

From: [Salazer, Holly](#)
To: [Held, Renae \(DNREC\)](#)
Cc: [King, Kirsten L](#); [Peters, Melanie](#); [Shepherd, Don](#); [Stacy, Andrea](#); [Miller, Debra C](#); ralph.perron@usda.gov; [Allen, Tim](#); [Megan Goold](#)
Subject: NPS Response to Delaware draft Visibility SIP for Second Implementation Period (2018-2028)
Date: Friday, April 09, 2021 6:15:44 PM
Attachments: [NPS letter to DE 2018.10.22.pdf](#)

Hello Renae,

The National Park Service (NPS) Air Resources Division (ARD) appreciates the opportunity to review the Delaware Department of Natural Resources and Environmental Controls (DNREC) February 2021 draft of Delaware's Visibility State Implementation Plan (SIP) for the Second Implementation Period (2018-2028). This email summarizes our review and serves as documentation of NPS ARD conclusions and recommendations resulting from formal regional haze consultation as required by 42 U.S.C. §7491(d).

While Delaware does not have any NPS managed Class I areas, emissions from sources in the state affect visibility at Shenandoah National Park (NP) in Virginia. We appreciate your continued involvement in the Mid-Atlantic Northeast Visibility Union (MANE-VU) and your commitment to reducing pollutants in the region to help improve visibility in all Class I areas. In general, we commend DNREC for doing a good job outlining and incorporating the technical analyses produced by MANE-VU in the draft SIP. We recommend the following improvements and clarifications as detailed below.

8.0 Delaware's Long Term Strategy

On pg. 59, DNREC is using two percent of modeled contribution to nitrate or sulfate at a MANE-VU Class I area as a threshold indicating visibility impairment by a state. This may not be protective enough. As an alternative, we recommend that DNREC consider state impacts relative to the natural visibility impairment on the most impaired days at Class I areas as the basis for evaluating cumulative state contributions to visibility impairment in Class I areas. For example, the natural visibility condition on the 20% most impaired days at Shenandoah NP is 26.9 inverse megameters (Mm^{-1}) or 9.5 deciviews (dv), the DNREC could consider a state's contribution to this Class I condition specifically.

8.3 Modeling and Source Attribution Studies

On pg. 65, the draft SIP states:

"CALPUFF modeling results used for comparison with the trajectory analyses include states having an impacting electricity generating unit (EGU) source or industrial, commercial, and institutional (ICI) source with at least a 1 Mm^{-1} light extinction impact to a Class I area."

A 1 Mm^{-1} threshold for individual source significance is not protective enough. Natural conditions on the 20% most impaired days at Shenandoah NP is 26.9 Mm^{-1} or 9.5 dv. When compared to these natural conditions, 1 Mm^{-1} represents 3.7% (0.38 dv) of total extinction.

8.13.1 National Park Service Source Evaluation Request

On pg. 78, we recommend clarifying language characterizing NPS ARD communication with Delaware and other MANE-VU states from February 2017 to March 2018 as informal early engagement in the

SIP development process. The formal Federal Land Manager consultation is from February 11, 2021 to April 12, 2021.

Furthermore, we note that DNREC did not include our October 2018 letter updating the NPS ARD source selection recommendations for four-factor analysis (October 2018 letter attached). In our October 2018 letter we recommended that DNREC conduct four-factor analyses on two facilities, Delaware City Refinery and Hay Road Energy Center, not Indian River Generating Station. As we have commented to MANE-VU and individual states, we believe the 3 Mm^{-1} threshold used to select sources subject to four-factor analysis is too high. This threshold—equivalent to an approximately 1 dv change—does not adequately consider cumulative visibility impacts or those that may occur at Class I areas below that threshold.

Now, in light of 2017 National Emissions Inventory (NEI) and 2020 Clean Air Markets Division (CAMD) modeling results, we no longer recommend a four-factor analysis for Hay Road Energy Center. We continue to recommend that a four-factor analysis be completed for Delaware City Refinery. A robust four-factor analysis includes evaluation of the four statutory factors (40 CFR § 51.308 d 1):

1. costs of compliance,
2. the time necessary for compliance,
3. the energy and non-air quality environmental impacts of compliance, and
4. the remaining useful life.

In contrast, the current draft SIP addresses the Delaware City Refinery with a high-level inventory of emission unit controls and limits. This is not an adequate demonstration of pollution control effectiveness and is not a substitute for a true four-factor analysis.

9.4 MANE-VU "Asks"

On pg. 89, the draft SIP states in bullet three,

"Because all MANE-VU Class I areas are monitoring better than rate of progress requirements and have already made progress towards meeting 2028 reasonable progress goals, the state workload for performing 4-factor analyses was considered and it was agreed to not seek a more stringent threshold."

We recognize that Class I areas affected by Delaware emissions are ahead of uniform rate of progress (URP) goals. However, as explicitly discussed in the preamble to the 2017 final Regional Haze Rule (82 FR 380), this does not justify the decision to delay or forego reasonable controls. The URP is not a safe harbor that can be used to stall reasonable progress toward the ultimate goal of no human caused visibility impairment in Class I areas.

In addition, we understand that staff workload can be a factor in timely completion of a four-factor analysis but disagree that workload should be a primary factor in determining the threshold for a four-factor analysis. The use of the MANE-VU threshold of 3 Mm^{-1} does not result in a large number of sources for a four-factor analysis. In working with all 50 states, we are aware of several states that have chosen more stringent thresholds even with existing state workloads. We encourage Delaware and other MANE-VU states to not consider workloads as a factor in determining thresholds for four-factor analyses.

We welcome the opportunity for further dialogue with you as Delaware progresses to a final SIP revision. If you have any questions, do not hesitate to reach out to us. Also, please notify us once the state begins the public review process and if, or when, a public hearing may be scheduled.

Thank you,

Holly Salazer

Holly S. Salazer

Regional Air Resources Coordinator

National Park Service

Interior Region 1, North Atlantic - Appalachian

Penn State Univ.

108 Buckhout Lab

University Park, PA 16802

Office: (814) 865-3100

Cell: (814) 321-3309

File Code: 2580
Date: March 31, 2021

Mr. David F. Fees
Director, Delaware Division of Air Quality
100 W. Water Street, Suite 6A
Dover, Delaware 19904

Dear Mr. Fees,

On February 11, 2021 the State of Delaware submitted a draft State Implementation Plan for Regional Haze, describing your proposal to continue improving air quality by reducing regional haze impacts at mandatory Class I areas across the region. We appreciate the opportunity to work closely with your State 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 our Class I areas.

This letter acknowledges that the U.S. Department of Agriculture, U.S. Forest Service, has received and conducted a substantive review of your proposed Regional Haze State Implementation Plan. This review satisfies your requirements under the federal regulations 40 C.F.R. § 51.308(i)(2). 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 authority to approve the document.

We have one comment based on our review. In Section 8.11 (PSD and New Source Review), on page 76, we request that that you change the language in the first paragraph from “located within 100 kilometers of the Class I area, or within a larger radius on a case-by-case basis,” (which appears to be based on a March 19, 1979 EPA memorandum to Regional Administrators) to “located generally within a 100 kilometer range, however, impacts from larger sources need to be considered at distances greater than 100 kilometers when such impacts reasonably could affect the outcome of the Class I area analysis.” Our requested change is based on the S(<https://www.epa.gov/sites/production/files/2015-07/documents/class1.pdf>).



We look forward to your response required by 40 C.F.R. § 51.308(i)(3). For further information, please contact Ralph Perron (ralph.perron@usda.gov) or Bret Anderson (bret.a.anderson@usda.gov).

Again, we appreciate the opportunity to work closely with the State of Delaware. 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/ Derek Ibarguen

DEREK J.S. IBARGUEN

Forest Supervisor

cc: Shawn Olson, James Gries, John Sinclair, Diane Taliaferro, Ralph Perron, Bret Anderson, Renae Held (renae.held@delaware.gov)

Appendix 4-1

Federal Land Manager Comments and Delaware's Response

PARK SERVICE

Comment 1:

8.0 Delaware's Long-Term Strategy

On pg. 59, DNREC is using two percent of modeled contribution to nitrate or sulfate at a MANE-VU Class I area as a threshold indicating visibility impairment by a state. This may not be protective enough. As an alternative, we recommend that DNREC consider state impacts relative to the natural visibility impairment on the most impaired days at Class I areas as the basis for evaluating cumulative state contributions to visibility impairment in Class I areas. For example, the natural visibility condition on the 20% most impaired days at Shenandoah NP is 26.9 inverse megameters (Mm^{-1}) or 9.5 deciviews (dv), the DNREC could consider a state's contribution to this Class I condition specifically.

Response:

Delaware used the threshold that was agreed to by all MANE-VU states, including the Class I states. The threshold was determined after extensive consultation between the MANE-VU states. MANE-VU Class I states believed that the threshold was sufficient to achieve 2028 reasonable progress goals.

Comment 2:

8.3 Modeling and Source Attribution Studies

On pg. 65, the draft SIP states:

“CALPUFF modeling results used for comparison with the trajectory analyses include states having an impacting electricity generating unit (EGU) source or industrial, commercial, and institutional (ICI) source with at least a $1 Mm^{-1}$ light extinction impact to a Class I area.”

A $1 Mm^{-1}$ threshold for individual source significance is not protective enough. Natural conditions on the 20% most impaired days at Shenandoah NP is $26.9 Mm^{-1}$ or 9.5 dv. When compared to these natural conditions, $1 Mm^{-1}$ represents 3.7% (0.38 dv) of total extinction.

Response:

Delaware used the threshold that was agreed to by all MANE-VU states, including the Class I states. The threshold was determined after extensive consultation between the MANE-VU states. MANE-VU Class I states believed that the threshold was sufficient to achieve 2028 reasonable progress goals.

Comment 3:

9.4 MANE-VU “Asks”

On pg. 89, the draft SIP states in bullet three,

“Because all MANE-VU Class I areas are monitoring better than rate of progress requirements and have already made progress towards meeting 2028 reasonable progress goals, the state workload for performing 4-factor analyses was considered and it was agreed to not seek a more stringent threshold.”

We recognize that Class I areas affected by Delaware emissions are ahead of uniform rate of progress (URP) goals. However, as explicitly discussed in the preamble to the 2017 final Regional Haze Rule (82 FR 380), this does not justify the decision to delay or forego reasonable controls. The URP is not a safe harbor that can be used to stall reasonable progress toward the ultimate goal of no human caused visibility impairment in Class I areas.

In addition, we understand that staff workload can be a factor in timely completion of a four-factor analysis but disagree that workload should be a primary factor in determining the threshold for a four-factor analysis. The use of the MANE-VU threshold of 3 Mm^{-1} does not result in a large number of sources for a four-factor analysis. In working with all 50 states, we are aware of several states that have chosen more stringent thresholds even with existing state workloads. We encourage Delaware and other MANE-VU states to not consider workloads as a factor in determining thresholds for four-factor analyses.

Response:

Delaware used the threshold that was agreed to by all MANE-VU states, including the Class I states. The threshold was determined after extensive consultation between the MANE-VU states. MANE-VU Class I states believed that the threshold was sufficient to achieve 2028 reasonable progress goals.

State workload was not the sole factor in determining a threshold. The following bullets highlight the rationale for choosing the 3 Mm^{-1} threshold:

- A "Top-10 impacting units at each Class I area" type of approach was considered in the early stages of developing the analysis. However, it was felt that this type of approach would have an unfair balance of requiring more stringent criteria for some facilities near clearer Class I areas than would be applied to those affecting hazier Class I areas. The MANE-VU states agreed to identify a uniform threshold that approximates the average of the top 10 most potentially contributing units. Therefore, it was felt that a threshold based on an absolute Mm^{-1} magnitude would be more appropriate.
- Preliminary analysis showed that a 3 Mm^{-1} threshold would approximate the top 7 to 26 impacting emissions units, depending on Class I area.
- A higher (i.e. less restrictive) threshold of 10 Mm^{-1} and lower (i.e. more restrictive) thresholds of 1 and 2 Mm^{-1} were considered. However, preliminary analysis showed that a cutoff of 5 or 10 Mm^{-1} would only have the potential to bring in a very small number of units. Lower thresholds of 2 and 1 Mm^{-1} roughly doubled and tripled the number of units identified for 3 Mm^{-1} with diminishing potential visibility benefit per analysis required.

- Because all MANE-VU Class I areas are monitoring better than rate of progress requirements and have already made progress towards meeting 2028 RPGs, the state workload for performing 4-factor analyses was considered and it was agreed to not seek a more stringent threshold. This approach limited the “Ask” to those units with the greatest potential for visibility improvements per analysis conducted.

Comment 4:

8.13.1 National Park Service Source Evaluation Request

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Furthermore, we note that DNREC did not include our October 2018 letter updating the NPS ARD source selection recommendations for four-factor analysis (October 2018 letter attached). In our October 2018 letter we recommended that DNREC conduct four-factor analyses on two facilities, Delaware City Refinery and Hay Road Energy Center, not Indian River Generating Station. As we have commented to MANE-VU and individual states, we believe the 3 Mm⁻¹ threshold used to select sources subject to four-factor analysis is too high. This threshold—equivalent to an approximately 1 dv change—does not adequately consider cumulative visibility impacts or those that may occur at Class I areas below that threshold.

Now, in light of 2017 National Emissions Inventory (NEI) and 2020 Clean Air Markets Division (CAMD) modeling results, we no longer recommend a four-factor analysis for Hay Road Energy Center. We continue to recommend that a four-factor analysis be completed for Delaware City Refinery. A robust four-factor analysis includes evaluation of the four statutory factors (40 CFR § 51.308 d 1):

1. costs of compliance,
2. the time necessary for compliance,
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4. the remaining useful life.

In contrast, the current draft SIP addresses the Delaware City Refinery with a high-level inventory of emission unit controls and limits. This is not an adequate demonstration of pollution control effectiveness and is not a substitute for a true four-factor analysis.

Response:

Delaware has revised the language regarding FLM consultation in Section 8.13. Also, Delaware has included a copy of the October 2018 NPS letter in Appendix (8-12) and discussed the letter in Section 8.13.1 of the SIP.

Regarding a four-factor analyses for the Delaware City Refinery: Through the SIP planning process, MANE-VU states decided to focus on source categories that had larger numbers of sources and overall emissions; specifically Electric Generating Units (EGUs), Industrial Commercial and Institutional (ICI) boilers, and fuel oil combustion.

In addition, in its 2019 Regional Haze Guidance¹, EPA gives states the flexibility to identify sources for which it will perform a four-factor analysis:

“A key flexibility of the regional haze program is that a state is not required to evaluate all sources of emissions in each implementation period. Instead, a state may reasonably select a set of sources for an analysis of control measures. The guidance that an analysis of control measures is not required for every source in each implementation period is based on CAA section 169A(b)(2), which requires each SIP to contain emission limits, schedules of compliance, and other measures as may be necessary to make reasonable progress, but (in marked contrast to the statutory provision for BART) does not provide direction regarding the particular sources or source categories to which such emission limits, etc., must apply. Selecting a set of sources for analysis of control measures in each implementation period is also consistent with the Regional Haze Rule, which sets up an iterative planning process and anticipates that a state may not need to analyze control measures for all its sources in a given SIP revision.”

Finally, please see the response to “Comment 3” above regarding the use of a 3 Mm⁻¹ threshold used to select sources subject to four-factor analysis (MANE-VU “Ask #2”).

FOREST SERVICE

Comment 1:

In Section 8.11 (PSD and New Source Review), on page 76, we request that that you change the language in the first paragraph from “located within 100 kilometers of the Class I area, or within a larger radius on a case-by-case basis,” (which appears to be based on a March 19, 1979 EPA memorandum to Regional Administrators) to “located generally within a 100 kilometer range, however, impacts from larger sources need to be considered at distances greater than 100 kilometers when such impacts reasonably could affect the outcome of the Class I area analysis.” Our requested change is based on the October 19, 1992 “Clarification of Prevention of Significant Deterioration (PSD) Guidance for Modeling Class I Area Impacts” EPA memorandum to Regional Offices (<https://www.epa.gov/sites/production/files/2015-07/documents/class1.pdf>).

Response:

Section 8.11 of the SIP has been updated to include information about the 1992 EPA PSD Guidance.

¹ Guidance on Regional Haze State Implementation Plans for the Second Implementation Period. EPA. August 20, 2019. Page 9.