ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

18 AAC 50 AIR QUALITY CONTROL

Response to Comments on March 30, 2022, Regional Haze Proposed Regulations

July 5, 2022

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Introduction

This document provides the Alaska Department of Environmental Conservation's (DEC) response to public comments received regarding the March 30, 2022, draft regulations pertaining to regulation changes to adopt a new Regional Haze Visibility Protection Area, adopt and incorporate the Regional Haze State Implementation Plan (SIP), and adopt new requirements for stationary sources in the new Regional Haze Visibility Protection Area to meet federal requirements.

Under 40 C.F.R. 51.308 and 42 U.S.C. § 7491(d), DEC is required to consult with Federal land managers (FLMs) prior to public notice of proposed regulations on regional haze. DEC's response to initial comments received from the U.S. Fish & Wildlife Service (FWS) and the National Park Service (NPS) as part of the FLM consultation process can be found in Appendix III.K.13.K. of the SIP.

Opportunities for Public Comment

The public notice dated March 30, 2022, described the proposed regulation changes and provided information on the opportunities for the public to submit comments. Options for submitting written comments included submitting comments using the DEC's online SmartComment comment form, via mail, via email, or via facsimile.

The Division provided an opportunity for individuals to submit oral comments at a public hearing held telephonically on May 10, 2022. Questions received during the public hearing were answered on this project's questions and answers page by May 12, 2022 (https://dec.alaska.gov/air/anpms/sip/2022-regional-haze-questions-answers/).

The deadline to submit comments was May 24, 2022, at 11:59 p.m. This provided a 55 day period for the public to review the proposal and submit comments.

ADEC received emailed or electronically submitted comments from the following:

- Doyon Utilities, LLC (Doyon)
- Environmental Protection Agency (EPA)
- National Park Service (NPS)
- Hilcorp Alaska, LLC (Hilcorp)
- Golden Valley Electric Association (GVEA)
- The Coalition to Protect America's National Parks and National Parks Conservation Association (NPCA)
- Aurora Energy, LLC (Aurora)

This document responds to individual comments from EPA and the NPS and individual or summarized comments from the public. The document includes the comments received, DEC's response, and any revisions made to the regulations and/or SIP based on the comments and DEC's response.

Environmental Protection Agency Comments

Comment 1:

Four-Factor Analysis Source Selection: The Alaska Department of Environmental Conservation (ADEC) employed a two-step process to select sources to undergo analysis under the four statutory factors. First, ADEC used modeling to identify sources within geographic areas of influence and ranked those sources based on a "weighted emissions potential" (WEP). This step yielded 26 sources within the areas of influence with elevated WEP. Second, ADEC refined the list of sources identified in the first step using the Q/d selection method. Specifically, ADEC selected sources with a Q/d greater than 1.0 for analysis under the four factors. The second step yielded six such sources. With respect to the second source-selection step, ADEC estimated the 2028 projected actuals of each source based on representative historic actuals. In the case of the Hilcorp oil and gas platforms, ADEC assumed each of these sources would continue to exclusively burn ultra-low sulfur diesel (ULSD). However, ADEC did not identify any enforceable requirement for these sources to only burn ULSD.

Recommendation: Please include further justification for the assumption that the Hilcorp oil and gas platforms discussed in the plan will continue to burn ULSD exclusively in liquid fuel fired emissions units through 2028. To the extent Alaska is relying on the use of ULSD at these sources to make reasonable progress, the ULSD requirement should be made enforceable. Please also include the information Hilcorp provided in its March 10, 2021, email regarding analysis of the King Salmon platform, as well as further justification for applying this analysis to the other platforms to determine whether cost-effective controls are available.

> Response: After reviewing the comment, DEC would like to point out that following the early input of EPA on the state's approach and two-step process for source selection for 4-factor analysis, Hilcorp gas platforms were not selected to undergo analysis under the four statutory factors. However, information related to DEC's review of these sources outside the 4-factor analysis was included to reflect the department's consideration of these sources during the planning process. To clarify, Alaska is not relying on the use of ULSD at these sources for reasonable progress and is not adding them to the additional information in the long-term strategy. Furthermore, Hilcorp, in their comment letter, cited an identical comment in U.S. EPA's May 18, 2022, submission, and stated "*Specifically, USEPA recommends taking the assumption that the Hilcorp oil and gas platforms burn ULSD exclusively in liquid fuel fired emissions units and make it an enforceable requirement to be included in the long-term strategy. This recommendation is not only unnecessary due to existing federal fuel standard requirements, but also because it is an inherent operating restriction based on fuel availability and operational restrictions*." DEC agrees that with the federal RICE ULSD requirements of so many liquid fired emission units on the Hilcorp platforms, that citing each individual permit applicable requirement conditions is unnecessary. Non-ULSD fuel supplies have not been widely or commonly available for non-marine use in Alaska, and the oil and gas platforms have insufficient space for multiple supplies of liquid fuels. Each permit action may contain the enforceable requirement as a permit condition (example Condition 17,

AQ0060TVP04) but unless DEC found ambient air quality requirements that made individual units subject to a ULSD restriction, not every permit will have such a direct statement of the requirement. However, since the Hilcorp platforms contain many non-road engines subject to a ULSD requirement from federal regulation, and the age of the platforms and space constraints preclude multiple sources of liquid fuels, the practical matter is that all liquid-fired emissions units use ULSD as a common, single source. A review of facility operating reports provided by Hilcorp as part of continuous compliance reporting and certification shows that only ULSD is being delivered and fired in Hilcorp offshore platforms pertinent to this point. Per EPA's request for further information, DEC has added the March 10, 2021, email regarding analysis of the King Salmon platform related to cost effective controls to Appendix III.K.13.F.

Revisions based on response: The March 10, 2021, email regarding analysis of the King Salmon platform related to cost effective controls was added to Appendix III.K.13.F.

Comment 2:

Identification of Controls Necessary to Make Reasonable Progress and Included in the Long-Term Strategy: As discussed above, ADEC selected six sources to undergo evaluation under the four statutory factors. Therefore, for each of these six selected sources, ADEC must determine the controls necessary for reasonable progress through analysis under the four factors. ADEC must include any measures necessary for reasonable progress in the long-term strategy. If the outcome of the four-factor analysis is that no new measures are reasonable for the source, then ADEC must determine whether existing measures are necessary for reasonable progress. If ADEC determines that such existing measures are necessary for reasonable progress, those measures must be included in the long-term strategy. If ADEC determines that certain existing measures are not necessary for reasonable progress and not included in the long-term strategy, the EPA expects ADEC to provide a robust demonstration consistent with the EPA's July 8, 2021, Memorandum *Clarifications Regarding Regional Haze State Implementation Plans for the Second Implementation Period* (2021 Clarifications Memo), justifying why these existing measures are not necessary for reasonable progress.

Consistent with the Clean Air Act, the EPA's implementing regulations, and the EPA's guidance, the four statutory factors are used to determine the emissions reduction measures that are necessary to make reasonable progress and that must be included in the long-term strategy. The 2021 Clarifications Memo provides the following:

> When the outcome of a four-factor analysis is a new measure, that measure is needed to remedy existing visibility impairment and is necessary to make reasonable progress. When the outcome of a four-factor analysis is that no new measures are reasonable for a source, the source's existing measures are generally needed to prevent future visibility impairment (*i.e.*, to prevent future emission increases) and thus necessary to make reasonable progress. Measures that are necessary to make reasonable progress must be included in the SIP.

> However, there may be circumstances in which a source's existing measures are not necessary to make reasonable progress. Specifically, if a state can demonstrate that a source will continue to implement its existing measures and will not increase its emission rate, it may not be necessary to require those measures under the regional haze program in order to prevent future emission increases. In this case, a state may reasonably conclude that a source's existing measures are not necessary to make reasonable progress and thus do not need to be included in the SIP. A determination that a source's existing measures are not necessary to make reasonable progress should be supported by a robust technical demonstration. This empirical, weight-of-evidence demonstration should be based on data and information on (1) the source's past implementation of its existing measures and its historical emission rate, (2) the source's projected emissions and emission rate, and (3) any enforceable emissions limits or other requirements related to the source's existing measures.

2021 Clarifications Memo, at sections 4.1 and 4.2. *See also* 2019 Guidance, at p. 42.

Recommendation: Please clearly indicate in the plan which measures at the six selected sources are necessary to make reasonable progress and included in the long-term strategy. We request this clarification for each control analyzed, including, but not limited to existing and new emissions limitations, compliance schedules, and shutdowns. These determinations should be+ consistent with the recommendations outlined in the 2019 Guidance as well as sections 4.1 and 4.2 of the 2021 Clarifications Memo. Note: It may be possible for a state to provide a weight-of-evidence demonstration to justify that an existing effective control is not necessary for reasonable progress. Please also identify and include in the plan any such weight-of-evidence demonstrations.

> Response: DEC has expanded III.K.13.H.8. **EMISSIONS LIMITATIONS AND SCHEDULES FOR COMPLIANCE,** a subsection within the Long-Term Strategy section, to specifically add in the control measures needed for reasonable progress. The emissions limits are enforceable through the State Air Quality Control Plan (State Implementation Plan) as it is adopted by reference in the state air quality regulations at 18 AAC 50.030. The additional tables include the enforceable SO_2 emission limits for specific units and identify the permits that implement those limits as well as where the monitoring, recordkeeping, and reporting requirements can be found in the permits.
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> Revisions based on response: Final SIP revised to include tables in the Long-Term Strategy (III.K.13.H.8) addressing control measures for reasonable progress.

Comment 3:

Practical Enforceability of Controls: As stated in 40 CFR 51.308(f)(2), the long-term strategy must include the enforceable emissions limitations, compliance schedules, and other measures that are necessary to make reasonable progress, as determined pursuant to (f)(2)(i) through (iv).

Recommendation: Please include in the plan each existing and new control requirement necessary for reasonable progress in a form that is enforceable as a practical matter. This includes any on-the-way measure. The plan should include for each source and unit: 1) the regulation, permit, order, or other enforceable mechanism that requires compliance with the prescribed control requirement and/or emission limit; 2) the monitoring, recordkeeping, and reporting requirements necessary to determine compliance; and 3) the effective date of the control requirement and any applicable compliance schedule.

Response: DEC has expanded III.K.13.H. **8. EMISSIONS LIMITATIONS AND SCHEDULES FOR COMPLIANCE** a section within the Long-Term Strategy section, to specifically add in the control measures for reasonable progress. The emissions limits are enforceable through the State Air Quality Control Plan (State Implementation Plan) as it is adopted by reference in the state air quality regulations at 18 AAC 50.030. The additional tables include the enforceable SO_2 emission limits for specific units and identify the permits that implement those limits as well as where the monitoring, recordkeeping, and reporting requirements can be found in the permits.

Revisions based on response: Final SIP revised to include tables in the Long-Term Strategy (III.K.13.H.8) addressing enforceability of control measures for reasonable progress.

Comment 4:

Reliance on Best Available Control Technology (BACT) Analyses: It is our understanding that ADEC is re-submitting, as part of the regional haze plan for the second implementation period, the BACT determinations for the five selected sources located in the Fairbanks nonattainment area. As discussed on page 36 of the 2019 Guidance, it may be appropriate to rely on analyses and controls identified for non-regional haze programs to also satisfy reasonable progress requirements. However, there is an independent requirement to ensure that the analyses and conclusions meet regional haze statutory and regulatory requirements.

Recommendation: Please confirm that ADEC is re-submitting, as part of the regional haze plan for the second implementation period, the BACT determinations for the five selected sources located in the Fairbanks nonattainment area. In addition, as stated in our prior comments on the Federal Land Manager draft of this plan, please carefully consider the EPA's July 19, 2019, and October 29, 2020, comments on the BACT analyses in the Fairbanks $PM_{2.5}$ Serious Nonattainment Area Plan and correct identified issues where necessary.

Response: The department has included the existing emission limits referencing the currently applicable permits that resulted from the state's efforts on the Serious $PM_{2.5}$ SIP. The analyses performed on these facilities during the $PM_{2.5}$ SIP development that resulted in establishment of these currently state enforceable limits address the four-factors required for the regional haze program. These are currently enforceable limits that were recently made effective and in place for Doyon Utilities CHPP, Golden Valley Electric Association North Pole Power Plant, University of Alaska Fairbanks CHPP, and

Aurora Energy CHPP. The department will decouple the Regional Haze SIP from the $PM_{2.5}$ BACT analyses that are developed for other NAAQS related purposes. For purposes of the Regional Haze SIP, the state enforceable limits recently put in place through permits for these facilities will be used for satisfying reasonable progress requirements for regional haze. Therefore, the department is not re-submitting the BACT analysis.

The identified emissions limits are state enforceable through the State Air Quality Control Plan (State Implementation Plan) as it is adopted by reference in the state air quality regulations at 18 AAC 50.030. The additional tables include the enforceable SO2 emission limits for specific units and identify the permits that implement those limits as well as where the monitoring, recordkeeping, and reporting requirements can be found in the permits.

Revisions based on response: Section III.K.13.H.8 was updated to reflect the state enforceable limits and recently issued permits for these facilities and linking those controls to reasonable further progress and the long-term strategy.

Comment 5:

Reliance on Existing Effective Controls:
Healy Unit 1

ADEC determined that additional SO_2 controls are not necessary at Healy Units 1 and 2. With respect to Unit 1, ADEC determined that the existing emission limit of 0.30 lb/MMBtu and the use of dry sorbent injection (DSI) represented existing effective controls and did not conduct a full four-factor analysis. During the first regional haze planning period, this emission limit was determined to reflect best available retrofit technology (BART). In the draft plan for the second regional haze planning period, ADEC references portions of the EPA's 2019 Guidance as support for its reliance on the prior BART determination as a basis for not evaluating additional SO_2 emissions controls on Unit 1. ADEC misinterprets the EPA's Guidance. The EPA clarified that dismissing a BART-eligible unit that installed and began operating controls to meet BART emission limits for the first implementation period is:

> not applicable to BART-eligible units that were determined to be not subject to BART, BART-subject units for which the BART requirement was met in whole or in part by emission reductions at other units as part of a better than-BART alternative or trading program, units that were not subject to BART that contributed emission reductions for a better-than-BART alternative or trading program, and *sources for which existing controls were determined to be BART*.

2019 Guidance, at p. 25 n 54 (emphasis added). Thus, the prior BART determination is not an appropriate basis to forgo four-factor analysis on Unit 1.

Recommendation: The EPA recognizes that Golden Valley Electric Association (GVEA) must either install selective catalytic reduction (SCR) or retire Healy Unit 1 by December 31, 2024. GVEA is required to decide whether to install SCR or retire Unit 1 by December 31, 2022.

Therefore, GVEA may choose to continue operation of Unit 1 and the installation of SCR would not reduce SO_2 emissions. Thus, ADEC should conduct a four-factor analysis on Unit 1 to determine what additional controls are necessary for reasonable progress. The EPA notes that ADEC appears to have determined that DSI optimization to achieve an emission limit of 0.20 lb/MMBtu is cost effective and, therefore, necessary for reasonable progress. If this is the case, ADEC should include this requirement as part of the long-term strategy in a manner that is enforceable as a practical matter.

> Response: DEC continues to assert that GVEA's Unit 1 would be "effectively controlled" for SO_2 with the enforceable emission limit imposed of 0.20 lb/MMBtu described under Option 3. The State does not assert that a four-factor analysis would not be appropriate as described under Option 2, as stated in the Technical Analysis of State Controllable Sources under Section III.K.13.F:
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> > "in the event that GVEA chooses not to retire EU 1, DEC will require that GVEA complete a full four-factor analysis for DSI optimization and submit the final four factor analysis to DEC by July 1, 2023. Alternatively, GVEA may establish an enforceable emission limit for SO_2 of 0.20 lb/MMBtu by submitting an application for a permit amendment by January 1, 2024. It would be expected that a permit would be issued by January 1, 2025, which would result in EU 1 being considered an "effectively controlled" EU per the Guidance Document."
>
> In communicating with DSI vendors, an optimization typically requires retrofitting the existing control device, rather than only increasing the injection rate of sodium bicarbonate. The retrofit would typically include installation of larger ducting, bicarbonate injectors, and a potentially larger hoppers which all have significant costs associated with them because of the existing layout of the facility. In order for this retrofit to be considered cost effective, a site-specific engineering quotation would likely be required with a price tag in the hundreds of thousands of dollars and may not support a cost-effective finding. There are also potential impacts associated with an increase in nitrogen oxide emissions resulting from an increased sodium bicarbonate injection rate. This is due to the increased conversion of nitrogen dioxide to nitrogen oxide. Therefore, based on the aforementioned considerations the Department finds that an enforceable limit of 0.20 lb/MMBtu of SO_2 achieved through DSI optimization would constitute an effectively controlled source for Unit 1.
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> Revisions based on response: DEC revised the final SIP to include a table in the Long-Term Strategy (III.K.13.H.8) which includes the three options identified in Technical Analysis of State Controllable Sources (III.K.13.F) for Healy Unit 1.

Eielson Air Force Base

ADEC conducted a limited four-factor analysis on the Eielson Air Force Base stationary source. ADEC identified the coal-fired boilers (Units 1 through 4, and 5A and 6A) as emitting the vast majority of SO_2 from the stationary source. Therefore, ADEC only evaluated these emissions units. Units 5A and 6A are new replacements to older coal-fired boilers and are equipped with DSI. ADEC noted that Units 1 through 4 are expected to be replaced with new coal-fired boilers

in the future and did not conduct a four-factor analysis on these units. Rather, ADEC established two compliance options: 1) the Air Force must submit a permit application by July 1, 2023, that establishes a retirement effective date no later than December 31, 2024; or 2) the Air Force must conduct and submit a four-factor analysis for DSI, wet scrubber, and spray dry absorbers, by July 1, 2023. ADEC determined that the existing limit on Units 5A and 6A of 0.20 lb/MMBtu with DSI was sufficient for reasonable progress.

Recommendation: With respect to Units 1 through 4, ADEC should make clear why submission of a permit application is necessary to mandate retirement of the units. In addition, ADEC should revise the second option to mandate an emission limit or a date by which the state will impose any emission limit necessary for reasonable progress. With respect to Units 5A and 6A, ADEC should submit the source-specific requirements, including adequate monitoring, recordkeeping, and reporting that make the 0.20 lb/MMBtu emission limit enforceable as a practical matter.

> Response: DEC inserted the requirement to mandate submission of a permit application that establishes a retirement date for Units 1 – 4 because the federal budget-driven EIS-based replacement process for Eielson AFB has not been proceeding with sufficient surety to guarantee these older units are replaced with the cleaner, newer units to support reasonable progress. Without a confirmed retirement date or sufficient surety of progress, the four-factor analysis of Option 2 then becomes necessary. The new replacement Units 5A and 6A have enforceable limits in AQ0264TVP02 Revision 4 Condition 54 of 0.20 lb SO_2/MMBtu on a rolling 30-day average basis as required under the applicable NSPS Subpart Db standards consistent with the MATS UUUUU requirements. DEC finds this sufficient for reasonable progress and a determination of "effectively controlled" under the 2019 and 2021 guidance documents.[3] Operating Permit AQ0264TVP02 Rev. 4 Conditions 57 and 60 also includes applicable NSPS Subpart Db performance testing and CEMS requirements for Units 5A and 6A. If Units 1 – 4 are replaced with Units 1A, 2A, and 4A, the new units will be required to meet the same emission limits and work practice standards from NSPS Subpart Db as Units 5A and 6A. DEC recognizes that Eielson AFB is also undergoing a renewed NEPA analysis for a best-path-forward upgrades to the base central heat and power systems that may, sometime in the future, revise all or part of this approach.
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> Revisions based on response: DEC revised the final SIP to include a table in the Long-Term Strategy (III.K.13.H.8) which includes the two options for Eielson AFB Units 1-4.

Comment 6:

Modeling: The draft plan includes a sulfate-adjusted alternative baseline most impaired day (MID) and MID glidepath used at each IMPROVE site.

Recommendation: Please provide clear evidence establishing a link between sulfate at IMPROVE sites and volcanic emissions to support the sulfate-adjusted alternative baseline MID and MID glidepath used at each IMPROVE site. For example, we recommend providing back-trajectory evidence for the days that were screened out due to volcanic activity.

Response: The department did include information related to its analysis and development of sulfate-adjusted alternative baseline most impaired day (MID) and MID glidepath in Appendix III.K.13.I for weight of evidence purposes, but the glidepaths used in Section III.K.13.I are the EPA default MID glidepaths. The department will take this recommendation for additional back-trajectory analysis into consideration for future work on regional haze plans. Section III.K.13.I was revised to ensure that it is clear that the sulfate-adjusted alternative glide paths were provided as additional information for consideration as weight of evidence only and not to show a clear, causal link. Section III.K.13.G was also revised to reflect that the sulfate-adjusted alternative approach is an initial effort to look at natural sources of sulfate not captured in the default approaches.

Revisions based on response: Section III.K.13.G was revised to acknowledge that the sulfate-adjusted alternative modeling was an initial analysis into natural sulfate sources and would warrant further exploration in future SIP updates. Section III.K.13.I was updated to note that the sulfate-adjusted alternative modeling was provided for information and weight of evidence only.

National Park Service Comments

The National Park Service submitted a cover letter and an attachment. The cover letter has been summarized below while the comments from the attachment are verbatim.

Cover letter summary: Summary of National Parks Service (NPS) Cover Letter to DEC, May 23, 2022:

The NPS cover letter noted two items related to the FLM review of the pre-public notice draft of the SIP. First, NPS acknowledged that DEC addressed the error in not including, in the public notice draft of the SIP, the FLM comments and recommendations from their review of the initial draft of the SIP. DEC's correction of the omission and re-noticing of its availability was completed on April 7, 2022. The second item was regarding their appreciation that DEC added in the reasonable progress data, tables and graphs for the Denali Headquarters visibility monitoring site (DENA1) as they requested. However, NPS still contends that the DENA1 is the official IMPROVE network for the Denali National Park & Preserve (NP&P)

NPS also reiterated their recommendations submitted under the FLM review regarding sulfur dioxide emissions from GVEA, the approach DEC should use, and to avoid any delays in implementation of what they feel are cost-effective controls. NPS submitted their technical analysis using what they felt was more current information in cost estimates to support their conclusions as technical attachments and comments.

> General Response to NPS cover letter: DEC thanks the National Parks Service (NPS) for commenting on the DEC Draft RH SIP.
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> The agency acknowledges the oversight of the FLM comments and recommendations in the appendix in the initial release of the Draft RH SIP and as noted in the cover letter corrected the situation to ensure inclusion of the FLM initial comments and DEC's response.
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> Although DEC has included charts, tables, and graphs for the DENA1 monitoring station in the Regional Haze SIP, the agency continues to disagree with NPS on the use of DENA1 as the official Denali monitor. DEC continues to assert that the TRCR1 monitor is the representative monitor for Denali National Park. DEC intends to follow up with the National Park Service with additional information on this issue prior to the next SIP review and update.
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> Regarding the Healy Power Plant, please see the detailed responses to the comments included in the submitted attachment below.

In comments submitted as an attachment to the NPS cover letter, for Healy Unit 1, the NPS addresses the following comments to the Alaska Department of Environmental Conservation (ADEC):

Attachment 1: NPS Technical Comments on ADEC's Proposed Regional Haze SIP
Introduction: "The NPS technical review of the Alaska draft Regional Haze State Implementation Plan focuses on control determinations for Unit 1 at the Healy Power Plan. We preface these comments by acknowledging that GVEA may elect to retire Unit 1 by 2024, which would result in greater emission reductions than any of the options discussed in these comments. It is assumed that additional SO2 control would not be implemented if GVEA elects to retire/permanently shut down Unit 1 by 2024. Nonetheless, as discussed below, the analysis and determination need to be included in the regional haze State Implementation Plan (SIP) given the current uncertainty regarding GVEA's plans for Unit 1."

Summary of NPS Recommendations for Healy Unit 1
Comment 1:

1. Make SIP determinations based on the information that is currently available rather than deferring decisions to a later date, outside of the regional haze plan revision process.
   a. GVEA has not confirmed intentions for Unit 1 beyond 2024 and under the 2012 Consent Decree, has until the end of this calendar year (2022) to announce a final determination. However, based on information provided in the draft SIP, GVEA has signaled that they may choose to continue operating Unit 1 beyond 2024.
   b. It is not clear how the NPS or the public will be involved in the decision-making process if a four-factor analysis is completed outside of the regional haze process.
   c. Addressing the SO_2 regional haze requirements in advance of GVEA's decision deadline will offer more regulatory certainty to the operator when making their final determination on future operation of Unit 1.

   Response: In a more normal "typical" development process, the path suggested by the NPS would certainly be the preferrable course of action. However, there are multiple regulatory and legal actions all at play in the case of GVEA, all working more or less concurrently but also with divergent requirements. The requirements of the 2012 Consent Decree represent legal requirements that pre-date and are outside of the SIP development process with far-ranging fiscal impacts to GVEA, as well as the Railbelt Grid. The decision to shut-down or modify Unit 1 is not in any way a small, isolated decision. The requirements of both the Regional Haze SIP as well as the Fairbanks $PM_{2.5}$ NAA SIP have enormous impact, and none of these actions should be undertaken in absence of information concerning the pending decision on Unit 1. Pursuing a path in either SIP process development and finalization absent the Unit 1 decision would be errant on the part of the State. If (a) GVEA opts to continue operations at Unit 1 beyond the 2022 decision-point, then the additional SCR controls required to be added by the end of 2024 can only serve to improve air quality as well as visibility impacts with a lower enforceable NOx emission rate requirement. If the decision results in the State requiring a four-factor analysis outside of the RH SIP planning process (b), then this outcome would result in updates to the RH SIP plan, and the FLMs would be active participants in the consultation process. With regards to addressing the SO_2 regional haze requirements in advance of GVEA's decision deadline (c), DEC recognizes that having a final RH decision made prior to December 31, 2022, would offer more regulatory certainty for

GVEA to make a decision on whether or not to retire Unit 1, and yet the economic consequences of such a decision rest with GVEA alone. Thus, a four-factor analysis has not been conducted on the source at this time. Therefore, DEC is providing multiple options to give GVEA as much flexibility as possible while still ensuring that the source will be effectively controlled if it remains in operation beyond 2024.

Revisions based on response: No revision to the SIP was made in response to this comment.

Comment 2:

2. Include the required SO_2 four-factor analysis for Healy Unit 1 in the draft SIP and implement cost-effective upgrades to the existing SO_2 control system in this round of regional haze planning:

a. Initial information indicates that upgrading the existing Dry Sorbent Injection (DSI) system to improve SO_2 control on Unit 1 is cost-effective. ADEC acknowledged this in the SIP: "The previous BART determination found that optimizing the already installed DSI system on EU 1 would cost $4,218 per ton of SO_2 removed. It is possible that a reevaluation of DSI optimization for EU 1 could result in a cost effectiveness finding by DEC."

b. NPS analyses also show that optimizing the existing DSI system on Unit 1 is cost-effective. We updated the analysis and estimated the incremental costs of upgrading the existing controls range from $2,724/ton to $3,859/ton to remove an additional 213 TPY of SO_2 emissions. The NPS recommends that ADEC update the cost analysis and require cost-effective DSI upgrades and associated SO_2 reductions in the regional haze SIP.

c. The 2009 BART analysis assumed an 8-year equipment life and an 8% interest rate. Neither of these assumptions are appropriate for Healy Unit 1 based on current information. These values have been corrected in the revised analyses.

Response: DEC has not determined if DSI optimization is cost effective for Healy Unit 1. Instead, DEC included the following statement regarding previous BART cost estimates for DSI optimization in the draft RH SIP, "The previous BART determination found that optimizing the already installed DSI system on EU 1 would cost $4,218 per ton of SO_2 removed. It is possible that a reevaluation of *DSI optimization for EU 1 could result in a cost effectiveness finding by DEC*." [emphasis added]

Because DEC has not made a finding regarding the cost effectiveness of DSI optimization at this time, it is providing multiple options to give GVEA as much flexibility as possible while still ensuring that the source will be effectively controlled if it remains in operation beyond 2024. DEC notes that if GVEA elects the option to submit a four-factor analysis for DSI optimization on Unit 1, it will evaluate cost effectiveness along with the other statutory factors at that time.

Revisions based on response: No revision to the SIP was made in response to this comment. DEC may re-evaluate DSI optimization at the proper time.

Comment 3:

3. Remove Option 3 from the SIP, which would allow GVEA to establish an enforceable permit limit of 0.20 lb SO_2/MMBtu for Healy Unit 1 in lieu of providing the four-factor analysis required under the Clean Air Act.

a. EPA has clarified that the 0.20 lb/MMBtu limit is not a de facto off-ramp to conclude that a source is "already effectively controlled." We have shown that emission reductions for Unit 1 are feasible and cost-effective.
b. EPA Clean Air Markets Division (CAMD) data demonstrate that SO_2 emission rates much lower than 0.20 lb/MMBtu are achievable with DSI.
c. Given Healy's proximity to DNPP, the NPS recommends that cost-effective upgrades to the existing DSI system that exceed the 0.20 lb/MMBtu level of control are warranted.

Response: DEC has concluded that Unit 1 would be considered an effectively controlled source if Option 3 for establishing enforceable limit is selected. DEC agrees that the 0.20 lb/MMBtu limit is not a "de facto" offramp for a decision that a source is already effectively controlled, but it is a valid decision point under the 2019 Guidance that contributes to such a finding, along with other information and the legally-bound decision path. It is reasonable to conclude that a four-factor analysis at this point would reach the same conclusion regarding DSI optimization pending the decision on the future of Unit 1. While lower emission limits may be achieved with DSI optimization, the selection of Option 3 represents significant emissions reductions that can be achieved cost-effectively in the relative near-term that will add greatly to the air quality of the region as well as further assist long term visibility impairment in the park, an issue that has not been shown to have any basis or connection to emissions from GVEA Unit 1. See also the responses to NPS Comments #4 and #7.

Revisions based on response: No revision to the SIP was made in response to this comment.

ADEC Final Determination for GVEA Healy Power Plant

Comment 4:

ADEC's conclusion that Unit 2 is effectively controlled has not changed between the FLM and public review drafts of the SIP. Therefore, the NPS does not have additional comments on the ADEC conclusions for Unit 2. The NPS recommends that this conclusion for Unit 2 be re-evaluated in subsequent regional haze plan revisions as well as periodic progress reports.

Response: ADEC agrees and continues to maintain that for this planning period, GVEA Healy Unit 2 is considered effectively controlled. The results of GVEA's actions in regards to decisions made by requirements of the Consent Decree will only serve to lower GVEA's emissions. GVEA Unit 2 will be evaluated in subsequent regional haze plan revisions as circumstances dictate.

Revisions based on response: No revision to the SIP was made in response to this comment.

Comment 5:

ADEC revised their conclusions for Unit 1 between the FLM and public review drafts of the SIP and proposed three new options for GVEA to select from to address the regional haze requirements for this Unit:

1. Option 1—Elect to retire Unit 1 under the Consent Decree by December 31, 2024.
2. Option 2—Submit a four-factor analysis for DSI optimization to DEC by July 1, 2023. The evaluation of this analysis would occur outside of the regional haze process.
3. Option 3— Establish an enforceable emission limit of 0.20 lb/MMBtu through a permit revision which is to be submitted by January 1, 2024, and issued by January 1, 2025.

The NPS is responding to ADEC's revised determination for Healy Unit 1 presented in the public review draft. In the July 2021 comments provided during the FLM consultation period, the NPS recommended that "unless an enforceable shut down date is included in the SIP, Alaska should require a full four-factor analysis of SO_2 control opportunities for Healy Unit 1 and require implementation of reasonable controls." The NPS continues to recommend that the SO_2 four-factor analyses for Unit 1 be included in the draft SIP and that upgrades to the existing DSI system are likely cost-effective and should be implemented in the current regional haze plan.

Response: See the responses to NPS Comments #5 and #7. DEC disagrees that a four-factor analysis is needed for a source that has already been determined to be effectively controlled and will have a lowered SO_2 emission rate under Option 3 if selected that meets the requirements of the 2019 Guidance memo for this planning period. A revised four factor analysis may be an option moving forward into the next planning period, but a determination of the effectiveness of these "fairly recently"[1] installed additional controls allows the source to escape further analysis during this planning period.

DEC is anticipating finalizing the progress report to EPA by early 2024 to be able to complete the FLM review and conducting a public notice review in order to submit to EPA by the January 2025 deadline. Submitting the four-factor analysis by July 1, 2023, only allows DEC approximately 6 months to evaluate, request clarification from the source, draft decisions and release the decision as part of the draft 5-year program report for FLM review.

Revisions based on response: No revision to the SIP was made in response to this comment.

[1] "fairly recently" is undefined in the 2019 Guidance Memo, but the agency is using its discretion to consider that one-to-two permitting cycles will constitute a fairly recent timeframe.

Need to Address Unit 1 in the Regional Haze SIP Revision
Comment 6:

If GVEA elects to continue operating Unit 1, it is not clear how ADEC intends to handle public involvement or FLM and EPA review of the final SO_2 reasonable progress decision for this source. Even if the subsequent decision results in an SO_2 emission reduction that would require a modification to Healy's operating permit, such actions typically would not trigger new source review and do not require any formal FLM consultation or involvement.

FLM engagement is an important component of the regional haze planning process and is required under the Clean Air Act. Deferring the control determination for Healy Unit 1 effectively removes FLM consultation from the decision process. This undermines the NPS obligation to provide substantive feedback and reduces the opportunity for FLMs to comment on the final long-term strategy and reasonable progress determination for the source most affecting DNPP.

Additionally, addressing the SO_2 regional haze requirements in advance of GVEA's decision deadline will offer more regulatory certainty to the operator when making their final determination on the fate of Unit 1. Accommodating additional control requirements may be more difficult if the determination is made after GVEA has elected to keep Unit 1 running.
As noted above, the future status of Unit 1 is uncertain, as GVEA has not yet indicated that they intend to shut the unit down under the Consent Decree. However, information provided in the SIP indicates that GVEA may intend to continue operating Unit 1 beyond 2024. The Long-Term Strategy (LTS) discussion in Section III.K.13.H of the draft SIP states the following:

> *With the declaration of the Fairbanks PM2.5 nonattainment area, GVEA has discussed the potential of shifting more power generation reliance over to Healy to avoid issues with air pollution within the nonattainment area. As a result, there is the potential for increased emissions from the Healy facility which is approximately 7 miles from the Denali Class I area. Further discussions on the GVEA Healy Power Plant and analyses of its current emissions footprint can be found in Section III.K.13.F, which is the four-factor facility analysis section.*

Given that the shutdown of Unit 1 is neither certain nor federally enforceable, NPS recommends that the reasonable progress decision for Unit 1 be based on the information currently available. Now is the appropriate time to complete the four-factor analysis required in the CAA and determine the level of control necessary to ensure reasonable progress is achieved.

> Response: DEC disagrees that now is the appropriate time to complete the four-factor analysis. GVEA must be allowed the time granted under the federal consent degree. DEC incorporated the consent decree into the mid-period review (5-year progress report) of the first implementation period therefore the timelines are also adopted within the SIP. Furthermore, any future amendments to the Regional Haze SIP (5-year program report for the 2nd Implementation Period) will include FLM review and consultation process. See also responses to NPS Comments #1 and #2.
>
> DEC noted that in their cover letter, the NPS stated "the SIP notes that GVEA is

considering shifting their electric production load to Healy as a strategy for addressing nonattainment concerns elsewhere. Without concurrent reductions from additional emission controls, this could have a negative impact on visibility in Denali NP&P." DEC also received a comment from GVEA (Comment #5) that took issue with the statement quoted by the NPS above that was included in the draft SIP. As a result, DEC removed that statement of concern from the SIP in response to GVEA's comment. DEC notes that the NPS does not provide any demonstrated proof that power shifting to Healy ultimately will have visibility impacts at Denali NP. That possibility is one that DEC is on path to ensure does not happen via the enforceable limits to be enacted at Healy based on the pending shutdown decision.

Revisions based on response: No revision to the SIP was made in response to this comment. DEC removed the statement of concern related to power shifting in response to GVEA Comment #5.

Determining "Effectively Controlled"

Comment 7:

ADEC developed option three based on the assumption that an SO_2 limit of 0.20 lb/MMBtu or less on Healy Unit 1 would "result in EU 1 being considered effectively controlled EU per the Guidance Document."

The NPS highlights the EPA's July 8, 2021, Clarification Memorandum which underscored that an enforceable permit limit of 0.20 lb SO_2 /MMBtu is not a bright line for determining that a source is "effectively controlled." Section 2.3 of that Memorandum states:

> *The underlying rationale for the "effective controls" flexibility is that if a source's emissions are already well controlled, it is unlikely that further cost-effective reductions are available. A state relying on an "effective control" to avoid performing a four-factor analysis for a source* ***should demonstrate why, for that source specifically, a four-factor analysis would not result in new controls and would, therefore, be a futile exercise****. States should first assess whether the source in question already operates an "effective control" as described in the August 2019 Guidance. They should further consider information specific to the source, including recent actual and projected emission rates, to determine if the source could reasonably attain a lower rate. It may be difficult for a state to demonstrate that a four-factor analysis is futile for a source just because it has an "effective control" if it has recently operated at a significantly lower emission rate. In that case, a four factor analysis may identify a lower emission rate (e.g., associated with more efficient use of the "effective existing controls") that may be reasonable and thus necessary for reasonable progress. If a source can achieve, or is achieving, a lower emission rate using its existing measures than the rate assumed for the "effective control," a state should further analyze the lower emission rate(s) as a potential control option. [Emphasis added.]*

GVEA's 2009 BART analysis for Healy Unit 1 suggests that an emission rate lower than the 0.20 lb/MMBtu limit is achievable for Unit 1 by optimizing the existing DSI system. A review of

EPA's 2020 Clean Air Markets Division (CAMD) for coal-fired units currently operating DSI systems with either an Electrostatic Precipitator (ESP) or a baghouse corroborates the assumption that DSI can achieve emission rates much lower than 0.20 lb/MMBtu. Of the 13 units firing coal with a DSI system, more than half of the units are achieving emission rates lower than the 0.20 lb/MMBtu cited in the 2019 Regional Haze Guidance, with SO_2 emission rates for these units ranging from 0.025 lb/MMBtu to 0.108 lb/MMBtu (annual average—see attached spreadsheet "CAMD_2020_DSI_coal_units.xlsx"). Given the unit-specific information from the 2009 BART analysis, we recommend that ADEC remove Option 3 and require upgrades to the existing DSI system. The NPS recommends that target emission limits be commensurate with those from other well-controlled units currently in operation that are equipped with DSI systems (see Section xx below). As described in subsequent sections below, our revisions to the DSI upgrade analysis indicate that optimizing the existing DSI system is still cost-effective.

> Response: DEC continues to assert that GVEA's Unit 1 would be "effectively controlled" for SO_2 with the enforceable limit imposed of 0.20lb/MMBtu described under Option 3. The State does not assert that a four-factor analysis would be futile, only that the lower emission rate of 0.20 lb/MMBtu, if selected, would constitute an "effectively controlled"[2] source. As stated in the Technical Analysis of State Controllable Sources:
>
> > "in the event that GVEA chooses not to retire EU 1, DEC will require that GVEA complete a full four-factor analysis for DSI optimization and submit the final four factor analysis to DEC by July 1, 2023. Alternatively, GVEA may establish an enforceable emission limit for SO_2 of 0.20 lb/MMBtu by submitting an application for a permit amendment by January 1, 2024. It would be expected that a permit would be issued by January 1, 2025, which would result in EU 1 being considered an "effectively controlled" EU per the Guidance Document."
>
> There is no requirement to "race to the bottom" to see what is the lowest achievable emission rate possible when there has been no shown cause of these emissions being a factor of any degradation of visibility or visibility impairment and because the source can meet a lowered emission rate under the 3rd option that comports with the original guidance. As there is no such requirement, Healy Unit 1 therefore meets the definition in the guidance of "*Sources that already have effective emission control technology in place*"[3] based on compliance with the MACT. No further lowering of the limit is required as well as no further need to impose large cascading financial strains on GVEA during this planning period. ADEC agrees that the 0.20 lb SO_2/MMBtu emission limitation is not considered a "bright line" to end further investigation of "effectively controlled", but it is an acceptable decision point for this determination as discussed in the 2019 and 2021 Guidance memos. The 2021 Final Guidance Memo does not limit the definitions and policy of the 2019 Guidance Memo; it only adds further discussion.
>
> In communicating with DSI vendors, an optimization typically requires retrofitting the

[2] 2019 Guidance, page 22, paragraph (f).
[3] Id. Page 23, 3rd bulleted item.

existing control device, rather than only increasing the injection rate of sodium bicarbonate. The retrofit would typically include installation of larger ducting, bicarbonate injectors, and a potentially larger hoppers which all have significant costs associated with them because of the existing layout of the facility. In order for this retrofit to be considered cost effective, a site-specific engineering quotation would likely be required with a price tag in the hundreds of thousands of dollars, which may not support a cost-effective finding. There are also potential impacts associated with an increase in nitrogen oxide emissions resulting from an increased sodium bicarbonate injection rate. This is due to the increased conversion of nitrogen dioxide to nitrogen oxide. Therefore, based on the aforementioned considerations, the Department finds that an enforceable limit of 0.20 lb/MMBtu of SO_2 achieved through DSI optimization would constitute an effectively controlled source for Unit 1.

Additionally, the 2012 Consent Decree requires the NPS to communicate with GVEA anytime a plume that affects visibility is observed. DEC notes that since 2012, no adverse visibility impairment from GVEA plumes has been reported by the NPS.

Revisions based on response: No revision to the SIP was made in response to this comment.

ADEC's Proposed Visibility Protection Area (VPA)

Comment 8:

ADEC proposed establishing a Visibility Protection Area (VPA) in the draft SIP. According to the draft SIP "*[t]he RH-VPA will be used to identify new development and sources for more detailed haze-related data reporting/tracking and to require additional control measures should they become necessary in the future*."

We appreciate ADEC's efforts to better track visibility trends and conditions in the Alaska Class I areas. However, it is not clear how ADEC specifically intends to use the VPA. It would be helpful if ADEC could identify what haze-related data the agency intends to track beyond what's already monitored through the IMPROVE program or tracked through emissions reporting requirements. What thresholds, triggers or measures will be used to identify whether "additional control measures will be necessary in the future"? Will ADEC continue to address sources outside of the VPA (e.g., oil and gas sources on the north slope) in subsequent regional haze planning efforts? Addressing these questions would assist the NPS in better understanding the purpose of the VPA.

Response: The proposed regulation, 18 AAC 50.265(4)(C) requires an assessment of whether or not emissions relating from a proposed project (within the VPA) may impact the state's reasonable further progress goals. The screening tool, posted on the DEC website with the public notice information, is one option that may be used to assess applications and permit amendment applications within the VPA to identify if potential emissions would affect reasonable progress goals. Furthermore, during the application process, a best estimate of projected equipment life, if known, must also be included. Using this information, on a case-by-case basis, during the permitting process, this

information will be used to assist in identifying whether additional control measures would be needed in the permit. 18 AAC 50.265 also includes requirements to maintain maintenance records, for existing sources, of any significant emission units that may have an effect on emissions that affect visibility. This includes critical maintenance that has occurred or is planned to occur including all schedules and practices. This information will be used by DEC to better characterize emission trends for existing sources during the 5-year SIP reviews and SIP updates for future implementation periods.

Given the large size of the State of Alaska, the VPA is one tool DEC is using to assist and better focus efforts in Regional Haze planning to pollutant sources in locations that are most likely to impact Alaska's Class I areas. Sources outside of the VPA will continue to be screened during the Regional Haze SIP planning processes as needed to meet the EPA Regional Haze rule requirements.

Revisions based on response: No revision to the SIP was made in response to this comment.

The following Statements are summarized from the NPS comment attachment.

NPS Revises Cost Estimates from 2009 BART/NPS Analysis of Upgrades to the Existing Dry Sorbent Injection System – Results and Assumptions

The NPS detailed additional analysis that they performed using updated costs that showed that upgrading the existing DSI system would be the most cost-effective option for Healy Unit 1. Based on their analysis, they also concurred with DEC's conclusion that installing a new wet scrubber would not likely be cost effective.

Response: DEC acknowledges NPS's analysis and conclusions about the cost effectiveness of options for upgrading Healy Unit 1.

Revisions based on response: No revision to the SIP was made in response to these statements.

Chena Power Plant and North Pole Power Plant

NPS stated that based on their review of the cost analyses for the Chena Power Plant and the North Pole Power Plant that they find that DEC completed thorough analyses for both facilities and for each facility they have "no further comments with regard to ADEC's final BACT and reasonable progress determinations for this facility."

Response: DEC appreciates the NPS review and feedback on the analyses conducted for these two facilities.

Revisions based on response: No revision to the SIP was made in response to these statements.

Public Comments

Aurora Energy, LLC Comments

Comment 1:

Regional Haze SIP references unapproved BACT determination.
Issue: The FNSB $PM_{2.5}$ Nonattainment Area SIP was partially approved by the EPA; the major stationary source BACT determinations were a part of the unapproved section of the plan. In fact, in October 2021, EPA notified Doyon Utilities and the Army that the EPA would not support the DEC's BACT determination regarding the Ft. Wainwright Central Heat and Power Plant. It is likely that the EPA will be asserting alternative BACT for the other major source facilities within the FNSB $PM_{2.5}$ Serious Nonattainment Area as well.

Request: Aurora suggests that the Regional Haze SIP should reference the EPA's final BACT determination for the facilities. It would be confusing if the unapproved DEC control measures of the current BACT determination are promulgated as a part of the Regional Haze Pollutant Control Plan, especially if the EPA promulgated a different set of BACT requirements.

> Response: The department revised the final Regional Haze SIP based on the array of comments received regarding concerns surrounding the use in the Regional Haze SIP of the FNSB Serious $PM_{2.5}$ SIP BACT determinations and uncertainties related to EPA's potential future actions on that SIP. These revisions are described in the response to EPA Comment #4, Reliance on Best Available Control Technology (BACT) Analyses.
>
> Revisions based on response: See response to EPA Comment #4.

Comment 2:

Regional Haze SIP references BACT determination which, theoretically, could be inapplicable.
Issue: The BACT requirement on the point sources was a consequence of insufficient information which does not accurately determine the stationary sources impact to sulfate based particulate formation from SO_2 emissions. The underlying science and modeling tools available at the time the FNSB $PM_{2.5}$ Serious Nonattainment SIP was submitted to the EPA was insufficient to accurately identify the source of the undefined sulfate (SO_4) particulate that is observed on the air monitoring filters. The EPA's approach assumes that 100% of the unaccounted for SO_4 comes from the major sources. The major stationary sources in the FNSB were subject to BACT analyses as a default since the source of undefined sulfate particulates could not be accurately identified.

Since then, the DEC has updated its air quality models to the latest EPA approved versions and major efforts are currently underway in the research community with a goal of better understanding sulfur chemistry which will lead to long term improvements in the air modeling tools. Per the 2nd Annual Air Quality Control Program Implementation Status for the Fairbanks North Star Borough $PM_{2.5}$ Nonattainment Area (2022):

> "The Fairbanks point source emissions were completed through SMOKE and run through the first full air quality model run with only one sector, the point source emissions. Those results are currently being evaluated, while the rest of the emissions inventory is being processed through SMOKE".[4]

In Aurora's discussions with the DEC, based on the fore mentioned model run, it appears that point source impact to sulfate particulate formation could be insignificant. This is important because the EPA rules and guidance provide communities the ability to avoid BACT based on precursor pollutant-specific analysis and determination. In this case, the precursor pollutant is SO_2. Since the model output quantifies point source emissions of SO_2 as insignificant to sulfate particulate concentration in the area, this suggests that there is a potential for the state and EPA to remove the BACT requirement from the point sources. Although that implication is premature, the DEC will be evaluating the air quality model for overall performance within the next couple of months. This will give the DEC a clear indication as to whether the EPA provision for the community to avoid major stationary source BACT (i.e., major source SO_2 precursor demonstration) is possible. Provided a major source SO_2 precursor demonstration is possible and justifies major stationary sources' insignificance to sulfate particulate concentration in the area, then the DEC could submit a formal determination to the EPA to remove major source BACT as a requirement within the FNSB $PM_{2.5}$ Serious Nonattainment Area.

Request: Aurora would encourage the DEC to finalize the Regional Haze SIP after the BACT requirement for the stationary point sources under the FNSB $PM_{2.5}$ Serious Nonattainment Area has been approved by the EPA.

The BACT requirement is predicated on the impact of major stationary point source SO_2 emissions being significant to sulfate particulate formation. As it stands, it is likely that the major stationary point source emissions are insignificant to the sulfate particulate concentration within the nonattainment area. If that is the case, the BACT requirement for the applicable point sources could be withdrawn.

> Response: Regional haze analyses conducted by the department for this SIP showed that SO_2 is a precursor pollutant of sulfate, which dominates visibility impairment at Alaska Class I areas (as shown in Figure III.K.13.F-2 and Section III.K.13.D). As a result, the department focused on SO_2 sources in its 4-factor analyses for regional haze planning purposes for the 2nd implementation period. While there may be questions surrounding the significance of industrial SO_2 emissions during the wintertime inversion periods that the $PM_{2.5}$ Serious SIP addresses, the regional haze SIP requires a look at sulfur sources throughout the entire year and industrial sources were selected for analysis and potential control as described in Section III.K.13.F. Aurora Energy's Chena Power Plant was a source identified for 4-factor analysis. The department did revise the final Regional Haze SIP based on the array of comments received, which included those expressing concerns with the use in the Regional Haze SIP of the FNSB Serious $PM_{2.5}$ SIP BACT

[4]DEC and FNSB, "2nd Annual Air Quality Control Program Implementation Status for the Fairbanks North Star Borough PM2.5 Nonattainment Area". (2022): pg 29.

determinations because of the uncertainties related to EPA's potential future actions on that SIP. The revisions made to the Regional Haze SIP are described in the response to EPA Comment #4, Reliance on Best Available Control Technology (BACT) Analyses.

Revisions based on response: See response to EPA Comment #4.

Comment 3:

Collaborative four-factor analysis in lieu of BACT determination.
Issue: Hypothetically, if the major source BACT determination were removed from the FNSB $PM_{2.5}$ Serious Nonattainment area, then the basis for not requiring a four-factor analysis on respective point sources would also be displaced.

Request: Provided that the BACT determinations are removed from the $PM_{2.5}$ Serious Nonattainment Area, Aurora would suggest that the DEC work closely with the sources in developing a four-factor analysis for each of the facilities.

Response: DEC made revisions to the SIP to address the concern related to PM2.5 Serious SIP BACT determinations (see response to EPA Comment #4). DEC may work with individual sources prior to the next 5-year progress report SIP or 3rd Implementation Period SIP updates should 4-factor analyses be found to be warranted.

Revisions based on response: Section III.K.13.H.8 was updated to reflect the state enforceable limits and recently issued permits for the facilities located in the FNSB $PM_{2.5}$ Serious Nonattainment area linking those controls to reasonable further progress and the long-term strategy. See response to EPA Comment #4.

Doyon Utilities, LLC

Comment 1:

Page III.K.13.H-23 in the proposed RH SIP states, "Due to NAAQS violations for CO emissions all six (Fort Wainwright Combined Heat and Power Plant/FWA CHPP) boilers have been operating at 20 percent reduced capacity since 2017." This statement is inaccurate. The boilers are operated at loads needed to answer post demand and are each subject to an operating load limit approximately 12 percent below maximum capacity. Operating the boilers at or near the maximum rated capacity resulted in atypical boiler operating conditions such as boiler grate speed and damper settings. These operating parameters are critical to achieving constant air flow and compliance with the carbon monoxide (CO) emission standard in 40 CFR 63 Subpart DDDDD. DU accepted an operating load limit to ensure compliance with the CO emission standard. This operating load limit applies on a 30-day averaging period, so operating at a load above 132,000 pounds per hour for a short period can be allowable. Although the limit results in a reduction of 12 percent from the maximum rated capacity of 150,000 pounds per hour on a 30-day average basis, the FWA CHPP boilers are, in practicality, not limited because the average boiler steam flow rates are 80,000 to 110,000 pounds per hour.

Please remove the statement that a violation of the National Ambient Air Quality Standards

(NAAQS) occurred because that statement is incorrect. Please remove the statement that the boilers have been operating at reduced capacity since 2017 because that statement is incorrect. DU operates the boilers to meet the demands of Fort Wainwright (FWA). DU is not necessarily prohibited from conducting source testing at higher loads in the future to increase the operating load limit if needed to meet FWA demands.

> Response: DEC has removed the statement that a violation of the National Ambient Air Quality Standards (NAAQS) occurred. DEC also acknowledges that the CHPP boilers are not operating at a "restricted" reduced capacity as the permit(s) allow operation at higher steam production rates upon a successful demonstration by source test (Condition 13, AQ1121TVP02).
>
> Revisions based on response: An edit was made to Section III.K.13.H. - Long-Term Strategy to remove the incorrect statement.

Comment 2:

The proposed RH SIP refers to the FWA CHPP boilers as "EGUs." The term electric utility steam generating unit (EGU) is defined in other air quality regulations as "a fossil fuel-fired combustion units of more than 25 megawatts electric (MWe) that serves a generator that produces electricity for sale." The term "EGU" is not an appropriate nomenclature for the FWA CHPP boilers. The proposed RH SIP also refers to the MEA Eklutna facility as EGU, which could add confusion when reviewing the emission inventory. For clarity, DU suggests using the term "coalfired boilers" to refer to the FWA CHPP boilers.

> Response: DEC agrees that the term "EGU" is not the appropriate term to use in reference to the FWA CHPP boilers. The SIP has been revised to remove the term and replace it with "CHPP" in the tables.
>
> Revisions based on response: SIP Tables III.K.13.F-5 and III.K.13.F-7 were revised to remove "EGU" and replace it with "CHPP"

Comment 3:

Several of the proposed RH SIP sulfur dioxide (SO_2) emission limits for facilities in Interior Alaska rely on the $PM_{2.5}$ Serious SIP Best Available Control Technology (BACT) requirements for those facilities. The US Environmental Protection Agency (EPA) has not yet approved the portion of the $PM_{2.5}$ Serious SIP which includes those BACT requirements. The proposed RH SIP does not address what limits would be needed if the $PM_{2.5}$ Serious SIP BACT limits were to change due to EPA final action on the $PM_{2.5}$ Serious Nonattainment Area SIP for the Fairbanks area. To avoid conflicting or redundant requirements, DU suggests that the SO_2 emission limits in the RH SIP reference the $PM_{2.5}$ Serious SIP BACT requirements rather than reiterate those limits. In other words, the RH SIP SO_2 emission limit could be written to require compliance with the applicable $PM_{2.5}$ Serious SIP SO_2 BACT emission limit. This approach could also potentially mitigate the need to revise the RH SIP if the $PM_{2.5}$ Serious SIP BACT requirements

are revised in the future.

Response: The department understands the concern expressed in this comment and revised the final Regional Haze SIP based on the array of comments received, which included those regarding concerns surrounding the use in the Regional Haze SIP of the FNSB Serious $PM_{2.5}$ SIP BACT determinations because of the uncertainties related to EPA's potential future actions on that SIP. These revisions are described in the response to EPA Comment #4, Reliance on Best Available Control Technology (BACT) Analyses.

Revisions based on response: See response to EPA Comment #4.

Comment 4:

The requirement to "include mitigation measures to minimize any potential adverse impacts identified" in proposed 18 AAC 50.265(5) is not clear as to how or when this requirement applies. Additionally, the term "include" is unclear in this context. DU suggests modifying this requirement to specify how and when this requirement applies.

Response: DEC agrees that the use of the word "include" at this line of the draft regulation needs clarification. We have revised the regulation as follows:

> (5) **implement** mitigation measures **identified in a permit** to minimize any potential adverse impacts identified.

Revisions based on response: Final regulations were amended to reflect the language described above.

Comment 5:

ADEC is not proposing to modify the permitting requirements in Articles 3 and 5 of 18 AAC 50 even though proposed section 18 AAC 50.265 adds requirements for sources in the Visibility Protection Area (VPA). DU suggests that ADEC revise Articles 3 and 5 where applicable to i cross-reference the requirements in 18 AAC 50.265(4). The addition of cross-references would provide clarity on how and when the new permit application requirements are applicable.

Response: The proposed regulation at 18 AAC 50.265 included the following language to ensure that it was clear that all other requirements in 18 AAC 50 inclusive of Articles 3 and 5 continue to be applicable:

> "in addition to meeting all requirements in 18 AAC 50 as applicable, all stationary sources that require a permit, are located or operating within the area defined in 18 AAC 50.025(a)(4), and contain fuel burning equipment or industrial processes, shall: ..."

Further, the proposed 18 AAC 50.265(4) includes references to meeting the requirements in Article 3 and 5:

> "(4) ensure that an application for a construction permit, new permit, permit renewal, or permit modification specifically addresses information related to possible impacts on the reasonable further progress goals for Class I areas, as identified in the State Air Quality Control Plan, adopted by reference in 18 AAC 50.030; in addition to the requirements found in Article 3 and Article 5 of this chapter, as applicable, the application must also include:"

The department understands the commenter's point that additional cross-references in Articles 3 and 5 of 18 AAC 50 could provide additional transparency with respect to permit application requirements. The department will consider making such cross-references in a future regulation revision.

Revisions based on response: No change was made to the regulations in response to this comment.

Golden Valley Electric Association Comments

Comment 1:

Of all the stationary sources in the Fairbanks North Star Borough $PM_{2.5}$ Nonattainment Area, we were surprised to see the North Pole Power Plant (NPPP) singled out for additional controls under the 2022 Regional Haze SIP. We were surprised particularly in light of a) the large SO_2 reductions that are already occurring under requirements of the Nonattainment SIP, b) the Department's lack of a modeling platform to evaluate reductions and understand whether they are likely to result in any observable visibility effects, and c) regional studies currently underway to assess the role of precursors to $PM_{2.5}$-related issues. Therefore, we ask that the Department withdraw the proposed additional controls on the NPPP until the reductions taken under the Nonattainment SIP can be evaluated for their effects on visibility in Denali. We feel this more measured response is warranted given that the estimated regional haze-related SO_2 emissions reductions from the NPPP are relatively small (roughly 100 tons per year) and will have little impact on visibility compared to the estimated nonattainment area reductions of roughly 1,000 tons per year between 2019 and 2024 (on average based on episodic days). We ask the Department to recognize that there is time to take a more measured approach, given that none of the data presented in the Reasonable Progress Goals analysis (starting on page III.K.13.I-1) suggest an immediate response is warranted. That analysis shows only nominal improvements (0 to 1 deciviews) are required over the next 30+ years to achieve goals. There is clearly time for the Department to understand the results of ongoing studies, evaluate the impacts of on-the-books reductions, and to characterize the issue adequately to inform effective solutions.

> Response: As described in Section III.K.13.F, DEC used a two-step screening process using emissions data to identify sources that needed a four-factor analysis per EPA's

requirements. The NPPP was identified as a source with emissions that could impact a Class I area through that process. DEC agrees that there are large SO_2 emission reductions in place through state permits associated with the $PM_{2.5}$ Serious SIP. The SO_2 emission limits and controls identified and now in place through enforceable state permits are included in the final long term strategy within this Regional Haze SIP.

The reason the NPPP had an additional control included is because the four-factor analysis showed that control to be both feasible and reasonable. There is also a difference between the requirements and need for $PM_{2.5}$ and precursor pollutant controls during winter months in the Fairbanks North Star Borough nonattainment area and the need for visibility improvements year-round at the Class I area. Regional haze analyses conducted by the department for this SIP showed that SO_2, a precursor pollutant of sulfate, dominates visibility impairment at Alaska Class I areas (as shown in Figure III.K.13.F-2 and Section III.K.13.D). As a result, the department focused on SO_2 sources in its four-factor analyses for regional haze planning purposes for the 2nd implementation period. While there may be questions surrounding the significance of industrial SO_2 emissions during the wintertime inversion periods that the $PM_{2.5}$ Serious SIP addresses, the Regional Haze SIP requires a look at sulfur sources throughout the entire year, and industrial sources were selected for analysis and potential control as described in Section III.K.13.F.

DEC understands that there may only be nominal visibility improvements at the Class I area; however, the plan must show reasonable progress as well as meet federal requirements. DEC also acknowledges GVEA's viewpoint with respect to linking specific emission mitigation efforts to improvements in visibility and the importance of ensuring that investments in controls result in the intended benefits. DEC is required to meet federal Regional Haze rules and submit regular updates to the SIP to ensure reasonable progress toward meeting the long-term goal. The types of improvements and analysis required to better quantify outcomes from additional controls cannot be completed in a reasonable amount of time for this planning period. DEC will continue its efforts to improve analytical tools/models as resources allow in the coming years as the state works on the next five-year SIP review/revisions and as it initiates efforts to address the next round of planning requirements for the third ten-year implementation period (2028-2038).

Revisions based on response: No revision to the SIP was made in response to this comment.

Comment 2:

On Page III-K-13-D-8, the description of annual and seasonal speciation trends for Denali (DENA1) contains the following statement *"DENA1 is adjacent to a local coal-fired electrical generating plant (i.e., the Healy Power Plant), which produces significant amounts of $(NH_4)_2SO_4$ and NH_4NO_3."*. This statement seems to imply causation between the Healy Power Plant and visibility trends at the monitoring site which have not been proven to exist. What we do know for certain is that DENA1 is also adjacent to the town of Healy, the Usibelli Coal Mine, and major

transportation routes (the Parks Highway and the Alaska Railroad) which are all important sources of $(NH_4)_2SO_4$ and NH_4NO_3 in addition to primary $PM_{2.5}$. We also know for certain that none of the monitoring conducted under the November 9, 1993 Memorandum of Agreement between DOI, DOE, AIDEA, and GVEA has ever observed a visible plume in the park attributable to the Healy Power Plant. Therefore, we request the statement about the Healy Power Plant be removed or broadened to present a more comprehensive picture as follows: *"DENA1 is adjacent to the Parks Highway, the Alaska Railroad, the Usibelli Coal Mine, and a local coal-fired electrical generating plant (i.e., the Healy Power Plant), all of which are local anthropogenic sources which could impact measurements at DENA1."*

Response: DEC agrees that there are other sources of air pollution near the DENA1 Improve monitoring site beyond the Healy Power Plant and broadened the statement in the final SIP.

Revisions based on response: The referenced sentence was replaced with a new sentence reflecting the Parks Highway, Alaska Railroad, Usibelli Coal Mine, and the Healy Power Plant as sources near or adjacent to Denali National Park and DENA1 IMPROVE site.

Comment 3:

The Regional Haze SIP emphasizes the proximity of the Healy Power Plant to Denali National Park and implies that visibility in Denali will be improved by placing additional controls on stationary sources in the Fairbanks area. However, the IMPROVE monitor closest to the Healy Power Plant and the Fairbanks area (DENA1) shows considerably less visibility impairment than the Trapper Creek (TRCR1) monitor which is located south of the Alaska Range, twice as far from Fairbanks as the DENA1 monitor, and 6 times farther from the Healy Power Plant than the DENA1 monitor. Visibility impairment in the airshed represented by TRCR1 is more likely to be dominated by the same transportation sources as DENA1 (e.g., Parks Highway and Alaska Railroad), in addition to SO_2 emissions sources located in Anchorage and the upper Cook Inlet (railroad, ports, aviation, commercial offshore vessels). A simple comparison of the measurements between these monitors would seem to suggest that there would be little value in adding sulfur emissions controls to stationary sources in the interior. In other words, there would be a miniscule, if any, improvement in visibility for each dollar spent controlling stationary SO_2 sources in the interior, compared to a relatively high potential visibility improvement per dollar spent controlling mobile sources. The incongruity of the SIP's proposed solutions with the description of the regional haze problem underscores the need for further characterization and, relatedly, the need for photochemical modeling that is capable of accounting for major biogenic and anthropogenic sources and explaining the differences between the two monitoring locations.

Response: DEC understands the point that GVEA is making in this comment and can appreciate the concerns related to better understanding the impact and value that additional emission controls could provide for visibility in the Class I areas. It is difficult to quantify and analyze regional air quality and visibility improvements from reducing air pollutant emissions within the state with the available analytical tools, which has been a continuing challenge for Alaska's regional haze planning. Alaska is still required to meet federal regional haze rules, aspects of which require significant efforts be made to

analyze sources of visibility impairing pollutants regardless of visibility conditions.

DEC acknowledges that the characterization tools available to inform the Regional Haze planning effort could be improved. Undertaking photochemical modeling for the state of Alaska is particularly challenging given the size of the state and its many regions of complex terrain including the Alaska Range in which portions of Denali National Park lie. DEC continues to access and use the available analytical tools to the extent possible in its Regional Haze planning effort and works with EPA to advance and advocate for better performing emission estimation, meteorological, and air quality models for use in Alaska air quality planning overall.

GVEA noted the differences between the concentrations observed at the DENA1 and TRCR1 IMPROVE sites. Alaska worked with EPA and the Federal Land Managers to install the Trapper Creek IMPROVE monitor because DEC thought that location was more likely to observe transported pollution from areas of the state with both higher population and growth potential, which staff thought would be most useful to regional haze planning efforts and tracking progress. Higher population and areas with growth development can collectively result in impacts from larger numbers of smaller sources (like motor vehicles) as well as from industries and commercial activities associated with those communities. The TRCR1 monitor does tend to observe higher concentrations than the NPS DENA1 IMPROVE monitor located inside the national park, which is what DEC thought might be observed when siting the monitor in Trapper Creek between those urbanized/growing areas and the national park. It is important to note that no one source or source category is responsible for the regionalized air pollutants that impair visibility in Class I areas. The larger industrial sources at Healy and in the greater Fairbanks area are only one sector of potential emission sources that can potentially impact visibility.

DEC acknowledges GVEA's viewpoint with respect to linking specific emission mitigation efforts to improvements in visibility and the importance of ensuring that investments in controls result in the intended benefits. DEC is required to meet federal Regional Haze rules and submit regular updates to the SIP to ensure reasonable progress toward meeting the long-term goal. The types of improvements and analysis required to better quantify outcomes from additional controls cannot be completed in a reasonable amount of time for this planning period. DEC will continue its efforts to improve analytical tools/models as resources allow in the coming years as the state works on the next five-year SIP review/revisions and as it initiates efforts to address the next round of planning requirements for the third ten-year implementation period (2028-2038).

Revisions based on response: As noted in other responses, DEC made some adjustments in the final SIP language based on GVEA's overarching comment to broaden the discussion to reflect emission sources other than just Healy or a few other stationary sources in the Interior.

Comment 4:

The Railroad Section on Page III.K.13.H-27 implies rail sector emissions will decrease during the planning period. This assumption relies too heavily on a single source of freight, and trends

not relevant to the current planning period - coal shipments to Seward. Given that the railroad is an important source of emissions released close to the Denali Class I area, we request that the Department revise this section to better represent modern railroad operations and to be consistent with data presented elsewhere in the SIP. For example, the data in Table III.K.13.E-3 shows a 1% increase in both NOx and $PM_{2.5}$ emissions from the rail sector during the planning period. That is contrary to this section's allusions to efficient engines and decreasing rail traffic.

Additionally, Alaska Railroad Annual Reports[5] show that total hauled freight declined between 2011 and 2014 but has changed little since that time. Since at least 2015, gravel shipments have dominated hauled freight, and the amount of coal hauled annually has remained steady. While amount of coal transport has remained steady, the annual reports show a rise in petroleum shipments. This is likely the result of a demand for Ultra Low Sulfur Diesel fuel in the Alaskan Interior and North Slope resulting from EPA fuel standards and rulemaking associated with the Fairbanks North Star Borough $PM_{2.5}$ Serious Non-Attainment SIP.

In addition to indicating that the effect of railroad emissions will become increasingly unimportant to visibility during the planning period, the Department also implies that railroad-associated visibility impacts are low, even though sector-specific contributions to anthropogenically-caused visibility impairment in Denali are not well understood. Therefore, rather than saying "This, combined with decreased traffic along the lines, will likely keep railroad-associated visibility low through the end of the planning period." we suggest the conclusion be rephrased to say "The Department will continue to track rail traffic trends during this implementation period due to the combination of a potential increase in emissions from this sector during the next planning period, and the close proximity of those emissions to Denali. However, until refined modeling or monitoring shows causation, or until rail traffic trends change, the Department believes the total emissions from this sector are too small to warrant including this sector in the long-term strategy during this implementation period."

> Response: DEC has compared 2017 and 2020 AK Railroad figures submitted to the agency for the triennial National Emissions Inventories. Emissions showed an average 19% decline between the two inventory years, although it is likely this was a result of depressed tourism figures from the COVID-19 pandemic. With tourist numbers returning to pre-pandemic levels, it is possible this decline will be temporary, and emissions may return to 2017 levels. The department will make changes in the SIP to broaden our discussion regarding Denali emissions sources and the AKRR.
>
> Revisions based on response: Section III.K.13.H was updated to reflect new information on the railroad sector as follows. Railroad Sector Paragraph 1: Cargo shipments in Southcentral Alaska have remained consistent as demand for petroleum products in Interior Alaska has increased in recent years. Current projections included in the SIP show a potential 1% increase in NOx, CO, and PM emissions from 2016 to 2028. DEC has compared 2017 and 2020 NEI data submitted to it by the AKRR, which showed a 19% decline in emissions between the two inventory years. This is the result of passenger

[5] 3 At https://www.alaskarailroad.com/corporate/leadership/reports

traffic declines due to the COVID-19 Pandemic. It is unlikely this decline will hold for future inventories, as tourist activity will likely resume in 2022 and 2023.

Railroad Sector Paragraph 2: The department will continue to track railroad emissions trends during the planning period to monitor whether the railroad emissions inventories track with the 1% increase projected in the data used for the SIP. Without more detailed modeling or monitoring showing direct causation between rail traffic and visibility impairment at Denali National Park, the department believes the emissions to be too small to warrant increased scrutiny.

Comment 5:

We believe the following statement at the top of page III.K.13.H-7 is inaccurate and request that it be removed:

> *"With the declaration of the Fairbanks PM2.5 nonattainment area, GVEA has discussed the potential of shifting more power generation reliance over to Healy to avoid issues with air pollution within the nonattainment area. As a result, there is the potential for increased emissions from the Healy facility which is approximately 7 miles from the Denali Class I area."*

We ask that this statement be removed for two reasons. First, GVEA has not discussed the potential of shifting more power generation reliance over to Healy to avoid issues with air pollution within the nonattainment area. In fact, if Healy Unit 1 is decommissioned, that power generation capacity will need to be replaced with capacity from sources other than the Healy Power Plant, and some of them are located within the Fairbanks $PM_{2.5}$ Serious Nonattainment Area. Furthermore, GVEA does not shift power generation between facilities as a result of emissions. Power is shifted based on economics as demanded by our rate payers. The least expensive power source is dispatched first, with additional power coming from more expensive resources as demand increases. Shifting emissions has air quality permitting implications and cannot be taken lightly without a thorough permit applicability analysis.

Second, as has been discussed elsewhere in our comments, we take issue with the implication that the proximity of Healy Power Plant emissions to the park have much to do with visibility impacts. As stated before, if the proximity of the Healy Power Plant was a controlling factor, visibility impairment measured at DENA1 should be worse than at TRCR1. This is not the case. Similarly, we would expect observations of visible plumes under the November 9, 1993 Memorandum of Agreement between DOI, DOE, AIDEA and GVEA, but no such plumes have been observed. Again, without a technical basis indicating causation or even correlation between the Healy Power Plant and measured impacts in the Class I area, we ask that the Department refrain from implicating the Healy Power Plant in regional haze impacts.

Response: Based on GVEA's comment, DEC will remove the statement of concern from Section III.K.13.H.

Revisions based on response: The concerning sentence in Section III.K.13.H was deleted from the final SIP.

Comment 6:

The final determinations under the controllable sources technical analysis have resulted in giving several stationary sources the option to submit a 4-factor analysis to comply with the SIP. Unfortunately, the Department has failed to provide critical procedural details related to this option. The absence of such details prevents us from understanding it well enough to provide meaningful comments. Therefore, we request the Department refrain from adopting the proposed regulation changes until the Department has given the public the details necessary to understand how this option will be implemented and has properly allowed the public to provide comment.

Before the proposed regulation is adopted, we feel it is critical to disclose the following:

- Will the Department, EPA, and Federal Land Managers (FLMs) all be reviewing and approving the 4-factor analyses? If so, who arbitrates disagreements among the agencies?
- Will the approved 4-factor analyses go through a public comment period like the 4-factor analyses in the proposed 2022 Regional Haze SIP?
- How will the Department determine an appropriate cost effectiveness threshold, given the small number of regional haze determinations that have been made that are not tied to nonattainment cost effectiveness determinations, and given that the Department has no way to quantify the effectiveness of proposed emission reductions on visibility improvement?
- What timeline will be associated with the approval process?

Response: The State of Alaska is responsible for developing the Regional Haze SIP and making the decision on four-factor analysis and the control measures required for achieving reasonable further progress. The Department will determine cost effectiveness of controls on a case-by-case basis for each source/pollutant analyzed. Those decisions are then provided for review through an FLM review process and then the state's formal public notice and administrative regulatory process. Ultimately, EPA has an obligation to review and act on the SIP; EPA may either fully or partially approve or disapprove the SIP.

The timing of a four-factor analysis is associated with an implementation period or the required 5-year progress report for an implementation period. As currently written, all Regional Haze SIPs or amendments are subject to a FLM review and a public notice period. The timeline for completing activities is guided by the federal timing requirements for Regional Haze progress reports and updated SIPs.

For example, the 5-year progress report for the 2nd implementation period is due in January 2025. DEC anticipates it will need to have a draft of the progress report finalized in early 2024. In order to draft the 5-year progress report, DEC must have received any required four-factor analysis to inform its decision making and to be able to include the

four-factor analysis within the draft. Once drafted, the 5-year progress report then enters the SIP review process, which includes the FLM and public reviews.

The FLM review process may be as long as 120 days, and the public review process typically takes 45-60 days. After each review, DEC must develop a response to comments document and may make adjustments to the SIP based on those comments. The FLM review comments and response are included in the public notice review document. EPA also has the opportunity to review early drafts. After the public comment period, SIPs go through the department adoption process, a Department of Law review, and then signing and filing by the Lieutenant Governor. Typically, this entire effort takes about a year barring unforeseen issues. In order to submit a plan to EPA, the regulations adopting the air quality plan must be filed by the Lieutenant Governor with an effective date. Once the regulations and SIP are transmitted to EPA, they conduct their final review and take action on the SIP. Their process also involves the opportunity for public review and comment.

Revisions based on response: No change was made to the SIP in response to this comment. The department will work with sources to provide additional guidance on the four-factor analysis requirements in the future as warranted.

Comment 7:

The final determinations under the controllable sources technical analysis have resulted in giving several stationary sources the option to submit a 4-factor analysis to comply with the SIP. Is it true that the analysis only has to be submitted to comply, or will the results of the analysis need to be approved to comply?

Response: It depends on the results of the four-factor analysis. If the results indicate that an economical approach to reducing emissions is available, DEC may decide to include those results as an enforceable limit which would then go through the review process outline described above in response to GVEA Comment #6. If the results indicate that the source is effectively controlled, no additional controls will be required. However, as indicated in the response to GVEA Comment #6, ultimately, EPA has an obligation to review and either fully or partially approve or disapprove the SIP including any decisions by DEC regarding four-factor analysis and their results. Also, as GVEA is aware, EPA has the authority to address specific sources, independently of a SIP, such as the case with the federal consent decree on Healy Unit #1.

Revisions based on response: No change was made to the SIP in response to this comment. The department will work with sources to provide additional guidance on the four-factor analysis requirements in the future as warranted.

Comment 8:

The final determinations under the controllable sources technical analysis have resulted in giving

several stationary sources the option to submit a 4-factor analysis to comply with the SIP. This option results in an uncertain outcome which does not seem to satisfy the objective of the controllable source analysis. Therefore, what feedback has the Department received from EPA and the FLMs regarding this approach?

Response: Please see comments above from EPA and FLMs regarding four-factor analysis. EPA will ultimately determine approvability of Alaska's approach to meeting the Regional Haze requirements. DEC understands that conducting four-factor analysis takes time and resources and, therefore, is identifying timeframes for submitting analysis that correspond with reporting and planning periods so they can be incorporated during the formal review processes.

Revisions based on response: No change was made to the SIP in response to this comment.

Comment 9:

The final 4-factor determination for the GVEA Healy Power Plant Unit 1 provides an option to implement an SO_2 limit 0.20 MMBTU/hr without any explanation. Given it was established without a 4-factor analysis, we presume that this emission limit is representative of an effectively controlled unit. If that is the case, to be consistent with Section 2.3 of the July 8, 2021, memorandum providing "Clarifications Regarding Regional Haze State Implementation Plans for the Second Implementation Period" we request that the Department revise the SIP to demonstrate 0.20 MMBtu/hr is representative of an effectively controlled unit and explain why it is reasonable to assume that a 4-factor analysis would likely result in the conclusion that no further controls are reasonable.

Response: DEC has concluded that Unit 1 would be considered an effectively controlled source if Option 3 for establishing enforceable limit is selected. DEC notes that the 0.20 lb/MMBtu limit is not a "de facto" offramp for a decision that a source is already effectively controlled, but it is a valid decision point that contributes to such a finding under the 2019 Guidance memo, along with other information. While lower emission limits may be achieved with DSI optimization, the selection of Option 3 represents significant emissions reductions that can be achieved cost-effectively in the relative near-term that will add greatly to the air quality of the region as well as further assist long term visibility impairment in the park, an issue that has not been shown to have any basis or connection to emissions from GVEA Unit 1. See also the responses to NPS Comments #4 and #7.

Revisions based on response: DEC added justification in Section III.K.13.F for allowing the option to limit emissions to 0.20 lb/MMBtu for Unit 1, which it finds would be considered an effectively controlled source.

Hilcorp Comments

Comment 1:

Proposed rule 18 AAC 50.265(l) uses the word significant to describe emission units as follows: *"maintain onsite for 10 years, records of any maintenance to any significant emissions unit that has or may have an effect on any emission that affects visibility of Class I areas, including…"*. Please either confirm that the term "*significant emissions unit"* means an emission unit with a potential to emit exceeding the rates listed in 40 C.F.R. 51.165(a)(1)(x)(A), adopted by reference in 18 AAC 50.040, or provide a definition specific to the proposed rule since significant means many things under 18 AAC Chapter 50.

> Response: The Department revised the proposed rule 18 AAC 50.265(1) to clarify that the Permittee shall "maintain onsite for 10 years, records of any maintenance to any significant emissions unit **that does not meet the definition of an "insignificant emissions unit" under 18 AAC 50.326(d) - (i)."**
>
> 40 C.F.R. 51.165(a)(1)(x)(A) refers to the definition of "Significant" in reference to "a net emissions increase or the potential of a **source** to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates..." (emphasis added). This would refer to a stationary source-wide net increase or potential to emit and, therefore, not appropriate for determining emissions unit specific maintenance requirements.
>
> Revisions based on response: Final regulations were amended to reflect the language described above.

Comment 2:

Please provide a description of how the Department intends to use the draft spreadsheet screening tool posted on the website (https://dec.alaska.gov/air/anpms/regional-haze-public-notice-draft/) that is titled "2nd Implementation Period – Regional Haze State Implementation Plan Public Notice Version". The draft spreadsheet is under the webpage section, "Additional Information", at https://dec.alaska.gov/media/25353/draft-screening-tool-locked.xlsm. The purpose of this tool under the proposed rule is unclear; this tool does not appear to be described or referenced in the SIP or proposed rules. Furthermore, since the objective of the tool is to identify sources based on facility-wide emissions, we are led to conclude that is will not be used to determine which emission units are significant under proposed rule 18 AAC 50.265(l) or screen projects at exiting sources (modifications) under proposed 18 AAC 50.265(4)(B) or (4)(C).Without knowing the purpose of this tool under the proposed rule or the basis for the threshold of 10 tpy/km, it is not possible to provide meaningful comment. Therefore, we also request that the Department refrain from adopting the proposed regulation changes until the public has had a chance to understand the relevance of this tool.

> Response: In the proposed regulations, 18 AAC 50.265(4) requires that permit applicants must submit information related to possible impacts on the reasonable further progress

goals in addition to meeting the permitting requirements identified in Article 3 and Article 5. Applications must also include (now) 18 AAC 50.256(d)(3)) (was 18 AAC 50(4)(C)) "an assessment of whether or not emissions resulting from the proposed project may impact the state's reasonable further progress goals". The spreadsheet screening tool was presented to provide an example or option that may be used by applicants to assist in meeting 18 AAC 50.256(4)(C). Using the screening tool is not required to meet the assessment provisions; therefore, it is not explicitly identified in the regulations. The values within the spreadsheet include the reasonable progress goals included in the SIP to meet federal requirements. The department provided the tool to give industrial sources an idea of the level of assessment envisioned for this requirement.

Revisions based on response: No change was made to the SIP or regulations in response to this comment.

Comment 3:

The EPA Air & Radiation Division (USEPA) submitted comments on May 18, 2022 which were posted to the State's Regional Haze Website. Dominating those comments are recommendations to augment the SIP long term strategy so that it identifies those controls inherent to the controllable sources analysis that are or are not necessary to make reasonable progress. For those that are necessary, USEPA recommends including language detailing how that control will be enforceable as a practical matter (i.e., include information related to enforceable emissions limitations, compliance schedules, and other measures). Specifically, USEPA recommends taking the assumption that the Hilcorp oil and gas platforms burn ULSD exclusively in liquid fuel fired emissions units and make it an enforceable requirement to be included in the long-term strategy. This recommendation is not only unnecessary due to existing federal fuel standard requirements, but also because it is an inherent operating restriction based on fuel availability and operational restrictions.

USEPA's recommendation to augment the SIP long term strategy to require controls and add language to make controls enforceable as a practical matter will directly impact source compliance obligations and risk. Therefore, we request that revisions made to the long-term strategy be made available for public comment prior to finalizing the SIP for submittal to EPA.

Response: To respond to EPA comments, DEC has added tables within the long-term strategy section of the SIP (See Section III.K.13.H.8). These tables summarize the already existing emission limits/controls or new emission limits/controls identified within the proposed SIP for those sources selected for four-factor analysis. EPA simply identified that, in addition to identifying controls in the other sections, they also needed to be included in the long-range strategy section. Given this is largely an administrative edit, that relies on existing information, the updates to the long-term strategy section will not be re-noticed for further public comment. Please see the response to EPA Comment # 1 where DEC specifically addressed EPA's comment regarding Hilcorp sources and ULSD.

Revisions based on response: New long term strategy tables identifying specific source controls included for this implementation period were added to Section III.K.13.H.8.

Comment 4:

The Department has clearly shown that their ability to track and control emissions that may affect visibility in Class I areas is severely hindered by a lack of tools to model and apportion visibility impacts and not their lack of ability to characterize stationary sources. Therefore, the new recordkeeping in proposed rule 18 AAC 50.265(l) increases the regulatory burden on facilities without providing any additional data. Consequently, we request that the Department remove the stationary source recordkeeping requirements and instead add a long-term strategy goal to develop a modeling platform that is capable of establishing sound glidepaths and source apportionment to visibility concerns before the next review period.

It is premature at this point for the Department to do anything other than continue to understand visibility concerns and develop better modeling tools to address visibility improvement given the 5 "prevalent issues" presented on pages III.K.13.G-7 and III.K.13.G-8 which summarize the following statements about the state of the modeling that has been conducted by the WRAP for the current planning period:

> *"Modeling is a critical technical step in many of the planning requirements of the RH Tule. Models are needed for source apportionment, control strategy development and optimization, quantification of incremental impacts of individual source categories, and analysis of cumulative impacts."* (page III.K.13.G-1)
>
> *Alaska does not have WRF meteorology available or a photochemical grid modeling platform to perform similar modeling to evaluate impacts to visibility. Due to the funding constraints, it was not possible for Alaska to perform photochemical grid modeling as part of their RH SIP.* (page III.K.13.G-1)
>
> *These benchmarks were developed by analyzing the model performance for regional-scale photochemical grid models mostly in the lower 48 states, and we do not expect photochemical models to perform as well as for Alaska where the concentrations are highly dependent on estimates of international and natural emissions that are not as well-known as U.S. anthropogenic emissions.* (page III.K.13.G-2)
>
> *The underestimation of SO4 could pose an issue for using EPA's CMAQ modeling results for Alaska regional haze modeling. The EPA's CMAQ modeling did not include reactive sulfur emissions from volcanoes or oceanic DMS.* (page III.K.13.G-2)
>
> *These results imply that the concept of glidepath may not be appropriate for Alaska given significant natural sulfur emissions in the area that are highly variable from year to year (see Section III.K.13.E-4) that it is impossible to achieve the glidepath with controls of U.S. anthropogenic emissions.* (page III.K.13.G-5)

Given what appears to be highly speculative results from this modeling, the rulemaking related

to stationary sources seems even more arbitrary given the concrete evidence presented in the "Summary of 2016 and 2028 Emissions Inventories" beginning on page III.K.13.E-5. This summary clearly shows stationary sources are a small contributor to anthropogenic sulfur emissions which are overwhelmingly dominated by Commercial Marine Vessel Category 3 and Non-Point emissions. This evidence suggests that it is unnecessary to potentially collect additional information related to stationary sources when developing a long term strategy for monitoring visibility. This evidence is further supported by the GEOS-Chem source apportionment modeling conducted by the University of Alaska at Fairbanks (UAF) and presented in the "Potential Source Contributions at Alaska Improve Sites" section beginning on page III.K.13.E-24, and the "Potential Source Contributions (PSC) Analysis" starting on page III.K.13.G-32. It is shown in these analyses that there is a small sulfate potential from non-electric generating unit (non-EGU) point sources and a lack of evidence that the stationary source contribution to visibility is significant enough to warrant additional recordkeeping requirements.

Casting a wide net and dragging all stationary sources within the Visibility Protection Area into the long range strategy may be warranted if the causal link were clearly established, and concerns were large enough to require immediate response. However, none of the data presented in the Reasonable Progress Goals analysis starting on page III.K.13.I-1 suggests an immediate response is warranted. The analysis presented in the Reasonable Progress Goals section shows only very small improvements (0 to 1 deciviews) are required in the next 36 years to achieve goals. Therefore, there is clearly time to develop the tools necessary to fully characterize the issue and develop a more measured response.

Regardless of what the modeling and measurements show, all stationary sources are, and will remain the focus of the Controllable Sources Review under the Regional Haze Rule. If the current review did not demonstrate a need to control then, they do not need to be part of the long-term monitoring strategy, particularly when they will be evaluated in the future as part of the Controllable Sources Review during the next planning period.

Given all the evidence that the emissions from stationary sources are not a significant visibility concern, there is a lack of modeling tools available to make source specific assessments to visibility impacts, there is ample time available to address concerns, and stationary source impacts will continue to be evaluated as part of future Controllable Sources Review, we request that the additional recordkeeping requirement on stationary sources in proposed rule 18 AAC 50.265(l) be removed. In place of this, we request that the Department add to the long-term strategy a commitment to develop a modeling platform that addresses the "prevalent issues" presented on pages III.K.13.G-7 and III.K.13.G-8 and is capable of producing glidepaths and source apportionment that can be used to establish measured and sound rulemaking to address visibility concerns before the next review period.

> Response: DEC appreciates the request that the department develop a modeling platform for regional haze planning, but resources are not available to make such a commitment within the SIP at this time. DEC is continuing to strive toward increasing its inhouse modeling capabilities and possibly in the future will be able to perform additional modeling for Regional Haze. In the meantime, DEC will continue to expect EPA to meet

its obligations to identify and quantify international transport and other emission influences outside control of the State. Additionally, until the ability to enhance modeling for the state of Alaska is achieved, information submitted as part of the expanded recording keeping requirements will be critical to documenting what emission reductions are happening as part of sources' normal course of business through routine maintenance and equipment upgrades.

Revisions based on response: No revision to the SIP was made in response to this comment.

The Coalition to Protect America's National Parks and National Parks Conservation Association Comments (NPCA)

Due to the length of the Coalition to Protect America's National Parks and Nation Parks Conservation Association Comments, DEC has grouped main topics with a summary of the main points below.

Topic 1: **DEC is screening out visibility impairing pollutants and stationary sources**

Topic 1 Summary:

NPCA requests that DEC expand its list of stationary sources to be reviewed, and a four-factor analysis be conducted on sources which may generate potential visibility impairment at Class I areas. The association disputes the stance that DEC conducted an analysis of a 'meaningful portion' of state emissions sources which could generate visibility impacts at Class I areas.

Topic 1 Response: Although DEC did not conduct a full four-factor analysis of all sources within the state, DEC did conduct a full and thorough analysis of all reasonable sources. DEC selected the sources most likely to impact Alaska's Class I Areas based on WRAP screening tools and the state's emissions inventory data and worked with DEC permitting and modeling teams, along with the contractor Ramboll to complete our analysis.

The six sources identified by DEC for limited four-factor analysis were selected based on the likelihood of their generating visibility impacts at Class I Areas. While there are other large sources in the state with significant emissions profiles, DEC decided that the geographical distance and prevailing wind and weather patterns decreased the likelihood of their producing traceable and measurable impacts at Class I Areas. Sources like Healy Power Plant, Chena Power Plant, or Eielson are located close enough to a protected airshed to justify increased scrutiny and examination in this round of planning. In future rounds of planning, DEC may examine other sources if modeling and other analyses show a likelihood of generating impacts at Class I Areas.

Revision based on response: No revisions were made to the SIP based on this response.

Topic 2: **DEC should conduct four-factor analyses on sources for NOx emissions along with SO_2 and remove volcanic contribution.**

Topic 2 Summary:

NPCA requests that DEC include NOx as an examined pollutant in its screened and analyzed emissions sources. The association requests that DEC remove volcanic contribution on MID. They request that DEC analyze NOx at more sources near TUXE1. The association requests that DEC address NOx impairment measured at DENA1 IMPROVE monitor from the Healy Power Plant.

> Topic 2 Response: As discussed in the SIP, EPA guidance[6] allows for the elimination of pollutants from consideration in a four-factor analysis. States can focus on the PM species that "dominate visibility impairment at the Class I areas affected by emissions from the state and then select only sources with emissions of those dominant pollutants and their precursors". Further, EPA guidance states that it may be reasonable for a state to not consider measures for control of the remaining pollutants from sources that have been selected on the basis of emissions of the dominant pollutants.
>
> The dominant pollutant as identified in the SIP is SO_2, and the SIP provides the justification for the elimination of NOx from consideration in this 2nd Implementation Period.
>
> Regarding volcanic contributions see EPA Comment #6 and DEC's response. DEC has included volcanic contributions as weight of evidence only.
>
> Revisions based on response: See revisions based on EPA's Comment #6.

Topic 3: **DEC four-factor analysis and emissions reductions at oil and gas sources**

Topic 3 Summary:

NPCA requests that DEC go back and include Oil and Gas (O&G) sources in its analysis to comprehend these sources' NOx emissions potential.

The association argues that DEC has improperly represented the potential emissions increases at O&G sources as flat. NPCA takes the view that DEC should have modeled 'Reasonable growth' at state O&G sources.

> Response: Please see response to Topic 2 following EPA guidance, DEC has properly screened out the O&G sources from any additional analysis needed at this time for the 2nd

[6] Technical Guidance on Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program, U.S. Environmental Protection Agency, EPA-454/R-18-010, December 2018. Page 12, Step 3.a

Planning Period.

Additionally, the state's oil and gas industry data and information from the Alaska Oil and Gas Conservation Commission (AOGCC) is showing long-term declines in field extractions in coming years. Leases at Cook Inlet and the AK North Slope both show continued declines through 2050. Reasonable growth, or rather reasonable long-term declines, were included in the emissions and visibility modeling. Should DEC choose to analyze NOx, or other pollutants in future regional haze planning, O&G sources will be included along with other major and minor sources for consideration at that time.

Revisions based on response: No revisions were made to the SIP based on this response.

Topic 4: **AK LNG Project Emissions**

Topic 4 Summary:

NPCA requests that DEC renotice the RH SIP to include AK LNG emissions from construction and from operations. The association's stance is that DEC did not follow its obligations to analyze construction and operations emissions; they argued that DEC should analyze the construction and operations emissions.

NPCA argues that DEC is avoiding its regulatory obligations to mitigate facility emissions impact on Class I area visibility by not calculating AK LNG potential. The association argues that DEC should consider multiple Class I Areas impact and treat the AK LNG as a single source rather than several sources. The association stated in its letter that DEC did not have a four-factor analysis for any of the permits under the AK LNG.

Response: The Alaska LNG Project is a future liquified natural gas pipeline and export terminal which would utilize the state's extensive natural gas reserves from the North Slope. It would also be used to offset declining production figures from the Cook Inlet fields, which are the primary source of natural gas for Southcentral Alaska including Anchorage and the Matanuska-Susitna Valley. The project as currently planned will consist of a compressor plant on the North Slope, a pipeline and various stations along the route, and a liquefaction facility on the north end of Cook Inlet to facilitate loading onto LNG tankers for sale to the continental United States and East Asian markets. DEC notes that as of issuance of the Regional Haze SIP, the only permits issued (and applications received) are for the Gas Treatment Plant and the Liquefaction Facility.

Although DEC understands the concerns regarding emissions from the final facility, no action has been undertaken on the project at present beyond initial construction permitting, and a construction project of this magnitude will require many years to complete once initiated. Staff selected sources for four-factor analyses based on actual emissions and a Q/d analysis. These sources have yet to begin operation or even commence construction and therefore DEC could not perform an analysis of these facilities at this time. DEC notes that in future reasonable progress reports, it will

determine whether or not these sources require four factor analyses based on actual emissions data.

DEC notes that the Gas Treatment Plant and Liquefaction Plant included BACT analyses for SO_2 emissions. Both permits include enforceable limits restricting diesel fuel to ULSD and fuel gas to 16 ppmv total sulfur, which are the top BACT emission controls. Therefore, DEC considers both of these sources effectively controlled with respect to sulfur. DEC will work with source owners at the time of permit applications for the AK LNG support facilities to ensure that they will not have a detrimental impact on neighboring Class 1 Areas.

Revisions based on response: No revisions were made to the SIP based on this response.

Topic 5: **Healy Unit 1: Request Healy U-1 achieve 0.15 lb./MMBtu using DSI; DEC did not properly share emissions w/ members of the public regarding shutdown or retrofit; NPCA judgement is 0.15 lb./MMBtu, not 0.20, constitutes effectively controlled. NPCA requests limits be spelled out and enforceable in SIP.**

Topic 5 Summary:

NPCA argued that DEC has conducted an incomplete analysis of Healy Unit 1. The SIP lacks a shutdown requirement for Healy Unit 1 by 2028, the end of the Second Implementation Period, based on the NPCA's interpretation of 2019 Guidance.

NPCA argues that Healy Unit 1 DSI should achieve 0.15 lb./MMBtu emissions controls. The association argues that DEC did not properly share information with the public on its approach regarding the Healy Unit 1 shutdown or control installation decision.

The NPCA argues that emissions limitations at or below the 0.15 lb/MMBtu constitute an effectively controlled source by their judgement. This limit should be spelled out in the SIP as an enforceable limit.

Response: DEC has concluded that Unit 1 would be considered an effectively controlled source if Option 3 for establishing an enforceable limit is selected. DEC notes that the 0.20 lb/MMBtu limit is not a "de facto" offramp for a decision that a source is already effectively controlled, but it is a valid decision point that contributes to such a finding, along with other information. While lower emission limits may be achieved with DSI optimization, the selection of Option 3 represents significant emissions reductions that can be achieved cost-effectively in the relative near-term that will add greatly to the air quality of the region as well as further assist long term visibility impairment in the park, an issue that has not been shown to have any basis or connection to emissions from GVEA Unit 1. See also the responses to NPS Comments #4 and #7.

Revisions based on response: DEC added justification in Section III.K.13.F for allowing the option to limit emissions to 0.20 lb/MMBtu for Unit 1, which it finds would be considered an effectively controlled source.

Topic 6: **Visibility Protection Area and Future Emissions Controls**

Topic 6 Summary:

NPCA argues that DEC's proposed Visibility Protection Area (VPA) is not fully fleshed out in the SIP, and DEC lacks the needed information to show its effectiveness.

NPCA argues that the VPA allows new or existing sources to circumvent the four-factor analysis required under the Regional Haze Rule. The language in the proposal is too broad and vague to generate enforceable standards for facilities.

The association argues that the proposal constitutes a change in permitting regulations and should be renoticed accordingly. DEC's intent in using the VPA is unclear regarding air quality maintenance areas.

NPCA argues that the proposal to maintain on-site records would be problematic as the public lacks access. The association argues that DEC lacks a clear definition of "significant emissions units" as used in this proposal.

Response: The proposed Visibility Protection Area (VPA) was built using data from the state's Emissions Inventory and Weighted Emissions Potential (WEP) used in modeling visibility impacts from stationary sources. The purpose of the VPA is to assist DEC in collecting data relevant to tracking existing stationary source emissions over time and to identify new sources of potential visibility impairment located in Southcentral and Interior Alaska during any initial permitting process. As the area covered by the VPA encompasses the largest area of settlement in the state, DEC argues this provides state planners and analysts the requisite data needed to analyze visibility impairment from stationary sources and construction activities.

The 2021 Final Guidance Memo states that in developing the source selection criteria, states should "set the threshold at a level that captures a meaningful portion of the state's total contribution to visibility impairment to Class I areas". The key issue is "contribution to visibility impairment", not total source inventory. The VPA was designed to capture those sources and not include the larger inventory of minor sources in areas that have no contribution to visibility impairment.

The regulations proposed in 18 AAC 50.265, are meant to provide the state with a better set of tools for understanding potential impairment caused by new sources and construction in areas that are more likely to impact visibility in Alaska's Class I areas throughout the implementation period. They are not designed or meant to supersede the four-factor analysis process laid out in federal regulations, the Regional Haze Rule, or the Clean Air Act. When the state works on progress reports and SIP updates for an upcoming implementation period, the requirements related to the VPA will simply result in more timely data on source emissions and maintenance activities to use in the SIP analyses.

DEC acknowledges that more clarity could be used regarding the definition of significant

emissions units and has added clarity to the regulations that these emissions units include emissions units that are not considered insignificant under 18 AAC 50.326(d) - (i). See response to Hilcorp Comment #1.

DEC will not be re-noticing the regulations (18 AAC 50.265) as they were provided as part of the Regional Haze Plan and were publicly released for review and comment as part of that regulatory package. The added clarity does not significantly change the intent of the regulations as originally proposed and therefore additional public review is not warranted.

Revisions based on response: Clarity was added to the regulations regarding significant emission units. Please see response to Hillcorp Comment #1.

Topic 7 **DEC's SIP lacks environmental justice considerations and did not include EJ communities in its analysis of stationary and mobile sources**

Topic 7 Summary:

NPCA argued that DEC ignored environmental justice (EJ) concerns in the RH SIP. The association interprets Executive Orders 12898 and 12948 as placing an EJ burden onto the states in the RH planning and enforcement process.

NPCA accused DEC of ignoring EJ entirely in its SIP and not undertaking an EJ analysis of potential regulatory impacts. The association argues that in the event of a Federal Implementation Plan (FIP), the EPA must undertake its own EJ analysis of AK Class 1 Areas.

NPCA views DEC assigning its Title VI obligations under the 1965 Civil Rights Act by not undertaking an EJ analysis and reducing emissions near EJ communities and for failing to include impacted EJ communities in the state's analysis.

Response: While the DEC SIP does not have a section focused on EJ, the state takes EJ obligations seriously and is concerned with the long-term health and well-being of all Alaska communities and citizens. This includes the Alaska Native communities and populations located throughout the state including those located near Class I Areas.

DEC made efforts to include tribal and village council partners in the analysis and public comment process. This included notifying all communities within 200 miles of Class I Areas of the release of the Alaska Draft Regional Haze SIP. DEC also provided the opportunity to schedule a public information session for tribal and village officials to discuss this draft plan in greater detail and ask questions regarding the state approach. DEC also extended the range for notification outreach to communities located near the Bering Sea Wilderness Area beyond the 200 mile radius to ensure they were aware of the opportunity to provide comments and ask questions regarding the state approach.

DEC conducted a public informational session on the Regional Haze Plan during the

yearly Alaska Tribal Conference on Environmental Management in November 2020 aimed at tribal and village environmental officers. This presentation was attended by a dozen people, along with representatives from the Alaska Native Tribal Health Consortium (ANTHC) to hear about Regional Haze, the state plan, and the state's long-term goals.

All information on DEC communications to tribal and village partners is available in the Appendix to Section III.K.13.K - Consultation, which includes a tracking table with tribal engagement and outreach since 2020.

DEC staff is available to answer questions or respond to ambient air quality public health concerns from Alaska Native villages and communities or from other economically or marginalized populations located near stationary or mobile sources, should any emerge.

Revisions based on response: No revisions were made based on this comment.