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Bryce Bird, Director
Division of Air Quality
Department of Environmental Quality
P. O. Box 144820
Salt Lake City, Utah 84114-4820
bbird@utah.gov

Dear Director Bird:

This letter is in response to Utah's proposed *Utah State Implementation Plan, Regional Haze Second Implementation Period*. We completed an initial review of the proposed State Implementation Plan (SIP) and are providing the enclosed comments. Many of the comments are repeated from the comment letter that we sent to you by email on April 8, 2022, where we were commenting on the earlier draft of the SIP provided to the Federal Land Managers. We appreciate the revisions made in the proposed SIP to address some of EPA's prior comments. Please note that this is an initial review and that we will reach our final conclusion regarding the adequacy of the SIP revision only when we act through notice and comment rulemaking.

Thank you for the opportunity to comment on the proposed SIP. We recognize the significant efforts made by the Utah Division of Air Quality (UDAQ) program staff in developing the proposed SIP and their commitment to improving air quality and visibility impacts in Utah. If you have any questions, please feel free to contact me directly, or your staff may contact Clayton Bean at (303) 312-6143 or at bean.clayton@epa.gov.

Sincerely,

5/27/2022

X Monica Morales

Signed by: MONICA MORALES

Monica Morales
Acting Director
Air and Radiation Division

Enclosure

cc: Chelsea Cancino

Enclosure

EPA Comments on the Public Comment Utah State Implementation Plan, Regional Haze Second Implementation Period

1. *Overall Comment on Draft SIP and Our Review.* We thank and acknowledge Utah for its effort and work on this public comment period draft SIP (draft SIP) to address Clean Air Act (CAA or the Act) Regional Haze requirements and provisions outlined in the Regional Haze Rule (RHR) found at 40 CFR 51.308. Please note that the comments below are not presented in order of importance. We look forward to continuing working with the state as it finalizes its SIP submission.
2. *General Comment on Reasonable Progress.* The CAA, 42 USC section 7491(b)(2), requires that SIPs contain long-term strategies for making reasonable progress towards the national visibility goal. The Regional Haze Rule establishes a framework of periodic, comprehensive SIP revisions to implement this mandate. 40 CFR 51.308(f) requires that each periodic SIP revision contain a strategy for making reasonable progress for the applicable period. The increment of progress that is “reasonable progress” for a given implementation period is determined through the four statutory factors. 40 CFR 51.308(f)(2)(i). EPA has explained that reasonable progress cannot be determined prior to or independently from the analysis of control measures for sources. See 82 FR 3078, 3091-3 (Jan. 10, 2017). Please see also *Clarifications Regarding Regional Haze State Implementation Plans for the Second Implementation Period* (July 8, 2021; hereinafter “Clarifications Memo”) p. 6. A state must determine what is necessary to make reasonable progress in the second implementation period by using the four factors to analyze control measures for sources. While progress made in the first implementation period, ongoing emission trends, and anticipated changes in emissions (including due to shutdowns, on-the-way controls, utilization, or other factors) may *inform* a state’s regional haze planning process, these circumstances alone do not satisfy a state’s obligation to determine and include in its SIP the measures that are necessary to make reasonable progress. EPA has concerns that the Utah’s choice of control measures during this planning period do not equate to actual reductions in emissions. Further information regarding our concerns with the state’s four-factor analyses are detailed throughout this comment letter. We encourage Utah to do all that it can during this planning period to make reasonable progress through quantifiable reductions in emitted pollutants in order meet the Regional Haze Rule and improve visibility in Class I areas.

Relatedly, in section 6.A, Utah lists factors that must be considered when developing the long-term strategy. The list omits the central component of long-term strategies under 40 CFR 51.308(f)(2), which is that they must include the emission reduction measures that are necessary to make reasonable progress as determined through consideration and application of the four statutory factors. See Clarifications Memo at p. 6.

3. *General Comment on Equity and Environmental Justice.* We encourage Utah to consider whether the regional haze strategy articulated in the draft SIP will result in equity and environmental justice impacts or impacts on any potentially affected communities inside or outside the state. We also encourage Utah to describe any outreach to communities that may have environmental justice concerns that the state conducted (beyond sharing the draft SIP with the tribes located within Utah), the opportunities Utah has provided or plans to provide for communities to give feedback on its proposed strategy, and the consideration Utah gave environmental justice in its technical analyses. See Clarifications Memo at p. 16.

4. *General Comment on Non-Regional Haze Pollution Control Programs.* Utah must not rely solely on the non-regional haze air pollution control programs to automatically reject potentially cost-effective and otherwise reasonable controls during this second planning period. See Comment 22; Clarifications Memo at p. 13. Congress intended that the regional haze program provide for independent and additional protections beyond the NAAQS and PSD in appropriate circumstances. See H.R. Rep. 95-294 204 (“The current [NAAQS] are not adequate to protect visibility.”), 205 (“[T]he mandatory class I increments of [the PSD program] do not adequately protect visibility in class I areas.”), *id.* (“In light of the foregoing circumstances, the committee concluded that a separate approach [i.e., the visibility program] was necessary to control the visibility problem, in mandatory Federal class I areas.”).
5. *General Comments on Source Selection.* EPA compliments the state for choosing to select sources with a $Q/d > 6$ for four-factor analysis; this resulted in ten sources initially falling within that threshold. Subsequently, the state screened out four sources due to retirement, recent BACT analysis and pollution controls, revision of emissions inventories, and preemption of non-road vehicles/equipment; thus, leaving six sources that underwent four-factor analysis. We encourage the state to employ our comments throughout this document on these six sources to inform their second planning period regional haze SIP development.

Additionally, we recommend that Utah provide additional information and justification for declining to conduct four-factor analyses for two of the excluded sources with $Q/d > 6$. Specifically, for the Lisbon Natural Gas Processing Plant we recommend the state provide evidence, including information on recent actual SO_2 emissions, supporting the statement that “actual emissions from the facility are more in line with the proper 2009 PTE of 111 tons.” Absent evidence that the source has consistently achieved and will continue to achieve this lower level of emissions, Utah should conduct a four-factor analysis for the Lisbon Natural Gas Processing Plant. For the Kennecott Utah Copper LLC – Power Plant Lab Tailings Impoundment, we recommend Utah provide further explanation on the meaning of “decommissioned” as it relates to Unit 4. The February 4, 2020, Approval Order indicates that Units 1-3 are prohibited to operate, yet Unit 4 is listed as voluntarily decommissioned without details on its ability to restart or prohibition on its operation.

We also recommend that Utah provide further explanation for not analyzing the sources identified by WRAP’s weighted emissions potential (WEP) analysis. While many of the sources identified by the WEP analysis were picked up by Utah’s Q/d analysis, there are several sources that were not, for example, the Chevron and Tesoro refineries, and the Kennecott smelter and refinery among others. We note that the existence of a recent BACT determination alone is not dispositive of the question of whether additional emission reductions are necessary to make reasonable progress under the regional haze requirements. As discussed above, for sources for which Utah is relying on “existing effective measures” as justification for not conducting a four-factor analysis, the state should provide additional explanation and justification consistent with section 2.3 of the Clarifications Memo.

6. *General Comment on Emissions Limit Tightening/Permit Revisions.* This comment is applicable to all ten selected sources. We recommend that for each selected source the state consider whether the source can achieve or is already achieving a lower emission rate using its existing measures. If a source is capable of operating or is already operating at a lower emission rate than assumed either (1) as the basis for not conducting a full four-factor analysis or (2) as the baseline for four-factor analysis, that lower rate should be analyzed as a potential control measure. That is, if a source is

achieving or is capable of achieving a lower emission rate, the state should determine whether that lower rate is necessary to make reasonable progress. Similarly, we recommend UDAQ consider whether equipment upgrades, optimization, or retrofit for a source's existing controls might be reasonable. If either more efficient use of existing measures or equipment upgrades are potentially reasonable control options, we recommend the state either conduct a four-factor analysis including such options or explain why it is reasonable to forgo doing so consistent with the Clarifications Memo. See Clarifications Memo at pp. 5 and 7. Lastly, we apprise UDAQ of the cobenefits of enacting these protective measures that may be realized for its nonattainment areas or overall air quality in general outside the context of regional haze (this should not be interpreted as an extra-statutory requirement).

7. *General Comment on Measures that are Necessary to Make Reasonable Progress.* Section 8.D states that “[t]he following sections contain UDAQ’s determinations on what controls are necessary to make reasonable progress in this implementation period.” As a general comment on making reasonable progress, EPA notes that measures that are necessary to make reasonable progress must be in the SIP, new measures are always necessary to make reasonable progress, and existing measures are necessary to make reasonable progress unless the state has affirmatively demonstrated that they are not necessary. See Clarifications Memo at pp. 8-10.

Notwithstanding the source-specific comments throughout this comment letter and without prejudging the ultimate control determination resulting from any particular four-factor analysis, UDAQ must include existing measures for the 10 selected sources in its SIP unless it demonstrates that those existing measures are not necessary to make reasonable progress. That is, if Utah concludes that no new measures are necessary to make reasonable progress for a source, it must include that source's existing measures in the SIP unless it makes a determination that those measures are not necessary to make reasonable progress. We recommend that Utah clarify whether any existing measure that it is relying on to make reasonable progress are in its SIP. This includes sources that are above Utah's designated source-selection threshold of $Q/d > 6$ but for which the state does not conduct a four-factor analysis on the basis of existing effective controls. See Clarifications Memo at p. 10.

8. *General Comment on Ammonia Slip.* Throughout the draft SIP (and corresponding four-factor analyses), the state and multiple sources cite concerns that if a source is to implement NO_x controls (i.e., SNCR or SCR) then ammonia slip (unreacted ammonia reagent in the emissions plume) may negatively impact visibility or air quality via particulate matter generation. Four-factor analyses refer to ammonia slip as evidence to preclude controls as adverse impacts (i.e., particulate matter) of ammonia slip may outweigh NO_x reduction benefits. Regarding these claims to an increase of particulate matter, without quantifiable data we cannot positively determine the extent to which particulate matter increases may negate the overall decrease of NO_x emissions afforded by potential controls. Further, EPA notes that we have previously finalized numerous regional haze actions (see, e.g., Montana's FIP at 82 FR 42738, September 12, 2017) requiring NO_x controls optimized around ammonia slip. Therefore, EPA believes that rejection of NO_x controls on the basis (in whole or in part) of ammonia slip, requires technical documentation that would be evaluated by EPA for its reasonableness in light of previous regional haze actions.
9. *General Comment on The Uniform Rate of Progress.* The state's draft SIP explains how UDAQ chose the “2028OTBa2 w/o fire” modeled projection to “more accurately represent future emissions” which is reflective of its long-term strategy. EPA commends the state for its more conservative approach; however, we remind the state that the glidepath is not a “safe harbor” and a Class I areas' position below the glidepath cannot be a basis for justifying a particular set of controls

or decision to not require controls. Instead, the uniform rate of progress is a planning metric used to gauge the amount of progress made thus far and the amount left to make. Because the uniform rate of progress is not based on the four statutory factors, being below the Uniform Rate of Progress cannot be used to determine whether the amount of progress made in any particular implementation period is “reasonable progress.” See *Guidance on Regional Haze State Implementation Plans for the Second Implementation Period* (August 20, 2019; hereinafter “Guidance”) at p. 50 and Clarifications Memo at p. 15; see also 82 FR at 3099. EPA is concerned that the state’s choice of control measures (or lack thereof) may be based (perhaps implicitly) upon Class I areas’ visibility conditions relative to their glidepaths. Previous statements made by the state and this SIP’s proposed permitted emissions limits, with regard to maintaining current emissions, are also of concern in this context. It appears that the SIP relies on minimal reductions justified without technical documentation during this second planning period to avoid meaningful and actual emissions reductions that would benefit visibility. Consequently, EPA is concerned with some of the reasonable progress determinations of some selected sources and we emphasize our comments below for these selected sources and the lack of technical documentation to support the determinations made by UDAQ.

10. *General Comment on Upstream Oil and Gas Development (Area Sources)*. The state has chosen not to select or evaluate Utah’s significant oil and gas sources as an “area source.” Nevertheless, the draft SIP indicates that 13,853 oil and gas wells are responsible for a significant (second largest source category of NO_x emissions after excluding on-road mobile sources) source of emissions (see Table 16, p. 63) in WRAP’s RepBase2 (20%), 2028OTBa2 (17%) modeled scenarios and 2014v2 (15%) actual anthropogenic emissions. EPA recognizes that a majority of the oil and gas development in the Uinta Basin may be located on tribal lands; however, this should not preclude the state from an evaluation of potential upstream oil and gas control measures (e.g., NO_x pollution controls on pump jack engines, etc.) that could make or ensure reasonable progress during this second planning period, to which it has jurisdiction. We recommend that Utah reassess this large area source, by evaluating the portion of emissions to which it has jurisdiction for potential NO_x controls for upstream oil and gas sources, or in the alternative, provide a technical basis, such as a derived Q/d value as part of its justification.
11. *General Comment on Emissions Inventories*. The Regional Haze Rule requires an evaluation of a recent emissions inventory year as part of the source selection and control evaluation which would be consistent with the 2017 National Emissions Inventory (NEI) or newer. See 40 CFR 51.308(f)(2)(iii). Throughout the SIP, the state should specify which year NEI was used for four-factor analyses and/or source selection. If emissions data prior to the 2017 NEI was used, we request that UDAQ analyze and present updated 2017 emissions information to show that there are no additional sources that should have been selected and analyzed for controls, or for changes to its selected sources. UDAQ should also indicate whether any additional sources would be screened-in through Q/d by using 2017 or later NEI data. See Guidance at pp. 17-18.
12. *Section 6.A.2, Utah Sources Identified by Downwind States That Are Reasonably Anticipated to Impact CIAs, p. 73*. Given the relatively large potential of sources in Utah to impair visibility, we recommend that the state reassess the information presented for sulfate and nitrate impacts individually, by summing the total impairment from Utah emissions sources (i.e., the total Utah share of summed nitrate and sulfate visibility impairment, in addition to the separate matrices for nitrate and sulfate).

13. *Section 7.C.3, PacifiCorp's Hunter and Huntington Power Plants Four-Factor Analysis Summary and Evaluation.* In the draft SIP, Utah rejects the Reasonable Progress Emission Limits (RPELs; for NO_x and SO₂ combined) proposed by PacifiCorp for the Hunter and Huntington power plants. Instead, based on the state's four-factor analyses, UDAQ proposes mass-based emission limits for NO_x and SO₂ at each facility. As such, in this letter the EPA comments on the mass-based emission limits proposed by UDAQ, and not on the multipollutant RPELs proposed by PacifiCorp. However, we do observe that actual combined NO_x plus SO₂ emissions (since 2014) are already below the proposed RPELs for each facility. Thus, it does not appear that that the RPELs would provide *real* emission reductions even though there are other available options for reducing actual emissions of both SO₂ and NO_x at these facilities. As such, we agree with UDAQ's position related to the PacifiCorp proposed RPELs.

EPA has concerns with the reasonableness of a determination maintaining status quo emissions levels to constitute reasonable progress when there are technologically feasible and potentially cost-effective control measures that actually reduce emissions and may be reasonable to require. Utah cites uncertainty with regard to *future* utilization at Hunter and Huntington to justify not requiring SCR but does not adequately justify why it is unreasonable to reduce emissions based on the sources' *current* operation. See also Comment 16 below. We do not find this result to be well reasoned or supported by the RHR or the Act, which requires that SIPs contain strategies for making reasonable progress towards eliminating anthropogenic visibility impairment in Class I areas. In the Clarifications Memo, EPA explained that we "intend[] the second planning period of the regional haze program to secure meaningful reductions in visibility impairing pollutants that build on the significant progress already achieved," and that "we expect states to undertake rigorous reasonable progress analyses that identify further opportunities to advance the national visibility goal consistent with the statutory and regulatory requirements." Clarifications Memo at p. 2. Consequently, we implore UDAQ to consider revisions to its SIP for Hunter and Huntington power plants that ensure reasonable progress will reduce visibility impairment during this planning period through *real* emissions reductions rather than merely capping allowable annual emissions above recent actuals for NO_x or at permitted limits for SO₂.

14. *Appendix C.3, pp. 128 and 139.* PacifiCorp states "Because the Hunter [and Huntington] units already have the specific, effective control technologies in place for controlling SO₂ and PM emissions that EPA identified in its Guidance, PacifiCorp is not providing any analysis for additional equipment or retrofits to further control those pollutants." However, the draft SIP should provide additional analysis and technical documentation to support PacifiCorp's conclusion, including the control efficiency currently being achieved with the SO₂ scrubbers. To support any technical finding, analysis needs to be provided even if the technical finding supports the status quo. We expect that any scrubber system installed to meet CAA requirements since 2007 can achieve a control effectiveness of 95 percent or higher. However, as indicated in the PacifiCorp analysis, there may be cost-effective opportunities to further increase scrubber efficiency, even when operating at high efficiencies. This comment also applies to both the Hunter and Huntington units.

Additionally, PacifiCorp's analysis of its RPELs seems to indicate that cost effective SO₂ emission reductions can be achieved at each of the Hunter units through increased scrubbing. For example, at Hunter 1, PacifiCorp's RPEL analysis indicates that SO₂ emissions could be reduced to 0.032 lb/MMBtu at a cost of \$301,000. Using the average of the annual heat input and SO₂ emissions from

2015-2019, this equates to a reduction of 570 tons/year and a cost effectiveness of \$528/ton.¹ As explained in section 3.2 of the Clarifications Memo, states should consider if sources are able to achieve greater control efficiencies, and therefore lower emission rates, using their existing measures. If so, those lower emission rates should be analyzed under the four-factor analysis to determine if the lower rate is necessary to make reasonable progress. Clarifications Memo at p. 7. Accordingly, we recommend that UDAQ consider these emission reductions in its four-factor analysis for Hunter. This comment also applies to the Huntington units where PacifiCorp's analysis of its proposed RPELs also seems to indicate that cost effective SO₂ emission reductions are available.

15. *Appendix D.2.C – PacifiCorp, p. 490.* The scanned undated letter, assumedly submitted to UDAQ by PacifiCorp, which the state appears to rely on, at least in part as basis for not requiring further control measures for SO₂, is difficult to read and the chart is indecipherable. We ask that the state include a legible version of this appendix document. We also note that PacifiCorp has failed to include justification or explanation to substantiate their assertions, and we ask that the state request such evidence regarding SO₂ controls from PacifiCorp.

As a general recommendation we note that nearly all of the appendix document's (DAQ-2022-003200.pdf) 499 pages are non-optical character recognition (OCR) scans that preclude document searches and contribute to poor readability due to blurry text. As a point of suggestion, a PDF portfolio of OCR scanned documents may help with accessibility and readability for the general public.

16. *Section 7.C.3, PacifiCorp's Hunter and Huntington Power Plants Four-Factor Analysis Summary and Evaluation, p. 131.* In its four-factor analyses for Hunter and Huntington, UDAQ initially uses actual operations and emissions data taken from a 2015-2019 baseline that is consistent with the 2028 projected emissions.² However, UDAQ then provides a sensitivity analysis showing that at utilization levels much lower than in the 2015-2019 baseline, cost effectiveness values for SCR would be much higher (draft SIP at pp. 129-132). From the sensitivity analysis, UDAQ concludes that "Given this uncertainty and the wide variability in cost-effectiveness estimates at various utilization levels, UDAQ finds installation of SCR not to be cost-effective at any of the five units at Hunter and Huntington at this time."

The 2019 Guidance states that "[t]he projected 2028 (or the current) scenario can be a reasonable and convenient choice for use as the baseline control scenario for measuring the incremental effects of potential reasonable progress control measures on emissions, costs, visibility, and other factors." The Guidance also states that "[g]enerally, the estimate of a source's 2028 emissions is based at least in part on information on the source's operation and emissions during a representative historical period." Guidance at p. 29. EPA subsequently clarified that "reasonable bases for projecting that future emissions will be significantly different than past emissions are enforceable requirements and energy efficiency, renewable energy, or other similar programs, where there is a documented

¹ 2015-2019 average heat input = 28,482,643 MMBtu/yr. 2015-2019 average SO₂ emission rate = 0.072 lb/MMBtu. $\$301,000 / ((0.072 \text{ lb/MMBtu} - 0.032 \text{ lb/MMBtu}) \times 28,482,643 \text{ MMBtu/yr} \times 1 \text{ ton}/2000 \text{ lb}) = \$528/\text{ton}.$

² The 2015-2019 annual average NO_x emissions for Hunter and Huntington vary slightly from the 2028 NO_x emission projections which are based on actual emissions and operations data from 2016-2018. The 2015-2019 actual annual average NO_x emissions for Hunter were 10,103 tons/year, while the 2028 projection is 9,992 tons/year. Similarly, the 2015-2019 actual annual average emissions for Huntington were 5,793 tons/year, while the 2028 projection is 6,083 tons/year. Non-EGU emissions are not included in these emission values.

commitment to participate and a verifiable basis for quantifying changes in future emissions.” Clarifications Memo at p. 12. For cases in which a state has projected significantly lower emissions due to unenforceable utilization assumptions and those projections are dispositive of the four-factor analysis, EPA recommends two possible approaches: (1) the state may adopt a utilization limit corresponding to the assumption of future use; or (2) the state could perform a four-factor analysis using recent historical utilization. *Id.* This is particularly imperative where the assumption is controlling in the outcome of a four-factor analysis.

Here, UDAQ departs from the Guidance without providing a reasonable technical basis to project that 2028 emissions will differ significantly from historical emissions, such as enforceable requirements or a documented commitment to participate in an energy efficiency, renewable energy, or other such programs. Guidance at p. 29, Clarifications Memo at p. 12. UDAQ’s explanation indicates that the assumption of lower utilization is dispositive of its control determination, and the only basis the state has provided for its projections of future utilization is that the electricity generation industry is experiencing significant change and uncertainty. This rationale is not consistent with the types of reasonable bases for projecting significant changes in utilization laid out in the Guidance and Clarifications Memo. Unless UDAQ intends to enforceably limit Hunter and Huntington’s utilization consistent with its assumptions of *future* utilization, the state should support its control determination based on an assumption of projected 2028 NO_x emissions (or in this case, actual average 2015-2019 historical emissions) as spelled out in the Guidance and Clarifications Memo.

17. *Appendix A – Part H Language for Enforcement of Reasonable Progress Determinations, H.23.b.* Three successive NO_x ton per year emission limits (12-month rolling) are identified for Hunter, with the last emission limit, applicable on January 1, 2028, equal to the 2028 WRAP projection of 10,001 tons/year. Please explain and provide the technical documentation detailing the basis for the other two emission limits of 10,514 tons/year (no applicability date given) and 10,257 ton/year (applicable on January 1, 2025). How do these successive emission limits for future years align with the determination that it is not *currently* reasonable to require additional emission reductions from Hunter?
18. *Appendix A – Part H Language for Enforcement of Reasonable Progress Determinations, H.23.c.* Three successive NO_x ton per year emission limits (12-month rolling) are identified for Huntington, with the last emission limit, applicable on January 1, 2028, equal to the 2028 WRAP projection of 6,091 tons/year. Please explain and provide the technical documentation detailing the basis for the other two emission limits of 6,210 tons/year (no applicability date given) and 6,151 ton/year (applicable on January 1, 2025). How do these successive emission limits for future years align with the determination that it is not *currently* reasonable to require additional emission reductions from Huntington?
19. *Appendix A – Part H Language for Enforcement of Reasonable Progress Determinations, H.23.b and H.23.c.* All NO_x ton per year emission limits are given on an annual basis (12-month rolling total). No short-term limits have been chosen for these power plants to make reasonable progress although short-term emissions limits are commonly imposed as power plants control measures. Such limits may reduce the likelihood of excess emissions impacting Class I areas during periods of high electricity demand days (peak load days). Please explain and document the rationale for not incorporating short-term limits into the Part H permit revisions.

20. *Appendix H – Part H Language for Enforcement of Reasonable Progress Determinations, H.23.c.* The draft SIP Part H language includes exemptions from SO₂ emission limits at Huntington Units 1 and 2, stating that the SO₂ limits apply “except during periods of startup, shutdown, maintenance/planned outage or malfunction.” SIP provisions that provide exemptions from air emissions limits during periods of startup, shutdown and malfunction (SSM) are not consistent with the CAA. An emission limitation, as defined in CAA section 302(k), can take various forms or a combination of forms, but in order to be approvable in a SIP, that limitation must be applicable to the source continuously, i.e., cannot include periods during which emissions from the source are legally or functionally exempt from regulation. Therefore, the EPA recommends these exemptions be removed. For more on SSM, see EPA’s Final Rule: State Implementation Plans: Response to Petition for Rulemaking; Restatement and Update of EPA’s SSM Policy Applicable to SIPs; Findings of Substantial Inadequacy; and SIP Calls to Amend Provisions Applying to Excess Emissions During Periods of Startup, Shutdown and Malfunction.³
21. *Section 7.C.5, US Magnesium Enforceable Emissions Limits.* Sections 169A and 110(a) of the CAA (42 USC section 7410(a)) requires that SIPs contain enforceable emissions limitations and other control measures, means, or techniques relied on, as well as a program for the enforcement of the measures. Therefore, any emission limits or other control measures relied on by UDAQ to make reasonable progress must be accompanied by SIP provisions to ensure that the emission limits or other control measures are enforceable. Guidance at p. 42. See also 40 CFR 51.308(f)(2). The operating permit for the US Magnesium’s Rowley Plant lacks NO_x and SO₂ emission limits for its emissions sources, namely, the turbines and duct burners; the chlorine reduction burner; the Riley boiler; and the numerous diesel engines for the solar ponds. EPA advises the state to (1) modify the existing permit to reflect numerical NO_x and SO₂ emissions limits, and (2) include such enforceable limits as part of this SIP revision in addition to the provisions at Appendix A H.23.d. Finally, EPA notes that these permit limits under the RHR may also realize benefits to the adjacent ozone and PM_{2.5} nonattainment areas outside the context of regional haze.
22. *Section 7.C.5, US Magnesium Solar Pond Pump Engines.* If UDAQ determines that no additional (i.e., new) measures are necessary to make reasonable progress for a particular source, the state must then determine whether the source’s existing measures are necessary to make reasonable progress. See section 4 (pp. 8-12) of the Clarifications Memo for information on determining when a source’s existing measures are necessary to make reasonable progress. Generally, a source’s existing measures are needed to prevent future emission-rate increases and are thus needed to make reasonable progress. If UDAQ concludes that the existing controls at a selected source are necessary to make reasonable progress, UDAQ must adopt emissions limits based on those controls as part of its long-term strategy for the second planning period and include those limits in its SIP (to the extent they do not already exist in the SIP). See also our remarks (Comment 21) on US Magnesium’s permit limits. Alternatively, if UDAQ can demonstrate that the source will continue to implement its existing measures and will not increase its emission rate, it may be reasonable for the state to conclude that the existing controls are not necessary to make reasonable progress. Such a demonstration should be supported by documentation such as the data and analysis described in the Clarifications Memo. If the state can demonstrate that the source’s existing measures will consistently achieve the emission rate into the future, the emission limits may not need to be adopted into the long-term strategy and SIP. We recommend that Utah clearly state its determination for each

³ See <https://www.govinfo.gov/content/pkg/FR-2015-06-12/pdf/2015-12905.pdf>.

source and explain whether it is including either existing or new emission limits for each source in the long-term strategy and SIP (or whether emission limits already exist in the SIP). See Guidance at p. 43; Clarifications Memo at pp. 8-9.

The Rowley Plant emission sources include 30 solar pond diesel engines. This large group of sources is the second largest source of emissions at the Rowley Plant. After analysis, the state rejected reasonable progress control measures based on the cost of SCR for the group of engines. US Magnesium's four-factor analysis found at Appendix C.5 at p. 399 states, "[US Magnesium] believes that reasonable progress compliant controls are already in place, and any additional controls are unnecessary." EPA does not agree with this conclusory determination made by US Magnesium. While these engines are controlled under 40 CFR part 63, Subpart ZZZZ requirements, that does not necessarily mean that no further emission reductions would be reasonable to require pursuant to a regional haze four-factor analysis. See Clarifications Memo at p. 5.

Additionally, although these engines are controlled through other ongoing air pollution control programs, Utah must not rely solely on the non-regional haze air pollution control programs to automatically reject potentially cost-effective and otherwise reasonable controls during this second planning period. See Clarifications Memo at p. 13 and Comment 4 concerning non-regional haze pollution control programs.

EPA recommends that the state fully evaluate these sources. EPA requests that Utah clarify and clearly describe UDAQ's evaluation and conclusion of the four-factor analysis as it relates to these solar pond diesel engines since no such state evaluation is included in the draft SIP beyond the inclusive phrase of being "currently well controlled" (UDAQ letter (DAQ-2021-009628.pdf) to US Magnesium, July 27, 2021, at p. 21). We cannot determine the basis of the state's position and what, if any, control measures (including emissions limits) Utah believes may be necessary for these engines to make reasonable progress unless the demonstration shows otherwise. The source and the state have also failed to provide documentation on these engines or their operation. For each selected source, and for each emission unit evaluated, the four-factor analysis should identify the baseline control scenario, and associated emissions and emissions limits (lb/MMBtu, tons/year, lb/ton, etc., depending on unit type) used in the analysis. Further guidance regarding these issues can be found on pp. 29-30 of our 2019 Guidance, respectively. See also 40 CFR 51.308(f)(2)(iii). We also reiterate our earlier recommendations found in this comment and Comment 7 on adopting emissions limits into the state's SIP based on a conclusion that a source's existing controls are what is necessary to make reasonable progress.

The state should provide appropriate documentation of all this information, including with citations to regulatory and technical documents. We specifically recommend that the SIP narrative identify existing emission limits and where those limits are located (e.g., in the SIP, in a federal and/or state permit, in a consent decree). In addition, we recommend that the SIP narrative discuss how these limits compare to the baseline emissions used in the four-factor analyses. Furthermore, due to the number of engines, and their potential age and operating efficiency, replacement with more efficient engines or electrification should be considered also. EPA notes that control of these engines under the RHR may also realize benefits to the adjacent Northern Wasatch Front ozone Nonattainment Area outside the context of regional haze.

23. *Section 7.C.5, US Magnesium Technical Infeasibility of SCR.* US Magnesium's four-factor analysis and the draft SIP describe the infeasibility of NO_x combustion controls (i.e., SCR, dry low NO_x, and water or steam injection) on the turbine and duct burners at the Rowley Plant without any

documented technical analysis. Although the turbine and duct burners are the largest source of NO_x emissions at the facility (813 tpy), the state has determined that no emissions controls are required. Rejection of all controls based on infeasibility without documented technical analysis would be arbitrary, not well reasoned, and is contrary to the RHR at 51.308(f)(2)(iii). EPA advises the state to consider the National Park Service's (NPS) comments directed especially at the *feasibility* of SCR (or any other feasible controls) at the Rowley Plant's turbine and duct burner, and we recommend that the state update its four-factor analysis to include documented technical analysis of NO_x combustion controls such as SCR given the additional information regarding feasibility of NO_x combustion controls provided by the NPS. Again, we note that emissions controls under the RHR may also realize benefits to the adjacent Northern Wasatch Front ozone Nonattainment Area outside the context of regional haze.

24. *Section 7.C.4, Sunnyside Cogeneration Facility Water Rights.* Sunnyside's four-factor analysis and the draft SIP describe the infeasibility of wet and dry SO₂ scrubbing based on the exceedance of allotted and the unavailability of water rights. Sunnyside states that additional water consumption needed for these control measures would become an undue burden on the source, water rights are not available for these control measures, dry scrubbing controls are infeasible with their limestone injection technologies, and consequently no further evaluation was investigated. Sunnyside four-factor analysis summarily rejects SO₂ scrubbing controls without providing cost analysis or documentation of water costs to the state verifying these claims related to water shortages. EPA requests the state provide appropriate and verifiable documentation from the source as to the infeasibility of SO₂ emission controls based on these points.
25. *Section 7.C.4, Sunnyside Cogeneration Facility Rejection of Controls.* Sunnyside's four-factor analysis indicate that SO₂ and NO_x controls are not cost effective or feasible. The state concurs on Sunnyside's analysis and the draft SIP rejects all control measures for the facility. EPA advises the state to consider the NPS comments directed especially at Dry Sorbent Injection (DSI) SO₂ controls (or any other feasible controls) in relation to the four-factor analysis, and we recommend that the state review and update its four-factor analysis given the additional information provided by the NPS.

EPA further notes that the source used a 20-year (not a 30-year) remaining useful life, not based on an enforceable shutdown, and a 7% interest rate without adequate documentation. Per EPA's Air Pollution Control Cost Manual, 30-year remaining useful life is used unless there is a documented rationale for deviating from this standard. In addition, the source cites (without relevant reference) information from the Office of Management and Budget as its basis for using a 7% interest rate. The relevant portion of EPA's Air Pollution Control Cost Manual⁴ (CCM) indicates instead that "...input to analysis of rulemakings, assessments of private cost should be prepared using firm-specific nominal interest rates if possible, or the bank prime rate if firm-specific interest rates cannot be estimated or verified." Without a firm-specific nominal interest rate, Sunnyside's four-factor analysis should use the bank prime rate for its cost calculations instead. CCM at Section 2, Chapter 1, p. 16.

⁴ See https://www.epa.gov/sites/default/files/2017-12/documents/epacmcostestimationmethodchapter_7thedition_2017.pdf.

