DEQ
Montana Department of Environmental Quality

Air, Energy & Mining Division

Westmoreland Rosebud Mining, LLC

SURFACE MINING PERMIT C1984003B

ROSEBUD AREA B

AMENDMENT 5

COLSTRIP, MT

January 28, 2026
Final Supplemental Environmental Assessment
Response to Comments

Commenter	Comment Theme / Summary	DEQ Response
Westmoreland	Comment A: Further explain the scope of the analysis and the reason why mine-wide GHG emissions and "the maximum amount of diesel combusted" at Rosebud is included under MEPA's direct, secondary and cumulative criteria.	See response to comment H for additional discussion of the cumulative impacts analysis. The Supplemental EA evaluates mine-wide greenhouse gas (GHG) emissions, including "the maximum amount of diesel combusted" at Rosebud, because those emissions are part of the direct impacts from the proposed action, and any GHG contributions therefrom fall within the secondary effects of the proposed AM5 expansion under MEPA. Direct impacts include on-site fuel use and other emissions occurring at the mine as a result of the expansion; secondary impacts include any proximate contribution to climate impacts that flow from the mine-related activities being permitted, such as increased diesel consumption associated with AM5 operations. The Supplemental EA also considers cumulative impacts by evaluating AM5's greenhouse gas emissions together with other past, present, and future actions that affect overall emissions and climate conditions. This scope is consistent with MEPA's definition of direct, secondary, and cumulative impacts. The Supplemental EA discusses mine-wide emissions and diesel use, see Table 4 and under the Direct Impacts section, which describe how GHG emissions were quantified for AM5 and how those emissions relate to mine operations as a whole. Evaluating mine-wide GHG emissions and maximum diesel use does not expand DEQ's regulatory jurisdiction over unrelated activities; it ensures that DEQ and the public have a reasonably accurate picture of the direct, secondary, and cumulative greenhouse gas impacts associated with and proximately caused by the AM5 expansion being authorized. DEQ has further revised and clarified the scope of the analysis in the *Scope of Supplemental Environmental Assessment* Section of the document.
Westmoreland	Comment B/C: Explain why we disclosed the mining, transportation and combustion (e.g., the direct as well as	DEQ agrees with the commenter that DEQ is not legally required under MEPA to assess impacts caused by separate, albeit related, actions beyond the state action being permitted, and that the transportation and combustion of coal are not the state action being permitted here. Indeed, typically DEQ would assess the combustion of coal under the Colstrip power plant's air quality permit. However,

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	"upstream/ downstream impacts") of coal in this EA.	while DEQ is not required to assess separate actions, it is not prohibited from doing so, such that this disclosure does not expand DEQ's regulatory jurisdiction over off-site facilities. And here, because of the public interest in analyzing combustion of coal, the close proximity in time and location of these separate actions, and because DEQ can reasonably estimate the GHGs produced by these actions, DEQ has elected to incorporate the impacts caused by these separate actions to provide a comprehensive disclosure of GHG's emissions and related environmental effects for this limited voluntary remand to by providing a lifecycle view of these projects' GHG impacts on Montana's environment. DEQ, additionally, has adjusted the *Scope of Supplemental Environmental Assessment* Section of the document to better clarify the scope of the analysis.
Westmoreland	Comment D: Explain further the science of the emissions of the coal seam having fugitive gas emissions.	The Supplemental EA utilized an EPA methane gas content value of 33.1 scf/ton as reported in U.S. Surface Mine Emissions Assessment, Table 2.0.1 (pg. 2). Because no Montana coal basin was specifically listed in the table, the value for the Green River Rocky Mountain Basin was applied as a reasonably representative and conservative assumption. As described in the EPA report, "The gas in coal and associated strata may be released during different stages in mining. Excavated coal will release methane as it is broken and removed from the highwall face, transported on site, and crushed and sized for transportation off-site"; therefore, GHG impacts during this extraction stage are appropriately included in the direct impact analysis. DEQ has incorporated this information into the *Direct Impacts* section of the final document.
Westmoreland	Comment E: Explain where we got the fuel data from for AM5 given that Westmoreland doesn't track fuel consumption by area	DEQ calculated the average rate of fuel consumed per ton of coal mined by utilizing total fuel consumption data provided by the applicant from 2016 through 2021 and comparing that information against total coal produced throughout the entire Rosebud site. This average rate was then applied to annual coal production to achieve an estimated fuel consumption and associated GHG emissions by year. DEQ has further clarified this information in the *Direct Impacts* section of the final document.

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Westmoreland	Comment F: Explain how DEQ determined the annual tonnage projection for Years 11-20.	Total AM5 coal was assigned based on Table E-1 'Comparison of Action Alternative Components' reported in Appendix E of the original EIS, which lists AM5 coal recovery at 42.9M tons for 'Alternative 3 – Lee Coulee Only.' The annual production values for the calculations utilized reported values listed in Table E-2 'Alternative 3 – Estimated Annual Production in Area B (as Modified by AM5) by Year and Acres Disturbed.' This was compared to the currently approved mine plan within the permit which reports all coal within Area B being mined from AM5 after year 10. To account for the blend of AM5 coal with non-AM5 coal, the total coal production in years 1-10 were reduced to 4.2M tons (the difference of 42.9M tons total less 38.7M tons of AM5 coal mined in years 11-20).
Whitlock/ Running; Our Children's Trust (OCT); Montana Environmental Information Center (MEIC)	Comment G: Social cost of carbon comments. Commenters ask DEQ to explain DEQ's decision to move away from SC-GHG as a tool and to reconsider this approach to monetize climate impacts and meaningfully contextualize GHG emissions, especially given that beneficial impacts were monetized	The Supplemental EA recognizes the importance of conveying the magnitude of GHG emissions and therefore quantifies AM5's emissions and presents them in multiple, understandable ways: absolute tons, comparisons to Montana totals, and an order-of-magnitude modeled temperature contribution. DEQ has not monetized those emissions using a social cost of greenhouse gases (SC-GHG) because MEPA requires assessments of impacts on human populations— including health, agriculture, tax bases, and culture— but it does not require quantitative economic forecasts. Montana law confirms that impact assessments need not provide detailed economic forecasts or convert every qualitatively described impact into dollars. Furthermore, using SC-GHG estimates to do so, while perhaps helpful in some instances, is an inherently unreliable tool. SC-GHG estimates themselves are global or large-regional averages designed for broad federal regulatory analyses rather than Montana-specific project decisions; different integrated-assessment models and frameworks produce highly variable damage estimates, and federal SC-GHG tables show that the same ton of emissions can receive very different dollar values—often differing by factors of about two to three—based solely on the discount rate used. For example, one federal set of estimates reports CO_2 values in 2020 on the order of tens of dollars per ton at a higher discount rate and well over one hundred dollars per ton at a lower discount rate, differences on the order of two- to three-fold for the same physical emissions. Valuations for long-lived gases such as N_2O vary by similar or greater factors across discount-rate assumptions,

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		even though the climate response is unchanged. These values also rely on damage functions that simplify or omit many important impacts (including some extremes, novel climate regimes, and tipping-point behavior). For this reason, EPA's 2022 *Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances* lays out a detailed modular methodology for estimating the SC-GHGs while emphasizing that key inputs—such as socioeconomic projections, damage functions, and discount rates—introduce substantial and unresolved uncertainties into the resulting values. Further, recent federal policy changes, including Executive Order 14154 disbanding the federal interagency working group and stating that its SC-GHG estimates are no longer representative of governmental policy, mean there is no single, authoritative SC-GHG series for DEQ to rely on in its MEPA reviews. DEQ has determined that selecting a particular SC-GHG value and discount-rate configuration for a project-level Supplemental EA would require contested policy judgments that go beyond what MEPA requires and provide at best, a relatively arbitrary impact determination. Commenters additionally assert that because certain economic benefits of the mine (such as employment or tax revenues) may be discussed in dollar terms, DEQ must similarly monetize climate damages using SC-GHG. Again, however, while MEPA requires agencies to assess environmental, economic, and social impacts, it does not require quantitative economic forecasts, nor does it require all impacts be reduced to a dollar figure. Put differently, MEPA does not impose a monetization symmetry rule. Accordingly, while some benefits and harms may be, and are perhaps in some instances most accurately expressed in monetary values, does not mean that all impacts must be, or should be, expressed in like terms. Here, as described above, because of SC-GHG's methodological sensitivity to normative modeling choices; its global rather than Montana-specific design; and its unsettled federal policy status, DEQ has reasonably determined that monetizing climate damages for this project could convey a misleading level of precision, and that quantifying emissions in physical units and, instead, has elected to assess

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		climate implications qualitatively to provide the most appropriate basis of anticipated impacts. DEQ has incorporated additional information explaining its rationale in the *Scope of Supplemental Environmental Assessment* section of the document. For further detail on these considerations, please see DEQ's January 2026 GHG Guidance Document, Appendix 3, *Methods and Means of Quantifying Costs Related to Greenhouse Gas Emissions*, which is incorporated here by reference.
Whitlock/ Running; OCT; MEIC	Comment H: Commenters provided a discussion of the cumulative impacts of the project and how this impacts the globe. Specifically, commenters contend "The DSEA misunderstands the purpose of cumulative effects, which is to assess a larger problem created by many smaller, seemingly insignificant actions."	Cumulative impacts are the combined effects of the proposed action with other past, present, and future actions, by location or generic type. Cumulative impact analyses consider both the incremental effect of the action and the existing condition created by other actions and is intended to demonstrate how numerous, individual actions contribute to a broader environmental problem; it does not require any one project to be treated as the sole or predominant cause of that problem. The Supplemental EA evaluates AM5's GHG emissions and climate impacts in a cumulative context by: 1) Quantifying lifecycle GHG emissions from mining, transportation, and combustion associated with the AM5 expansion. 2) Comparing these emissions to Montana's and global totals, which situates the project's incremental emissions within the already elevated atmospheric GHG levels. 3) Describing climate impacts (i.e., modeled temperature increases and narrative descriptions) identified in recent scientific assessments, which result from the accumulation of emissions from many sources worldwide rather than from any single project alone. In doing so, the Supplemental EA acknowledges that GHG-driven climate change is a cumulative, global problem created by the aggregate effect of many GHG emitting activities, of which AM5 is one contributing source. Commenters assert that the Supplemental EA "misunderstands the purpose of cumulative effects, which is to assess a larger problem created by many smaller,

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		seemingly insignificant actions." DEQ disagrees with this characterization. The Supplemental EA does not treat AM5's emissions as occurring in isolation, nor does it suggest that the project is insignificant simply because its emissions are smaller than global totals. Rather, the Supplemental EA's cumulative analysis shows that AM5 adds a quantifiable increment of GHG emissions to an atmosphere already experiencing cumulative GHG loading from many sources, and that the physical climate impacts discussed in the Supplemental EA are the result of this broader cumulative loading, not attributable solely to AM5 or any single project. To the extent the comment suggests DEQ must redefine cumulative impacts so that this project's emissions are treated as determinative of global outcomes, DEQ disagrees. MEPA requires a clear disclosure of the project's incremental contribution within the larger cumulative problem and a reasoned evaluation of that contribution, which the Supplemental EA provides; it does not require assigning global climate change impacts to this individual mine expansion.
Whitlock/ Running; OCT; MEIC	Comment I: Commenters raise comments regarding cumulative impacts, quantification, and significance determination of the project. Commenters contend that the analysis improperly relied on percentage-based comparisons and tiny temperature increment as basis for finding GHG impacts "insignificant". Commenters ask DEQ to explain how emissions from the largest emitter in the state can still be determined insignificant particularly because "every additional ton of emissions will cause additional loss and damage".	Commenters contend that the Supplemental EA improperly relies on percentage-based comparisons and a very small modeled global temperature increment to find AM5's GHG impacts "not significant." The Supplemental EA presents AM5's emissions as (a) absolute lifecycle tons, (b) percentages of Montana and global emissions, and (c) a modeled order-of-magnitude temperature increment, to provide multiple ways of understanding scale. These metrics are intended as contextual indicators, not as the sole or determinative basis for the significance conclusion. To avoid misunderstanding, DEQ clarifies that: 1) Percentage comparisons are used to show how AM5's emissions relate to larger statewide and global emission totals, consistent with MEPA's cumulative-effects framework, but DEQ does not treat "small percentage of global total" as a test of significance. 2) The modeled fractional temperature change is an order-of-magnitude illustration derived from a reduced-complexity climate model (MAGICC); it

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		is not treated as a precise measure of AM5's physical climate impact or as a threshold for significance. Commenters ask how emissions from AM5 can be deemed "not significant" and note that "every additional ton of emissions will cause additional loss and damage." The statement that every additional ton of GHGs contributes to further warming and associated harms is consistent with current climate science and with findings referenced in *Held*. Significance under MEPA, however, is a combination of scientific expertise from DEQ's scientists and engineers, as well as a legal determination that considers factors such as context, intensity, and the nature of the agency decision, not solely whether emissions are non-zero. In this Supplemental EA, DEQ evaluates significance by considering: the magnitude and duration of AM5's lifecycle emissions in absolute terms; their contribution in the context of existing cumulative atmospheric GHG levels and projected climate impacts in Montana and the Northern Great Plains, and the scope of DEQ's decision on this particular mine-permit amendment. The fact that AM5 is a fossil fuel activity within Montana does not make its emissions the sole or even predominant driver of climate outcomes, nor does MEPA require treating any single project as dispositive of global climate change. The Supplemental EA acknowledges that AM5 adds to cumulative global concentrations of GHGs created by many emitting activities and uses quantitative and qualitative analysis to inform DEQ's decision; the use of percentages and temperature increments is part of that context, not a mechanism to downgrade the importance of emissions. To further explain the agency's assessment, the *Significance of Potential Impacts* section of the Supplemental EA has been revised to include additional climate change impact considerations.
Whitlock/ Running	Comment J: Scope of the impact of the cumulative impacts of GHG emissions.	See responses to comments H & I for explanations of the scope of the cumulative impact analysis and significance under MEPA.

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Whitlock/ Running	Comment K: Like Comment I above.	See responses to comments H & I for explanations of the scope of the cumulative impact analysis and significance under MEPA.
Whitlock/ Running; OCT; MEIC	Comment L: Requests to the deny the project and contention that the program needs to reference their criteria to how they can deny a project in a reference to MCAs/ARMs. Comments that inaccuracies in EA support the need to deny permit: "The DSEA assumes incorrectly that the Colstrip Power Plant would continue to operate and emit GHGs through the 2040s even if the AM5 expansion of Area B is not approved. This is not supported by evidence. In particular, Westmoreland employees have stated that the remaining coal for the power plant is principally located in Area B and Area F. Area F coal, however, is lower quality and requires blending to meet contractual specifications for use at the power plant"	Commenters ask DEQ to deny AM5 based on climate impacts and assert that alleged inaccuracies in the Supplemental EA's discussion of Colstrip's operating horizon demonstrate that the permit cannot lawfully be approved. Commenters conflate DEQ's substantive regulatory authority in the permitting statutes with MEPA's procedural scope which requires assessing the anticipated impacts to the human environment *regardless* of whether such impacts are or are not regulated by the agency. Here, coal permitting is regulated by the Montana Strip and Underground Mine Reclamation Act (MSUMRA), which requires DEQ to approve a permit, revision, or amendment if the application demonstrates compliance with the Act and implementing rules, including reclamation feasibility and protection of the hydrologic balance. The specific denial criteria are set out in 82-4-227, MCA, and ARM 17.24.401–.426, and do not authorize DEQ to deny an otherwise compliant application on the basis of GHG emissions disclosed under MEPA. In fact, MEPA does not allow DEQ to withhold, deny, or impose conditions on any permit based on disclosures made pursuant to the Montana Environmental Policy Act. 75-1-201(4), MCA With respect to Colstrip's operating assumptions, the Supplemental EA uses the publicly available projection that the Colstrip Power Plant may operate through 2042 as a reasonable boundary for the combustion-emissions analysis, while also evaluating a No Action Alternative under which AM5 coal is not mined and coal from alternative sources is assumed to be available for combustion consistent with existing contracts. Statements by employees regarding the quality or blending characteristics of coal from other areas, including Area F, do not alter DEQ's MEPA obligations or DEQ's separate duty under MSUMRA to decide AM5 based on whether the application meets statutory and regulatory criteria.

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Whitlock/ Running	Comment M: We urge DEQ to deny Surface Mining Permit C1984003B, Rosebud Area B, Amendment 5, Colstrip, MT.	See response to Comment L. The Rosebud Area B AM5 amendment application was determined to be in compliance with the Montana Strip and Underground Mine Reclamation Act (MSUMRA) and therefore DEQ was required to approve the amended permit as detailed in the Written Findings published in May 2022.
OCT	Comment N: MSUMRA and hydrologic balance obligations in a changing climate/ substantive statute compliance- "Westmoreland Rosebud Mining LLC did not, and cannot, affirmatively demonstrate that Area B AM5 would not cause material damage to the hydrologic balance outside the permit area as required by Mont. Code Ann. § 82-4-227(3)(a)."	The requirement for the applicant to affirmatively demonstrate that the proposed action would not cause material damage to the hydrologic balance outside of the permit area under 82-4-227(3)(a), MCA is addressed during DEQ's review for the completeness and acceptability of the permit application and in its permitting decision, not in this Supplemental EA. The commentor did not raise these hydrologic material damage issues during the comment periods for the completeness or acceptability reviews, when challenges to the adequacy of the permit application are appropriately considered. Moreover, the current remand and order are limited to DEQ's analysis of GHG impacts and do not reopen or expand the scope of review to encompass MSUMRA compliance determinations regarding hydrologic balance. Accordingly, the applicant's affirmative demonstration and DEQ's MSUMRA permitting decisions fall outside the scope of this MEPA analysis. Furthermore, the comment mistakes that the material damage analysis is tethered to anticipated impacts from the coal mining amendment approved and its interaction with previous amendments that may cumulatively impact with the currently permitted amendment; it does not ask whether material damage would occur from sources *not* being approved by the agency—for example, impacts to water quantity and quality from global warming.
OCT; MEIC	Comment O: Like comment L. Explain how requested DEQ actions- changes to EA, denial of permit, alternatives (renewable energy)- are or are not legally possible. Explain how findings from Held on the feasibility of renewable energy sources in	See Response to Comments L & M. Commenters ask DEQ to revise the Supplemental EA's climate analysis, treat AM5's GHG emissions as significant, and analyze a renewables-based alternative. This Supplemental EA is a limited GHG assessment prepared on voluntary remand to supplement the existing MEPA record for AM5; it does not reopen the full range of alternatives previously evaluated for the mine more broadly. Under MEPA, the level of analysis is tailored to the nature of the proposed action, the complexity and

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	Montana does not bind DEQ to treat this as binding factual context and analyze a renewables based alternative.	seriousness of the issues, and the scope of the agency's decision, ARM 17.4.610(1); and ARM 17.4.609(3) requires only a description and analysis of reasonable alternatives appropriate to an EA, not a new, system-wide EIS every time an existing permit is supplemented. Accordingly, DEQ reasonably focused this Supplemental EA on quantifying AM5's GHG emissions and disclosing their climate implications. The Purpose and Need for the Proposed Action is to evaluate GHG emissions associated with the proposed AM5 mine expansion, which itself is a modification of an existing coal-mining permit under MSUMRA. Because the underlying project purpose is to recover coal from Area B under MSUMRA, a statewide "100% renewables" scenario or renewable-energy generation project would not meet the Purpose and Need for the action and therefore does not qualify as a reasonable alternative to this mine-permit modification. MEPA does not require DEQ to attempt to define an applicant's objectives and raise alternatives to the applicant's proposed project. Instead, consistent with MEPA and ARM 17.4.609(3), DEQ has considered only those alternatives that bear a logical relationship to the proposed mine-permit action, including the no-action alternative. In keeping with MEPA's requirement to consider a no-action alternative, DEQ has considered the option of not approving the AM5 modification; that no-action alternative is reflected in the existing MEPA record. For these reasons, commenters' request that DEQ reverse its 2022 approval and deny AM5 based on a preferred "100% renewables" scenario is beyond the scope of this Supplemental EA. DEQ's authority on AM5 is defined by the MSUMRA and implementing rules, including requirements related to hydrologic balance and other resource-protection standards. While *Held* makes clear that agencies may not ignore GHG emissions when they are legally permitted to consider them, it did not convert MEPA into a substantive mandate to deny fossil-fuel permits that contribute GHG emissions, nor did it rewrite the permitting criteria in MSUMRA or similar statutes. Within that statutory framework, DEQ has discretion to consider climate information disclosed

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		in the Supplemental EA when making or revisiting permitting decisions, but it is not legally compelled by MEPA or *Held* to reach a particular outcome on AM5 solely because the project emits GHGs.
OCT; MEIC	Comment P: Commenters assert that DEQ's review is not compliant with Held and Constitutional duties (strict scrutiny like test). Commenters contend that Montana's constitutional duty to "maintain and improve" a clean and healthful environment, including stable climate and the due-diligence standard. Coal mining arguably inherently destroys value and violates Constitutional Rights. "Given the currently unconstitutional degradation of Montana's clean and healthful environment, DEQ must demonstrate there is a compelling government interest for such a major permit revision and that approving Area B AM5 is the least burdensome means to meet any compelling need".	Commenters rely on the International Court of Justice's advisory opinion *Obligations of States in Respect of Climate Change* to argue that Montana must apply an international "due diligence" standard to this permit decision. That advisory opinion interprets states' obligations under international law; it does not establish binding standards for DEQ's application of MEPA or MSUMRA, and the Montana Supreme Court has not incorporated that international "due diligence" test into Montana constitutional or statutory law. *Held v. State*, 2024 MT 312, instead requires that agencies not ignore greenhouse gas emissions where they are otherwise authorized to consider them and that they conduct adequate environmental reviews. *Held* found that Montana's constitutional right to a clean and healthful environment includes a stable climate system and that state agencies may not ignore GHG emissions when conducting MEPA review where they are otherwise authorized to consider them. *Held* also emphasized that the State has an affirmative duty to "maintain and improve" a clean and healthful environment under Article II, Section 3, and Article IX. DEQ recognizes these constitutional obligations and has prepared this Supplemental EA to ensure that GHG emissions and related climate information are disclosed and considered in connection with the AM5 permit. Commenters argue that, because Montana's environment and climate are in an unconstitutionally degraded state, DEQ must demonstrate a "compelling government interest" and "least burdensome means" for approving AM5. *Held* does not hold that every individual fossil-fuel permit must satisfy a strict-scrutiny test, nor does it convert MEPA or MSUMRA into statutes requiring DEQ to deny any project that increases GHG emissions. Instead, the decision invalidated statutory provisions that prohibited agencies from considering GHGs and instructed that agencies must conduct constitutionally adequate environmental reviews so that

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		they can lawfully exercise whatever discretion their substantive permitting statutes provide. DEQ's permitting authority for AM5 arises from MSUMRA and its implementing rules, which set out specific criteria for permit approval or denial (including hydrologic balance and reclamation standards). 82-4-205(2)(b), MCA; 82-4-231, MCA. *Held* did not amend those criteria or add a new constitutional requirement that DEQ undertake a compelling-interest/ least-restrictive-means analysis for each permit decision. Within this statutory framework, DEQ must consider the climate information disclosed in the Supplemental EA and avoid actions that clearly violate constitutional protections, but the Constitution does not itself supply new permit-denial criteria beyond those enacted by the Legislature. Commenters further assert that coal mining "inherently destroys value and violates constitutional rights" and therefore cannot lawfully be permitted. The Montana Supreme Court has not held that all coal mining, or all fossil-fuel activity, is per se unconstitutional, nor that *Held* requires the State to immediately terminate existing fossil-fuel uses; rather, *Held* addresses that agencies must account for GHG emissions and climate impacts. For AM5, DEQ has supplemented the MEPA record to disclose lifecycle GHG emissions, climate science, and regional impacts, and considers that information, along with all other statutory factors, in exercising its permitting authority. The decision whether to approve, modify, or deny any coal permit amendment is made under MSUMRA and related statutes, not under a categorical rule that coal mining necessarily violates constitutional rights- nor can DEQ deny a permit based on its MEPA analyses.
OCT	Comment Q: Inadequate GHG modelling and reliance on flawed MAGICC model for determining impacts/ comparing tonnage is not sufficient - "Because the RCPs reflect *global actions in the*	Commenters argue that the Supplemental EA's use of the MAGICC model and RCP/SSP scenarios is flawed because those scenarios represent aggregate global actions and "it is not possible to ascertain the potential global temperature impact of an individual project by simply subtracting the project's anticipated emissions from a given RCP." DEQ agrees that global emissions pathways such as Representative Concentration Pathways (RCPs) and Shared Socioeconomic

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	aggregate it is not possible to ascertain the potential global temperature impact of an individual project by simply subtracting the project's anticipated emissions from a given RCP"	Pathways (SSPs) are designed to represent alternative global-scale futures, not to precisely isolate the temperature effect of any single project. In this Supplemental EA, DEQ uses MAGICC and RCP/SSP-based scenarios for a limited, contextual purpose: to illustrate, at an order-of-magnitude level, how the project's modeled emissions relate to global temperature trajectories over time. DEQ recognizes that global-scale scenarios were not designed to assign exact temperature contributions to individual projects, and that any single project will appear small when compared directly to global totals. Therefore, DEQ does not treat the resulting temperature increment as a precise measure of the project's physical climate impact, nor does it rely on that single number as the determinative basis for assessing significance under MEPA. Rather, the Supplemental EA evaluates AM5's greenhouse gas emissions primarily through quantitative estimates of lifecycle emissions (including mining, transportation, and combustion), comparison to Montana's and global emissions to show the scale of those emissions, and qualitative discussion of climate impacts in Montana and the Northern Great Plains, informed by IPCC and regional assessments. Using MAGICC outputs in this way is consistent with climate-science literature, which recognizes reduced-complexity models as appropriate tools for exploring emissions/temperature relationships across scenarios, not as exact project-level attribution tools. (See DEQ's GHG Guidance Document, Appendix 2, for MAGICC's assumptions and limitations). The Supplemental EA therefore does not attempt to "simply subtract" AM5's emissions from a global pathway to derive a precise project-specific temperature increase, and DEQ's conclusions do not depend on such an assumption. For clarity, DEQ revised the *Greenhouse Gas Assessment, Affected Environment, Analysis Area and Methods* and *Secondary and Cumulative Impacts* sections of the Supplemental EA, further expounding on DEQ's utilization of MAGICC in order to provide a contextual relationship between emissions and global temperature. DEQ has likewise revised the *Significance of Potential Impacts* section of the document to include additional climate change impact

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		considerations.
MEIC	Comment R: Disclose global climate impacts and IPCC findings in more detail, including IPCC-WGII findings, limits to adaptation, disproportionate harm, tipping points and cascades. Discuss regional climate impacts in more detail, including Northern Great Plains hydrology and water quality impacts. Discussion of safe warming limits (1.5 degree pathway and carbon budget)	Commenters request that the Supplemental EA expand its discussion of IPCC findings, including global impacts, limits to adaptation, disproportionate harms, tipping-point and cascading risks, regional impacts in Montana and the Northern Great Plains, and remaining carbon budgets for a 1.5 °C pathway. Commenters conflate climate change impacts, at large, with the purpose of MEPA, which is to explore the proposed projects impacts and contributions to this global issue. Nevertheless, in response, DEQ has revised the "GHG Emission Impacts on Climate Systems and IPCC Climate Context" section to summarize key conclusions from the IPCC Sixth Assessment Report and related assessments: (1) that human influence on the climate system is unequivocal, current warming is approximately 1.1 °C above pre-industrial levels, and climate change has already caused substantial and in some cases increasingly irreversible impacts; (2) that climate risks increase rapidly with additional warming above 1.5 °C, with limits to adaptation and disproportionate harms for more vulnerable communities; (3) that the global carbon budget consistent with a 1.5 °C pathway is limited and shrinking; and (4) that the Northern Great Plains, including eastern Montana, is expected to experience continued warming, altered hydrology, and water-quality-related impacts relevant to the project area. The "Secondary and Cumulative Impacts" section has also been expanded to describe how global climate change is already affecting Montana through 2–3 °F of historical warming, longer growing seasons, decreased mountain snowpack, more frequent and severe drought, and increased wildfire risk and fire-season length, and how these changes increase risks of heat-related illness, respiratory and cardiovascular problems from wildfire smoke and degraded air quality, and water-borne illness and supply challenges linked to earlier snowmelt, intense precipitation, and longer summer dry periods. Additionally, the Supplemental EA recognizes that AM5's lifecycle GHG emissions would incrementally add to cumulative global concentrations and thereby contribute to these climate-driven changes in Montana's environment and public health, with burdens falling disproportionately on more vulnerable populations such as children, the elderly,

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		people living in poverty, and communities farther from services. Consistent with MEPA, DEQ has considered these factors qualitatively by disclosing the magnitude and duration of AM5's emissions, comparing them to Montana and regional emissions, and describing how additional emissions fit within this already stressed climate context, rather than allocating a specific carbon-budget share to the project or determining whether it alone is consistent with international temperature-limit goals. These additions are intended to better connect the quantified GHG emissions from AM5 to the broader context of climate risks at global and regional scales, consistent with MEPA's informational purpose and the issues raised in public comment.