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January 13, 2022

By E-Mail

Lisa Vest, Hearing Officer
Office of the Secretary
Department of Natural Resources and Environmental Control
89 Kings Highway, Dover, DE 19901
DNRECHearingComments@delaware.gov

Re: Delaware's Draft Visibility State Implementation Plan (SIP) Revision

Dear Ms. Vest:

The Sierra Club, National Parks Conservation Association, Delaware Audubon Society, and Earthjustice respectfully submit these comments regarding the Department of Natural Resources and Environmental Conservation's (DNREC's) Draft Visibility State Implementation Plan Revision (Draft Haze Plan).¹

As explained in detail below, the Draft Haze Plan is arbitrary and unlawful because:

- (1) Rather than conduct a four-factor analysis for the Indian River Generating Station as required by the Clean Air Act (CAA) and the Regional Haze Rule, DNREC impermissibly relied on unenforceable and unverifiable emission reductions from the anticipated retirement Indian River.

¹ 25 DE Reg. 635 (Dec. 1, 2021).

- (2) DNREC fails to apply the required four-factor analysis to the Delaware City Refinery, the largest source of haze-causing pollution in the state.

The Draft Haze Plan should be withdrawn and re-proposed in a form that addresses these shortcomings. Specifically, DNREC must make the Indian River retirement date enforceable in 2027, or otherwise as soon as PJM has determined that adequate reliability measures have been implemented to enable the facility to permanently retire. Further, DNREC must apply the four-factor analysis to the Delaware City Refinery.

Commenting Groups

Sierra Club is a national nonprofit organization with 67 chapters and about 830,000 members dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth's ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. The Sierra Club has long participated in Regional Haze rulemaking and litigation across the country in order to advocate for public health and our nation's national parks.

National Parks Conservation Association ("NPCA") is a national organization whose mission is to protect and enhance America's national parks for present and future generations. NPCA performs its work through advocacy and education. NPCA has over 1.64 million members and supporters nationwide, with its main office in Washington, D.C. and 24 regional and field offices. NPCA is active nationwide in advocating for strong air quality requirements to protect our parks, including submission of petitions and comments relating to visibility issues, regional haze State Implementation Plans, global warming and mercury impacts on parks, and emissions from individual power plants and other sources of pollution affecting national parks and communities. NPCA's members live near, work at, and recreate in all the national parks, including those directly affected by emissions from Delaware's sources.

Delaware Audubon Society (DAS) is a 1,500 member state-wide non-profit Chapter of the National Audubon Society that advocates for a cleaner Delaware on behalf of birds that utilize our natural resources. DAS has tremendous concern for the natural environment around the Delaware City Refinery, especially the northern most heronry located at Pea Patch Island nearby.

Earthjustice is the nation's premier public interest environmental law organization, and works to protect people's health, to preserve magnificent places and wildlife, to advance clean energy, and to combat climate change.

I. LEGAL FRAMEWORK

A. The Clean Air Act's Visibility Provisions and the Regional Haze Rule

The Clean Air Act establishes "as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which

impairment results from manmade air pollution.” 42 U.S.C. § 7491(a)(1). To that end, the United States Environmental Protection Agency (“EPA”) issued the Regional Haze Rule, which requires the states (or EPA where a state fails to act) to make incremental, “reasonable progress” toward eliminating human-caused visibility impairment at each Class I area by 2064. 40 C.F.R. § 51.308(d)(1), (d)(3). Together, the Clean Air Act and EPA’s Regional Haze Rule require states to periodically develop and implement state implementation plans (“SIPs”), each of which must contain a long-term strategy encompassing *enforceable* “emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress toward the national goal.” 42 U.S.C. § 7491(b)(2); *see also* 42 U.S.C. § 7410(a)(2); 40 C.F.R. § 51.308.

In developing its long-term strategy, a state must consider its anthropogenic sources of visibility impairment and evaluate different emission reduction strategies including and beyond those prescribed by the best available retrofit technology (BART) provisions.² A state should consider “major and minor stationary sources, mobile sources and area sources.”³ A state must consider a number of factors in developing its long-term strategy including emissions limitations and schedules for compliance to achieve the reasonable progress goal, source retirement and replacement schedules, and the enforceability of emission limitations and control measures.⁴

A state’s reasonable progress analysis must consider the four factors identified in the Clean Air Act and regulations. *See* 42 U.S.C. § 7491(g)(1); 40 C.F.R. § 51.308(f)(2)(i) (“the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any potentially affected anthropogenic source of visibility impairment.”). A state:

Must include in its implementation plan a description of the criteria it used to determine which sources or groups of sources it evaluated and how the four factors were taken into consideration in selecting the measures for inclusion in its long-term strategy.⁵

In determining whether each state’s haze plan satisfies the statutory mandate to make reasonable progress, EPA reviews adherence to the above-mentioned criteria and whether the state follows the requirements to consult with other states and federal land managers, and reasonably considers the four statutory factors for reasonable progress. 40 C.F.R. §§ 51.308(d)(1)(iii)-(iv), (d)(3), (f).

B. EPA’s 2017 Revisions to the Regional Haze Rule

On January 10, 2017, the EPA revised the Regional Haze Rule to strengthen and clarify the reasonable progress and consultation requirements of the rule. *See generally* 82 Fed. Reg. 3078. In particular, the rule revisions make clear that states are to *first* conduct the required four-factor analysis for its sources, considering the four statutory factors, and *then* use the

² 40 C.F.R. § 51.308(f).

³ *Id.* § 51.308(f)(2)(i).

⁴ *Id.* § 51.308(f)(2)(iv)(C), (D), (F).

⁵ 40 C.F.R. § 51.308(f)(2)(i).

results from its four-factor analyses and determinations to develop the reasonable progress goals.⁶ Thus, the rule “codif[ies]” EPA’s “long-standing interpretation” of the SIP “planning sequence” States are required to follow:

- (1) [C]alculate baseline, current and natural visibility conditions, progress to date and the [Uniform Rate of Progress] URP;
- 2) [D]evelop a long-term strategy for addressing regional haze by evaluating the four factors to determine what emission limits and other measures are necessary to make reasonable progress;
- (3) [C]onduct regional-scale modeling of projected future emissions under the long-term strategies to establish [reasonable progress goals (RPGs)] and then compare those goals to the URP line; and
- (4) [A]dopt a monitoring strategy and other measures to track future progress and ensure compliance.⁷

Thus, the Regional Haze Rule makes clear that a state must conduct the four-factor analysis and cannot rely on uniform rate of progress as an excuse for failing to perform the core functions of the law:

The CAA requires states to determine what emission limitations, compliance schedules and other measures are necessary to make reasonable progress by considering the four factors. The CAA does not provide that states may then reject some control measures already determined to be reasonable if, in the aggregate, the controls are projected to result in too much or too little progress. Rather, the rate of progress that will be achieved by the emission reductions resulting from all reasonable control measures is, by definition, a reasonable rate of progress. . . . [I]f a state has reasonably selected a set of sources for analysis and has reasonably considered the four factors in determining what additional control measures are necessary to make reasonable progress, then the state’s analytical obligations are complete if the resulting RPG for the most impaired days is below the URP line. *The URP is not a safe harbor*, however, and states may not subsequently reject control measures that they have already determined are reasonable.⁸

If a state establishes reasonable progress goals that provide for a slower rate of improvement in visibility than the uniform rate of progress, the state must provide a technically “robust” demonstration, based on a careful consideration of the statutory reasonable progress factors, that “there are no additional emission reduction measures for anthropogenic sources or groups of sources” that can reasonably be anticipated to contribute to visibility impairment in affected Class I areas.⁹

To the extent that a state declines to evaluate additional pollution controls for any source relied upon to achieve reasonable progress based on that source’s planned retirement or

⁶ 82 Fed. Reg. 3078, 3090-91 (Jan. 10, 2017).

⁷ *Id.* at 3091.

⁸ *Id.* at 3093 (emphasis added).

⁹ 40 C.F.R. § 51.308 (f)(2)(ii)(A).

decline in utilization, it must incorporate those operating parameters or assumptions as enforceable limitations in the second planning period SIP. The Clean Air Act requires that “[e]ach state implementation plan . . . *shall*” include “enforceable limitations and other control measures” as necessary to “meet the applicable requirements” of the Act. 42 U.S.C. § 7410(a)(2)(A). The Regional Haze Rule similarly requires each state to include “enforceable emission limitations” as necessary to ensure reasonable progress toward the national visibility goal.¹⁰ Therefore, where the state relies on a source’s plans to permanently cease operations or projects that future operating parameters (*e.g.*, limited hours of operation or capacity utilization) will differ from past practice, or if this projection exempts additional pollution controls as necessary to ensure reasonable progress, then the state “must” make those parameters or assumptions into enforceable limitations.¹¹

Finally, the state’s SIP revisions must meet certain procedural and consultation requirements.¹² The state must consult with the Federal Land Managers (“FLMs”) and look to the FLMs’ expertise of the lands and knowledge of the way pollution harms them to guide the state to ensure SIPs do what they must to help restore natural skies. The rule also requires that in “developing any implementation plan (or plan revision) or progress report, the State must include a description of how it addressed any comments provided by the Federal Land Managers.”¹³

C. EPA’s July 8, 2021 Regional Haze Clarification Memorandum

On July 8, 2021, EPA issued a memo which additionally clarified certain aspects of the revised Regional Haze Rule and provided further information to states and EPA regional offices regarding their planning obligations for the Second Planning Period.¹⁴ EPA’s July 2021 “Clarification Memo” confirms that certain aspects of the Draft Haze Plan are fundamentally flawed and cannot be approved. Particularly relevant here, EPA made clear that States must secure additional emission reductions that build on progress already achieved; there is an

¹⁰ See 40 C.F.R. § 51.308(d)(3) (“The long-term strategy must include enforceable emissions limitations, compliance schedules, and other measures as necessary to achieve the reasonable progress goals established by States having mandatory Class I Federal areas.”)

¹¹ 40 C.F.R. § 51.308(i); *id.* at (d)(3) (“The long-term strategy must include enforceable emissions limitations, compliance schedules . . .”); *id.* at (f)(2) (the long-term strategy must include “enforceable emissions limitations”); see also August 2019 Guidance at 22 (“in selecting sources for control measure analysis,” the state may choose “not selecting sources that have an enforceable commitment to be retired or replaced by 2028”); *id.* at 34 (To the extent a retirement or reduction in operation “is being relied upon for a reasonable progress determination, the measure would need to be included in the SIP and/or be federally enforceable.”) (citing 40 C.F.R. § 51.308(f)(2)); 2019 Guidance at 43 (“[i]f a state determines that an in-place emission control at a source is a measure that is necessary to make reasonable progress and there is not already an enforceable emission limit corresponding to that control in the SIP, the state is required to adopt emission limits based on those controls as part of its long-term strategy in the SIP via the regional haze second planning period plan submission.”).

¹² For example, in addition to the Regional Haze Rule requirements, states must also follow the SIP processing requirements in 40 C.F.R. §§ 51.104, 51.102.

¹³ *Id.* § 51.308(i)(3).

¹⁴ July 8, 2021 Memo from Peter Tsirogotis to Regional Air Directors, Clarifications Regarding Regional Haze State Implementation Plans for the Second Implementation Period at 3, <https://www.epa.gov/visibility/clarifications-regarding-regional-haze-state-implementation-plans-second-implementation> (2021 Clarification Memo).

expectation that reductions are additive to ongoing and upcoming reductions under other CAA programs.¹⁵ In evaluating sources for emission reductions, EPA emphasized that:

Source selection is a critical step in states' analytical processes. All subsequent determinations of what constitutes reasonable progress flow from states' initial decisions regarding the universe of pollutants and sources they will consider for the second planning period. States cannot reasonably determine that they are making reasonable progress if they have not adequately considered the contributors to visibility impairment. Thus, while states have discretion to reasonably select sources, this analysis should be designed and conducted to ensure that source selection results in a set of pollutants and sources the evaluation of which has the potential to meaningfully reduce their contributions to visibility impairment.¹⁶

Thus, it is generally not reasonable to exclude from further evaluation large sources or entire sectors of visibility impairing pollution. Moreover, the Clarification Memo reiterates that the fact that a Class I area is meeting the URP is "not a safe harbor" and does not excuse the state from its obligation to consider the statutory reasonable progress factors in evaluating reasonable control options.¹⁷

For sources that have previously installed controls, states should still evaluate the "full range of potentially reasonable options for reducing emissions," including options that may "achieve greater control efficiencies, and, therefore, lower emission rates, using their existing measures."¹⁸ Moreover, "[i]f a state determines that an in-place emission control at a source is a measure that is necessary to make reasonable progress and there is not already an enforceable emission limit corresponding to that control in the SIP, the state is required to adopt emission limits based on those controls as part of its long-term strategy in the SIP via the regional haze second planning period plan submission."¹⁹ This means that so-called "on-the-way" measures, including anticipated shutdowns or reductions in a source's emissions or utilization, that are relied upon to forgo a four-factor analysis or to shorten the remaining useful life of a source "must be included in the SIP" as enforceable emission reduction measures.²⁰ In addition, the Clarification Memo makes clear that a state should generally not reject cost-effective and otherwise reasonable controls merely because there have been emission reductions since the first planning period owing to other ongoing air pollution control programs or merely because visibility is otherwise projected to improve at Class I areas. Finally, the Clarification Memo confirms EPA's recommendation that states take into consideration environmental justice concerns and impacts in issuing any SIP revision for the second planning period.

¹⁵ *Id.* at 2.

¹⁶ *Id.* at 3.

¹⁷ *Id.* at 2.

¹⁸ *Id.* at 7.

¹⁹ *Id.* at 8.

²⁰ *Id.* at 8-9 (emphasis added).

II. DNREC'S DRAFT HAZE PLAN FAILS TO MEET THE REQUIREMENTS OF THE REGIONAL HAZE RULE

A. DNREC Must Include an Enforceable Retirement Date for Indian River Unit 4 and Must Strengthen the Emission Limits Applicable to the Facility Prior to that Date.

In its final haze plan, DNREC must include an enforceable retirement date for Indian River Unit 4. DNREC notes that 40 C.F.R. § 51.308(f)(2)(iv)(C) requires the state to consider source retirement and replacement schedules in developing its long-term strategy, and identifies NRG's announced intention to retire for Indian River in May 2022.²¹ Unfortunately, as DNREC explained, the regional grid operator, PJM, determined that the plant is needed for reliability with the required upgrades anticipated to be completed by "at least 2027."²² DNREC states: "Once the upgrades are complete, the plant will be able to shut down."²³ The bare acknowledgment that the unit "will be able to shut down" following completion of the grid upgrades by 2027 is insufficient for purposes of the haze SIP. The Clean Air Act requires that "[e]ach state implementation plan . . . shall" include "enforceable limitations and other control measures" as necessary to "meet the applicable requirements" of the Act. 42 U.S.C. § 7410(a)(2)(A). The Regional Haze Rule similarly requires each state to include "enforceable emission limitations" as necessary to ensure reasonable progress toward the national visibility goal.²⁴ Moreover, where a source plans to permanently cease operations or projects that future operating parameters (*e.g.*, limited hours of operation or capacity utilization) will differ from past practice, and if this projection is relied upon to determine whether additional pollution controls are necessary to ensure reasonable progress, then the state "must" make those parameters or assumptions into enforceable limitations.²⁵ In the final haze SIP, DNREC must include an enforceable retirement date for Unit 4 expressed either as a fixed date or in relation to the completion of the grid upgrades needed to enable its retirement.

In addition, DNREC must strengthen the emission limits applicable to Indian River Unit 4 prior to its retirement. Even where a facility has an enforceable closure date, DNREC is obligated to consider whether there are cost-effective control measures that could be implemented in the meantime.²⁶ DNREC incorporated the updated Mid-Atlantic Northeast

²¹ Draft SIP at 83.

²² Draft SIP at 83.

²³ Draft SIP at 83.

²⁴ See generally 40 C.F.R. § 51.308(d)(3).

²⁵ 40 C.F.R. § 51.308(i), (d)(3), (f)(2).

²⁶ See, *e.g.*, 40 C.F.R. § 51.308(f)(2)(i) ("The State must evaluate and determine the emission reduction measures that are necessary to make reasonable progress by considering the costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts of compliance, and the remaining useful life of any potentially affected anthropogenic source of visibility impairment."); see also 82 Fed. Reg. at 3088 ("Consistent with CAA section 169A(g)(1) and our action on the Texas SIP, a state's reasonable progress analysis must consider a meaningful set of sources and controls that impact visibility. If a state's analysis fails to do so, for example, by . . . failing to include cost-effective controls at sources with significant visibility impacts, then the EPA has the authority to disapprove the state's unreasoned analysis and promulgate a [Federal Implementation Plan (FIP)].").

Even if a source has a limited remaining useful life, EPA's Guidance contemplates that states consider cost-effective operational upgrades. Regional Haze Rule Guidance § II.B.3(f) ("If a control measure involves only operational changes, there typically will be only small capital costs, if any, and the useful life of the source or control equipment will not materially affect the annualized cost of the measure.").

Visibility Union (MANE-VU) asks to comply with the reasonable progress requirements of 40 C.F.R. § 51.308(f)(2)(ii) through (iv).²⁷ However, the current requirements applicable to Indian River Unit 4 do not comply with these asks. In particular, the first MANE-VU ask requires in relevant part that for “[Electrical Generating Units (EGUs)] with a nameplate capacity larger than or equal to 25 megawatts (MW) with already installed [nitrogen oxides (NOx)] and/or [sulfur dioxide (SO2)] controls” such as Unit 4, 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.”²⁸ DNREC claims that the state “has met this portion of ‘Ask #1’” because the state “is in the process of updating all applicable permits that do not currently include language regarding the effective use of controls for applicable facilities (optimization of controls and/or operation in accordance with the manufacturer’s recommendations)” and “many of the applicable units currently have short term emission limits that help ensure the effective use of controls.”²⁹ This is inadequate.

Although Indian River Unit 4 installed updated pollution controls for SO2 and NOx, emission data since the installation of those controls in 2011 evidences a steady decline in performance. Specifically, as shown in Table 1, between 2012 and 2021, the emission rate for SO2 nearly tripled and the emission rate for NOx increased by almost fifty percent.

Table 1: Annual Emissions Data for Indian River Unit 4

Year	SO2 (tons)	SO2 rate (lb/MMBtu)	NOx (tons)	NOx rate (lb/MMBtu)
2012	692.0	0.117	399.9	0.069
2013	958.8	0.135	531.7	0.077
2014	752.8	0.176	330.0	0.081
2015	649.7	0.212	255.5	0.089
2016	462.1	0.180	204.7	0.082
2017	474.5	0.244	162.7	0.087
2018	441.3	0.289	132.1	0.091
2019	246.2	0.280	73.7	0.086
2020	275.9	0.346	75.4	0.099
2021*	554.7*	0.308*	168.0*	0.102*

* = Data for Q1 to Q3 only.

Data from EPA’s Air Markets Program Database (pulled 12/19/2021)

Although DNREC notes that Indian River Unit 4 is subject to a consent decree that establishes emission limits of 0.20 lb/MMBtu (rolling 24-hour average) for SO2 and 0.10 lb/MMBtu (rolling 24-hour average) for NOx,³⁰ it is unclear that these limits are currently being met, and it is abundantly clear that the installed controls are capable of achieving far lower emission rates, as evidenced by their implementation in the initial years. As explained above, DNREC must incorporate any emission limits it is relying on to comply with its haze SIP obligations as

²⁷ Draft SIP at 97.

²⁸ Draft SIP at 99.

²⁹ Draft SIP at 108.

³⁰ Draft SIP at 124.

enforceable limitations in the final SIP.³¹ Moreover, EPA’s July 2021 Clarification Memo makes clear that in evaluating reasonable progress for all sources, states should consider the “full range of potentially reasonable options for reducing emissions . . . may be able to achieve greater control efficiencies, and, therefore, lower emission rates, using their existing measures.”³² Since Unit 4’s past operations make clear that emission rates lower than those in the consent decree are achievable, these must be evaluated and potentially incorporated into the final SIP.

B. DNREC must conduct a four-factor analysis for the Delaware City Refinery.

The Delaware City Refinery is the largest single source of haze-causing air pollution in the state. *See, e.g.*, Draft Haze Plan at 90. The Refinery has a long history of large releases of air pollution, violations of clean air standards, and impacts to environmental justice communities. Delaware Audubon Society et al., Request for Hearing and Initial Public Comments on the Draft Title V Renewal Permit for Delaware City Refining Company, May 22, 2020 at 4-6 (Attachment A). DNREC’s haze plan must include a thorough review of the Refinery, including a four-factor analysis under the reasonable progress criteria described above.

Instead, the Draft Haze Plan (at 91-93) simply recites a list of air pollution standards to which the Refinery is already subject. DNREC relies, in part, on emission limits included in a consent decree that is more than ten years old (at 91) and that reflects neither the contemporary reasonable progress standard nor improvements in emission controls since the decree was concluded. The Draft Haze Plan provides no indication that all of the consent decree limits were incorporated into enforceable permits, or that the consent decree itself still binds the Refinery—indeed, the case docket cited in the Draft Haze Plan (at 91) shows that it was terminated by 2017, or possibly earlier. *United States v. Motiva Enterprises*, No. 4:01-cv-00978 (S.D. Tex.).

Regardless, the list of limits in the Draft Haze Plan, whether or not currently applicable and enforceable, does not and cannot substitute for the requirement to include a source in the four-factor analysis under the Clean Air Act and the Regional Haze Rule. 42 U.S.C. § 7491(g)(1); 40 C.F.R. § 51.308(f)(2)(i). It is unlawful for the DNREC to fail to include a four-factor analysis that includes the Refinery in the Draft Haze Plan.

As noted, states must consult with Federal Land Managers in the development of plans designed to protect visibility in Class I areas. 42 U.S.C. § 7491(d); 40 C.F.R. § 51.308(i). As demonstrated by the Draft Haze Plan, the National Park Service engaged with the MANE-VU

³¹ 42 U.S.C. § 7410(a)(2)(A); 40 C.F.R. § 51.308(d)(3) (“The long-term strategy must include enforceable emissions limitations, compliance schedules . . .”); (f)(2) (the long-term strategy must include “enforceable emissions limitations”); *see also* August 2019 Guidance at 22 (“in selecting sources for control measure analysis,” the state may choose “not selecting sources that have an enforceable commitment to be retired or replaced by 2028”); *id.* at 34 (To the extent a retirement or reduction in operation “is being relied upon for a reasonable progress determination, the measure would need to be included in the SIP and/or be federally enforceable.”) (citing 40 C.F.R. § 51.308(f)(2)); 2019 Guidance at 43 (“[i]f a state determines that an in-place emission control at a source is a measure that is necessary to make reasonable progress and there is not already an enforceable emission limit corresponding to that control in the SIP, the state is required to adopt emission limits based on those controls as part of its long-term strategy in the SIP via the regional haze second planning period plan submission.”). Underscoring this requirement of enforceability, RPGs adopted by a state with a Class I area must be based only on emission controls measures that have been adopted and are enforceable. 40 C.F.R. § 51.308(f)(3).

³² 2021 Clarification Memo at 7.

and directly with DNREC. On April 12, 2018, National Park Service (NPS) wrote to MANE-VU with a screening analysis that identified the Delaware City Refinery as by far the biggest source of emissions in Delaware impacting a Class I area, Shenandoah National Park in Virginia (Draft Haze Plan, Attachment 8-12 at pdf 3; see also Attachment 4-1 at pdf 1). NPS again flagged the Refinery as the biggest contributor to Shenandoah in a letter directly to DNREC on October 22, 2018 (*Id.* at pdf 11). The Draft Haze Plan (at 90) states that “[i]n its October 2018 letter, NPS requested that Delaware perform a four-factor analysis” for the Delaware City Refinery and one other facility.

Nevertheless, the Draft Haze Plan does not conduct a four-factor analysis for the Delaware City Refinery. Elsewhere (at 75, 99), the Draft Haze Plan appears to apply a threshold of 3.0 Mm-1 (inverse megameters), below which DNREC apparently does not intend to apply a four-factor analysis. In comments, the National Park Service firmly rejected such an approach, and DNREC’s attempt to avoid a four-factor analysis for the Refinery. Regarding the threshold, NPS stated that “the 3 Mm-1 threshold used to select sources subject to four-factor analysis is too high” and “does not adequately consider cumulative visibility impacts or those that may occur at Class I areas below that threshold.” Attachment 4-1 at pdf 2. In fact, NPS found that even a “1 Mm-1 threshold for individual source significance is not protective enough.” *Id.* at pdf 1,

Regarding the Delaware City Refinery, the NPS specifically recommended “that a four-factor analysis be completed for Delaware City Refinery.” *Id.* at pdf 2. After listing the four statutory factors, NPS noted that “the current draft [plan] addresses the Delaware City Refinery with a high-level inventory of emission control units and limits. This is not an adequate demonstration of pollution control effectiveness and is not a substitute for a true four-factor analysis.” *Id.*

In its response to the Federal Land Managers, DNREC claims that the higher threshold was agreed to by MANE-VU states, and claims flexibility in determining which sources to consider for a four-factor analysis. Attachment 8-4 at 2-4/pdf 7-9. DNREC does not address the Delaware City Refinery’s position as by far the largest haze-causing polluter in the state, its impacts on Shenandoah National Park, or cumulative downwind impacts. In the Draft Haze Plan, DNREC still fails to conduct a four-factor analysis for the Refinery (at 90-93).

Moreover, DNREC fails to provide a reasoned basis for reliance on MANE-VU’s arbitrary threshold of 3 Mm-1. EPA’s August 20, 2019 Guidance on regional haze plans for the second implementation period states (at 19) that “[w]hatever threshold is used [to determine sources to evaluate in a four-factor analysis], the state must justify why the use of that threshold is a reasonable approach, i.e., why it captures a reasonable set of sources of emissions to assess for determining what measures are necessary to make reasonable progress.” The Regional Haze Rule requires that the state “include in its implementation plan a description of the criteria it used to determine which sources or groups of sources it evaluated and how the four factors were taken into consideration in selecting the measures for inclusion into its long term strategy.” 40 C.F.R. § 51.308(f)(2). Further, EPA has made clear that the selection of sources for four-factor analysis cannot rely on an arbitrary extinction level set for a large multi-state region, but requires consideration of varying circumstances and impacts across states and class I areas:

The appropriate threshold for selecting sources may reasonably differ across states and Class I areas due to varying circumstances. In setting a threshold, a state may consider the number of emissions sources affecting the Class I areas at issue, the magnitude of the individual sources' impacts, and the amount of anthropogenic visibility impairment at the Class I area. [footnote omitted]. Various visibility metrics may be appropriate to use, but metric thresholds should be developed in consideration of the magnitude of an individual metric at an individual Class I area. For example, if modeling a full year, the maximum modeled day visibility impact may be several orders of magnitude larger than the impact averaged across the 20 percent most impaired days. There may be other approaches and factors that would be appropriate for states to use when setting and explaining such a threshold. If quantifiable, the amount of anthropogenic visibility impairment from a source can be compared to the total anthropogenic impairment at a Class I area. For example, a threshold of "X" Mm-1 may be reasonable if current visibility impairment is mostly due to relatively few sources with impacts above "X" Mm-1, but may not be reasonable if current visibility impairment is due to a large number of sources each with impacts below "X" Mm-1. A similar concept applies if source-specific visibility impacts are expressed as percentages of total light extinction.

EPA 2019 Guidance at 19. DNREC's proposal does not rationally justify why the use of the 3 Mm-1 threshold was a reasonable approach with respect to each Class I area impacted by Delaware sources. Rather, DNREC incorporated MANE-VU's arbitrary threshold based on considerations of multi-state convenience that are not valid criteria under EPA's guidelines. Thus, the proposed SIP does not meet the requirements of EPA's rules and guidance.

For all the above reasons, the Delaware Haze Plan cannot evaluate reasonable progress by failing to conduct a four-factor analysis for the largest polluter in the state, a source with downwind impacts specifically flagged by Federal Land Managers for such an analysis. DNREC's failure to conduct such an analysis is arbitrary and unlawful.

III. CONCLUSION

For these reasons, the Delaware Haze Plan must be revised (a) to include an enforceable retirement date for Indian River Unit 4 and (b) to include a four-factor analysis for the Delaware City Refinery.

Sincerely,

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