

**DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL**  
**DIVISION OF AIR QUALITY**

Statutory Authority: 7 Delaware Code, Section 6010(a) and (c); (7 **Del.C.** §6010(a) & (c))

**GENERAL NOTICE**

**Secretary's Order No.: 2022-A-0013**

**Approving Final Revisions to Delaware's State Implementation Plan ("SIP") Addressing Regional Haze**

**Date of Issuance: July 13, 2022**

**Effective Date of the Amendment: August 11, 2022**

Under the authority vested in the Secretary of the Department of Natural Resources and Environmental Control ("Department" or "DNREC"), and pursuant to 7 *Del.C.* §6010(a) and (c), and all other relevant statutory authority, the following findings of fact based on the record, reasons and conclusions are entered as an Order of the Secretary in the above-referenced promulgation.

**Background, Procedural History and Findings of Fact**

This Order relates to the Department's proposed revisions to Delaware's State Implementation Plan ("SIP") addressing Regional Haze. The federal Clean Air Act ("CAA") mandates protection of visibility in Class 1 federal areas, such as national parks, forests, and wilderness areas. Under the 1999 Regional Haze Rule of the United States Environmental Protection Agency ("EPA"), states are required to develop a series of SIPs to reduce visibility impairment, with the express intent that, by 2064, the visibility in national parks and wilderness areas (federally designated as "Class 1" areas) will be returned to natural conditions. States are required to develop a series of SIPs to address visibility impairment in Class 1 areas and make reasonable progress toward achieving natural visibility conditions. The Department's proposed revisions to Delaware's Visibility SIP cover the second implementation period of 2018 - 2028.

A SIP is a state plan that identifies how that state will attain and maintain air quality that conforms to federal requirements. The SIP is a complex, fluid document containing regulations, source-specific requirements, and non-regulatory items such as plans and inventories. Delaware's initial SIP was approved by the EPA on May 31, 1972 and is compiled in Title 40 of the Code of Federal Regulations ("CFR") at Part 52, Subpart I.

The Department periodically submits revisions to Delaware's SIP as required by the CAA to address air quality nonattainment and maintenance issues. The CAA requires that any proposed SIP revision be made available for public comment and presented at a public hearing prior to submitting to EPA for adoption.

"Regional Haze" is defined as visibility impairment that is caused by the emission of air pollutants from numerous sources located over a wide geographical area. These emissions are transported over large regions and impact areas that include the entire State of Delaware. The CAA mandates protection of visibility in Class 1 areas through the EPA's Regional Haze Program. As noted above, the purpose of this program is to return the visibility conditions in Class 1 areas to natural conditions by 2064.

Class 1 areas are specifically defined as national parks exceeding 6,000 acres, wilderness areas, national memorial parks exceeding 5,000 acres, on international parks that were in existence before 1977. Visibility impairing pollutants include sulfur dioxide ("SO<sub>2</sub>"), nitrogen oxides ("NO<sub>x</sub>"), particulate matter ("PM"), volatile organic compounds ("VOCs"), and ammonia.

In 1999, and in various revisions that extend through 2017, the EPA finalized the Regional Haze Rule. This rule calls for state, tribal and federal agencies to work together to improve visibility in 156 national parks and wilderness areas. As noted previously, under the Regional Haze Rule, states are required to develop a series of SIPs to address visibility impairment in Class 1 areas and make reasonable progress toward achieving natural visibility conditions. Each plan covers a ten-year period. On September 25, 2008, Delaware submitted its Visibility SIP to the EPA. That SIP, covering the first implementation period of 2008 - 2018, was approved on July 19, 2011. The currently proposed Visibility SIP covers the second implementation plan of 2018 - 2028.

To aid states in their efforts to develop a technical basis for their SIPs, five multistate regional planning organizations have been established. These organizations provide a forum for state air control administrators to develop regional strategies to address regional haze and to coordinate with other regions.

Delaware's proposed Visibility SIP was developed based on consultations and work products of the Mid-Atlantic Northeast Visibility Union Regional Planning Organization, of which Delaware is a member. There are seven Class 1 areas located in the Mid-Atlantic and Northeast corridor: Brigantine Wilderness, New Jersey; Lye Brook Wilderness, Vermont; Presidential Range-Dry River Wilderness, New Hampshire; Acadia National Park, Maine; Roosevelt Campobello International Park, New Brunswick; and Moosehorn Wilderness, Maine. Delaware does not have any Class 1 areas within its

boundaries.

The main components of Visibility SIPs for states without Class 1 areas include a long-term strategy, enforceable emission limitations, compliance schedules, and other measures necessary to make reasonable progress toward visibility improvement in affected Class 1 areas, such as emission trends, analysis of trends in emissions of visibility impairing pollutants, and emission reduction strategies. The states within the Mid-Atlantic Northeast Visibility Union Regional Planning Organization work together to develop coordinated strategies that will help Class 1 states improve visibility.

The Department has the statutory basis and legal authority to develop Delaware's proposed Visibility SIP, pursuant to 7 *Del. C.* §6010(a) and (c), and published the General Notice of this proposed SIP revision, and of the public hearing to be held in this matter on December 29, 2021, in the December 1, 2021, edition of the *Delaware Register of Regulations*. No members of the public attended that hearing. The hearing record ("Record") remained open for receipt of public comment through January 13, 2022. It should be noted that all notification and noticing requirements concerning this matter were met by the Department. Proper notice of the hearing was provided as required by law.

Subsequent to the aforementioned public hearing, but prior to the close of the public comment period referenced above, the Department received written comments regarding Delaware's proposed Visibility SIP, from both the Sierra Club, et al. ("Sierra Club"), and from Michael Gordon, Chief, Planning and Implementation Branch, Air and Radiation Division, Region III, EPA ("EPA"). Accordingly, the Department's Division of Air Quality ("DAQ") subsequently provided to Hearing Officer Lisa A. Vest a Technical Response Memorandum ("TRM") to provide a summary of the comments received, and the DAQ's response to the same. The TRM is discussed in more detail below.

Following her review of the Record, Hearing Officer Vest prepared her Hearing Officer's Report, dated July 5, 2022 ("Report"), which expressly incorporated into the Record both the Department's proposed *revised* Visibility SIP and the DAQ's TRM, attached to her Report as Appendices "A" and "B," respectively. The Report documents the proper completion of the required regulatory development process, establishes the Record, and recommends the adoption of the Department's proposed revised Visibility SIP, as referenced above.

### **Reasons and Conclusions**

The Department is currently proposing the adoption of the aforementioned *revised* Visibility SIP regarding Regional Haze. Specifically, this SIP addresses visibility impairment in Class 1 areas, makes reasonable progress toward achieving natural visibility conditions, and covers the second implementation period of 2018 - 2028.

Ten comments in total were received by the Department in this matter, six from Sierra Club and four from EPA. As noted above, the Department's TRM acknowledges each of those comments, and thoroughly responds to the concerns voiced by both the Sierra Club and the EPA. For brevity's sake (given that the TRM is over forty pages in length), Hearing Officer Vest's Report defers to the DAQ's TRM in its entirety for a comprehensive understanding of the comments received by the Department in this matter, as well as the DAQ's formal responses to the same.

The following section of this Order serves as a summary of the DAQ's responses to the comments received regarding Delaware's proposed Visibility SIP from both Sierra Club and EPA.

#### **SIERRA CLUB:**

1. Sierra Club commented that the Department relied on "...unenforceable and unverifiable emission reductions..." from the anticipated retirement of the Indian River Generating Station ("Indian River") in Sussex County, Delaware, rather than conduct a four-factor analysis for that facility. In response, the Department explains that, because of the low modeled visibility impact of Indian River as a whole, Delaware chose not to perform a four-factor analysis on that facility, as it was not necessary to ensure reasonable further progress during the second implementation period (2018 - 2028).

2. In response to Sierra Club noting that DNREC must "...ensure the most effective use of control technologies on a year-round basis to consistently minimize emissions of haze precursors, or obtain equivalent alternative emission reductions," the Department believes that proper maintenance of the boiler/control units and the inspection of reports/data and relative accuracy test audits ("RATA") submitted by Indian River have shown continued compliance with the permitted emission limit rates. Further, Delaware does not believe that EPA's Clean Air Markets Division ("CAMD") data is an accurate indicator of boiler performance for determining compliance with the permitted emission rates.

3. Sierra Club states that DNREC must include an enforceable retirement date for Indian River Unit 4 (the boiler) and must strengthen the emission limits applicable to the facility prior to that date. In response, the Department notes that since an exact expected shutdown for the boiler has not yet been determined by that facility, Delaware is unable to include an enforceable retirement date in its SIP. Additionally, because the low modeled visibility impact of that facility was determined to have a low impact on visibility impairment, the Department does not believe that it necessary to strengthen the emission limits for Unit 4 in order to make further reasonable progress.

4. In response to Sierra Club stating that DNREC's Visibility SIP must include a thorough review of the Delaware City Refinery ("DCR"), including a four-factor analysis under the reasonable progress criteria, the Department disagrees, noting that Delaware chose not to perform such an analysis on that facility because its impact on visibility impairment was low. Additionally, Delaware believes the DCR is currently well controlled through existing State regulations and several Consent

Decreases.

5. Sierra Club states that the Department's Visibility SIP provides no indication that all of the DCR's Consent Decree limits were incorporated into enforceable permits, or that the Consent Decree itself still binds that facility. In response, the Department disagrees with this statement. The TRM notes that the DCR's Consent Decree is still binding for the current owners of that facility, PBF Energy. The DAQ further notes in the TRM that the DCR has had many owners since going on-line in 1956. Since PBF Energy has not filed any Motion to Terminate Consent Decree with the court, the termination order referenced by Sierra Club applies to Motiva Enterprises, LLC (a previous owner of that facility), and not the current owner.

6. Referencing EPA's July 2021 "Clarification Memo," Sierra Club alleges that certain aspects of Delaware's Visibility SIP are "fundamentally flawed" and cannot be approved, specifically noting that "... EPA made clear that States must secure additional emissions reductions that build on progress already achieved; there is an expectation that reductions are additive to ongoing and upcoming reductions under other CAA programs." In response, the Department notes that the proposed Visibility SIP details several "new" control measures and one facility shutdown (McKee Run) that have been adopted since 2007. The DAQ believes that the implementation of these new control measures (as detailed in the TRM), along with the shutdown of McKee Run, will build upon the progress that Delaware has already achieved in improving visibility in Class I areas. Additionally, Delaware has provided federal register notice citations regarding EPA's approval of regulatory amendments into Delaware's SIP for reference.

It should be noted that the Department's experts in DAQ made minor, non-substantive changes to the language contained in Delaware's proposed Visibility SIP in order to provide additional clarification with regard to the terms "old" versus "new" control measures or shutdowns. The DAQ's TRM notes that "new" control measures or shutdowns are those that were in place as of 2008 and later. These later measures or shutdowns were not included in Delaware's first Regional Haze SIP (submitted to EPA on September 24, 2008), since that SIP was well into development by 2008. Thus, they are considered "new" to Delaware's Regional Haze SIP, post-2007.

Sections 8.6.1, 8.6.2, 8.6.3 and 8.6.5 of the proposed Visibility SIP describe "Delaware-specific measures." The TRM notes that control measures that had been accepted into Delaware's SIP and were also included in Delaware's first Regional Haze SIP (in 2008, as noted above) were originally referred to as "existing." Since the DAQ now believes that the use of the word "existing" may be unclear, Delaware has revised the proposed Visibility SIP text in the above referenced sections to list the aforementioned "Delaware-specific measures" as "old." These changes are specifically set forth in the Department's TRM, and are reflected in the proposed revised Visibility SIP, which again is attached hereto as Appendix "A" and expressly incorporated herein.

### **EPA - REGION III:**

The Department's responses to EPA's comments received in this matter provide various clarifications to the information contained in the proposed *revised* Visibility SIP and point the reader to specific sections of the document that address those concerns. The DAQ's TRM is self-explanatory with regard to those responses, however, the following is a brief summary of the same:

1. Section 8.6, pages 76-81, of the proposed Visibility SIP includes a list of regulatory amendments ("control measures") that Delaware is relying on to make reasonable progress. Those regulatory amendments have been accepted into Delaware's SIP. As previously noted above, Delaware has also added federal register notice citations regarding EPA approval of regulatory amendments into Delaware's SIP for reference. Further, Delaware included in Attachment 10-2 to the SIP copies of the three Calpine Title V permits that had new nitrogen oxide ("NOx") emission limits added (see Section 10.1 and 10.5 of the SIP).

2. EPA commented that, if Delaware concludes that the existing controls at a selected source are necessary to make reasonable progress, then Delaware must adopt emissions limits based on those controls as part of its long-term strategy for the second planning period and include those limits in its SIP (to the extent they do not already exist in the SIP). In response, the Department notes that Delaware had several sources for which it conducted a four-factor analysis, but did not identify any new/upgraded control measures that were reasonable to implement (see Section 10.0 of the SIP). Further, Delaware's existing regulations include enforceable emission limits applicable to the facilities, and the limits are codified in the Title V permits for each of the facilities.

3. In response to EPA's statement that the Title V permits for Delaware City Energy Center and West Energy Center were not included in the SIP, the Department notes that the same are located in Appendix 10-2 of the SIP, pages 43 and 75, respectively.

4. The EPA states that the proposed Visibility SIP would benefit from additional information and context to support its conclusions, specifically, regarding dollars-per-ton cost estimates in the Cost of Compliance analysis and offering explanations as to why some such estimates are deemed to be economically infeasible. In response, the Department points to specific sections and pages of the proposed Visibility SIP that contain cost analyses for Christiana Calpine, Edgemoor Calpine, Christiana Energy Center Calpine, Delaware City Energy Center Calpine, and West Energy Center Calpine. Further information regarding Technologically Infeasible Controls and Economically Infeasible Controls are provided therein as well.

Again, the only changes made to Delaware's proposed Visibility SIP during the post-hearing phase of this promulgation were non-substantive in nature, and the minor clerical corrections (changing the word "existing" to "old" as noted above) were made to provide additional clarification to the language already contained therein.

Based on the Record developed by the Department's experts and established by the Hearing Officer's Report, I find that the Department has provided appropriate reasoning regarding the need for the proposed revised Visibility SIP regarding Region Haze, and that the same is well-supported, as it addresses visibility impairment in Class 1 areas, makes reasonable progress toward achieving natural visibility conditions, and covers the second implementation period of 2018 - 2028. I further find that the Department's experts fully developed the Record to support adoption of the proposed *revised* Visibility SIP as final.

Thus, for the reasons stated above, the recommendations of the Hearing Officer are hereby adopted, and I direct that Delaware's proposed *revised* Visibility SIP be promulgated as final, in the customary manner provided by law.

In conclusion, the following reasons and conclusions are hereby entered:

1. The Department has the statutory basis and legal authority to act with regard to the proposed *revised* Visibility SIP regarding Regional Haze, pursuant to 7 *Del.C.* §6010(a) and (c);
2. The Department has jurisdiction under its statutory authority to issue an Order adopting the proposed *revised* Visibility SIP regarding Regional Haze as final;
3. The Department provided adequate public notice of the proposed Visibility SIP regarding Regional Haze, and all proceedings in a manner required by the law and regulations, and provided the public with an adequate opportunity to comment on the same, both at the time of the public hearing held on December 29, 2021 and subsequent to the time of the public hearing (through January 13, 2022), in order to consider all public comment on the same before making any final decision;
4. The adoption of the proposed *revised* Visibility SIP regarding Regional Haze will enable the Department to address visibility impairment in Class 1 areas, make reasonable progress toward achieving natural visibility conditions, and cover the second implementation period of 2018 - 2028;
5. The Department's proposed Visibility SIP regarding Regional Haze, as initially published in the December 1, 2021, *Delaware Register of Regulations*, vetted to the public at the aforementioned public hearing held on December 29, 2021, and then non-substantively *revised* to provide grammatical clarification to the language contained therein, is adequately supported, is not arbitrary or capricious, and is consistent with the applicable laws and regulations. Consequently, Delaware's proposed *revised* Visibility SIP regarding Regional Haze should be approved as a final revision to Delaware's SIP document, which shall become effective immediately upon the signing of this Order;
6. The Hearing Officer's Report, including its established Record and the recommended proposed *revised* Visibility SIP regarding Regional Haze, as set forth therein in Appendix "A," is hereby adopted to provide additional reasons and findings for this Order;
7. The Department has an adequate Record for its decision, and no further public hearing is appropriate or necessary; and
8. The Department shall submit this Order approving as final the proposed *revised* Visibility SIP regarding Regional Haze to the *Delaware Register of Regulations* for publication in its next available issue and provide such other notice as the law and regulation require, as the Department determines is appropriate.

Lisa Borin Ogden, Deputy Sec., as Acting Sec.

Shawn M. Garvin  
Secretary

**\*Please Note: Due to the size and formatting requirements of the notice documents, they are being attached here as a series of PDF documents:**

<http://regulations.delaware.gov/register/august2022/general/DE DRAFT 2018 Regional Haze SIP 7-12-22 Bold-Bracketed.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 1-1 Selection of States for MANE-VU RH Consultation.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 3-1 Final Interim Principles for Regional Planning.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 4-1 Federal Land Manager Comments and Delaware Response.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 7-1 MARAMA Inventory TSD 2011 Gamma Emissions Inventory.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 7-2 OTC MANE-VU 2011 Based Modeling Platform Support Document.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 8-1 Nature of Fine Particle and RH Air Quality Problems.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 8-2 Contributions to RH in the NE and Mid-Atlantic.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 8-3 MANE-VU Updated QC over d Contribution Assessment - Final.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 8-4 2016 Updates to the Assessment of Reasonable Progress.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 8-5 2016 MANE-VU CALPUFF Modeling Report.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 8-6 RH Metrics Trends and HYSPLIT Trajectory Analyses.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 8-7 McKee Run Permit Cancellation Letter.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 8-8 Recommendation on Approaches to Selecting 20 Percent Most Impaired Days.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 8-9 Analysis of Speciation Trends Network Data for Delaware.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 8-10 Inter-RPO StateTribal and FLM Consultation Framework.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 8-11 MANE-VU RH Consultation Plan.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 8-12 MANE-VU Regional Haze Consultation Report.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 8-13 National Park Service Letters.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 8-14 Agreement-Governing-the-Acquisition-and-Operation-of-Delaware-City-Refinery.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 9-1 MANE-VU Intra-Regional Ask.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 9-2 Inter-RPO Consultation Briefing Book.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 9-3 Intra-Regional Ask.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 9-4 MANE-VU FLM Ask.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 10-1 Facility Responses to Ask Information Requests.pdf>

<http://regulations.delaware.gov/register/august2022/general/Appendix 10-2 Calpine Title V Operating Permits.pdf>