulgated under the authority of section 169A(b)(2) of the federal Clean Air Act and requires Class I states…*"

Comment 16: Page 79, following bullets – Please summarize how DE will adopt and apply the previous MANE-VU bulleted statements in this section.

Response: In response to this comment Delaware has significantly revised the discussions on how Delaware responds to the RPG goals. We have added an entire new Section, ***Section 11 – How Delaware Achieves the Reasonable Progress Goals,*** to the proposed SIP. This new section goes into much detail about how Delaware addresses each of the MANE-VU "bulleted statements."

Comment 17: Page 86, second to last paragraph – Wood smoke is considered a negligible or low contributor to visibility impairment at the nearby Class I areas because it accounts to "less than 10%." It is not clear what this "10%" means. In prior discussion, MANE-VU determined that all States with contribution greater than 2% of sulfur on the 20% worst visibility days were significant. Please address what 10% is related to (i.e., 20% best or worst visibility days? All data? Etc...) and why such a high apportionment is necessary when dealing with the second most apportioned pollutant.

Response: Based on this comment Delaware has significantly revised this section. Emission inventories and source apportionment studies in Delaware do not show woodsmoke a significant source. All references to "less than 10%" have been deleted, since that did not reflect Delaware, or Brigantine source apportionment of wood smoke..

Comment 18: Page 88-90 – Figures with glide slope information are too coarse to read. From what we can see, the charts indicate how the MANE-VU models predict visibility progress at the affected Class I areas. There is too little information describing what the figures are intended to represent and how to read them. Are these charts presenting direct model results or relative response factors? Please describe this important data with a wide, non-technical audience in mind.

Response: A new figure showing glide slope information for Brigantine has been added to the proposed SIP. This figure was expanded in size to increase resolution and address the "coarseness". In addition, subsection 9.9 has been revised to describe what the figures are intended to represent and how to read them.

Comment 19: PSD permit review should be discussed as to how this program will benefit visibility. Please make direct statements on how DE has committed to review PSD actions in a way that supports progress goals in the regional haze program.

Response: Section 3 of Delaware's Regulation 1125 contains Delaware's PSD (Prevention of Significant Deterioration) program, and requires Delaware to review PSD actions with consideration of visibility impacts. It is designed to prevent adding new (or modified) source emissions increases without determining if they will impact air quality or Class I areas adversely. The proposed SIP has been revised to reflect this.

Comment 20: Page 87 – The State provides a good description on prescribed burning. Can you discuss whether visibility impacts at Class I areas are considered when issuing a burning authorization? If not, would the State consider adding this provision to make a more direct connection between visibility protection and prescribed burning activities?

DRAFT

Response: Source apportionment studies and emissions inventory data show that agricultural and forestry management woodsmoke is insignificant relative to visibility. Because of this Delaware does not believe that it is necessary to specifically consider visibility impacts from agricultural and forestry burns when issuing burn authorizations.

Comment 21: Final modeling by Northeast States for Coordinated Air Use Management (NESCAUM) is identified for 2008. Significant issues have been raised regarding these final runs. These runs seem to contradict assumptions and possibly go against known controls in other States. Please add a significant discussion on these differences in regards to emission inventory assumptions, uncertainty, and differences from both MANE-VU and VISTAS results.

Response: Delaware has revised the proposed SIP to clarify that Delaware does not significantly impact any of VISTAS Class I areas (see response to comment 11 above). All non-Brigantine Class I area references have been deleted. Because of those deletions/revisions, the comment is no longer applicable to this proposed SIP.

Comment 22: A detailed discussion of emission/modeling uncertainty and the conflict with the VISTAS modeling is needed. The final modeling conducted by MANE-VU is not enough for DE. Inclusion of VISTAS modeling, performance, and AOI is important to the impacts since DE contributes to Class I areas in WV. The latest "Best and Final" MANE-VU modeling runs indicate that a Class I area in WV may not be meeting the URP. Delaware must explain this discrepancy and could discuss it in the context that VISTAS concluded that the URP would be met.

Response: Delaware has revised the proposed SIP to clarify that Delaware does not significantly impact any of VISTAS Class I areas. See response to comment 21 above.

Comment 23: Section 12 of the Draft SIP discusses the options for action following the five-year review. However, the document does not provide any criteria that DE will use in evaluating the five-year progress report to decide which of the listed actions would be indicated. Please include discussion of the anticipated criteria that DE will use to both evaluate the progress at the five-year review and to select the course of action that will be taken based upon that review.

Response: Section 12 of the draft SIP refers to a future SIP submittal, to be submitted to EPA five (5) years after this SIP. Delaware does not agree that it is necessary to include criteria to be used in a future SIP within this SIP.

Comment 24: Page 16, third paragraph – The Fish & Wildlife Service and National Park Service received the Delaware SIP on April 28, 2008. Please adjust the date indicating the start of DE's FLM draft SIP review.

Response: April 28, 2008 is the date in the *draft* SIP.

DRAFT