BEFORE THE AIR QUALITY CONTROL COMMISSION
STATE OF COLORADO

IN THE MATTER OF THE PROPOSED REVISIONS TO
REGULATION NUMBER 27
SEPTEMBER 20-22, 2023, HEARING

REBUTTAL STATEMENT OF THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, AIR POLLUTION CONTROL DIVISION

The Colorado Department of Public Health and Environment, Air Pollution Control Division ("Division") hereby submits to the Air Quality Control Commission ("Commission") its Rebuttal Statement in this matter.

I. EXECUTIVE SUMMARY

In this Rebuttal Statement, the Division will:

1. Identify and provide support for the Division's proposed revisions to Regulation Number 27, Greenhouse Gas Emissions and Energy Management for Manufacturing ("GEMM 2");

2. Identify and address outstanding issues raised by other parties in Prehearing Statements;

3. Request that the Commission reject the four Alternate Proposals that have been filed; and

4. Request that the Commission adopt the Division's rebuttal version of Regulation Number 27.

The Division is submitting with this Rebuttal Statement its latest revision to the Proposed Rule ("Rebuttal Proposal"), along with a revised Statement of Basis, Specific Statutory Authority and Purpose ("Rebuttal SBAP"), which address a number of issues raised by parties in their Prehearing Statements. The Division recommends certain key changes in the Rebuttal Proposal, described in this Rebuttal Statement. These changes include modification of the GEMM 2 facility reduction requirements, increased transparency and protection for disproportionately impacted communities, and additional changes to both the

GEMM 2 facility compliance mechanisms and the Greenhouse Gas ("GHG") Credit Trading Program.

After reviewing the parties' Prehearing Statements and Alternate Proposals, and based on ongoing discussions with the parties and stakeholders, the Division believes the primary remaining areas of contention related to the proposed rule focus on:

- Whether the Division's proposal satisfies the statutory requirement to secure near-term reductions no later than September 30, 2024.
- Whether the Division's proposal provides protections for disproportionately impacted communities consistent with section 25-7-105(1)(e), C.R.S.
- Whether the Division's proposed percentage reduction requirements assigned to individual facilities and the initial compliance year of 2024 are "technologically feasible and economically reasonable" and "bear a reasonable relationship to the economic, environmental, and energy impacts and other costs of such measures."[1]
- Whether the proposed rule should include additional alternative compliance mechanisms, including a state-managed industrial decarbonization fund.

[1] § 25-7-102(1), C.R.S.; *see also* § 25-7-105(1), C.R.S. (directing the Commission to adopt rules "consistent with" § 25-7-102, C.R.S.).

II. CONTENTS OF REBUTTAL STATEMENT

This Rebuttal Statement contains the following:

III. SUMMARY OF CHANGES MADE TO THE PROPOSED RULE

The Division recommends adoption of its Rebuttal Proposal and Rebuttal SBAP. Below, the Division describes the key changes that it made in the Rebuttal Proposal and Rebuttal SBAP. Not all changes reflected in the Rebuttal Proposal and Rebuttal SBAP are described below. The Division directs the Commission to the redline version submitted with this Rebuttal Statement for a complete view of all such changes. That redline shows cumulative changes from the existing Regulation Number 27 in redline, with changes from the hearing request version of the proposed rule in yellow highlight, and changes from the Prehearing Statement Proposed Rule and Statement of Basis, Specific Statutory Authority and Purpose in green highlight.

A. General Provisions

1. Compliance Timeline and Mitigation Requirements

The Division worked with parties to better clarify and refine the required timeline of each compliance year for facilities subject to Part B of Regulation Number 27 ("GEMM 2 facilities"). Energy-intensive, trade-exposed ("EITE") manufacturing sources and GEMM 2 facilities report their direct GHG emissions as required under Regulation Number 22 by the end of March each year. The proposed revisions to the rule accommodate time for verification and overcompliance credit issuance after these submissions by adjusting the annual compliance certification due date from May 31 to September 30 of each year for the previous compliance year.[2] This gives EITE and GEMM 2 facilities time to sell and purchase credits to meet compliance targets.

This revision created a timing issue for the mitigation requirement in Part A. In that part, the "mitigation year" was originally considered the year immediately after noncompliance. However, with the change described above, the facility and Division would not be able to confirm a noncompliance occurred until September 30 of the year after the year of noncompliance. To address this timing issue, the Division proposes affording the Division discretion over the deadline required for mitigating excess emissions, but limited the mitigation period to not more than three years from the year of noncompliance.[3] This will allow the facility and Division to assess and verify the amount of the exceedance and create a plan for the facility to mitigate the excess GHG emissions in a reasonable timeframe.

[2] *See* Rebuttal Proposal, Part B, Section IV.A.
[3] *See id*. Part A, Section III.B.

B. GEMM 2 Facility Requirements

1. General Issues

The Division proposes adjusting the 2030 emissions reduction requirements in Part B, Section I.A. Multiple parties raised concerns about the percent reduction requirements for GEMM 2 facilities in the proposed rule, asserting that the proposal does not treat facilities in an equitable manner.[4]

Upon consideration of these issues, the Division modified Part B, Section I.A.1., to include at least a 1% GHG emissions reduction for all GEMM 2 facilities relative to the facilities' baselines. This modified approach is paired with (1) lowering the 2030 GHG emissions reduction requirement by 0.5% for facilities subject to Part B, Section I.A.4. from 13% to 12.5%, (2) increasing the GHG emissions reduction requirement from 6% to 7% for facilities subject to Part B, Section I.A.2., and (3) increasing the GHG emissions reduction requirement from 7% to 8% for facilities subject to Part B, Section I.A.3. This distribution in GHG emissions reduction obligations is the most equitable and balanced approach considering all factors and overall emissions reduction outcomes. The revised GEMM 2 facility reduction obligations are in Table 1 below.[5]

Table 1: Revised GEMM 2 Facility Reduction Requirements

Facility Name	PHS Proposal: 2030 GHG emissions reduction requirement vs. facility baseline (%)	Rebuttal Proposal: 2030 GHG emissions reduction requirement vs. facility baseline (%)
American Gypsum Company	13.0%	12.5%
Anheuser Busch Inc., Fort Collins Brewery	6.0%	7.0%
Avago Technologies	3.0%	4.0%
Carestream Health, Inc.	13.0%	12.5%
Cargill Meat Solutions	13.0%	12.5%
Front Range Energy	13.0%	12.5%
Golden Aluminum Inc.	7.0%	8.0%

[4] *See, e.g.*, Cargill_PHS, at 9-13; OBCC_PHS, at 3-5; Suncor_PHS, at 9-16.

[5] *See* APCD_REB_EX-013 (Colorado Air Pollution Control Division, *Baseline Scenario Historic and Future Compliance Estimates Compliance Limits for GEMM 2 Facilities [AR5 mtCO2a], Rubric for GEMM 2 Facility Percentage Reduction Requirements, and GEMM 2 Facility Percentage Reduction Requirements Based on Rubric* (2023)).

JBS Swift Beef Company, Greeley	16.0%	15.5%
Leprino Foods, Greeley	16.0%	12.5%
Microchip Technology	3.0%	4.0%
Molson Coors USA LLC, Golden	3.0%	4.0%
Natural Soda	13.0%	8.0%
Owen-Brockway Glass Container Plant	13.0%	12.5%
Rocky Mountain Bottle Company	6.0%	7.0%
Sterling Ethanol, LLC	13.0%	12.5%
Suncor Energy USA, Commerce City	13.0%	14.0%
Western Sugar Cooperative	0.0%	1.0%
Yuma Ethanol	13.0%	12.5%

2. Pre-2030 GHG Emissions Reduction Requirements for Facilities that Have Already Reduced GHG Emissions by 20%

Certain parties requested to temporarily increase near-term GHG emissions as a result of (1) projects already under construction, or (2) facility expansions that are already planned, financed, and publicized.[6] After extensive consideration, the Division recommends allowing GEMM 2 facilities that have already reduced GHG emissions beyond 20% compared to 2015 levels to emit up to 75% of the facility's reported 2015 GHG emissions for 2024 and 2025.[7] Beginning in 2026, the facility will then be required to comply with its GEMM 2 annual GHG emissions requirement, subject to the mechanism described below.

The Division added a mechanism to ensure that, if a facility emits in excess of its GEMM 2 annual GHG emissions baseline past 2025, these additional emissions are mitigated. If the facility cannot meet its GEMM 2 facility annual GHG emissions requirement in 2026 or after, the facility must either (1) beginning in 2028, comply with a requirement 1% below its reduction requirement for 2030; or (2) beginning in 2030, comply with a requirement 2% below its 2030 reduction requirement.[8] This provides these facilities limited flexibility in the near term, but, in turn, may require deeper, sustained emissions reductions. If the facilities subject

[6] *See* MTI_PHS, at 6-8; Molson_PHS, at 5-7.
[7] *See* Rebuttal Proposal, Part B, Section I.A.1.b.
[8] *See id*. Part B, Section I.A.1.b.(iv).

to this provision and the facilities with adjusted baselines described in the following section emit to the full extent allowed under the rule, the group would still collectively accomplish an 8.6% reduction from 2015 in 2024, thus maintaining significant reductions from 2015.[9] These requirements also mitigate any near-term GHG emissions increase beyond 2025, with the benefit of additional cumulative reductions over time.

For further explanation of the effects of adding this provision to the proposed rule on near-term emissions, see Section IV.D. of this Rebuttal Statement, below.

3. Baseline Adjustments

The Division modified the production capacity-based GEMM 2 facility baseline adjustment in Part A, Section II.X., to allow for 75% of the requested baseline adjustment, rather than 50%. This responds to multiple parties' concerns that the original baseline adjustments proposed would effectively strand recent capital investments meant to significantly expand production capacity.[10] The Division's change allows these facilities to realize the large capital investments that were made prior to the passage of House Bill ("HB") 21-1266 and, in some cases, HB 19-1261, which established GHG reduction targets for the sector and State, respectively.[11]

The Division worked at length with the facilities requesting baseline adjustments to verify and validate the reasoning, data, and assumptions behind each request. The change will not affect the GEMM 2 facilities' collective ability to reduce GHG emissions by 20% against 2015 levels by 2030. It is also important to highlight that these facilities are not guaranteed to emit up to the adjusted levels. If they do, the GEMM 2 facilities would still collectively accomplish an 11.6% reduction from 2015 in 2024 (not accounting for potential emissions increases from

[9] See APCD_REB_EX-014 (Colorado Air Pollution Control Division, *Max Scenario Historic and Future Compliance Estimates Compliance Limits for GEMM 2 Facilities [AR5 mtCO2a]*, *Rubric for GEMM 2 Facility Percentage Reduction Requirements, and GEMM 2 Facility Percentage Reduction Requirements Based on Rubric* (2023)). Note that this analysis assumes that two facilities subject to Part B, Section I.A.1 of the rule will not emit to the levels permitted under Section I.A.1.b. That is because one facility has already accomplished reductions of almost 60% since 2015 and has not indicated any intention to increase emissions, and the other has an adjusted baseline accounting for 100% of the facility's production capacity, which it is not projected to exceed.

[10] *See* FRE_PHS, at 5-6; Leprino_PHS, at 9-11; Soda_PHS, at 7-10.

[11] *See* House Bill ("HB") 19-1261, 72nd Gen. Assemb., 1st Reg. Sess. (Colo. 2019); HB 21-1266, 73rd Gen. Assemb., 1st Reg. Sess. (Colo. 2021).

the provision described above),[12] maintaining reductions at well over halfway to the group's 2030 target.[13]

For further explanation of the effects of adding this provision to the proposed rule on near-term emissions, see Section IV.D. of this Rebuttal Statement, below.

C. Deadline for Greenhouse Gas Reduction Plan

Two of the GEMM 2 facilities, Owens-Brockway and Rocky Mountain Bottle Company ("RMBC"), are glass container manufacturing facilities. They requested a different due date for GHG Reduction Plans in Part B, Section II.A., for glass manufacturing facilities to align with the Extended Producer Responsibility ("EPR") program, which was adopted under HB 22-1355.[14] For context, the facilities produce glass containers from raw materials such as sand, soda ash, limestone, and recycled glass known as cullet. The amount of cullet in the final product is a driving factor in reducing GHG emissions, as more cullet reduces raw material usage and energy consumption. Historically, recycling programs in Colorado have been disjointed and unable to provide a steady supply of cullet to glass manufacturers. The EPR program will create a framework aimed at increasing recycling rates and accessibility to cullet across the State. It is expected that implementation of the EPR program will be integral to GEMM 2 glass manufacturers achieving their 2030 GHG emissions reduction requirements, and it is logical to align their submission of the GHG Reduction Plans with the EPR program timeline. The Division's change will not alter any interim or 2030 compliance requirements or deadlines. The change will simply provide an extension for submission of GHG Reduction Plans for these two GEMM 2 glass container manufacturing facilities.

D. Transparency and Protection for Disproportionately Impacted Communities

1. Transparency

The Division proposes revisions in response to the Climate Equity Community Advisory Council's ("CECAC's") requests for transparent and accessible outreach and engagement related to rule compliance.[15] Many of these requests are reasonable and align with the Division's commitment to equitable representation

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[12] *See supra* notes 6-9 and accompanying text.
[13] APCD_REB_EX-013 (Colorado Air Pollution Control Division, *Baseline Scenario Historic and Future Compliance Estimates Compliance Limits for GEMM 2 Facilities [AR5 mtCO2a], Rubric for GEMM 2 Facility Percentage Reduction Requirements, and GEMM 2 Facility Percentage Reduction Requirements Based on Rubric* (2023)).
[14] *See* OBGC_PHS, at 6-9; RMBC_PHS, at 4-8; *see also* HB 22-1355, 73rd Gen. Assemb., 2nd Reg. Sess. (Colo. 2022).
[15] *See* CECAC_PHS, at 5-10.

and meaningful community engagement. Accordingly, the Division has included certain elements proposed by CECAC in the Rebuttal Proposal[16] and Rebuttal SBAP.[17]

CECAC requests that the Division require plain language summaries of documents submitted under the proposed rule.[18] The Division agrees that improving transparency and making as much information as possible easily accessible is important. However, there may be practical limits to which documents can be shared, summarized, and translated into languages other than English. The Division believes it is important to provide public access to documents, with the limited exception of certain proprietary or confidential business information. In addition, the Division believes plain language summaries of certain types of documents would help community members access and understand key information to facilitate an informed public comment process, while avoiding overly burdensome and costly administrative requirements.

Accordingly, the Division proposes posting a plain-language summary outlining the types of compliance documents that sources will submit in the top two languages spoken by the communities near each GEMM 2 facility. The Division will provide translated copies of these documents to members of the public upon request or offer for a Division subject-matter expert to meet with the community member(s) to review the document(s) with an interpreter present upon request.[19]

2. Guidance for Co-pollution Assessment

GreenLatinos argues that the Division failed to provide a methodology to adequately quantify co-pollutant reductions, as well as compare scenarios of harmful air pollution reductions across different emission reduction measures.[20] The Division has added language to the Rebuttal SBAP concerning guidance for co-pollution assessment in response to this concern.[21] The Division acknowledges this is an area where additional guidance is necessary to ensure adequate comparison mechanisms between projects and to aid in decision-making. Given the complexity of such a methodology, the Division proposes to publish a guidance document no later than December 1, 2024, with this specific information. The guidance document

[16] *See* Rebuttal Proposal, Part B, Section I.B.3. (extending the public comment period from 21 to 30 days); Rebuttal Proposal, Part B, Section II.G. (same); Rebuttal Proposal, Part B, Section II.I (requiring three public meetings to review approved GHG reduction plans); Rebuttal Proposal, Part B, Section V.B. (providing that Division will publish compliance documents to its website).
[17] *See* Rebuttal Proposal, Part E, at 53-54.
[18] CECAC_PHS, at 7-8.
[19] *See* Rebuttal Proposal, Part E, at 53-54.
[20] GL_PHS, at 11-12.
[21] *See* Rebuttal Proposal, Part E, at 53.

will aid regulated sources and third-party reviewers in ensuring a consistent method is used in the development of the GHG Reduction Plans.

E. GEMM 2 Facility Compliance

1. Carbon Capture and Underground Storage ("CCS")

GreenLatinos objected to the inclusion of CCS on various grounds, including that it does not reduce harmful air pollution and may in fact increase such pollution given the additional energy required to operate the CCS systems.[22] CCS systems may have variable impacts on harmful air pollution.[23] However, the proposed rule includes other mechanisms to protect local communities and reduce co-pollution associated with GHG emissions. Specifically, all facilities are required to conduct a "tie-breaker" analysis under which, generally speaking, they must prioritize GHG reduction measures with greater co-pollution reductions over others.[24] And, facilities located near residential disproportionately impacted communities have separate harmful air pollution reduction obligations if they use the credit market for compliance.[25] Moreover, the statutory charge to protect disproportionately impacted communities and prioritize emissions reductions that will reduce co-pollution emissions–which the Division acknowledges and takes seriously–applies to the sector as a whole, not to each individual source subject to the Commission's GHG regulations.[26] The Division is grappling with the reality that the industrial sector is difficult to decarbonize[27] and believes onsite CCS is an important option to keep open to achieve the overall sector requirement.

Nevertheless, to address the concerns around CCS, the Division has added language to the Rebuttal Proposal at Part B, Section III.A.1., stating that using CCS for compliance with GEMM 2 requirements will be contingent on use of one or more CCS protocols to be approved by the Division. To this end, the Division will consider use of a third-party protocol and/or development of its own protocol in consultation with interested stakeholders and the Carbon Capture and Underground Storage ("CCUS") Task Force Subcommittee Recommendations.[28] At present, there are various CCS protocols available to industry, but none the Division feels could be used without modification. There are additional draft CCS protocols the Division feels hold promise, but none have yet been published. Any

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[22] GL_PHS, at 9-10.
[23] *See* APCD_REB_EX-006 (InsideEPA.com, *Environmental Group Touts Health Gains from CCS Co-Pollutant Reductions* (Aug. 2023)).
[24] Rebuttal Proposal, Part B, Section II.A.3.a.
[25] *Id*. Part B, Section II.A.6.
[26] *See* § 25-7-105(1)(e)(XIII), C.R.S.
[27] *See* APCD_PHS_EX-019, at xv-xxiii.
[28] *See* Colorado School of Mines, *State of Colorado CCUS Task Force* (2023); Rebuttal Proposal, Part E, at 50-52.

approved protocol(s) will assure rigorous, consistent, and accurate accounting and reporting of CCS project impacts that have been vetted through the stakeholder process.

2. Offsite Compliance Options

a. "Sister" Facility Provision

Environmental Defense Fund ("EDF") argues the proposed rule's "sister" facility and direct air capture ("DAC") alternative compliance pathways are "offsets" and are not permitted under the Colorado Air Pollution Prevention and Control Act ("Act").[29]

Regarding "sister facilities," while the Division takes no position on the strength of EDF's legal arguments, it acknowledges that allowing facilities to take credit for reductions achieved at facilities not subject to Regulation Number 27 or Regulation Number 22 presents certain GHG emissions accounting challenges. The Division was not able to resolve these challenges prior to submission of Rebuttal Statements and has therefore removed the provision in the Rebuttal Proposal. The Division understands that Leprino Foods Company ("Leprino") may be submitting proposed revisions with its rebuttal statement intended to allow for the continued use of this alternative compliance option and that address the challenges raised regarding this option. The Division takes no position on that submission at this time.

b. Direct Air Capture

Several parties opposed use of DAC as an allowable compliance mechanism beginning in 2028. The parties in opposition include EDF,[30] GreenLatinos,[31] and the Local Government Coalition ("LGC").[32] In contrast, the Colorado Energy Office ("CEO") broadly supported the inclusion of DAC as a potential compliance pathway.[33]

[29] EDF_PHS, at 12-15.
[30] *See id*. at 14-15.
[31] *See* GL_PHS, at 7-9.
[32] *See* LGC_PHS, at 14-15.
[33] *See* CEO_PHS, at 11-15.

As an initial matter, the Division does not agree with the legal position that the Act prohibits the use of DAC in furtherance of the industrial sector GHG reduction requirement.[34] In the Division's view, where DAC is owned and/or operated by a GEMM 2 facility, the negative emissions can generate credits under the Act because they constitute a reduction of GHG emissions by the GEMM 2 facility, a regulated source.[35] Nevertheless, as discussed further below, the Division has added limitations on the use of DAC projects, including that they will only be permitted for credit generation beginning in 2031 and they will be subject to the Division's approval of a governing protocol.

Given evolving technologies and data about DAC, the Division recommends allowing DAC as a compliance mechanism beginning in 2031.[36] This enables the Division and interested parties adequate time to develop meaningful guidelines around DAC and addresses concerns about using it to meet the 2030 emissions reduction target. The Division is already evaluating potential protocols for DAC accounting, including Verra's Verified Carbon Registry ("VCS"),[37] and will continue to evaluate and develop further guidance and recommendations for this developing technology.

There is support for DAC at multiple levels of government. As CEO has noted, the Polis Administration has signed a memorandum of understanding with the State of Wyoming regarding DAC infrastructure and market development.[38] Other regional collaborations are expected to develop in the near term as well. It is widely agreed that carbon dioxide removal ("CDR") strategies are a necessity to limit climate change, especially to counterbalance hard-to-abate sectors such as the industrial sector.[39] The inclusion of DAC as a compliance mechanism in the Proposed Rule will create a market signal, which will foster growth and creative solutions in the carbon management sector. EDF recognizes the importance of encouraging strategies such as DAC.[40]

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[34] *See* EDF_PHS, at 14 ("The Proposed Rule's DAC offset has no statutory basis and cannot guarantee real, enforceable emission reductions."); *see also* GL_PHS, at 7-9.
[35] § 25-7-105(f)(1)(A), C.R.S. (defining "GHG credit" as "a tradeable compliance instrument . . . that represents the reduction of one metric ton of carbon dioxide equivalent of greenhouse gas by a regulated source").
[36] *See* Rebuttal Proposal, Part D, Section III.A.2.b.
[37] Verra, *Methodology Framework for Carbon Capture and Storage* (2023).
[38] APCD_REB_EX-001 (Governor Mark Gordon and Governor Jared Polis, *Memorandum of Understanding Between the State of Wyoming and the State of Colorado Regarding Direct Air Capture Industry Development* (June 2023)).
[39] Intergovernmental Panel on Climate Change, *Carbon Dioxide Removal*; *see also* APCD_PHS_EX-016.
[40] APCD_PHS_EX-016, at 1 ("[P]ublic policy will play an essential role in driving efforts to mature DACCS into a viable and cost-effective carbon dioxide removal strategy – not merely to get the technology off the ground, but to be able to operate it at scale by mid-century and beyond."); *id*. at 4

F. Greenhouse Gas Credit Trading Program

1. Credit Trading Between GEMM 1 and GEMM 2 Facilities

Certain parties, including EDF, raised concerns regarding allowing GHG credit trading between EITE and GEMM 2 facilities given that EITE stationary sources can generate GHG credits on an intensity basis while GEMM 2 facilities must generate GHG credits on a mass reduction basis.[41] Mindful of these concerns, the Division recommends restricting GHG credit trading as between EITE facilities and between GEMM 2 facilities, respectively, until after December 1, 2024, when the Division will develop and publish guidance.[42] The Division commits to developing this guidance through a stakeholder process or technical working group to ensure credit trading will align with the sector GHG emissions reduction requirements in section 25-7-105(1)(e)(XIII), C.R.S.[43] It is not expected that this timeframe will greatly affect business decisions centered around the credit trading market because it aligns with the proposed release date of the GHG credit trading system.

2. Credit Generation from Facilities with Adjusted Baselines

The Division also addressed GHG credit generation for facilities with adjusted baselines because, under the prior structure, those facilities could have generated credits from unrealized production capacity. That outcome would be inappropriate and inconsistent with the purpose of the baseline adjustment. All four GEMM 2 facilities that received baseline adjustments have 2030 targets that are higher than their 2022 reported emissions. If the increased production was not realized in the near term, GHG credits could be generated through maintaining level production alone. To address this situation, the Division added a provision at Part D, Section III.A.2.a.(i), providing that facilities with adjusted baselines may only generate credits once they reduce emissions consistent with 2030 requirements as applied to their unadjusted baselines.

("DAC, and especially DAC with dedicated geologic storage, is unlikely to reach maturity or deploy widely without significant policy support."); *id*. ("The climate crisis demands that we reduce emissions as rapidly as possible. Unfortunately, globally, we have delayed emissions reduction long enough that, in addition to the transformational changes to our energy system, we also need carbon dioxide removal (CDR) to achieve economy-wide net-zero emissions by roughly midcentury, enabling us to avoid the worst effects of climate change.").

[41] *See* GL_PHS, at 6-7; EDF_PHS, at 15-17; LGC_PHS, at 8-9.

[42] Rebuttal Proposal, Part D, Section III.A.3.

[43] *See id*. Part E, at 54-55.

G. Regulatory Price Cap

EDF provided an Expert Report of Jeremy Proville related to the Social Cost of Greenhouse Gases ("SC-GHG").[44] Mr. Proville argues that the SC-GHG is inappropriate as a cost-effectiveness threshold for two main reasons: (1) the SC-GHG is too low, and (2) using the SC-GHG as a cost cap enables facilities to avoid onsite reductions by incentivizing facilities to overestimate costs and timeframes for implementation and to underestimate the emissions abatement potential.[45]

In response to these concerns, the Division has adjusted its proposed rule to clarify that the SC-GHG is intended as a regulatory price cap at and below which the Division will require GHG emissions reduction measures.[46] This regulatory price cap is not intended as a value above which the Division considers GHG emissions reduction measures to be cost-prohibitive nor as a ceiling above which facilities should not implement GHG emissions reduction measures. By using the SC-GHG as the regulatory price cap, the Division assumes that the SC-GHG represents GHG emissions reduction measures that are generally cost-effective for all facilities on the basis that, at least up to the SC-GHG, net benefits of GHG emissions reduction measures clearly outweigh the costs. However, the federal government is considering increasing the SC-GHG.[47] As described further below, the Division would seek to update its SC-GHG referenced values to align with updated values that may be approved by bringing a rule revision before the Commission.[48]

Above the SC-GHG, the Division recognizes that cost-effectiveness varies for each GEMM 2 facility. The rule allows GEMM 2 facilities to implement GHG emissions reduction measures that may exceed the SC-GHG but are still individually cost-effective. The proposed rule prompts GEMM 2 facilities to at least consider implementing GHG emissions reduction measures above the SC-GHG by requiring them to identify and price GHG emissions reduction measures up to fifty (50) percent above the 2030 SC-GHG in their GHG Reduction Plans and by establishing the credit trading program. Both may help GEMM 2 facilities to create the business case to implement measures that cost more than the SC-GHG. For example, GEMM 2 facilities that can implement direct reduction measures that bring their GHG emissions below their 2030 GHG emissions reduction requirement have access to an additional revenue stream through the sale of GHG credits.

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[44] *See* EDF_PHS_EX-027.
[45] *See id*.
[46] *See* Rebuttal Proposal, Part A, Section II. (removing the definition of "cost-effective"); *id*. Part B, Section II.A.3. (requiring a facility to disclose the measures above the 2030 SC-GHG that it intends to implement); *id*. Part B, Section III.A. (requiring implementation of onsite measures at or below the 2030 SC-GHG).
[47] APCD_PHS_EX-011.
[48] *See infra* notes 72-73 and accompanying text.

IV. RESPONSE TO CERTAIN REMAINING PARTY ISSUES

In the Rebuttal Proposal, the Division was not able to resolve all issues raised by the parties. It offers the below responses to certain significant unresolved issues presented in Prehearing Statements.

A. Compliance with Industrial and Manufacturing Reduction Requirement

Certain parties claim that Colorado is in jeopardy of missing its statewide and industrial and manufacturing sector GHG and air pollution abatement targets.[49] The Division strongly disagrees. The Division's proposal is clearly structured to reduce direct GHG emissions by at least 20% from the GEMM 2 facilities' 2015 emissions, while also securing and accelerating near-term reductions.

Beyond this proceeding, the Commission is also addressing industrial and manufacturing GHG emissions through numerous other strategies. For example, the Commission adopted rules to phase out high-global warming potential hydrofluorocarbons.[50] Further, in December 2021, the Commission revised Part D, of Regulation No. 7 to reduce GHG process emissions from upstream and midstream oil and gas operations.[51] As part of the same rulemaking, the Commission established an oil and gas GHG intensity program that begins in 2025 and steps down over time to achieve GHG reductions in the upstream oil and gas sector.[52] The Commission also established a steering committee related to reducing GHG emissions from fuel combustion equipment at midstream oil and gas operations.[53] The work of that steering committee will culminate in a rule proposal to the Commission in August 2024.[54]

Additionally, the Division plans to propose ozone rules later this year aimed at reducing emissions of nitrogen oxides ("NOx"). These rules will reduce NOx emissions from drilling and completion operations in accordance with the NOx reduction goals for the upstream oil and gas sector established by Governor Jared Polis in a March 2023 directive,[55] and reduce NOx emissions from natural gas- and

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[49] *See* EDF_PHS, at 6-7.
[50] *See* Regulation No. 22, Part B, Section I.
[51] *See* Regulation No. 7, Part C., Statement of Basis, Specific Statutory Authority, and Purpose, at 281.
[52] *See id*. at 306.
[53] *See id*. at 304.
[54] *See* Colorado Department of Public Health and Environment and Air Pollution Control Division, *Greenhouse gas reduction planning for oil and gas midstream fuel combustion equipment* (2023).
[55] Governor Jared Polis, *Letter Regarding Pollution* (March 2023).

diesel-fired engines used in oil and gas and other industrial operations. Although the rules will primarily target ozone precursors, they would have the co-benefit of reducing GHG emissions attributable to the industrial sector.

Another component of regulation-prompted industrial sector GHG emission reductions is GEMM 1, adopted in October 2021. In basic terms, the GEMM 1 rule requires subject facilities that are employing the best available emission control technology and energy best management practices to reduce their GHG emissions by 5% below a Commission-approved GHG emission rate every five years through 2037.

In addition to the Division's and Commission's other regulatory actions to reduce GHGs from the industrial sector, this proposed rule is very significant to reaching the overall 20% reduction requirement given the volume of GHG emissions that the 18 covered facilities collectively emit. As set out in the Division's Prehearing Statement, manufacturing stationary sources comprise approximately 33% of the industrial and manufacturing sector's total GHG emissions,[56] and the 18 covered GEMM 2 facilities are responsible for nearly half of those GHG emissions.[57] This means that the 18 GEMM 2 facilities account for approximately 15% of the industrial and manufacturing sector's total GHG emissions. They are also, together with GEMM 1 facilities, the highest emitting manufacturing stationary sources in the State.[58] As a result, requiring the group to achieve a 20% reduction by 2030 significantly advances the sector towards the overall 20% requirement, though it is not intended to be the only strategy to accomplish the required reduction.

B. State-Managed Fund

There are differing views about a potential state-managed fund to collect and distribute moneys to fund decarbonization projects within the industrial sector. Certain parties stated that the industrial decarbonization fund should not be included at all because it allows facilities to "pay to pollute," does not reduce co-pollutant reductions, and is an imperfect remediation at best.[59] Other parties, in contrast, insist that such a fund is a critical safeguard for a novel regulatory program and must be incorporated into the rules at their inception.[60]

[56] APCD_PHS, at 13.
[57] *Id*. at 16.
[58] *Id*. at 15.
[59] *See* LGC_PHS, at 11-12.
[60] *See*, *e.g.*, CCC_PHS, at 26-29.

Cognizant of these competing positions, the Division recommends maintaining the potential for such a fund in the Rebuttal SBAP and setting reasonable parameters around its development. The Rebuttal SBAP now describes that any fund would prioritize projects which yield significant co-benefits within the industrial sector by focusing on projects at or near GEMM 2 facilities in disproportionately impacted communities that have the highest EnviroScreen scores.[61] Additionally, the facilities electing to use the fund after it is established will still be subject to the rule's requirements around implementing onsite GHG and co-pollution reduction measures in Part B, of the Rebuttal Proposal.

The Division believes that, in combination with other provisions, its fund proposal will assure co-pollutant reductions occur in Colorado's most vulnerable communities. In turn, the Division acknowledges some parties' desire for additional certainty around the use and existence of such a fund. Those parties have requested the Division include rule language to this end.[62] Rule language is premature, however, given that a fund cannot at this time guarantee that contributions will equate to achieving specific amounts of carbon dioxide equivalent ("CO2e") reductions. The problem is that no projects have been identified to which funds could be directed to achieve GHG reductions. Without such projects identified, and a rigorous accounting methodology established, the Division cannot guarantee that payments into the fund will advance GHG reduction goals for the industrial and manufacturing sector.

C. Cost-effectiveness Threshold

Several parties, including the LGC,[63] GreenLatinos,[64] the Family and Community Coalition ("FCC"),[65] and EDF[66] objected to the use of the SC-GHG as a cost threshold for onsite reductions in the rule. The primary arguments centered around the cost being inappropriately low, and the necessity of any threshold at all. The Division plans to maintain the structure of the rule using the SC-GHG as a benchmark for required onsite reductions. It has, however, reframed its use of the SC-GHG as a regulatory price cap under which the Division can require onsite reduction projects, as discussed above.[67] The Division addresses the parties' individual arguments below.

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[61] *See* Rebuttal Proposal, Part E, at 52.
[62] *See, e.g.*, CCC_PHS, at 26-29.
[63] *See* LGC_PHS, at 18-24.
[64] *See* GL_PHS, at 10-11.
[65] *See* FCC_PHS, at 9-14.
[66] *See* EDF_PHS, at 8-12.
[67] *See supra* notes 44-48 and accompanying text.

1. Response to Argument that There Should be no Cost-Effectiveness Threshold and, if there is, it Must be Set well Above the SC-GHG

The Division believes setting a value to require onsite reductions at facilities is a useful tool in aiding decision-making for the covered GEMM 2 facilities and that the SC-GHG serves as an appropriate metric for this regulatory price cap. The eighteen GEMM 2 facilities include a wide variety of different sources, each with their own unique situation, operationally and financially. Based on the unique situations of each facility, there may be many cost-effective options, or potentially very few. This should encourage facilities with the most opportunities to achieve deeper reductions and generate credits they can bring to the market.

a. Current SC-GHG

The SC-GHG used in the proposed rule is established by the 2021 Federal Interagency Working Group ("IWG"), Technical Support Document, Interim Estimates under Executive Order 13990 ("2021 Interim Estimates"), using a 2.5% discount rate.[68] The Division is aware that the 2021 Interim Estimates are the same as those developed by the IWG in 2013 and 2016, adjusted for inflation. However, the Division believes these are still the best-published values to rely on. Using the values from the 2021 Interim Estimates is also consistent with the statutory definition of SC-GHG that applies to economic impact analyses.[69]

The IWG is made up of fourteen participating federal offices and agencies that all contributed to the development of the SC-GHG. The estimates were based on the best available science at the time of their development and have been peer reviewed. It is true that there is now more data available and updated science that will likely change the current estimate for the SC-GHG, and the Division has tried to incorporate provisions in the rule to account for that. These include relying on the lowest published discount rate,[70] as well as requiring the identification of reduction opportunities up to 50% above the SC-GHG to quantify co-pollutant reduction obligations.[71]

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[68] APCD_PHS_EX-012; *see also* Exec. Order No. 13990, 86 Fed. Reg. 7037 (Jan. 20, 2021).
[69] *See* § 25-7-110.5(4)(f), C.R.S.
[70] Rebuttal Proposal, Part A, Section II.EEE. (defining "social cost of GHGs").
[71] *Id*. Part B, Section II.A.6.

In November 2022, the EPA published an External Review Draft of Report on the Social Cost of Greenhouse Gases: Incorporating Recent Scientific Advances.[72] EPA's draft report includes four different modules that separate the SC-GHG estimation process, as well as an updated discount rate structure. EPA's average estimates for the Social Cost of CO_2 range from $120-$340, depending on the discount rate used. While the Division acknowledges the improvements to the SC-GHG proposed by the EPA, the Division will await the formal peer review process to be completed and final publication of an updated SC-GHG from the IWG. EPA's draft guidance recently underwent an external peer-review in spring 2023, and the Division anticipates a formal update to EPA guidance will be released by 2024. It is also worth noting that EPA is only one contributing member of the IWG. Per Executive Order 13990, the entire IWG has been tasked with updating the SC-GHG to reflect the best available science and estimation methods. The IWG will likely rely on the work already done by EPA and incorporate the relevant methods into the updated SC-GHG. If the IWG formally publishes an update to the SC-GHG as anticipated, the Division plans to bring forward a rule revision that incorporates the new values.[73]

b. Quantifying Health Impacts from Harmful Air Pollutants Associated with GHGs

One of the main arguments from parties opposing use of the current IWG SC-GHG value is that it represents only a partial estimate of the true cost to society for each ton of CO2e pollution emitted to the atmosphere. While the SC-GHG does incorporate health impacts due to climate change, it does not account for health impacts from associated harmful air pollutants.

The LGC used EPA's Co-Benefits Risk Assessment ("COBRA") model to estimate cumulative cost-savings from co-pollutant reductions, looking specifically at the estimated reductions for Suncor Energy USA ("Suncor") and JBS Swift.[74] The results of the analysis show an estimated $8,807 to $19,987 social benefit savings per ton of harmful air pollutant reduced for Adams County, and $5,198 to $11,670 savings per ton of harmful air pollutant reduced in Weld County. The argument made by the LGC is that even a partial assessment of the health costs of GHG co-pollutants demonstrates that the SC-GHG is an inappropriate benchmark. While the Division acknowledges that the SC-GHG does not account for the health impacts of associated harmful air pollutants, there appear to be inaccurate assumptions in LGC's analysis.

[72] APCD_PHS_EX-011.
[73] *See* Rebuttal Proposal, Part E, at 53.
[74] *See* LGC_PHS, at 20-24.

First, the analysis was done assuming a 12% reduction obligation in GHGs would equate to a 12% reduction in facility-wide harmful air pollutants. While there are harmful air pollutants generally associated with GHG emitting sources, not every source nor every available control measure effects a proportionate or identical emission reduction profile. The most common source of GHGs at industrial facilities is from the combustion of fossil fuels, primarily natural gas. The co-pollutants associated with natural gas combustion are first and foremost NO_x and carbon monoxide ("CO"), and to a much lesser extent particulate matter ("PM", including "PM_{10}" and "$PM_{2.5}$"), sulfur dioxide ("SO_2"), and volatile organic compounds ("VOC"). A portion of GHG emissions from the sector are also emitted directly from industrial processes, and have minimal, if any, associated co-pollutants. Therefore, while co-pollutants will generally be reduced in association with GHG reductions, it is inaccurate to imply all harmful air pollutants at a facility will be reduced in the same percentages as GHGs. Additionally, the analysis done by the LGC does not account for the fact that not all emission sources at a facility emit GHGs. Suncor, for example, has over 250 emission sources, with only around 50 of those being sources of GHGs. So, every harmful pollutant in the LGC analysis that is evaluated, other than NO_x, is likely a drastic overestimation of the actual amounts that would be associated with GHG reductions.

Another way of conducting this analysis would be to look at the most common source of GHGs—the combustion of natural gas—to project potential co-pollutant reductions. Using EPA published emission factors[75] for criteria pollutants and CO_2, it is possible to estimate the amount of harmful air pollutants that would result from the emission of one tonne of CO_2. See Table 2 below for the results of this analysis:

[75] *See* United States Environmental Protection Agency, *AP 42, Fifth Edition, Volume 1, Chapter 1: External Combustion Sources* (Jan. 2023), 1.4 Natural Gas Combustion, at Tables 1.4-1 and 1.4-2,; and 40 C.F.R., Pt. 98, Subpt. C, Table C-1.

Table 2: Estimated harmful air pollutants associated with the emission of 1 mt of CO_2 from natural gas combustion

Pollutant	Mass emitted (kg)
PM	0.0633
PM_{10}	0.0633
$PM_{2.5}$	0.0633
SO_2	0.0050
NO_x	0.8331
CO	0.6998
VOC	0.0458

By this measure, NO_x, the pollutant of highest concentration associated with natural gas combustion, would result in 0.83 kilograms emitted in conjunction with 1 tonne of CO_2. Utilizing COBRA and the values from Table 2 results in an estimated monetary value of $23-$51 in total health effects.[76] Adding the high value ($51) to the $89 SC-GHG equals $140. This is very near the Division's proposal of 150% the SC-GHG to evaluate co-pollutant reductions in disproportionately impacted communities and require the associated co-pollutant reductions to be retained onsite.[77]

Accordingly, the Division believes its proposed threshold strikes an appropriate balance between the rule primarily driving GHG reductions, while still prioritizing co-pollutant reductions, as required under the Act.[78] While the above analysis is a simplified approach that makes several assumptions, it is a more accurate representation of actual harmful air pollutant reductions that are likely to be seen as a result of GHG reductions than the analysis presented by the LGC.

2. Response to Family and Community Coalition Positions

The FCC argues that no cost-effectiveness threshold for co-pollutant reduction obligations is required under section 25-7-105(1)(e)(XIII), C.R.S.[79] In FCC's view, considering the cost-effectiveness of the proposed rule is discretionary and, therefore, must yield to the statute's direction to prioritize reductions that will

[76] Environmental Protection Agency, *CO-Benefits Risk Assessment Health Impacts Screening and Mapping Tool (COBRA)* (2021), using values in Table 2 in tonnes, and the following inputs: All contiguous US States, Sector - Fuel Combustion: Industrial, Subsector - Gas, Natural, Discount Rate - 2.5%.
[77] *See* Rebuttal Proposal, Part B, Section II.A.6.
[78] *See* § 25-7-105(1)(e)(XIII), C.R.S.
[79] FCC_PHS, at 7.

reduce emissions of co-pollutants that adversely affect disproportionately impacted communities.[80] The Division agrees the Act does not specify a cost-effectiveness threshold and that prioritizing reductions of co-pollutants is mandatory under the Act. But FCC's argument seems predicated on a reading of the Act that would require achievement of all technically feasible harmful air pollutant reductions in disproportionately impacted communities, regardless of cost.[81] That is not what the statute says. The statute directs the Commission to adopt GHG reduction rules and provides that those rules "must include protections for disproportionately impacted communities and prioritize emission reductions that will reduce emissions of co-pollutants that adversely affect disproportionately impacted communities."[82] It does not qualify the degree to which the rules must protect disproportionately impacted communities or prioritize reductions of harmful co-pollutants. Rather, these elements of section 25-7-105(1)(e)(XIII), C.R.S., provide a general direction for the structure of the industrial-sector GHG reduction rules and must be read in the broader context of the statute. That context includes the direction that the Commission must consider the costs of compliance with GHG reduction rules[83] and that the rules may seek to enhance cost-effectiveness.[84] To balance these obligations, the Division set the cost-threshold for a facility to assess the amount of additional co-pollution it must reduce if using offsite compliance mechanisms well above the current published cost of the SC-GHGs. In the Division's view, this approach appropriately balances the competing considerations under the Act.

FCC also proposed that company profitability should be considered when evaluating onsite reduction opportunities.[85] The Division heard this request from other stakeholders during the rule development process, but the Division is not recommending this approach. While profitability may bear on some aspect of cost-effectiveness for a facility, profit variability and innumerable other factors must be considered, as compared to a constant and objective criterion as recommended by the Division. The Division's proposal aligns with how the Commission and other environmental law makers have historically approached these issues in rulemaking. Moreover, as a practical matter, there would likely be too many factors to consider, and the forensic financial audit that would be required is outside the directive and expertise of the Division. While the Division understands the appeal of this approach, it recommends against including it in this rule.

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[80] *Id*. at 8.
[81] *See id.* ("While the Commission may consider cost-effectiveness (whatever it determines that term means) during its deliberations, it *must* prioritize emission reductions of harmful air pollution in disproportionately impacted communities regardless of cost-effectiveness.").
[82] § 25-7-105(1)(e)(XIII), C.R.S.
[83] § 25-7-105(1)(e)(VI), C.R.S.
[84] §§ 25-7-105(1)(e)(II), (V), C.R.S.
[85] *See* FCC_PHS, at 11-12.

D. Interim Reduction Requirements

There is considerable disagreement among parties concerning interim GHG emission reductions prior to 2030 and what, if anything, is required under the statutory requirement that "[t]he rules must . . . be designed to accelerate near-term reductions[] and secure meaningful emission reductions from this sector to be realized beginning no later than September 30, 2024."[86]

Certain industry parties contend that no interim reduction requirements should be required under the rule or, alternatively, that they should begin in 2026 rather than 2024.[87] These parties urge that section 25-7-105(1)(e)(XIII), C.R.S., does not require reducing GHG emissions from GEMM 2 facilities or capping GHG emissions at present levels by September 30, 2024.[88] Rather, these parties contend that because the covered facilities have collectively reduced GHG emissions by approximately 11%[89] since 2015 and because those reductions have been achieved largely through permanent projects, the statutory requirement to "secure meaningful reductions from [the industrial and manufacturing] sector to be realized beginning no later than September 30, 2024"[90] has already been satisfied.[91] The parties also point out that the obligation to secure meaningful reductions applies to the entire industrial and manufacturing sector, not just to the 18 covered facilities, and that meaningful GHG emission reductions have already been achieved from other portions of the sector.[92]

By contrast, EDF and other parties argue that the proposed rule fails to satisfy the statutory requirement to secure meaningful reductions by September 30, 2024 or accelerate near-term reductions. EDF contends that, because of how the proposed rule structures facility baselines, it allows for an increase in GHG emissions from 2024 to 2029.[93] According to EDF, the proposed rule is also deficient because it allows GHG emissions to stay flat from 2024 to 2029, instead of requiring step-down reductions.[94] And, finally, EDF argues that the proposed rule further fails to constrain near-term GHG emissions because it only requires onsite reductions beginning in 2030.[95]

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[86] § 25-7-105(1)(e)(XIII), C.R.S.
[87] *See* CCC_PHS, at 8-13 (arguing that, at a minimum, the interim reduction requirements should shift to 2026); *see also* AGC_PHS, at 3; Cargill_PHS, at 5-6; FRE_PHS, at 5; Molson_PHS, at 8; Soda_PHS, at 6; Suncor_PHS, at 2.
[88] *See* CCC_PHS, at 8.
[89] The Chamber states that the covered facilities have reduced by approximately 12% since 2015 GHG emissions, but the Division's numbers are closer to 11%. *See id.*
[90] § 25-7-105(1)(e)(XIII), C.R.S.
[91] CCC_PHS, at 8-9.
[92] *Id*. at 9.
[93] EDF_PHS, at 18-20.
[94] *Id*. at 20-22; *see* also CECAC_PHS, at 4; LGC_PHS, at 27-29.
[95] EDF_PHS, at 22; *see* also CECAC_PHS, at 4.

We address each of these positions below.

1. Industry arguments

As an initial matter, the statute does not permit removing pre-2030 requirements entirely. While it is true that the covered facilities have collectively reduced GHG emissions by approximately 11% since 2015, those reductions are not "secured." Contrary to industry's argument that the reductions are secured by virtue of having been achieved through permanent abatement projects, facility GHG emissions can increase in other ways, for example, through increased production. In fact, this has already occurred at a number of the GEMM 2 facilities.[96] Without converting voluntary reductions into legally enforceable GHG emissions limits, the reductions cannot be considered "secured," either as a practical matter or for purposes of statutory compliance.

It is also true that other regulatory actions by the Commission following the passage of the Environmental Justice Act in July 2021 have resulted or will result in GHG emissions reductions from other parts of the industrial and manufacturing sector, for example, from oil and gas operations.[97] Those actions are discussed above.[98] While not all GHG emissions from oil and gas operations are attributable to the industrial sector, fuel combustion emissions from oil and gas operations do fall within the industrial sector. The problem for purposes of evaluating where the industrial sector stands as a whole is that it is difficult at this point to parse reductions achieved from the oil and gas sector into an industrial sector bucket versus an oil and gas sector bucket. As a general matter, however, reducing combustion emissions–i.e., those emissions attributable to the industrial sector–is a more time-intensive and costly process than reducing non-industrial sector emissions from oil and gas operations (e.g., reducing methane leakage). The Division, therefore, assumes that the bulk of those combustion emission reductions are likely to occur later in the decade. As a result, while the Commission's regulation of oil and gas combustion emissions is clearly contributing to the sector-wide 20% GHG reduction target and prioritizing near-term reductions as much as

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[96] APCD_REB_EX-013 (Colorado Air Pollution Control Division, *Baseline Scenario Historic and Future Compliance Estimates Compliance Limits for GEMM 2 Facilities [AR5 mtCO2a], Rubric for GEMM 2 Facility Percentage Reduction Requirements, and GEMM 2 Facility Percentage Reduction Requirements Based on Rubric* (2023)).

[97] The Chamber also suggests that the Commission's Hydrofluorocarbons phase-out rules can count towards the obligation in § 25-7-105(1)(e)(XIII), C.R.S., to secure meaningful early reductions. *See* CCC_PHS, at 9, n.21. However, those rules were adopted in 2020, prior to the passage of the Environmental Justice Act. As a result, while reductions achieved from those rules contribute to the State's achievement of its overall GHG reduction goals, they are not rules adopted pursuant to § 25-7-105(1)(e)(XIII), C.R.S.

[98] *See supra* notes 50-55 and accompanying text.

possible, the Division is not relying exclusively on reductions from the oil and gas sector to satisfy the statutory requirement to "secure meaningful reductions" from the industrial sector by September 30, 2024.[99]

GEMM 1 presents a similar issue because facilities subject to it must reduce emissions on an intensity rather than a mass basis. Although the GEMM 1 rule could result in mass-based reductions by September 30, 2024, that outcome is not guaranteed because of the possibility that GEMM 1 facilities increase production at a rate that outstrips their GHG emission reductions attributable to lower intensity production.

Regardless of the Commission's existing regulation of other parts of the industrial sector, the Division believes that near-term reductions should also be required from the GEMM 2 facilities. From a policy perspective, such reductions are important given the volume of GHG emissions that the 18 GEMM 2 facilities collectively emit and therefore the impact of early and sustained reductions.[100] Delaying reductions from these sources is not good policy for the State of Colorado if the facilities can accomplish them through technologically feasible and economically reasonable means.

From a legal perspective, allowing GHG emissions from the GEMM 2 facilities to remain unregulated until 2030 or 2026 does not clearly satisfy the direction in sections 25-7-105(1)(e)(I), C.R.S. ("As the commission adopts rules pursuant to this subsection (1)(e), it shall pursue near-term reductions in GHG emissions as part of the effort to reduce total cumulative GHG emissions over time.") or -105(1)(e)(XIII), C.R.S. As noted above, while the GEMM 2 facilities have reduced GHG emissions since 2015, absent enforceability, those reductions cannot be considered "secured" for purposes of the statute. Nor would delaying further reductions until 2026 be consistent with the spirit of the Act. The law is clear that reducing GHG emissions as soon as possible is of critical importance. The Act repeatedly directs the Commission to pursue near-term reductions[101] and the legislative declaration from HB 21-1266 further underscores the importance of early reductions:

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[99] § 25-7-105(1)(e)(XIII), C.R.S.

[100] *See supra* notes 56-58 and accompanying text.

[101] § 25-7-105(1)(e)(I), C.R.S. ("As the commission adopts rules pursuant to this subsection (1)(e), it shall pursue near-term reductions in [GHG] emissions as part of the effort to reduce total cumulative emissions over time."); § 25-7-105(1)(e)(XIII), C.R.S. ("The rules must . . . be designed to accelerate near-term reductions . . . ").

> The general assembly also hereby . . . [f]inds that prompt action is essential for Colorado to meet its climate goals . . . . The general assembly further recognizes that climate change is a cumulative emissions problem. This is because long-lived climate pollutants can persist for centuries in the atmosphere, thus committing us to warming for generations to come. As we continue to emit [GHGs] into the atmosphere over the next decade, and even over the next few years, we will continue to exacerbate the climate damages we are already seeing and increase the risk of catastrophic disruption. Therefore, early action to reduce the pollutants that contribute to climate change, thereby reducing overall atmospheric [GHG] concentrations, is essential.[102]

Setting aside whether requiring interim reductions from the GEMM 2 facilities to begin in 2026 would satisfactorily secure meaningful GHG emissions reductions by September 30, 2024–and the Division does not concede this point–the Commission has clear authority to require interim reductions beginning in 2024, as currently proposed in the rule. Section 25-7-105(1), C.R.S., grants the Commission broad authority to "promulgate rules that are consistent with the legislative declaration set forth in section 25-7-102,"[103] which includes the declaration that the State of Colorado will strive to "eliminate statewide [GHG] pollution by" 2050 and achieve certain percentage reductions leading up to that date.[104] Requiring interim reductions to begin in 2024 falls squarely within this authority and is consistent with the Act's direction to pursue near-term reductions and reduce cumulative GHG emissions from this sector.

2. EDF arguments

As described above, EDF contends that, because of how the proposed rule structures facility baselines, it allows for an increase in GHG emissions from current levels through 2029.[105] Although EDF is correct that the rule as proposed allows for increases in some individual facilities' GHG emissions from 2022 levels through 2029, the near-term reductions required under the rule still represent a substantial collective decrease from 2015 levels. This is illustrated in the following Table 3. This table is adapted from one included in EDF's Prehearing Statement,[106] with two columns added that show the facilities' 2015 GHG emissions and the 2024-

[102] HB 21-1266, 73rd Gen. Assemb., 1st Reg. Sess. (Colo. 2021), at Section 2(2)(a).
[103] § 25-7-105(1), C.R.S.
[104] § 25-7-102(2)(g), C.R.S.
[105] EDF_PHS, at 18-20.
[106] *See id.* at 19, tbl. 1.

2029 reductions from those 2015 levels. GHG emission values were converted to AR5 and negative values shown in red are GHG emissions increases. Note that Table 3 accounts for facilities receiving adjusted baselines, but not for facilities using the new mechanism proposed under Part B, Section I.A.1.b.[107] The Division considers the below to represent a baseline future scenario under the proposed rule.

Table 3: Impact of the Proposed Rule on Near-Term Emissions

Facility	2015 GHG Emissions (MT CO2e)	Current (2022) GHG Emissions (MT CO2e)	2024-2029 Target GHG Emissions (MT CO2e)	2024-2029 Target GHG Emissions Reduction from 2022 (MT CO2e)[108]	2024-2029 Target GHG Emissions Reduction from 2015 (MT CO2e)[109]
American Gypsum	55,647	75,047	73,734	1,313	-18,087
Anheuser Busch	51,002	40,062	43,164	-3,102	7,838
Avago Technologies	289,356	78,187	125,339	-47,152	164,017
Carestream Health Inc.	30,998	32,617	34,283	-1,666	-3,285
Cargill Meat Solutions	30,923	39,588	38,895	693	-7,972
Front Range Energy	36,282	41,312	59,313	723	-23,031
Golden Aluminum	27,237	25,162	26,357	-1,195	879

[107] *See supra* notes 6-9 and accompanying text.
[108] These values do not reflect the updated numbers from the Division's proposal. They come directly from EDF's Prehearing Statement.
[109] These values do reflect the updated numbers from the Division's proposal. *See* APCD_REB_EX-013 (Colorado Air Pollution Control Division, *Baseline Scenario Historic and Future Compliance Estimates Compliance Limits for GEMM 2 Facilities [AR5 mtCO2a], Rubric for GEMM 2 Facility Percentage Reduction Requirements, and GEMM 2 Facility Percentage Reduction Requirements Based on Rubric* (2023)).

JBS Swift Beef Company	168,143	171,101	168,106	2,995	36
Leprino Foods	38,254	97,706	130,552	1,602	-92,298
Microchip Technology	260,845	168,907	168,907	0	91,938
Molson Coors	387,894	222,241	233,875	-11,130	154,019
Natural Soda	50,796	47,836	55,384	-733	-4,587
Owens - Brockway Glass Container Inc.	92,157	113,445	113,972	-527	-21,815
Rocky Mountain Bottle	86,973	76,684	75,726	958	11,247
Sterling Ethanol	53,324	56,370	55,384	986	-2,060
Suncor Energy	973,484	951,898	937,619	14,279	35,865
Western Sugar	150,657	78,246	109,141	-3,735	41,516
Yuma Ethanol	49,193	55,500	54,529	971	-5,336
Total	**2,833,164**	**2,371,909**	**2,504,280**	**-44,719**	**328,884**

Table 2 from EDF's Prehearing Statement[110] paints a similarly incomplete picture of the cumulative reductions that the rule as proposed is projected to achieve. That table is reproduced below with a column to show reductions against 2015 levels. As above, GHG emission values were converted to AR5, and negative values shown in red are GHG emissions increases. Table 4, below, reflects the baseline future scenario.

[110] *See* EDF_PHS at 20, tbl. 2.

Table 4: Cumulative Impact of the Proposed Rule (2024-2030)

Year	Proposed GEMM 2 Reductions from Current (2022) GHG Emissions (MT CO2e)[111]	Proposed GEMM 2 Reductions from 2015 GHG Emissions (MT CO2e)[112]
2024	-44,719	328,884
2025	-44,719	328,884
2026	-44,719	328,884
2027	-44,719	328,884
2028	-44,719	328,884
2029	-44,719	328,884
2030	172,713	567,276
Cumulative (2024-2030)	**-95,602**	**2,540,580**

To demonstrate how the Division's proposed change to Part B, Section I.A.1., of the rule will impact near-term reductions, the Division also provides the below Table 5. This table shows reductions from 2024 through 2029, assuming that the two facilities expected to use the new provision at Part B, Section I.A.1.b.—Molson Coors and Microchip—emit GHGs at the maximum levels allowed under that provision through 2029. Critically, this scenario is unlikely to occur, and it will be paired with deeper 2030 reductions that will continue in perpetuity.

[111] These values were submitted by EDF.

[112] These values reflect the Division's proposal. *See* APCD_REB_EX-013 (Colorado Air Pollution Control Division, *Baseline Scenario Historic and Future Compliance Estimates Compliance Limits for GEMM 2 Facilities [AR5 mtCO2a], Rubric for GEMM 2 Facility Percentage Reduction Requirements, and GEMM 2 Facility Percentage Reduction Requirements Based on Rubric* (2023)).

Table 5: Impact of the Proposed Rule on Near-Term Emissions: Maximum emissions Scenario

Facility	2015 GHG Emissions (MT CO2e)	Current (2022) GHG Emissions (MT CO2e)	2024-2029 Target GHG Emissions (MT CO2e)	2024-2029 Target GHG Emissions Reduction from 2022 (MT CO2e)[113]	2024-2029 Target GHG Emissions Reduction from 2015 (MT CO2e)[114]
American Gypsum	55,647	75,047	73,734	1,313	-18,087
Anheuser Busch	51,002	40,062	43,164	-3,102	7,838
Avago Technologies	289,356	78,187	125,339	-47,152	164,017
Carestream Health Inc.	30,998	32,617	34,283	-1,666	-3,285
Cargill Meat Solutions	30,923	39,588	38,895	693	-7,972
Front Range Energy	36,282	41,312	59,313	723	-23,031
Golden Aluminum	27,237	25,162	26,357	-1,195	879
JBS Swift Beef Company	168,143	171,101	168,106	2,995	36

[113] These values do not reflect the updated numbers from the Division's proposal. They are from EDF's Prehearing Statement.

[114] These values reflect the updated numbers from the Division's proposal. *See* APCD_REB_EX-014 (Colorado Air Pollution Control Division, *Max Scenario Historic and Future Compliance Estimates Compliance Limits for GEMM 2 Facilities [AR5 mtCO2a]*, *Rubric for GEMM 2 Facility Percentage Reduction Requirements, and GEMM 2 Facility Percentage Reduction Requirements Based on Rubric* (2023)).

Leprino Foods	38,254	97,706	130,552	1,602	-92,298
Microchip Technology	260,845	168,907	195,634	0	65,211
Molson Coors	387,894	222,241	290,920	-11,130	96,973
Natural Soda	50,796	47,836	55,384	-733	-4,587
Owens - Brockway Glass Container Inc.	92,157	113,445	113,972	-527	-21,815
Rocky Mountain Bottle	86,973	76,684	75,726	958	11,247
Sterling Ethanol	53,324	56,370	55,384	986	-2,060
Suncor Energy	973,484	951,898	937,619	14,279	35,865
Western Sugar	150,657	78,246	81,981	-3,735	41,516
Yuma Ethanol	49,193	55,500	54,529	971	-5,336
Total	**2,833,164**	**2,371,909**	**2,588,052**	**-44,719**	**245,112**

Table 6, below, shows cumulative reductions through 2030, accounting for the maximum emissions scenario shown in Table 5, above.

Table 6: Cumulative Impact of the Proposed Rule (2024-2030): Maximum Emissions Scenario

Year	Proposed GEMM 2 Reductions from Current (2022) GHG Emissions (MT CO2e)[115]	Proposed GEMM 2 Reductions from 2015 GHG Emissions (MT CO2e)[116]
2024	-44,719	245,112
2025	-44,719	245,112
2026	-44,719	245,112
2027	-44,719	245,112
2028	-44,719	245,112
2029	-44,719	245,112
2030	172,713	575,331
Cumulative (2024-2030)	**-95,602**	**2,046,005**

The Division continues to believe that establishing each facility's baseline as the higher of either 2021 or 2022 GHG emissions and making adjustments for certain production capacity increases and previous inaccuracies is necessary to ensure the rule is equitable, and reasonably accounts for operational variability and lingering impacts from the COVID-19 pandemic. This approach does not impact the overall 2030 goal for the 18 covered facilities to reduce 2015 GHG emissions levels by 20% and still accomplishes meaningful early and cumulative reductions.

[115] These values do not reflect updated numbers from the Division's proposal. They are from EDF's Prehearing Statement.

[116] These values do reflect the updated numbers from the Division's proposal. *See* APCD_REB_EX-014 (Colorado Air Pollution Control Division, *Max Scenario Historic and Future Compliance Estimates Compliance Limits for GEMM 2 Facilities [AR5 mtCO2a]*, *Rubric for GEMM 2 Facility Percentage Reduction Requirements, and GEMM 2 Facility Percentage Reduction Requirements Based on Rubric* (2023)).

Moreover, the Commission must ensure its rules are technically feasible and economically reasonable,[117] and must consider the compliance costs associated with this specific rule.[118] Establishing baselines that reasonably reflect actual operating parameters and requiring reasonable interim reductions from facilities that have not already reduced by 20% or more from 2015 levels reflects the Division's approach to balancing different critical considerations: on one hand, the statutory requirement to secure meaningful reductions by September 30, 2024 and pursue near-term reductions with, on the other hand, the technical- and cost-related realities of reducing GHG emissions that are embedded in the Commission's statutory authority. These considerations weigh against implementing step-down reductions until 2030, as EDF suggests is required by the statute.[119] Step-down reductions are simply at odds with the nature of achieving large reductions of GHG emissions, which necessarily involves implementing large-scale projects. Such projects require considerable investments of time and money, making step-down reductions impractical if not infeasible.[120]

EDF's argument that the proposed rule does not constrain near-term GHG emissions because it only requires onsite reductions beginning in 2030 also fails. While it might be true that certain facilities will not be required to reduce onsite emissions prior to 2030, GEMM 2 facilities collectively will necessarily reduce onsite emissions to meet annual emission requirements beginning in 2024. And, only if certain facilities over comply and generate credits can other facilities avoid their own onsite emissions prior to 2030. Hence, onsite emissions are constrained.

E. Baseline Adjustments

Multiple parties expressed concern that the Proposed Rule does not appropriately account for facilities that have made significant capital investments in increased production capacity since 2015 so that they may realize a reasonable return on those investments. These parties contend that such facilities should be able to realize the full benefit of large capital investments made between 2015 and 2021 through a 100% baseline adjustment, rather than a 50% baseline adjustment.[121]

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[117] § 25-7-102(1), C.R.S. ("[I]t is the purpose of this article 7 to require the use of all available practical methods which are technologically feasible and economically reasonable so as to reduce, prevent, and control air pollution throughout the State of Colorado . . . ."); § 25-7-105(1), C.R.S. ("[T]he commission shall promulgate rules that are consistent with the legislative declaration set forth in section 25-7-102 . . . .").
[118] § 25-7-105(1)(e)(VI), C.R.S.
[119] EDF_PHS, at 20-22; *see also* CECAC_PHS, at 4; LGC_PHS, at 27-29.
[120] *See* CCC_PHS, at 10-12 (discussing project implementation time in context of interim requirements).
[121] *See, e.g.*, Soda_PHS at 7-10; Leprino_PHS at 8-11.

As described above, the Division has made reasonable accommodations for these facilities, providing 75% of the requested adjustments, as applicable.[122] The facilities requesting further adjustments were based on 100% production at the facilities, and, to date, none of the facilities have reached 100% production capacity and do not have projections on if or when they will reach maximum capacity. Additionally, while recognizing that the capital projects resulting in increased production at these facilities occurred prior to HB 21-1266 and in some cases, HB 19-1261, the Division also must recognize the need for reducing GHG emissions from all facilities in the near term and that all facilities must take limitations. Accordingly, the Division believes accommodating for 75% of the requested reduction, but not 100%, is the appropriate, reasonable approach. Beyond the adjustments granted by the Division, the credit trading program is available for all facilities that need to purchase GHG credits to account for additional increases in GHG emissions or securing reductions to achieve the reduction requirements.

F. Facility Percent Reduction Requirements

Certain parties argued that the Division assigned percent reduction requirements arbitrarily and inequitably.[123] The Division disagrees. As an initial matter, although the proposed rule does not credit facilities for efficiencies or reductions achieved prior to the 2015 baseline,[124] that is a function of the legislature's selection of 2015 as a baseline year.[125] In light of this, the Division determined that it was not workable or appropriate to incorporate pre-2015 efficiencies or reductions.

Nor are the categories that the Division crafted to arrive at each facility's reduction requirement arbitrary or inequitable. Through over a year of stakeholder meetings, the Division has listened to concerns and designed a structure that allocated reduction percentages in the most equitable way possible. The key factor in determining a facility's reduction requirement is the degree to which it has reduced GHG emissions since 2015. The more a facility has already reduced GHG emissions since 2015, the lower its reduction requirement. This is both equitable and rational in light of the statutory baseline and required sector-wide reduction.

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[122] *See supra* notes 10-13 and accompanying text.
[123] *See* OBGC_PHS, at 3-5; Suncor_PHS, at 9-11.
[124] *See* OBGC_PHS, at 4 (arguing that the rule "unreasonably punishes facilities like OBGC that implemented emission limiting technologies prior to 2015, while rewarding larger emitters that waited until after 2015").
[125] § 25-7-105(1)(e)(XIII), C.R.S.

The other factor in determining a facility's reduction requirement is the volume of its GHG emissions relative to the group's total GHG emissions. The larger a facility's share of GHG emissions, the greater its reduction requirement. Suncor takes particular issue with this approach.[126] The Division stands by inclusion of the factor. Requiring larger sources to take on a slightly higher reduction obligation in furtherance of the sector- and statewide-GHG pollution reduction targets is rational and appropriate. A relatively small adjustment to the reduction requirement for a large facility like Suncor would have a comparatively larger impact on smaller sources. Accordingly, the Division's proposal represents a rational and reasonable regulatory approach. Further, compared to this small adjustment in reduction obligations, a facility's own emissions relative to its 2015 emissions is a significantly greater factor in its total 2030 reduction requirements.

The Division also disputes that Suncor has been unfairly singled out under the Division's approach.[127] Suncor's GHG emissions between 2015 and 2022 represent a 2.2% overall reduction. Were the Division to require a 20% reduction across all facilities compared to 2015, Suncor would be required to reduce an additional 18.2% from their 2022 reported GHG emissions. Instead, under the Division's approach, Suncor is now subject to a reduction obligation of only 14%, and there is another facility with a higher reduction obligation than Suncor. Suncor also argues that it has long been an energy-efficiency leader, and the opportunities for them to reduce GHG emissions may be limited compared to other facilities.[128] Despite this claim, there are likely pathways available that can put Suncor on a successful trajectory. There are several published papers on technological pathways for decarbonizing petroleum refining which highlight near- and long-term technologies and strategies for the petroleum refineries like Suncor.[129] Some relevant examples include replacing fossil fuel boilers with electric boilers or industrial heat pumps, and alternatives to gray hydrogen production (as is the case at Suncor). There are also billions of dollars available in federal and state funding, tax credits, financing, and incentives, specifically available for harder to decarbonize processes such as petroleum refining.

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[126] *See* Suncor_PHS, at 9-10.
[127] *See id.*at 10-11.
[128] *See id.* at 7.
[129] *See* APCD_REB_EX-011 (Byrum Z., Pilorge H., Wilcox J., *Technological Pathways for Decarbonizing Petroleum Refining* (Sept. 2021)); *see also* Drew Veysey et al, Five Ways US Oil Refineries Can Reduce Emissions Today (June 5, 2023); Steve Griffiths et al, *Decarbonizing the oil refining industry: A systematic, technological innovations, and policy options* (July 2022).

G. Treatment of Scope 2 Emissions

Several parties proposed allowing Scope 2 (GHG emissions attributable to electricity consumption) reductions to be counted towards GHG emission reduction targets and credit generation.[130] Though the Division supports energy and electricity efficiency measures broadly, counting Scope 2 emissions towards compliance with the proposed rule presents major accounting concerns and is not the focus of this particular regulation. For over a year of meetings with stakeholders, the Division's stance has always been that the goal of the GEMM 2 rule is to drive onsite Scope 1 (direct) reductions at covered facilities. This aligns with the directive laid out in the Act, to reduce statewide GHG emissions from the industrial and manufacturing sector by at least 20% by 2030, below the 2015 baseline.[131] Allowing compliance through Scope 2 reductions would introduce uncertainty as to whether the industrial and manufacturing sector meets the required target, and in fact would not guarantee any GHG emissions reductions that could be attributed to the sector.

Another challenge with accounting for Scope 2 reductions is the fact that those GHG emissions have never been reported to the Division. With no formal benchmarking methodology in place, it is difficult to estimate how reliable the assumptions made by facilities would be. Some parties have proposed allowing Scope 2 reductions to be counted for just the interim compliance years; however, that would likely further delay the onsite reductions that are ultimately required. Finally, it is worth noting that Colorado electricity providers have committed to reducing grid GHG emissions at least 80% by 2030, compared to 2005 levels. The grid intensity is expected to come down dramatically in the coming years, which is a driver of Scope 2 emissions. With GHG emissions from electricity usage already on a downward trajectory, more focus is necessary on working to achieve the challenging industrial sector direct emissions reductions.

H. Production Cuts

Certain industry parties argue that the proposed rule may force some GEMM 2 facilities to reduce production or throughput if (1) the facility is unable to accomplish its required reductions onsite, and (2) there are insufficient credits in the trading system to cover the balance of the facility's required reductions.[132] They contend that such cuts to production or throughput will promote GHG emissions leakage to other states.[133] Even in the absence of cuts to current production, they

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[130] *See* Leprino_PHS, at 11-12; Molson_PHS, at 13-14; *see also* CoGen Group_ALT_MON, at 2-5.
[131] § 25-7-105(1)(e)(XIII), C.R.S.
[132] *See* CCC_PHS, at 6; Cargill_PHS, at 6; Suncor_PHS, at 24-25.
[133] *See* CCC_PHS, at 5-6; Cargill_PHS, at 6-7; Suncor_PHS, at 32-34; Soda_PHS, at 11-12; AGC_PHS, at 4-5.

contend that the proposed rule fails to minimize leakage because it imposes hard caps on production in the future.[134] In other words, these parties are concerned both about cuts to current production levels and limits on potential production expansion. They propose that the rule should explicitly state that covered facilities are not required to cut production or limit growth to comply with it.[135]

The Division disputes that the proposed rule is likely to cause leakage. The proposed rule is crafted to ensure that, if a facility cannot meet its GHG emissions reduction requirement through onsite projects, it can buy credits from another covered facility. While certain parties have expressed concern about the liquidity of the credit market, the Division has a high degree of confidence, based on information from facilities regarding near-term reduction projects, that the credit system will be sufficiently liquid to support the needed reductions. Ultimately, the Division expects that GEMM 2 facilities will make reasonable business decisions to comply with these rules through the most efficient compliance pathway available to them.

Moreover, the legislature considered and afforded facilities at particular risk of causing leakage–EITEs–special treatment under the Act.[136] It specifically defined EITEs as facilities that "principally manufacture[] iron, steel, aluminum, pulp, paper, or cement."[137] None of the covered facilities, except for Golden Aluminum Inc., falls within this definition. As a result, to the extent that the proposed rule may cause leakage–which the Division does not anticipate–it appears that the legislature already made the policy decision to prioritize statewide GHG reductions from these types of facilities over potential leakage.

The industry parties also argue that the law prohibits requiring production or throughput cuts on various grounds. To be clear, the Division rejects the characterization that the proposed rule requires production or throughput cuts. In any event, the industry parties' arguments fail.

The Colorado Chamber of Commerce ("Chamber") argues that "[r]equiring production curtailment is inconsistent with prior rulemakings," and could constitute a constitutional taking.[138] It is true, as the Chamber points out, that the GEMM 1 rule is different from the proposed rule.[139] The GEMM 1 rule explicitly provides that GEMM 1 facilities are not required to reduce or limit production to comply with

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[134] *See* Soda_PHS, at 11-12; AGC_PHS, at 4-5.
[135] *See* CCC_Alt_Reg 27, at 16 ("Facility owners and operators are not required to limit production or throughput to meet GEMM 2 annual emissions requirements, or to list production or throughput limits as GHG reduction measures.").
[136] § 25-7-105(1)(e)(IX)(A), C.R.S.
[137] § 25-7-105(1)(e)(IX)(B), C.R.S.
[138] *See* CCC_PHS, at 6-7.
[139] *Id*. at 6.

it.[140] That is because the GEMM 1 rule was crafted to apply to EITEs, which, as described above, are treated uniquely under the Act.[141] The Act simply does not afford the same special treatment to the GEMM 2 covered facilities, with the exception of Golden Aluminum Inc., which is both a GEMM 2 facility and falls within the statutory definition of an EITE.[142] The fact that the proposed rule is structured differently from GEMM 1 is a function of the legislature's different treatment of EITEs versus other manufacturing facilities. And, regardless of this different treatment, the proposed rule does not require any facility to reduce production. It only requires reducing emissions and provides multiple paths to achieving such reductions.

The Chamber's argument regarding a potential constitutional taking if a facility is required to curtail production is also unavailing. Under federal and Colorado law, "[w]here a regulation places limitations on land that fall short of eliminating all economically beneficial use, a taking nonetheless may have occurred, depending on a complex of factors including the regulation's economic effect on the landowner, the extent to which the regulation interferes with reasonable investment-backed expectations, and the character of the government action."[143] Under this fact-based analysis, "a mere decrease in property value is not enough" and "the level of interference [with property] must be very high."[144] Given that the covered facilities will have multiple paths to compliance before any hypothetical production or throughput reductions and given that any interference with reasonable investment-backed expectations would almost certainly not rise to the level of a regulatory taking,[145] the Chamber's concerns about a constitutional taking have no merit.

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[140] *Id.*

[141] § 25-7-105(1)(e)(IX), C.R.S.

[142] § 25-7-105(1)(e)(IX)(B), C.R.S. (defining an EITE source as "an entity that principally manufactures iron, steel, aluminum, pulp, paper, or cement and that is engaged in the manufacture of goods through one or more emissions-intensive, trade-exposed processes, as determined by the commission"). Under the proposed rule, Golden Aluminum will be required either to comply with the GEMM 1 provisions of the rule (now located at Part C) or comply with the GEMM 2 provisions of the rule through Part B, Section I.A. *See* Rebuttal Proposal, Part B, Section I.A. For the avoidance of doubt, only EITE facilities that comply with the rule through Part C are afforded the protections that the statutes afford to such facilities.

[143] *Palazzolo v. Rhode Island*, 533 U.S. 606, 617 (2001); *see also G & A Land, LLC v. City of Brighton*, 233 P.3d 701, 706 (Colo. 2010).

[144] *Animas Valley Sand and Gravel, Inc. v. Board of County Commissioners of the County of La Plata*, 38 P.3d 59, 65 (Colo. 2001).

[145] *See id.* at 65-66 (summarizing federal case law concluding that no taking occurred where property diminished in value by 85%, 75%, and 92.5%).

Cargill Incorporated ("Cargill") argues that requiring production or throughput cuts would be contrary to various provisions of the Act and conflict with Colorado's climate equity principles.[146] Essentially, it argues that, in crafting GHG reductions, the Commission must consider the costs of compliance and the potential economic impact of the rules, including on jobs. The Division does not dispute the importance of these considerations and again reiterates that nothing in the rule requires production cuts. Rather, the Division asserts that, by implementing a credit trading program as an alternative to requiring all onsite reductions, the proposed rule strikes the appropriate balance between GHG emissions reductions and managing the economic impact of accomplishing those reductions.

The Chamber further suggests that the Commission cannot legally adopt a rule that results in production or throughput cuts, which it characterizes as a matter of impossibility.[147] In support, it cites a 1914 United States Supreme Court case, *Missouri Pacific Railroad Company v. City of Omaha*[148] and a 1927 Colorado Supreme Court case, *Freeman v. Boyer Bros*.[149] Neither case supports the Chamber's claims that the Commission lacks authority to adopt the proposed rule.

In *Missouri Pacific Railroad*, the Court rejected a railroad's various theories to enjoin the City of Omaha from passing an ordinance that required the railroad to construct a viaduct over railroad tracks at a street crossing.[150] As to the railroad's final argument–that it was impossible to build the viaduct in the time allotted–the Court noted that enforcement of the ordinance had been paused during the litigation proceeding and that if, when work commenced, the city were to impose unwarranted penalties on the railroad, a court would have authority to relieve the railroad of those penalties.[151] But whether a court has authority to relieve a regulated entity of "unwarranted penalties" has no bearing on whether the government body has the authority to require the regulated entity to take action in the first place. Similarly, in *Freeman*, the court held that, although a railroad's compliance with a statute was physically possible, it was inconsistent "with good and safe railroading" under the specific circumstances presented in the case.[152] As a result, the court held the statute unconstitutional as applied to a railroad.[153] Setting aside the obvious differences between the facts in *Freeman* and the circumstances of this rulemaking, the case does not stand for the proposition that the Commission cannot adopt the proposed rule. Its only relevance might arise if a facility were to find that it is impractical to comply with the proposed rule *as a matter of safety* and

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[146] *See* Cargill_PHS, at 7-8.
[147] CCC_PHS, at 7.
[148] *Missouri Pacific Railroad Company v. City of Omaha,* 235 U.S. 121 (1914).
[149] *Freeman v. Boyer Bros,* 261 P. 864 (Colo. 1927).
[150] *Missouri Pac. R. Co.*, 235 U.S. at 132.
[151] *Id*.
[152] *Freeman*, 261 P. at 868.
[153] *Id*. at 871.

the Division nevertheless were to bring enforcement action against the facility. This is a speculative argument and should not discourage the Commission from adopting the proposed rule.

The Commission has express statutory authority to adopt the proposed rule.[154] None of the Chamber's or Cargill's arguments undermine that authority.

I. Credit System

1. Linking with Other Credit Programs

Certain parties propose that the credit trading program be allowed to link to other credit trading programs outside of Colorado.[155] While the Commission could adopt regulations allowing or requiring GHG sources, for example, to participate in the Western Climate Initiative ("WCI") under section 25-7-105(1)(e)(V), C.R.S., this discretionary ability differs from the Commission's statutory obligation to require Colorado's industrial and manufacturing sector to reduce GHG emissions by at least 20% by 2030 under section 25-7-105(1)(e)(XIII), C.R.S. Allowing such linking, depending on the structure of the program linked to, could undermine the Commission's ability to demonstrate compliance with that statutory requirement. This is because GHG credits in this program represent overcompliance with GEMM 2's annual emission requirements; GHG sources in other jurisdictions in a program like WCI may be subject to different or less stringent requirements and therefore the credits are not directly compatible. Because the targets of other jurisdictions may not align to the targets of Colorado and may not include an overall cap on industrial GHG emissions, the Division could not guarantee that the credits issued by these other jurisdictions represent GHG emissions reductions in Colorado's industrial and manufacturing sector.

Despite the limitations of linking credit trading markets for the purposes of this rule, the Division remains interested in pursuing regional cooperative approaches as a tool to achieving regional and national GHG emissions reductions. The State of Colorado entered a memorandum of understanding with Wyoming indicating that Colorado and Wyoming plan to establish an interstate effort to collaborate and develop a complementary direct air capture industry to achieve GHG emission reductions as well as increase jobs and economic development in both states.[156]

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[154] § 25-7-105(1)(e)(XIII), C.R.S.
[155] *See, e.g.*, CCC_PHS, at 23-24.
[156] APCD_REB_EX-001 (Governor Mark Gordon and Governor Jared Polis, *Memorandum of Understanding Between the State of Wyoming and the State of Colorado Regarding Direct Air Capture Industry Development* (June 2023)), at 1.

2. Banking

Certain parties argue that the proposed rule should allow credits to be banked for longer than three years.[157]

Allowing banking of GHG emissions credits encourages early and cost-effective GHG emissions reduction actions and enhances credit trading price stability. Banking provides flexibility for a regulated facility to implement efficient GHG emissions reduction measures and either apply the GHG credits in later compliance years or sell them to another facility. This flexibility encourages overcompliance. Further, early action GHG emissions reduction measures are likely to be more cost-effective than later measures because the marginal cost to reduce GHG emissions will likely increase as facilities get closer to their 2030 GHG emissions reduction requirement. Banking also enhances market price stability because, in combination with transparency into the market, it allows for longer-term planning.

The Division originally proposed to allow banking for five years. Certain parties, however, were concerned that allowing GHG credit banking through 2030 would allow regulated sources to bank GHG credits in lieu of achieving deep GHG emissions. Thus, the Division added two protection measures to ensure real GHG emissions reductions. First, the proposed rule only allows GHG credits to be generated if the regulated source is below its 2030 GHG emissions reduction obligation.[158] Second, the proposed rule only allows GHG credits to be banked, or held, in the GHG Credit Trading System for three years from the date of generation in the system.[159] This strikes the right balance of incentivizing early reductions and providing flexibility with the need for incentivizing ongoing credit generation and market fluidity provided by a credit shelf life.

[157] *See* CCC_PHS, at 21 (proposing a five-year banking period).
[158] *See* Rebuttal Proposal, Part D, Section III.A.2.a.
[159] *See* Rebuttal Proposal, Part D, Section III.C.

3. Credit Price Cap

Certain parties argued that the proposed rule should include a price cap on GHG credits.[160] The Division does not recommend including a cap on the credit price in the proposed rule because it could artificially suppress the credit price. Artificially suppressing the credit price will disincentivize facilities generating credits from making investments that reduce GHG emissions further and servicing that market. A high credit price also incentivizes facilities to find deeper emissions reductions and start generating credits. In the long term, artificially suppressing the price may also adversely impact credit buyers as low credit price disincentives credit generation. Facilities would not be incentivized to generate GHG credits at a loss. Therefore, those facilities that would be looking to the credit market for compliance and are concerned with potential low credit fluidity should welcome credit pricing mechanisms that allow and encourage facilities to find deeper emissions reductions even if they come at marginally higher costs.

Normal market mechanisms will correct GHG credit prices that are too high or low over time. If the price is considerably high, that incentivizes more facilities to generate credit and that excess supply brings credit price down on its own. If the price is too low, very little credit will be generated relative to the demand, and that excess demand pushes price and incentivizes facilities to generate more credit going forward. Thus, the market mechanism adjusts such that the price is neither too high nor too low.

In addition to supply and demand, GHG credit price will be influenced by the cost of GHG reduction measures used to generate them. Even if the price of credits is high, if it costs the facility more to generate that credit, that causes the facility to lose money and discourages further credit generation. In a setting where the cost of credit generation is not fully understood, capping price runs the risk of severely disincentivizing credit generation. Allowing market mechanisms to control credit pricing is anticipated to create a secondary compliance pathway in which facilities are able to make efficient compliance decisions based on the cost of onsite reductions relative to credit pricing.

[160] *See* Suncor_PHS, at 19-22.

J. Enforcement Provisions

Various industry parties take issue with the non-compliance section of the proposed rule. That section provides that if a GEMM 2 facility misses its reduction requirement in a given year, the facility's GEMM 2 annual emissions requirement will be adjusted downward by twice the amount of the exceedance.[161] As described above, the Division's proposal was revised to give the Division discretion on the timeframe in which the mitigation of excess GHG emissions must occur (not to exceed three years), removing the requirement for the mitigation year to immediately follow the year of non-compliance. The Division has retained the other aspects of its earlier proposal.[162]

Industry parties assert that the section is overly prescriptive and that there is no precedent for requiring further reductions in the event of non-compliance.[163] Requiring additional reductions in the event of non-compliance is a mitigation strategy. Part A, Section III.B., is designed to discourage noncompliance given the compounding damage that GHG emissions cause and, in the event of noncompliance, to require the offending facility to make up for the GHG emissions exceedance.[164] This approach is consistent with HB 21-1266's recognition that "climate change is a cumulative GHG emissions problem" and that present GHG emissions exacerbate future climate damages.[165] The provision is admittedly not typical of the Commission's regulations. But, addressing climate change through GHG reduction rules is a relatively new undertaking for the Commission. The concept is also consistent with the Division's enforcement authority under the Act, which allows it to order the performance of "one or more projects to mitigate violations related to excess GHG emissions" in the event of noncompliance.[166] In sum, even if unusual, the Division asserts that the noncompliance provision is both within the Commission's authority to adopt and good policy.

On the other hand, GreenLatinos asserts that requiring additional reductions the year following non-compliance should also apply when a facility fails to meet a co-pollutant reduction requirement.[167] While the Division does not disagree with this position in concept, it does not fit with the structure of the proposed rule. The proposed rule does not establish co-pollutant limits in a strict sense. Rather, under the proposed rule, co-pollutant reductions, when they are required, will be

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[161] Rebuttal Proposal, Part A, Section III.B.
[162] *Id*. Part A, Section III.
[163] *See* CCC_PHS, at 31; FRE_PHS, at 5; MTI_PHS, at 9-10 (suggesting that the section lacks statutory authority under § 25-7-115, C.R.S., and lacks a rational basis).
[164] *See* APCD_PHS, at 19 ("Mitigation is important in the context of GHGs because GHGs remain in the atmosphere for years and do compounding damage to the atmosphere.").
[165] HB 21-1266, 73rd Gen. Assemb., 1st Reg. Sess. (Colo. 2021), at Section 2(2)(a).
[166] § 25-7-115(3)(b)(III)(C), C.R.S.
[167] GL_PHS, at 11-12.

quantified in an individual facility's GHG Reduction Plan. Compliance with those reduction obligations is then a function of compliance with the facility's GHG Reduction Plan. As such, trying to apply the GHG mitigation framework included in the rule to co-pollutant reductions is not a workable fit.

K. Protections for Disproportionately Impacted Communities

1. NGO Positions

Certain parties argue that the proposed rule fails to satisfy the statutory requirements related to disproportionately impacted communities.[168] The Division disagrees. Cross referencing the expected health savings from GEMM 2 against the Colorado EnviroScreen score of the counties in Colorado shows that 62% of the health benefits accrue to 20% of the counties that have an EnviroScreen score that is equal to or higher than the 80 percentile. This result shows that the disproportionately impacted communities will get more than a proportionate share of the health benefits and that the rule advances environmental justice.

EDF argues that the rule allows GHG levels to go unchecked until 2030 and thereby fails to achieve co-pollutant reductions during that time.[169] Part of this argument relates to EDF's disagreement with how the proposed rule structures facility baselines, which the Division addresses above. Setting aside the baseline issue, it is correct that covered facilities may use the credit market to meet interim requirements without first analyzing whether onsite reductions are possible and cost-effective prior to 2030. However, the rule is structured so that credits can only be generated through overcompliance by GEMM 2 facilities. The Division has also improved certain elements of the rule that could have led to credit generation either offsite or by virtue of adjusted baselines. Specifically, the proposed rule now prohibits the use of DAC for credit generation until after 2030.[170] It also now includes a provision limiting the ability of GEMM 2 facilities with adjusted baselines to generate credits—such facilities may now only generate credits once they reduce emissions consistent with their 2030 requirements from their unadjusted baselines.[171] This means that credits in the system through 2030 necessarily represent onsite reductions at one or more of the covered facilities. As a result, although the rule does not guarantee that onsite reductions are achieved at

[168] *See* CECAC_PHS, at 3-4 (arguing that the cost cap threshold and allowing facilities to meet GHG emission requirements with offsite commitments or trading undermines the rule's protections for disproportionately impacted communities); EDF_PHS, at 23-26 (arguing that the proposed rule delays air quality improvements, allows for potentially indefinitely increasing GHG emissions through the use of offsets and intensity-based credits, and exempts industries from near-term co-pollutant reductions and those above a cost cap).
[169] EDF_PHS, at 24.
[170] *See* Rebuttal Proposal, Part D, Section III.A.2.b.
[171] *See id*., Part D, Section III.A.2.a.(i).

facilities located in or near disproportionately impacted communities, onsite reductions (and corresponding co-pollution reduction benefits) in the amount equal to the collective required reductions from 2024 to 2029 will necessarily occur.

EDF also argues that the proposed rule's approaches to requiring co-pollutant reductions are flawed. It argues that the $134 per ton cost cap applicable to reducing co-pollution is improper and subject to abuse by facilities seeking to avoid co-pollution reductions.[172] Further, it argues that the rule's "tiebreaker" requirement is inadequate because it only applies to 2030 reduction requirements, not to interim requirements.[173] As discussed below in this Rebuttal Statement, the Commission is required to consider the compliance costs of its GHG reduction rules and ensure that its rules are economically reasonable.[174] In the Division's view, the $134 per ton cost cap represents a proper balancing between the sometimes conflicting statutory directions to protect disproportionately impacted communities and to consider such costs. It also roughly approximates the values associated with the health impacts of emitting one ton of CO2e from natural gas combustion, making it a logical benchmark for assessing co-pollutant reductions.[175]

Regarding EDF's assertion that facilities may deflate the co-pollutant reductions associated with GHG reduction measures below $134 per ton,[176] the proposed rule includes protections designed to avoid inaccurate GHG Reduction Plan submissions. It requires the contents of the GHG Reduction Plan to be certified by a responsible agent,[177] requires review and certification by an independent third party,[178] and requires a public review and comment process.[179] Inaccurate submissions are also subject to enforcement action by the Division.[180] Apart from the Division completing audits at each of the covered facilities–which is not feasible given resource limitations–the Division is not aware of any further protective requirement that the proposed rule could include to ensure that submitted information is accurate.

Finally, as to the argument that the "tiebreaker" analysis is inadequate because it is only required in reference to the 2030 reduction requirement, this is simply a function of the rule structure. The GHG Reduction Plan addresses reduction measures to achieve a facility's 2030 requirement, not earlier requirements. This is to account for the reality that project planning and the

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[172] EDF_PHS at 25-26.
[173] *Id*. at 26.
[174] *See infra* notes 211-214 and accompanying text.
[175] *See supra* notes 74-78 and accompanying text.
[176] EDF_PHS, at 25-26.
[177] Rebuttal Proposal, Part B, Section II.B.
[178] *Id*. Part B, Sections II.C, II.D.
[179] *Id*. Part B, Sections II.F, II.G.
[180] *Id*. Part A, Section III.E.

requisite analysis is time-intensive and that implementation is rarely immediate. Hence, the Division determined it is not workable to require facilities to undertake these steps to meet pre-2030 requirements.

It is also worth noting that EDF does not present a workable alternative to reducing harmful air pollution in disproportionately impacted communities in the context of this rule.[181]

GreenLatinos suggests that the rule should have direct requirements for reductions of harmful air pollution, independent of GHG reductions.[182] Requiring independent reductions of harmful air pollution is not required by the Act. Rather, the Act is clear that the aim of this rule and other rules regulating GHG emissions from the industrial sector is, first and foremost, to reduce GHG emissions, and, second, to prioritize reductions of harmful air pollution that can be achieved alongside those GHG emissions reductions.[183] Of course, the Division is engaged in many other processes to reduce the emission of harmful air pollutants in disproportionately impacted communities outside of this rulemaking process, including but not limited to prioritizing its enforcement and compliance efforts in disproportionately impacted communities,[184] implementing Reasonably Available Control Technology for permit applicants in certain disproportionately impacted communities,[185] and implementing HB 22-1244.[186]

GreenLatinos also argues that co-pollutants must be prioritized in recognition of the intrinsic value and rights of nature.[187] It cites no binding legal authority for this concept, and the Division is aware of none in Colorado.

Finally, the LGC argues that the proposed rule "contains no provisions requiring robust estimation, accounting, modeling, or monitoring, to verify that co-pollutant reductions are actually achieved."[188] The Division disagrees. The rule requires analysis of co-pollutant reductions in facilities' GHG Reduction Plans, which are subject to various levels of review, including by an independent third-

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[181] *See infra* notes 240-241 and accompanying text.
[182] *See* GL_PHS, at 10-11 ("The Draft Rule contains no provision that independently regulates the emission of harmful air pollutants.").
[183] § 25-7-105(1)(e)(XIII), C.R.S. (directing the Commission to adopt rules to reduce GHGs from the industrial and manufacturing sector and providing that those GHG reduction rules must include protections for disproportionately impacted communities and prioritize reductions of co-pollutants).
[184] Colorado Department of Public Health and Environment, *Environmental justice in enforcement and compliance* (2023).
[185] Colorado Department of Public Health and Environment, *Enhanced protections adopted for communities disproportionately impacted by air pollution* (May 2023).
[186] Colorado Department of Public Health and Environment, *Air toxics* (2023).
[187] GL_PHS, at 12.
[188] LGC_PHS, at 25.

party.[189] Facilities are then required to demonstrate compliance with their GHG Reduction Plans through annual compliance reporting.[190] The Division may take enforcement action against any facility that fails to accomplish reductions consistent with its GHG Reduction Plans.[191]

2. Industry Positions

a. General Considerations

Certain industry parties argue that the proposed rule goes too far in requiring co-pollutant reductions or take issue with the specific mechanics around requiring such reductions. For example, parties argue that the proposed rule is excessively focused on co-pollutant reductions, at the expense of GHG reductions.[192] Parties also contend that the co-pollutant requirements for facilities located near disproportionately impacted communities and using alternative compliance options should be struck or only required if technically feasible and cost-effective.[193] Parties argue that facilities should be able to satisfy the co-pollution reduction requirements at commonly-owned facilities.[194] Finally, parties propose that facilities should be exempted from compliance with co-pollutant reduction requirements on a showing of good cause considering such factors such as burden on competitiveness and the timeline for implementation.[195]

The Division disagrees with these positions and has not adopted changes to the proposed rule in response to them. The proposed rule does not overemphasize protections for disproportionately impacted communities. Rather, it is structured as the statute directs–a GHG reduction rule that prioritizes reductions of harmful co-pollution, and specifically prioritizes protections for disproportionately impacted communities by reducing co-pollutants as directed by the statute.[196] It establishes GHG reduction requirements for the covered facilities designed to further progress towards sector and statewide goals;[197] requires all facilities to engage in a tiebreaker analysis, prioritizing GHG reduction measures that reduce more co-pollution over other similarly-effective GHG reduction measures;[198] and requires facilities near residential disproportionately impacted communities to undertake additional harmful air pollutant reductions where they are not making all required

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[189] *See* Rebuttal Proposal, Part B, Sections II.C, and II.D.
[190] *See id*. Part B, Section IV.
[191] *See id*. Part A, Section III.D.
[192] *See, e.g.*, CCC_PHS, at 17-18; OBGC_PHS, at 6.
[193] *See* Cargill_PHS, at 17-18; MTI_PHS, at 8-9.
[194] *See* CCC_PHS, at 18.
[195] *See id*. at 19.
[196] § 25-7-105(e)(XIII), C.R.S.
[197] Rebuttal Proposal, Part B, Section I.A.
[198] *Id*. Part B, Section II.A.3.a.

reductions onsite.[199] In the Division's opinion, this structure strikes the right balance between focusing on GHG reductions and, at the same time, protecting disproportionately impacted communities, consistent with the Act's direction and State goals with respect to both issues.

b. Limiting Disproportionately Impacted Communities Ignores Statutory Criteria

Cargill argues that the proposed rules' requirements related to reducing harmful air pollution near disproportionately impacted communities should not apply to facilities in proximity to disproportionately impacted communities that have pollution and climate burden scores of less than 33% in Colorado EnviroScreen.[200] The Division does not recommend adopting this change to the proposed rule for several reasons.

First, section 25-7-105(1)(e)(XIII), C.R.S. requires that the Commission adopt rules that:

> [I]nclude protections for disproportionately impacted communities and prioritize emission reductions that will reduce emissions of co-pollutants that adversely affect disproportionately impacted communities.

In this proceeding, the Division is asking the Commission to adopt an inclusive rule that protects disproportionately impacted communities and reduces emissions of co-pollutants that adversely affect these communities.

The Division agrees that the economic well-being of a community is related to a community's status as disproportionately impacted, section 24-4-109(2)(b)(II)(A), C.R.S., and that economic impacts should be considered as part of designating communities as disproportionately impacted under this rule, section 24-4-109(2)(b)(II)(F), C.R.S. The Division's proposal accounts for this as detailed throughout this Rebuttal Statement. However, Cargill's proposal would exempt sources from co-pollution obligations if the census block pollution and climate burden score is below 33% in EnviroScreen. Cargill's proposal must be rejected.

Section 24-4-109(5)(a)(I), C.R.S., provides that "a census block group that scores above the eightieth percentile in the Colorado EnviroScreen tool is presumed to be a disproportionately impacted community." While Cargill couches its argument as a carveout for communities that are disproportionately impacted based

[199] *Id*. Part B, Section II.A.6.
[200] *See* Cargill_PHS at 13-19.

on socioeconomic factors rather than pollution,[201] it is in fact an attempt to use Colorado EnviroScreen in a manner that the legislature did not intend. The statute authorizes the department to create Colorado EnviroScreen and instructs agencies to use it to identify cumulatively impacted communities.[202] The legislature determined that communities above the 80th percentile in the tool would be presumed to be cumulatively impacted.[203] Cargill's suggestion to instead apply a 33rd percentile score for an indicator category that is not the overall Colorado EnviroScreen score fails to reconcile that proposal with this statutory presumption.

Cargill attempts to justify excluding the census block group(s) surrounding its Fort Morgan plant by arguing that residents living near its Fort Morgan facility are not exposed to pollution and the facility should therefore not be subject to regulations intended to reduce pollution. This argument is not borne out by Colorado EnviroScreen data. Although the census block groups where Cargill is located have comparatively low pollution and climate burden scores, that is largely driven by their very low climate vulnerability scores. For example, one nearby census block group (#080870006005) has a climate vulnerability percentile score of 1.416, meaning it is one of the census block groups that is least vulnerable to the impacts of climate change in Colorado. Although Morgan County is relatively less vulnerable to the impacts of climate change than other parts of Colorado, Morgan County residents are exposed to numerous sources of pollution. The environmental exposures score in Colorado EnviroScreen represents a community's exposure to certain environmental health risks relative to the rest of the State. Morgan County as a whole has an environmental exposure score percentile of 85.938, meaning that Morgan County residents are among the most likely in the State to be exposed to pollution that may pose health risks. Within the environmental exposures category, Morgan County is above the 80th percentile for multiple indicators, including four air quality-related metrics: air toxics emissions, diesel particulate matter, other (criteria) air pollutants, and fine particle pollution. The high environmental exposures score is mitigated in the overall pollution and climate burden score by the very low climate vulnerability score, but this does not mean that Morgan County residents will not benefit from the reduction in co-pollutant emissions achieved by the Division's proposed rule.

[201] *See* Cargill_PHS, at 14-16.
[202] § 24-4-109(5)(a)(I), C.R.S.
[203] *Id.*

Section 24-4-109(2)(a)(I)(b), C.R.S., provides that the Commission may:

> [P]rioritize or target certain criteria of the definition of disproportionately impacted community or certain subsets of communities that meet the definition of disproportionately impacted community if the statewide agency makes a determination by rule or other public decision-making process that the prioritization or targeting is warranted and reasonably tailored to the category of statewide agency action involved.

At best, Cargill's proposal can be read as asking the Commission to exercise this authority to exclude certain census blocks from disproportionately impacted communities protected by this rule. Any such decision by this Commission must be "warranted and reasonably tailored." However, Cargill's proposal fails on both accounts. Cargill does not offer evidence that a pollution and climate-burden threshold of 33% in EnviroScreen—for all sources subject to this rule proposal—is the appropriate threshold for the prioritization authorized by the statute. Unless and until Cargill makes that demonstration, the Commission cannot make the determination set forth above.

Ultimately, Cargill's argument misses the value that the Colorado EnviroScreen tool provides in identifying communities that experience cumulative impacts. Colorado EnviroScreen was specifically developed to illustrate which communities in Colorado experience cumulative burdens based on data including socioeconomic stressors, vulnerable populations, disproportionate environmental burdens, vulnerability to environmental degradation or climate change, and lack of public participation. These criteria are specifically tailored to match the criteria for identifying a disproportionately impacted community in state statute.[204] Considering only a subset of those factors as Cargill suggests overlooks the value the tool provides in identifying communities that experience the cumulative impacts from multiple types of burdens. The Division believes that using all of the relevant criteria in the statutory definition of disproportionately impacted communities, including by applying the 80th percentile score in Colorado EnviroScreen, is essential to advancing environmental justice and achieving the goals for GEMM 2 sources in the Environmental Justice Act.

[204] § 24-4-109(2)(b)(II)(F), C.R.S.

L. Additional Legal Issues

1. Response to the Argument that the Rule Fails to Consider the Degree to Which the GHG Emissions are Subject to Treatment, and the Availability, Technical Feasibility, and Economic Reasonableness of Control Techniques, as Required by Statute

The Chamber argues that, if the Commission were to adopt the proposed rule, it will have violated the requirement in the Act to consider the "degree to which any particular type of emission is subject to treatment, and the availability, technical feasibility, and economic reasonableness of control techniques."[205] That is because, according to the Chamber, "the Division does not know which companies have GHG reduction measures and which do not and in what amounts as needed to meet their reduction requirements and/or generate credits."[206] The Chamber asserts that "the Division has not undertaken, or required operators to undertake" an analysis of the GHG reduction opportunities available to covered facilities.[207] Accordingly, the Division, in the Chamber's view, has failed to satisfy the statutory requirement to consider "the availability, technical feasibility, and economic reasonableness of control techniques."

These arguments ring hollow for at least three reasons. First, the Division has evaluated various GHG emission reduction opportunities for the types of GHG emissions sources at the GEMM 2 facilities. The Division reviewed many publications on decarbonization pathways applicable to the industrial sector generally, as well as publications on decarbonization opportunities for specific subsectors such as food and beverage and petroleum refining.[208] These publications are based on thorough research and identify viable near- and long-term opportunities. However, since the proposed rules cover eighteen different facilities, with eighteen unique operational circumstances, this evaluation was general in

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[205] *See* CCC_PHS, at 14 (citing § 25-7-109(1)(b)(IV), C.R.S.).
[206] *Id*. at 15.
[207] *Id*. at 17.
[208] *See* APCD_REB_EX-002 (ACEE, *Industrial Heat Pumps: Electrifying Industry's Process Heat Supply* (March 2022)); APCD_REB_EX-004 (Center for Climate and Energy Solutions, *Clean Heat Pathways for Industrial Decarbonization* (August 2021)); APCD_REB_EX-005 (Rissman, J., *Decarbonizing Low-Temperature Industrial Heath in the U.S.* (Oct. 2022)); APCD_REB_EX-008 (RMI, *Profitably Decarbonizing Heavy Transport and Industrial Heat: Transforming These "Harder-to-Abate" Sectors is Not Uniquely Hard and Can be Lucrative* (July 2021)); APCD_REB_EX-009 (Renewable Thermal Collaborative, *Assessment of Green Hydrogen for Industrial Heat* (April 2023)); APCD_REB_EX-010 (Hasanbeigi, A., and Springer, C., *Industrial Electrification in the Southwest States* (Aug. 2023)); APCD_REB_EX-011 (Byrum Z., Pilorge H., Wilcox J., *Technological Pathways for Decarbonizing Petroleum Refining* (Sept. 2021)); APCD_REB_EX-012 (Renewable Thermal Collaborative, *Playbook for Decarbonizing Process Heat in the Food and Beverage Sector: Heat Pumps and Electric Boilers as Enabling Technologies* (July 2023)); *see also* APCD_PHS_EX-019; and APCD_PHS_EX-020.

nature and only provides an overview of possible GHG reduction and treatment opportunities for the types of facilities covered under this rule. Facility-specific information for these opportunities would be required for specific evaluation.

Second, in an email dated April 21, 2023, the Division requested GHG reduction project information from the GEMM 2 facilities prior to submitting the request for hearing.[209] The Division reiterated that request verbally at the party status conference on June 20, 2023. The Division also had conversations with individual facilities over the course of the past year and repeatedly requested project information. Twelve facilities responded to these requests with only six disclosing specific project information. The Division considered all responses in drafting the proposed rule. This satisfies the requirement to consider the availability, technical feasibility, and economic reasonableness of control techniques. The opposite result is untenable: the Commission cannot be prevented from adopting statutorily-required rules based on the failure of certain industry parties to provide information about their operations when requested.

Third, the rule does not require implementation of specific control techniques. Rather, it allows facilities to evaluate what projects or GHG emission reduction opportunities exist at each individual facility and then only requires completion of those that are economically reasonable and technologically feasible.[210] It also provides multiple paths to compliance for covered facilities. If, as the Chamber suggests, some facilities cannot achieve the entirety of their reductions onsite, they may use the credit market. This structure reduces the need for complete information about potential projects–which, again, is information that industry, not the Division or Commission, controls.

2. Response to the Argument that the Legislature did not Require that these Rules be "Technically Feasible" or Subject to a Cost Cap Under the Act

This claim is legally untethered from some of the most basic tenets of the Act, of which section 25-7-105(1)(e)(XIII), C.R.S., is a part.

In stark contrast to the Chamber's argument, the LGC appears to argue that the rules need not be technically feasible or cost conscious "because the EJ Act makes no mention whatsoever of technical feasibility or EPA's 2030 SCGHGs."[211]

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[209] *See* APCD_REB_EX-003 (Air Pollution Control Division, *Request from Industry on the Estimated Cost of GEMM 2 for Division's Initial Economic Impact Analysis* (April 2023)).
[210] Rebuttal Proposal, Part B, Section II.A.2. (requiring GEMM 2 facilities to "list all GHG reduction measures that result in greater than de minimis GHG reductions and that are technically feasible for implementation"); *id*. Part B, Section II.A.3. (requiring GEMM 2 facilities to propose to implement measures up to the 2030 social cost of GHG).
[211] *See* LGC_PHS, at 13.

Such a reading fails to account for other key aspects of the Act, which was amended and not replaced by the Environmental Justice Act. Namely, the General Assembly declared that air quality measures must be "technologically feasible and economically reasonable" and to "require the development of an air quality control program in which the benefits of the air pollution control measures utilized bear a reasonable relationship to the economic, environmental, and energy impacts and other costs of such measures[.]"[212] As raised by the Chamber above, these legislative declarations are likewise incorporated into the Act's requirements for adoption of "emission control regulations."[213] Further, such standards are directly referenced in the Commission's authorization to "exercise maximum flexibility in developing an effective air quality control program" and to "promulgate such combination of regulations as may be necessary or desirable to carry out that program" so long as such programs and regulations are "consistent with the legislative declaration set forth in section 25-7-102."[214] Hence, while parties may debate what constitutes "technologically feasible and economically reasonable" measures and whether the Division's proposal effectuates these purposes, that the Commission's rules must meet these standards is legally indisputable.

M. Response to Arguments Related to the Economic Impact Analysis

Natural Soda, LLC ("Natural Soda") argues that the Division's Final Economic Impact Analysis underrepresents the negative economic impacts associated with the proposed rule.[215] However, their counter-analysis does not include an assessment of the health benefits from reducing co-pollution. Thus, it underestimates the benefit of the rule.

Natural Soda's analysis notes that the 18 facilities directly employ approximately 13,000 people but that 6,000 jobs will be lost on account of the GHG emissions reductions from the rule.[216] However, the analysis assumes a ten percent reduction in production across the covered facilities, which is not what this rule envisions. Moreover, their analysis does not consider the employment impact from the investment the facilities make to purchase, install, and maintain the equipment that will lead to the GHG emissions reductions envisioned in the rule. Given the considerably high employment impact of the manufacturing sector, especially its indirect and induced effects, the job creation from this investment is considerable.

[212] § 25-7-102(1), C.R.S.
[213] *See* § 25-7-109(1)(a), C.R.S.
[214] § 25-7-106(1), C.R.S.
[215] *See* Soda_PHS_EX-002, at 11.
[216] *See id.* at 10.

Natural Soda's analysis also claims that the most significant contributor to direct GHG emissions from manufacturing is the production of heat, steam, and power, and that energy efficiency improvements will not achieve the steep reductions mandated.[217] However, no proof of these claims has been provided as this assessment is not based on any conclusive type of auditing work that was done on the covered facilities.

The same applies to Natural Soda's claim that the rule will force curtailment of production of the regulated facilities and the displacement of manufacturing to facilities outside of Colorado, increasing GHG emissions from more carbon intense manufacturing and transportation of raw materials and products.[218] These claims are not based on any auditing that was done to show that all GHG emissions reduction opportunities have been exhausted. Given the large number of the facilities and their diversities, such a sweeping statement does not seem responsible. This claim also ignores the other compliance options available to facilities.

Finally, Natural Soda's analysis notes that electrification is the only option for compliance and that it will result in significant increases in GHG emissions, and that decarbonization of the electric power supply must occur before electrification is a viable option to decarbonize manufacturing.[219] Given the multiple compliance options available to facilities, the assessment that electrification is the only viable option is questionable and unfounded. Moreover, the grid has been getting cleaner over time and will continue to do so. It is not clear if the State's effort in this area has been adequately acknowledged in this assessment, which references national level grid performance. The potential GHG emission from electrification does not mean that the State should avoid any GHG emission reduction efforts until that one action is taken.

[217] *See id.* at 14.
[218] *Id.* at 14.
[219] *Id.* at 2, 13.

V. RESPONSE TO ALTERNATE PROPOSALS

The Division recommends against adoption of any of the four Alternate Proposals for the reasons set forth below.

A. Cogeneration Group

Molson-Coors, American Gypsum, Leprino and Western Sugar Cooperative submitted an Alternative Proposal under the "Cogeneration Group" coalition, revising the Division's proposal. The key change proposed by the Cogeneration Group would allow facilities with onsite CHP systems to count the reductions achieved from the technology towards the facilities onsite compliance requirements.[220]

The Division recommends that the Commission reject this alternate proposal. The Division also elected not to modify the rule proposal in response to this proposal for multiple reasons. First, allowing facilities to account for reductions from technology previously installed potentially jeopardizes the ability for the group of covered facilities to hit the 20% target through delaying additional reductions needed onsite at these facilities. These facilities all made business decisions, likely around specific process and operational needs, to build out the CHP systems onsite. It is inappropriate to account for potential reductions that were implemented well in advance of the legislative directive. Second, the rule is already balanced and equitable with reasonable flexibility built in for facility compliance. Last, the proposed alternate attempts to account for hypothetical Scope 1 emissions that would have otherwise occurred had the facility not installed CHP but fails to account for the increased direct emissions from the CHP. In sum, it is not clear if adequate attention has been given to avoiding double counting.

Further, regarding the claim that preliminary estimates from GEMM 2 facilities indicate limited onsite options that are cost effective and are available in the short-term to meet the requirements for 2024,[221] it is unclear what analysis or auditing report this statement is based on. The claims that the benefits in the short-term do not outweigh the costs of compliance is likewise unsupported.[222]

The Division does not dispute that CHP systems have been a beneficial technology, and currently offer greater efficiency than the Colorado grid. However, they are not in and of themselves a GHG reduction technology. CHP may offer facilities greater operational flexibility, reliability, and grid resiliency, as the group

[220] CoGen Group_MON, at 2-5.
[221] *See* CoGen Group_ALT_EIA, at 6.
[222] *Id*.

noted,[223] but they are still fossil-fuel combustion sources. Emissions from electricity generation are moved onsite to achieve the greater efficiencies, but ultimately the resulting emissions are largely moved, and not mitigated. The GEMM 2 rule is specifically aimed at reducing onsite, Scope 1 emissions from the industrial and manufacturing sector. The Cogeneration Group points out that "existing Regulation No. 27 already includes a mechanism allowing for on-site energy generation to offset grid GHG emissions. Part A, Section VI.A.1.c., provides that the use of an on-site renewable energy project that reduces GHG emissions from the stationary source's electrical energy use may be used for compliance with the source's GHG emissions reduction requirement."[224] A key difference between the referenced GEMM 1 provision and the proposed GEMM 2 rule, however, is the statutory directive in HB 19-1261 that specifically calls out "best available energy efficiency practices."[225] GEMM 1 facilities were required to audit not only GHG best available emissions control technologies ("GHG BAECT"), but also energy best management practices ("Energy BMPs"). Energy BMPs were further defined in Regulation Number 27 as incorporating all the key elements of strategic energy management ("SEM"), a continuous improvement approach to energy management that seeks to improve an organization's energy performance, reduce energy costs, and reduce GHG emissions associated with energy use.

Allowing the use of retail distributed generation or net meter energy projects for GEMM 1 facilities closely aligned with the legislative intent of HB 19-1261 and the promotion of renewable energy generally set forth in the Act.[226] GEMM 2, however, is a different rule, and the ultimate goal is to reduce onsite GHG emissions 20% by 2030—there are no statutory directives concerning energy use. The Cogeneration Group proposes to allow up to half of a facility's reduction obligation to be satisfied through the use of CHP systems, estimating for displaced onsite thermal emissions. While this is proposed as an alternate compliance mechanism, it does not affect the actual reported GHG emissions from the facilities.

[223] *See* CoGen Group_MON, at 5.
[224] *Id.* at 3-4.
[225] HB 19-1261, 72nd Gen. Assemb., 1st Reg. Sess. (Colo. 2019), at 9.
[226] *See* § 25-7-102(2)(g), C.R.S.

Finally, while it is true that today CHP systems offer greater efficiency and fewer GHG emissions than the Colorado grid, that is likely to change in the next few years. Colorado electricity providers have committed to reducing GHG emissions 80% by 2030, relative to 2005 levels.[227] In the very near future, there is going to be a changeover point where the grid becomes cleaner than CHP systems running solely on fossil fuels. The Cogeneration Group acknowledged that the grid is changing and soon there will be a negative benefit to these systems if they continue to run on fossil fuels.[228] That alone should be enough incentive to begin exploring opportunities that will keep them ahead of the grid intensity. Improving efficiencies and lowering GHG emissions to operate cleaner than the grid will achieve onsite GHG reductions, aligning with the goal of GEMM 2. There are technologies available today, and more developments are likely to come online before 2030, to achieve this.

B. Colorado Chamber of Commerce

The Chamber submitted an alternate proposal revising the Division's proposal.[229] The key changes of the alternate proposal and the Division's position are listed below.

The Chamber's proposal included establishing protective pricing mechanisms for GHG credits.[230] At present and as discussed above, the Division opposes a cap on the price of credits.[231] Given this is a stand-alone market, the Division takes the position that GEMM 2 facilities are in the best place to discover the value and price of the credits. The owners and operators of GEMM 2 facilities are the ones that will be undertaking the measures to over-comply and decide what they seek as a price to sell their credits. Given this is a new market, the Division is not in a better place to discover what the price should be.

The Chamber also included a proposed modification allowing facilities to generate credits for compliance with their interim requirements, in some cases below their 2021/2022 GHG emissions in 2024 and 2025, even if interim requirements start in 2026 as they propose.[232] The Division disagrees.[233]

The Chamber proposed language to include the use of an industrial decarbonization fund as a compliance option for GEMM 2 facilities.[234] The Division

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[227] HB 19-236, 72nd Gen. Assemb., 1st Reg. Sess. (Colo. 2019).
[228] CoGen Group_MON, at 5.
[229] *See* CCC_ALT_MON; CCC_ALT_Reg_27.
[230] *Id.* Part D, Section III.D.
[231] *See supra* note 160 and accompanying text.
[232] *See* CCC_ALT_Reg 27, at Part D, Section III.A.3.
[233] *See supra* notes 96-104 and accompanying text.
[234] CCC_ALT_Reg 27, at Part E.

intends to retain and expand on the fund language to this extent in the Rebuttal Proposal SBAP. It is not appropriate to include in the rule language at this time as previously explained.[235]

The Chamber proposes that the state-managed fund be set at $89 per ton of CO2e[236] instead of setting it above that figure to ensure that this option is a matter of last resort, as contemplated by the Division. Although the Commission can say that this option is only a last resort, setting the price high enough ensures that this option is indeed a last resort option and would be meant to ensure that enough funds are generated to make feasible projects that were previously infeasible. It is unclear how the Chamber's proposal to achieve GHG emission reduction while also capping the fund at the SC-GHG is intended to work, which is made even more challenging given that this fund is also intended to cover program administration costs.

The Chamber's estimated reduction in compliance cost results in part from eliminating interim requirements for 2024 and 2025.[237] However, this reduction in cost is achieved through equal or greater reduction in benefits. As the Chamber's proposal lowers costs only through measures that likewise reduce benefits, it fails to make a strong economic case for its proposal.

C. Environmental Defense Fund

EDF also submitted an Alternate Proposal that would establish an enforceable and steadily declining limit on GHG pollution.[238] The GHG emissions cap would decline year-over-year on a linear trajectory towards a 20% reduction by 2030. While this is another pathway that aims to achieve the required 20% reduction for the sector, the Division believes it is an unbalanced approach. As a practical matter, facilities' GHG reduction projects do not follow a perfectly linear trajectory as would be required under EDF's proposal. Facilities are likely to invest in large capital projects that may take years to fully implement, but which ultimately may achieve large reductions when fully operational. There may be smaller near-term opportunities for some sources, but the steadily declining annual cap would pose a very real challenge for a majority of the GEMM 2 facilities. Some of the imbalances could potentially be solved by the proposed allowance auctions, but the Alternate Proposal does not account for the very real concern of GHG emission leakage. If facilities are unable to implement near-term projects to keep up with the declining cap, they would be forced to buy more allowances at the limited auctions every year.

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[235] *See supra* notes 59-62 and accompanying text.
[236] CCC_ALT_Reg 27, at Part E, Section I.D.1.
[237] *See* CCC_ALT_EIA at 5, and 8.
[238] *See* EDF_ALT_MON, at 4.

In EDF's proposal, EITE facilities would be issued free allowances to cover their compliance obligation.[239] Any increase in GHG emissions due to increased production at EITE facilities would result in additional allowances issued to those sources, and fewer allowances available to GEMM 2 facilities. This uncertainty in the available credit budget every year, and potentially reduced credit allotment for GEMM facilities, creates further challenges for GEMM 2 facilities and is an inequitable approach.

Issues surrounding leakage were a concern that was brought up consistently throughout the stakeholder process. The Division's proposed rule is designed to achieve reductions in Colorado, in a manner that would not be offset those through additional GHG emissions elsewhere. Additionally, Division staff held several small community conversations in affected communities throughout the State. Some attendees were employed by facilities that will be subject to the rule, and voiced concerns of losing their jobs due to the impending regulation. Others were workers in the community that depended on the contribution to the local economy from an affected facility. This is simply meant to highlight that there are more complexities that need to be considered than just a rule that achieves the desired outcome on paper but may result in many unintended consequences. The Division does not believe that EDF has thoroughly considered the potential for leakage or impactful production cuts with the stringency of their approach. The Division's proposal considers these factors to strike the appropriate balance between achieving the required GHG reductions and not causing undue harm to the environment or local economies.

EDF's Alternate Proposal also does not guarantee compliance with the statutory requirement to "include protections for disproportionately impacted communities and prioritize emission reductions that will reduce emissions of co-pollutants that adversely affect disproportionately impacted communities."[240] Under the proposal, it is not clear that any GEMM 2 facility will be considered to adversely affect disproportionately impacted communities such that it would be required to assume harmful air pollution obligations because there is no guarantee that any GEMM 2 facilities located in disproportionally impacted communities will meet EDF's requirements in the future. Those requirements are that the facility fail to satisfy any applicable non-administrative requirement established by the Act or will contribute to unacceptable adverse cumulative air pollution impacts on any disproportionately impacted community in a prior two-year period.[241] Since EDF's alternate proposal does not guarantee co-pollutant emission reductions in or near

[239] EDF_ALT, Part E, Section II.A.2.
[240] § 25-7-105(1)(e)(XIII), C.R.S.
[241] *See* EDF_ALT, Part B, Section II.D.1.

disproportionately impacted communities, it cannot ensure compliance with this statutory requirement.

In addition, EDF's Alternate Proposal does not limit the cost of co-pollution that GEMM 2 facilities are required to consider when determining which GHG emissions reduction measures to implement. Industry has highlighted the importance of considering costs in this rule to prevent GHG emissions leakage from facilities shifting production out of state due to unreasonably high regulatory compliance costs. Co-pollutant reduction costs are not limited by EDF, and could potentially become excessive.

EDF's economic impact analysis estimates that the initial allowance price is $159 and will increase by 4% annually.[242] It is unclear what the allowance costs are based on, how representative they are for the diverse set of covered facilities, and why they are projected to increase at 4% a year.

EDF's economic impact analysis also estimates the net benefit of its proposal to be higher than the Division's figure—$265 million ("2015$") in 2030, with cumulative benefits of over $1.5 billion ("2015$").[243] However, this is based on what EDF claims to be a more accurate quantification of climate benefits. Since this approach and the values therein are different from what is in the IWG report, which is the established and accepted set of values, the dependability of EDF's analysis is questionable.

Last, and importantly, the Alternate Proposal presented by EDF would require a significant increase in Division resources to implement and manage, which is not quantified in the alternative. This includes establishing a proposed 11-member "Colorado Climate Board"[244] and requiring the Division to annually determine if a GEMM 2 facility is adversely affecting disproportionately impacted communities through harmful air pollutants.[245] To execute this process, the proposed alternate requires the Division to engage in a stakeholder process to develop guidance on what constitutes an unacceptable adverse cumulative air pollution impact.[246] EDF's proposal ignores the significant resources this would require and does not include any additional resource allocation for these purposes.

For the purposes of implementing the auction process and full cap-and-trade program proposed, EDF only proposes one to two additional full-time employees to review, approve, and manage the GHG Reduction Plans.[247] EDF, cites the fact the

[242] *See* EDF_ALT_Initial_EIA, at 3-4.
[243] *See id.* at 5-6.
[244] EDF_ALT, Part E, Section VIII.
[245] *Id.* Part F, at 39.
[246] *Id.*
[247] EDF_ALT_Initial_EIA, at 7.

Division just hired an Emissions Credit Trading Program Manager in recent months and assumes that the current allocations for that program would be adequate to administer the cap-and-trade program with no consideration of the increase in scope and responsibility of their proposed program. As evident in other states, the management of cap-and-trade programs are incredibly resource intensive and the additional burden EDF's proposal would put on the Division without adequate resources, garners significant concern.

D. Suncor Energy USA

Suncor filed an Alternate Proposal revising the Division's proposed rule. The key changes in Suncor's Alternate Proposal are:

- Removal of all pre-2030 GHG emissions reduction requirements;[248]
- Revisions to the 2030 GHG emissions reduction percentage requirements, including deletion of the contribution to group cumulative emissions escalator;[249]
- Addition of a process to allow covered facilities to seek a waiver from being required to implement all technically feasible and cost-effective GHG reduction measures if the Division determines that the group as a whole will meet the collective reduction requirements;[250] and
- Addition of a credit price cap.[251]

Suncor's Alternate Proposal is intended to be supplementary to the Chamber's Alternate Proposal, except to the extent the two might conflict. Suncor specifically supports the Chamber's proposed language to establish a state-managed fund.[252]

The Division recommends that the Commission reject Suncor's Alternate Proposal for the following reasons.

First, removal of the pre-2030 reduction requirements is contrary to the Act. The Division rebuts this proposal, above.[253] Suncor's Alternate Proposal can and should be rejected for this reason alone.

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[248] Suncor_ALT_EX-001-ERRATA, Part B, Sections I.A.1-I.A.4.
[249] *Id.* Part B, Sections I.A.1-I.A.5.
[250] *Id.* Part B, Section II.M.
[251] *Id.* Part D, Section III.D.
[252] Suncor_ALT, at 6-7.
[253] *See supra* notes 96-104 and accompanying text.

Second, Suncor's revisions to the 2030 GHG emissions reduction percentage requirements are inequitable. The proposal removes the escalator mechanism from the Division's proposal that requires larger facilities to reduce GHG emissions by greater amounts than smaller facilities. The Division believes that this aspect of Suncor's proposal is inequitable. Applying Suncor's proposal to the group, its proposed changes would have significant impacts on the rest of the covered facilities. It would increase 2030 reduction requirements for sixteen of the eighteen covered facilities, ranging from 2.5% increases to 4.1% increases. At the same time, it would reduce the requirement for only the Suncor facility by almost 2%. Ten out of the eighteen covered facilities would have their 2030 GHG reduction requirements increased by 2.5%, resulting in each of those facilities being subject to a 2030 reduction requirement of 15.5%. Raising the reduction requirements for almost all of the other facilities, sometimes by a significant amount, in order to reduce Suncor's obligation by 2% is not a good tradeoff and illustrates the policy rationale for requiring larger emitters to achieve marginally higher reductions.[254]

Third, the Division opposes the waiver process outlined in Suncor's proposal. Under the proposal, waivers would be granted by June 30, 2026, based on information provided by facilities in their GHG Reduction Plans. But projected GHG emission reductions from implementing measures in a GHG Reduction Plan are not the same as actual reductions. The Division believes that granting waivers prior to attaining actual reductions equal to or greater than the 20% statutory reduction requirement for the industrial and manufacturing sector would be unwise because it could compromise compliance with that statutory requirement.

Finally, regarding the issue of a credit price cap, the Division opposes adding a price cap on credits at this time for the reasons described above.[255]

Separately, Suncor's Economic Impact Analysis supporting its Alternate Proposal is flawed. Suncor notes that the proposal should not require entities to complete cost-effective and technically feasible projects unless there is a market for them and allows them to obtain a rate of return of 10 percent through the credit market.[256] Since the Division cannot dictate the price of credits, it cannot guarantee a given rate of return on a facility's investment.

[254] *See supra* note 126 and accompanying text.
[255] *See supra* note 160 and accompanying text.
[256] Suncor_ALT_EIA, at 3.

VI. REBUTTAL EXHIBIT LIST

The Division has identified additional Rebuttal Exhibits on the Rebuttal Exhibit List enclosed with this Rebuttal Statement as APCD_REB_EX-TOC.

APCD_REB_EX-001: Governor Mark Gordon and Governor Jared Polis, *Memorandum of Understanding Between the State of Wyoming and the State of Colorado Regarding Direct Air Capture Industry Development* (June 2023)

APCD_REB_EX-002: ACEE, *Industrial Heat Pumps: Electrifying Industry's Process Heat Supply* (March 2022)

APCD_REB_EX-003: Air Pollution Control Division, *Request from Industry on the Estimated Cost of GEMM 2 for Division's Initial Economic Impact Analysis* (April 2023)

APCD_REB_EX-004: Center for Climate and Energy Solutions, *Clean Heat Pathways for Industrial Decarbonization* (August 2021)

APCD_REB_EX-005: Rissman, J., *Decarbonizing Low-Temperature Industrial Heath in the U.S.* (Oct. 2022)

APCD_REB_EX-006: InsideEPA.com, *Environmental Group Touts Health Gains from CCS Co-Pollutant Reductions* (Aug. 2023)

APCD_REB_EX-007: Mission Innovation, *Roadmap towards Net-Zero Industries*

APCD_REB_EX-008: RMI, *Profitably Decarbonizing Heavy Transport and Industrial Heat: Transforming These "Harder-to-Abate" Sectors is Not Uniquely Hard and Can be Lucrative* (July 2021)

APCD_REB_EX-009: Renewable Thermal Collaborative, *Assessment of Green Hydrogen for Industrial Heat* (April 2023)

APCD_REB_EX-010: Hasanbeigi, A., and Springer, C., *Industrial Electrification in the Southwest States* (Aug. 2023)

APCD_REB_EX-011: Byrum Z., Pilorge H., Wilcox J., *Technological Pathways for Decarbonizing Petroleum Refining* (Sept. 2021)

APCD_REB_EX-012: Renewable Thermal Collaborative, *Playbook for Decarbonizing Process Heat in the Food and Beverage Sector: Heat Pumps and Electric Boilers as Enabling Technologies* (July 2023)

APCD_REB_EX-013: Colorado Air Pollution Control Division, *Baseline Scenario Historic and Future Compliance Estimates Compliance Limits for GEMM 2*

Facilities [AR5 mtCO2a], Rubric for GEMM 2 Facility Percentage Reduction Requirements, and GEMM 2 Facility Percentage Reduction Requirements Based on Rubric (2023)

APCD_REB_EX-014: Colorado Air Pollution Control Division, *Max Scenario Historic and Future Compliance Estimates Compliance Limits for GEMM 2 Facilities [AR5 mtCO2a], Rubric for GEMM 2 Facility Percentage Reduction Requirements, and GEMM 2 Facility Percentage Reduction Requirements Based on Rubric* (2023)

VII. REBUTTAL WITNESS LIST

Based on the issues raised in parties' Prehearing Statements, the Division hereby identifies the following individuals as potential Rebuttal Witnesses:

1. Joel Minor, Environmental Justice Program Manager, Colorado Department of Public Health and Environment. Mr. Minor may testify on issues related to disproportionately impacted communities and the definition of such communities.

2. Josh Korth, Supervisor, Air Pollution Control Division, State Implementation Plan Technical Development Unit. Mr. Korth may testify to considerations regarding Scope 2 emissions and grid emission factors related to the proposed rules and Alternate Proposals.

3. Gregory Marcinkowski, Environmental Protection Specialist, Air Pollution Control Division, Climate Change Program. Mr. Marcinkowski may testify to the development, meaning, and implementation of the proposed rules.

4. Cecilia White, Credit Program Supervisor, Air Pollution Control Division, Climate Change Program. Mrs. White may testify to the credit program included in the proposed rule.

VIII. IDENTIFICATION OF WRITTEN TESTIMONY

The Division does not, at this time, intend to submit any written testimony.

Respectfully submitted this 29th day of August, 2023.

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing **REBUTTAL STATEMENT OF THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, AIR POLLUTION CONTROL DIVISION** was served on the parties listed below this 29th day of August, 2023.

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