BEFORE THE COLORADO AIR QUALITY CONTROL COMMISSION

REGARDING PROPOSED REVISIONS TO	**)**
OZONE STATE IMPLEMENTATION PLAN	**)**
REGULATION NUMBERS 3, 7, AND 21,	**)**
COMMON PROVISIONS, AND AIR	**)**
QUALITY STANDARDS, DESIGNATIONS,	**)**
AND EMISSION BUDGETS	**)**

PREAHEARING STATEMENT OF GREENLATINOS, WOMXN FROM THE MOUNTAIN, HEALTHY AIR AND WATER COLORADO, AND MADHVI4ECOETHICS ("JUSTICE AND HEALTH GROUPS")

EXECUTIVE SUMMARY

GreenLatinos, Womxn from the Mountain, Healthy Air and Water Colorado, and Madhvi4EcoEthics (collectively, the Justice and Health Groups) have significant concerns with the Colorado Air Pollution Control Division's (Division) draft Moderate/Severe Ozone State Implementation Plan (draft SIP). The Division's draft SIP falls far short of satisfying the Clean Air Act's requirements, as it fails to provide necessary emissions reductions to address the state's ongoing ozone problem and redress the outsized pollution burden borne by disproportionately impacted communities in the Denver Metro/North Front Range (DM/NFR) nonattainment area.

The Justice and Health Groups request that the Colorado Air Quality Control Commission (Commission) direct the Division to conduct an equity analysis that assesses the disparate impact of ozone pollution on local communities to inform the Division's and the Commission's actions on the SIP. Ground-level ozone pollution is a major public health threat. Both short-term and long-term exposure to ozone are connected to severe health effects, including respiratory problems, cardiovascular disease, and premature death. The threats posed by ozone are even more devastating for those living in disproportionately impacted communities that are already overburdened by environmental pollution. These communities have much higher rates of pollution exposure and are at much higher risk of adverse health impacts from air pollution. Despite the disparate impacts of ozone pollution, the Division's draft SIP makes no mention of the of the equity and environmental justice implications of this rulemaking or the justice and equity benefits to be gained through the SIP. The Justice and Health Groups propose Statement of Basis and Purpose (SBAP) language that the Commission should adopt to make certain that the Division undertakes an equity analysis.

The Justice and Health Groups further request that the Commission reject the attainment demonstrations in the draft SIP for both the 2008 and 2015 standards. The Division admits that this draft SIP will not bring the state into attainment with the 2015 standard, in violation the Clean Air Act. Additionally, the modeling and weight of evidence analyses for both the 2008 standard and 2015 standard attainment demonstrations fail to account for the effects of climate

change on ozone trends. As climate change progresses, Colorado is projected to get hotter, likely causing ozone levels to increase in future years. Because the Division does not address this likely trend, the attainment demonstrations for both standards are inadequate.

Despite these significant problems with the draft SIP, the Division did not include any control measures beyond those automatically required by the Clean Air Act to further reduce ozone emissions and ensure that the state will attain the ozone standards. As a result, the Justice and Health Groups also request that the Commission commit to holding a rulemaking within one year to include additional measures in the SIP to reduce emissions from the transportation and oil and gas sectors. Specifically, the Justice and Health Groups request that the Commission commit to further rulemakings to include the following controls in the SIP: (1) Indirect Source Review rules; (2) California's Clean Cars II rule; (3) revised rules requiring either electrification or more stringent nitrogen oxide limits on reciprocating internal combustion engines for the oil and gas sector; and (4) regulations to reduce pre-production emissions from the oil and gas sector. The resulting reductions in ozone-forming emissions from the transportation and oil and gas sectors—two of the largest ozone-contributing source sectors in the nonattainment area—would provide significant health and environmental justice benefits and would help further Colorado's climate goals. The Justice and Health Groups propose SBAP language the Commission should adopt to ensure additional controls are incorporated into the SIP within one year.

Finally, the Justice and Health Groups urge the Commission to adopt the Division's proposed repeal of the start-up, shutdown, malfunction (SSM) affirmative defense provisions from the Common Provisions in their entirety. Pollution from SSM events is a chronic public health problem across the nation, including in Colorado. SSM provisions are a class of loopholes that unlawfully excuse polluters from emission limits during SSM events. Of these types of loopholes, affirmative defense provisions are especially egregious, as they offer sweeping exemptions for operators while impermissibly intruding on the judiciary's role to assess appropriate penalties. To address these legal deficiencies and public health implications, EPA has issued a SIP call, ordering states—including Colorado—to remove SSM affirmative defense loopholes from state plans. The Justice and Health Groups strongly support the Division's proposal to remove these unlawful loopholes from the Colorado SIP in accordance with EPA's directive.

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BACKGROUND

I. The SIP must address the public health risks of ozone pollution and disparities in ozone exposure.

Ground-level ozone pollution is associated with severe health impacts, including respiratory issues, cardiovascular disease, and premature death. The transportation and oil and gas sectors are two of the largest source categories of ozone-forming pollution in Colorado, and reducing emissions from these sectors is crucial to addressing the public health impacts of pollution. Like many other types of air pollution, ozone pollution—including that caused by the transportation and oil and gas sectors—also has an outsized impact on disproportionately impacted communities in the DM/NFR that already shoulder more than their fair share of environmental burdens. Although Colorado has long suffered from high levels of ozone pollution, the State has repeatedly failed, and continues to fail, to meet federal ozone standards set to protect public health and welfare.

A. Ozone is a serious public health threat.

Ground-level ozone, or smog, is created when two other "precursor" pollutants—nitrogen oxides (NOx) and volatile organic compounds (VOCs)—mix in the presence of sunlight.[1] According to the American Lung Association, ozone is one of the most dangerous and widespread pollutants in the U.S.[2] Exposure to elevated ozone levels has been linked by "a very large amount of evidence" to adverse health effects.[3] Ozone pollution poses a significant threat to vulnerable populations, like children, the elderly, people with respiratory diseases or ailments, and even otherwise healthy individuals who spend a significant amount of time outdoors.[4]

Both short-term and long-term exposure to high ozone levels can have serious adverse health impacts. Breathing ground-level ozone causes symptoms such as coughing, throat irritation, tightness or discomfort in the chest, and wheezing or shortness of breath.[5] A growing body of evidence also shows that acute exposure to ozone pollution during pregnancy is closely connected to increased risk of adverse birth outcomes, including stillbirth and low birth weight.[6]

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[1] Am. Lung Ass'n, Ozone, https://www.lung.org/clean-air/outdoors/what-makes-air-unhealthy/ozone (last updated Apr. 20, 2020).
[2] *Id.*
[3] National Ambient Air Quality Standards for Ozone, 80 Fed. Reg. 65,292, 65,302 (Oct. 26, 2015).
[4] *Id.* at 65,343.
[5] Am. Lung Ass'n, Ozone, *supra* note 1; U.S. Env't Prot. Agency, Health Effects of Ozone Pollution, https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution (last visited Oct. 25, 2022).
[6] *See, e.g.*, Qiong Wang et al., Association of Maternal Ozone Exposure with Term Low Birth Weight and Susceptible Window Identification, 146 Env't Int'l 106,208 (2021), https://www.sciencedirect.com/science/article/pii/S0160412020321632 [JHG_PHS_EX-001]; Pauline Mendola, et al., Chronic and Acute Ozone Exposure in the Week Prior to Delivery is Associated with the Risk of Stillbirth, 14 Int'l J. Env't Rsch. Pub. Health 731 (2017),

Long-term exposure to ozone can exacerbate many of these health effects, causing more frequent and severe asthma attacks, increased hospitalizations, and higher rates of illness and death.[7] Air polluted with ozone is known to cause severe respiratory problems, increasing the risk of heart attacks in adults and worsening existing health conditions such as asthma and chronic obstructive pulmonary disease.[8] Indeed, studies have repeatedly found that the risk of premature death increases with higher levels of ozone pollution, with a strong relationship between respiratory effects and mortality.[9]

Reducing ozone and precursor pollution levels is necessary to address the serious health impacts of these pollutants for residents in the nonattainment area. Cities and counties in the DM/NFR nonattainment area have consistently ranked among the worst in the nation for ozone pollution. For instance, the American Lung Association ranked Denver-Aurora as the 7th worst and Fort Collins as the 18th worst metro area in the country for ozone pollution in 2022.[10] It also ranked Jefferson and Douglas counties as the 9th and 23rd most polluted counties for ozone.[11]

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https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5551169/ [JHG_PHS_EX-002]; Muhammad T. Salam et al., Birth Outcomes and Prenatal Exposure to Ozone, Carbon Monoxide, and Particulate Matter: Results from the Children's Health Study, 113 Env't Health Persps. 1,638 (2005), https://ehp.niehs.nih.gov/doi/10.1289/ehp.8111 [JHG_PHS_EX-003].

[7] Am. Lung Ass'n, Ozone, *supra* note 1; U.S. Envt. Prot. Agency, Health Effects of Ozone Pollution, *supra* note 5.

[8] Am. Lung Ass'n, Health Impact of Air Pollution: Health Effects of Ozone Pollution, https://www.lung.org/research/sota/health-risks (last visited Oct. 26, 2021); U.S. Env't Prot. Agency, Integrated Science Assessment for Ozone and Related Photochemical Oxidants at ES-8, ES-16 to ES-17 (Apr. 2020) [hereinafter "EPA 2020 Ozone ISA"] (Excerpted), https://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=540022 [JHG_PHS_EX-004]; Lorraine B. Ware et al., Long-Term Ozone Exposure Increases the Risk of Developing the Acute Respiratory Distress Syndrome, 193 Am. J. Respiratory & Critical Care Meds. 1143, 1145-46 (2016), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4872663/#:~:text=Conclusions%3A%20Long%2Dterm%20ozone%20exposure,environmental%20risk%20factor%20for%20ARDS [JHG_PHS_EX-005].

[9] EPA 2020 Ozone ISA, *supra* note 8, at 6-25 to 6-44 (stating that the ISA "draws from the morbidity evidence presented for different health endpoints across the scientific disciplines . . . to support the associations observed for cause-specific mortality"); M.S. Qian Di et al., Air Pollution and Mortality in the Medicare Population, 376 New Eng. J. Med. 2,513 (2017), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4872663/#:~:text=Conclusions%3A%20Long%2Dterm%20ozone%20exposure,environmental%20risk%20factor%20for%20ARDS [JHG_PHS_EX-006]; M.S. Qian Di et al., Association of Short-term Exposure to Air Pollution With Mortality in Older Adults, 318 JAMA Network 2,446 (2017), https://jamanetwork.com/journals/jama/fullarticle/2667069.

[10] Am. Lung Ass'n, State of the Air at 17 (2022) [hereinafter "ALA 2022 State of the Air"], https://www.lung.org/getmedia/74b3d3d3-88d1-4335-95d8-c4e47d0282c1/sota-2022.pdf [JHG_PHS_EX-007].

[11] *Id.* at 19.

The DM/NFR's poor rankings have remained largely unchanged over the years, with Denver-Aurora ranked as the 8th worst and Fort Collins ranked as the 10th worst metro area for ozone pollution, and Jefferson County ranked as the 14th and Larimer County ranked as the 16th most polluted counties for ozone in 2016.[12] Additionally, all but one county in the nonattainment area received an "F" grade for high ozone days in 2022.[13]

B. The transportation and oil and gas sectors are two of the largest sources of ozone-forming pollution in the nonattainment area.

To address the public health threats posed by ozone pollution, the Commission must address VOC and NOx precursor emissions from the transportation and oil and gas sectors. Ozone precursors are emitted from a number of different sources, including consumer products, commercial equipment, and industrial facilities, but the Division's data shows that transportation and oil and gas sources are the two of the largest contributors to ozone in the nonattainment area.[14] Additionally, a report on summertime ozone pollution in the DM/NFR concluded that mobile sources and oil and gas related emissions were the largest contributors to local ozone production in the DM/NFR nonattainment area.[15] The report found that each sector contributed thirty to forty percent of total ozone production on average in this region on high ozone days.[16]

Multiple sources in the transportation sector are responsible for significant ozone precursor emissions in the nonattainment area. According to the Division's emission inventory for the SIP, light-duty vehicles were responsible for 40.2 tpd of VOCs and 35.7 tpd of NOx in 2020.[17] Medium- and heavy-duty vehicles accounted for 1.1 tpd of VOCs and 9.7 tpd of NOx that same year.[18] Although the draft SIP projects that emissions from on-road vehicles will

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[12] Am. Lung Ass'n, State of the Air at 16, 19 (2016), http://pacokeovens.org/wp-content/uploads/2016/08/sota-2016-full-1.pdf [JHG_PHS_EX-008].
[13] ALA 2022 State of the Air, *supra* note 10, at 61. Broomfield was the only county in the nonattainment area that did not receive an "F" grade, instead receiving a "DNC" grade because there is no monitor that collects data for that county. Am. Lung Ass'n, Report Card: Colorado, https://www.lung.org/research/sota/city-rankings/states/colorado (last visited Oct. 25, 2022).
[14] Colo. Dep't Pub. Health Env't, Reg'l Air Quality Council, State Implementation Plans for the 2008 & 2015 8-Hour Ozone National Ambient Air Quality Standards at 3-3, 3-17 & tbls.8, 18 (Sept. 2022) [hereinafter "Draft SIP"].
[15] Gabriele Pfister et al., Nat'l Center for Atmospheric Rsch., Process-Based and Regional Source Impact Analysis for FRAPPÉ and DISCOVER-AQ 2014 at 1-2 (2017), https://www.colorado.gov/airquality/tech_doc_repository.aspx?action=open&file=FRAPPE-NCAR_Final_Report_July2017.pdf [JHG_PHS_EX-009].
[16] *Id.* at 1-2; *see also* Mike Silverstein, Reg'l Air Quality Council, Ozone Plan Development Review at Slide 14 (Oct. 21, 2021) [hereinafter "RAQC 2021 Ozone Presentation"], https://drive.google.com/drive/u/0/folders/1wwSV5OpVOU9FunspVlfm5dEMBWV8Uc9n (explaining that light duty vehicles and oil and gas area sources are the top contributors to summertime ozone production in the Front Range) [JHG_PHS_EX-010].
[17] Colo. Air Pollution Control Div., Technical Support Document: Oil & Gas and Point Sources Emissions Inventory Development at 14 tbl.A-2 (July 8, 2022) [hereinafter "TSD_005"].
[18] *Id.*

decrease in 2023 and 2026, those decreases appear to be based entirely on the Motor Vehicle Emission Budgets (MVEBs) proposed in the draft SIP, which set limits on the total emissions allowed under the SIP in future from highways and transit vehicles.[19] Without the new proposed MVEBs, on-road emissions from light-, medium-, and heavy-duty vehicles were projected to be 40.8 tpd of VOCs and 41.4 tpd of NOx in 2023.[20]

There are also numerous oil and gas sources in the nonattainment area across the production, processing, transmission, and storage segments. The Division's emission inventory for the draft SIP shows that oil and gas point and area sources alone accounted for 60 tons per day (tpd) of VOC and 36.1 tpd of NOx emissions in the Severe nonattainment area in 2020.[21] Emissions from oil and gas point sources are projected to remain largely unchanged in future years,[22] but oil and gas area source VOC and NOx emissions are projected to sharply increase—not decrease—through 2023, and the Division does not project that area source emissions will go back down from 2023 to 2026.[23] The increase in area source emissions is likely due to projected increases in oil and gas drilling and production across the state, including in the DM/NFR area.[24] Additionally, abandoned wells can be a significant source of emissions from the oil and gas sector.[25] The Colorado Oil and Gas Conservation Commission recently identified at least 625 abandoned wells in Colorado, and, as existing wells in the state continue to age, more and more wells are likely to become abandoned in the future.[26] There is also extensive pipeline

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[19] *Compare id.* at 14, 20 & tbls.A-3, B-2, *with* Draft SIP at 11-5 to 11-6, tbls.76-77.
[20] RAQC 2021 Ozone Presentation, *supra* note 16, at Slide 13.
[21] TSD_005 at 14, tbl.A-2.
[22] The 2023 emissions inventory includes north Weld County, where the 2020 and 2026 inventories do not because of the difference in nonattainment area boundary for 2008 and 2015 standards. *Compare id.* at 20, tbl.B-2, *with id.* at 14, tbls.A-2 to A-3. After excluding north Weld County to put the current and future year comparisons on equal footing, oil and gas point source emissions are projected to remain the same in future years. *Id.* at 14, 20 & tbls.A-2 to A-3, tbl.B-2.
[23] *Id.*
[24] Colo. Energy Off., CO GHG Pollution Reduction Roadmap, E3 Technical Appendix at 15, fig.5 (Jan. 14, 2021), https://drive.google.com/file/d/1215j7zfCsgE50msF_ZJt6ZUj0iG7Th3V/view (projecting significant increases in oil and gas production through 2030) [JHG_PHS_EX-011].
[25] James P. Williams et al., Methane Emissions from Abandoned Oil and Gas Wells in Canada and the United States, 55 Env't Sci. & Tech. 563 (2020), https://www.ernstversusencana.ca/wp-content/uploads/2020-12-04-accepted-Williams-Regehr-Kang-methane-emissions-from-oil-gas-wells-in-Canada-USA.pdf [JHG_PHS_EX-012].
[26] Julie Murphy, Dir., Colo. Oil Gas Conservation Comm'n, Orphan Well Program Update & Infrastructure Investment and Jobs Act at Slide 7 (Jan. 12, 2022), https://drive.google.com/file/d/1UGVidcBuSJV-06o987RQRs_05b_dmPat/view [JHG_PHS_EX-013]; Zachary R. Mider & Rachel Adams-Heard, An Empire of Dying Wells, Bloomberg (Oct. 12, 2021), https://www.bloomberg.com/features/diversified-energy-natural-gas-wells-methane-leaks-2021/ (explaining that older, lower producing wells are often sold to small companies with limited assets that eventually abandon the wells).

infrastructure across the DM/NFR nonattainment area.[27] The Commission has acknowledged that pipeline infrastructure contributes to substantial emissions through processes like pigging.[28]

The draft SIP emission inventories show that there is substantial potential for future reductions in ozone-forming emissions from these source sectors.

C. Ozone pollution, like other environmental pollution, takes a much larger toll on disproportionately impacted communities.

Though ozone is a regional pollutant that affects the entire nonattainment area (and state at large), it particularly impacts low-income communities and communities of color. Numerous studies show that these communities have higher levels of exposure and higher levels of health risk associated with ozone pollution.[29] For example, a study found that Black individuals are "much more likely" to live in counties with the worst ozone pollution and overall air quality.[30] Similarly, the study found that a higher percent of Hispanic individuals are "more likely" to live

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[27] U.S. Energy Info. Admin., Petroleum Energy Infrastructure and Resources, https://atlas.eia.gov/apps/petroleum/explore?_gl=1*150jano*_ga*MTQzNDcxNzIyNi4xNjY3MDA0NjI1*_ga_NB85F8V3TS*MTY2NzAwNDYyNC4xLjAuMTY2NzAwNDYyNC4wLjAuMA.. (last updated Aug. 12, 2021) [JHG_PHS_EX-014]; Colo. Oil Gas Conservation Comm'n, GISOnline, https://cogccmap.state.co.us/cogcc_gis_online/ (last visited Oct. 29, 2022) [JHG_PHS_EX-015]; Colo. Oil Gas Conservation Comm'n, Flowlines-GIS Data, https://cogcc.state.co.us/maps.html#/gis_flowlines (last visited Oct. 29, 2022).

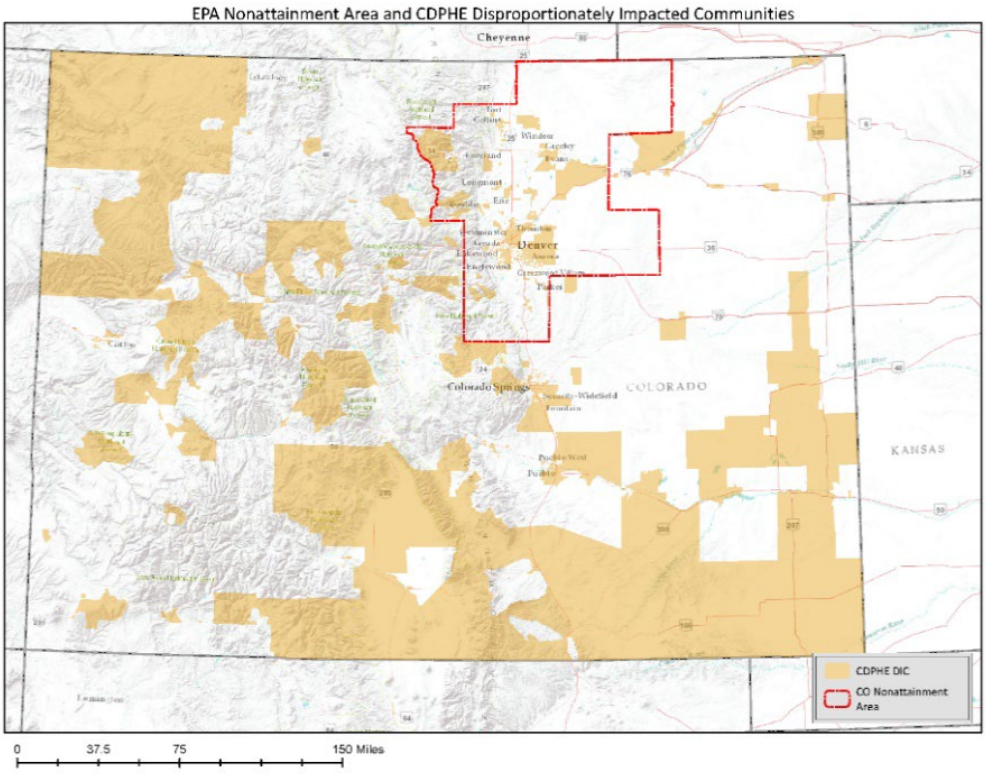
[28] 5 C.C.R. § 1001-9:F.S. (Dec. 19, 2019) (discussing need to reduce oil and gas transmission emissions, including from pipelines); *id.* § 1001-9:F.X. (Dec. 17, 2021) (discussing regulations on emissions from pipeline pigging).

[29] Asthma and Allergy Found. Am., Asthma Disparities in America (2020) [hereinafter "AAFA 2020 Asthma Disparities in America"], https://www.aafa.org/media/2743/asthma-disparities-in-america-burden-on-racial-ethnic-minorities.pdf [JHG_PHS_EX-016]; ALA 2022 State of the Air, *supra* note 10, at 26; Jiawen Liu et al., Disparities in Air Pollution Exposure in the United States by Race/Ethnicity and Income, 1990–2010, 129 Env't Health Persps. 127005-1, 127005-12 (2021), https://ehp.niehs.nih.gov/doi/10.1289/EHP8584 [JHG_PHS_EX-017]; Laura P. Clark et al., Changes in Transportation-Related Air Pollution Exposures by Race-Ethnicity and Socioeconomic Status: Outdoor Nitrogen Dioxide in the United States in 2000 and 2010, 125 Env't Health Persps. 097012-1, 097012-8 (2017), https://ehp.niehs.nih.gov/doi/10.1289/ehp959 [JHG_PHS_EX-018]; Rebecca K. Saari et al., Human Health and Economic Impacts of Ozone Reductions by Income Group, 51 Env't Sci. & Tech. 1,953 (2017), https://pubs.acs.org/doi/10.1021/acs.est.6b04708 [JHG_PHS_EX-019]; Mercedes A. Bravo et al., Racial Isolation and Exposure to Airborne Particulate Matter and Ozone in Understudied US Populations: Environmental Justice Applications of Downscaled Numerical Model Output, Vols. 92-93 Env't Int'l 247 (2016), https://www.sciencedirect.com/science/article/pii/S0160412016301386.

[30] Marie Lynn Miranda et al., Making the Environmental Justice Grade: The Relative Burden of Air Pollution Exposure in the United States, 8 Int'l J. Envtl. Res. & Pub. Health 1,755, 1,764-68 (2011), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3137995/ [JHG_PHS_EX-020].

counties with the worst air quality, including the worst ozone pollution.[31] EPA has also found that those living in low socioeconomic areas are at a higher risk of ozone health effects.[32]

These trends apply to disproportionately impacted communities[33] in the DM/NFR nonattainment area as well. There are many disproportionately impacted communities in the nonattainment area, as shown by the map below:[34]



These communities include north Denver and south Commerce City, which are low-income and majority Latinx. The Elyria-Swansea neighborhood's population is 81 percent Latino, with 20

[31] *Id.* at 1,764-65, 1,768.
[32] EPA 2020 Ozone ISA, *supra* note 8, at IS-54.
[33] Colorado defines "disproportionately impacted communities" to include census blocks where greater than 40% of households are low income, impacted by housing cost-burdens, or include people of color. C.R.S. § 24-4-109(2)(b)(II).
[34] This map overlays the nonattainment area boundary for the 2015 ozone standard on top of the Colorado Department of Public Health and Environment's data set displaying disproportionately impacted communities in Colorado as defined by C.R.S. § 24-4-109(2)(b)(II). *See* Colo. Dep't Pub. Health Env't, CDPHE Disproportionately Impacted Communities (DRAFT Version September 2021), https://www.arcgis.com/home/item.html?id=7d0cf560b11e41f0a4d323c4e6c90e0b (last visited Oct. 31, 2022).

percent of residents living below the poverty line and 27 percent non-English speaking adults.[35] Globeville is 57 percent Latino, with 34 percent of residents living below the poverty line and 17 percent non-English speaking adults.[36] And South Commerce City is 65 percent Latino, with 24 percent of the population living below the poverty line and 15 percent non-English speaking adults.[37] By comparison, the Denver Metro region as a whole is 22 percent Latino, with 11 percent of residents living below the poverty line and 4 percent non-English speaking adults.[38]

Like disproportionately impacted communities across the country, communities in north Denver and south Commerce City suffer from more pollution exposure and severe health impacts associated with ozone. EPA EJScreen data shows that north Denver and south Commerce City are in the 49th percentile compared to the rest of the state and the 84th percentile compared to the rest of the country for the ozone environmental justice index.[39] Asthma hospitalizations in these communities are also significantly higher than other areas of the state, as shown in the map below:[40]

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[35] Shift Rsch. Lab, Elyria Swansea, https://denvermetrodata.org/neighborhood/elyria-swansea (last visited Oct. 25, 2022) [JHG_PHS_EX-021].

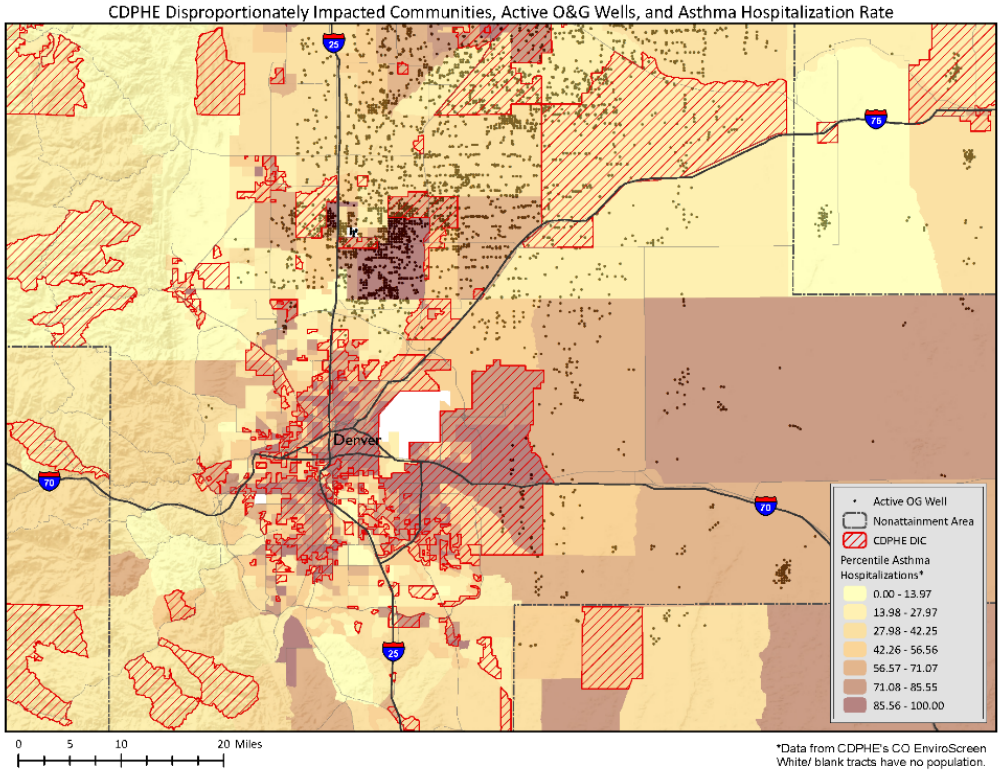
[36] Shift Rsch. Lab, Globeville, https://denvermetrodata.org/neighborhood/globeville (last visited Oct. 25, 2022) [JHG_PHS_EX-022].

[37] Shift Rsch. Lab, South Commerce City, https://denvermetrodata.org/neighborhood/south-commerce-city (last visited Oct. 25, 2022) [JHG_PHS_EX-023]; *see also* U.S. Env't Prot. Agency, EJScreen Report (Version 2.1): 5 Miles Ring Centered at 39.792051, -104.947414, COLORADO, EPA Region 8: N. Denver-S. Commerce City at 3 (Oct. 25, 2022) [hereinafter "EPA N. Denver-S. Commerce City EJScreen"] (showing that the communities in north Denver-south Commerce City are in the 77th percentile for people of color population, 61st percentile for low-income population, and 78th percentile for limited English speaking households as compared to the rest of the state) [JHG_PHS_EX-024].

[38] Shift Rsch. Lab, South Commerce City, *supra* note 37.

[39] EPA N. Denver-S. Commerce City EJScreen, *supra* note 37, at 1. Environmental justice indices are a combination of environmental and demographic information, highlighting block groups with the highest intersection of low-income populations, people of color, and a given environmental indicator. U.S. Env't Prot. Agency, EJScreen Map Descriptions, https://www.epa.gov/ejscreen/ejscreen-map-descriptions#category-environmental (last updated Oct. 12, 2022).

[40] This map displays Colorado EnviroScreen data on percentile asthma hospitalization rates with disproportionately impacted community data. *See supra* note 34; Colo. Dep't Pub. Health Env't, Colorado EnviroScreen, https://cdphe.colorado.gov/enviroscreen (last visited Oct. 31, 2022).



In addition to elevated asthma rates, these communities have among the highest rates in the state of other diseases associated with air pollution, including cardiovascular disease, respiratory problems, and lowered life expectancy.[41] Adverse health impacts only worsen when considering the cumulative impact of ozone pollution combined with other air pollution.[42]

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[41] Gretchen Armijo & Gene C. Hook, Denver Dep't of Env't Health, How Neighborhood Planning Affects Health in Globeville and Elyria Swansea at 17-19 (2014) [JHG_PHS_EX-025]; Colo. Dep't Pub. Health Env't, Colorado EnviroScreen (Aug. 2022), https://teeo-cdphe.shinyapps.io/COEnviroScreen_English/#map (displaying percentile life expectancy data) [JHG_PHS_EX-026]; Colo. Dept. Env't Pub. Health, Community Health Equity Map (2015-2019 Data), https://www.cohealthmaps.dphe.state.co.us/cdphe_community_health_equity_map/ (last visited Oct. 25, 2022) (showing that the north Denver-south Commerce City area has lower life expectancy compared to the rest of the state) [JHG_PHS_EX-027]; Colo. Env't Pub. Health Tracking, Community Health & the Environment in Commerce City-North Denver, https://coepht.colorado.gov/ccnd (last visited Oct. 25, 2022).

[42] Ava Farouche, Earthjustice, CDPHE Disproportionately Impacted Communities: Percentile PM2.5 and Percentile Ozone (Oct. 2022) [JHG_PHS_EX-028]; *see, e.g.*, Dimitri A. Kalashnikov et al., Increasing Co-occurrence of Fine Particulate Matter and Ground-level Ozone Extremes in the Western United States, Sci. Advances, Jan. 2022, https://www.science.org/doi/10.1126/sciadv.abi9386?cookieSet=1 (explaining that simultaneous

Moreover, ozone pollution from the transportation and oil and gas sectors in particular have outsized impacts on disproportionately impacted communities in the DM/NFR nonattainment area.[43] The concentration of oil and gas wells, and their associated pollution, in the nonattainment area are correlated with high levels of asthma-related hospitalizations in north Denver and south Commerce City.[44] Available data also shows that roadway traffic associated with elevated levels of air pollution is highly concentrated in north Denver and south Commerce City.[45] Reducing emissions from these sectors in the nonattainment area would, thus, have significant public health and environmental justice benefits.

D. The Denver Metro/North Front Range has a long history of elevated ozone levels.

The DM/NFR has been out of compliance with numerous federal ozone standards over the years. EPA set the first ozone standard in 1978 and determined that that the six-county area, comprised of Adams, Arapahoe, Boulder, Denver, Douglas, and Jefferson counties, was out of compliance with the standard in March of that year.[46] In 2007, EPA expanded the nonattainment area and determined that the DM/NFR was out of compliance with the updated 1997 8-hour ozone standard after all but portions of Larimer County and north Weld County exceeded the standard.[47]

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exposure to both small particulate matter and ground-level ozone pollution can cause more severe health impacts beyond the individual effect of either pollutant) [JHG_PHS_EX-029].

[43] *See* AAFA 2020 Asthma Disparities in America, *supra* note 29, at 128 ("Without intervention, . . . ozone-related health effects from the oil and natural gas industry alone in 2025 will contribute to 1,970 premature deaths, 39,000 individuals with upper and lower respiratory issues, 3,600 emergency department visits, and 1.1 million asthma attacks."); *id.* at 163 ("Air pollution from transportation emissions and fuel and gas refineries disproportionately affect communities of color and low-income populations . . . ."); Clean Air Task Force, Health Risks in Colorado from Oil and Gas Air Pollution (2017), https://www.catf.us/wp-content/uploads/2017/02/CATF_FactSheet_HealthEffects_CO.pdf [JHG_PHS_EX-030].

[44] Ava Farouche, Earthjustice, CDPHE Disproportionately Impacted Communities: Active O&G Wells, and Percentile Asthma Hospitalization Rate (Oct. 2022) [JHG_PHS_EX-031]. As shown in this map, oil and gas wells are concentrated in the areas north of Denver covering the Denver-Julesburg oil and gas basin. *Id.* Analyses conducted by local government groups in connection with the 2020 ozone SIP show that emissions from wells in this area travel south into the Denver area, impacting communities in north Denver and south Commerce City. Local Government Coalition, Prehearing Statement in the Matter Regarding Proposed Amendments to Ozone State Implementation Plan, Regulations Numbers 3 and 7 and Air Quality Standards, Designations, and Emissions Budgets at 6-8 (Oct. 30, 2020) [JHG_PHS_EX-032].

[45] Ava Farouche, Earthjustice, CDPHE Disproportionately Impacted Communities: Traffic Proximity, Ozone, Diesel PM, and PM2.5 (Oct. 2022) [JHG_PHS_EX-033].

[46] Reg'l Air Quality Council, The Colorado State Implantation Plan (SIP) Planning Process: An Overview of Clean Air Act Requirements for SIP Development and Approval at Ozone (Page 1) (May 2021) [JHG_PHS_EX-034].

[47] *Id.*

The DM/NFR also has been out of compliance with the current 8-hour ozone standards for a decade. EPA first designated the DM/NFR as a nonattainment area for the 2008 75 parts-per-billion (ppb) standard in 2012.[48] The agency also designated the DM/NFR as a nonattainment area for the 2015 70 ppb standard in 2018.[49] Since 2012, the DM/NFR has been downgraded in nonattainment status multiple times because of continued noncompliance with federal standards. After failing through multiple rounds of SIP revisions to reduce ozone levels to meet the 2008 standard, the DM/NFR was downgraded to a Serious nonattainment area in 2020, and then to a Severe nonattainment area earlier this month on October 7, 2022.[50] The DM/NFR was also downgraded to a Moderate nonattainment area for the 2015 standard earlier this month on October 7, 2022.[51] The State already anticipates that the DM/NFR will be downgraded to a Serious nonattainment area for the 2015 standard after failing once again to sufficiently reduce ozone levels with this draft SIP.[52]

Although ozone pollution has generally decreased over the last decade, the DM/NFR has seen an increase in the most recent two years.[53] In 2020, 14 of 15 air monitors in the nonattainment area exceeded the 2015 70 ppb standard and 9 of 15 monitors exceeded the less stringent 2008 75 ppb standard.[54] The fourth maximum ozone levels ranged from 67 ppb to 87 ppb that year.[55] In 2021, every air monitor exceeded both the 2008 75 ppb standard and the 2015 70 ppb standard, with fourth maximum ozone levels ranging from 77 ppb to 89 ppb.[56] And, even though 2022 is not yet over, data for the year so far shows that the DM/NFR has already exceeded both standards at multiple monitors.[57] In line with the State's history of ozone failures, data from these past three years shows that DM/NFR residents continue to suffer from elevated ozone levels.

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[48] *Id.*
[49] *Id.* at Ozone (Page 3).
[50] *Id.* at Ozone (Page 2); 2008 Severe Downgrade, Reclassification of Areas Classified as Serious for the 2008 National Ambient Air Quality Standards, 87 Fed. Reg. 60,926, 60,927-28 (Oct. 7, 2022) [hereinafter "2008 Severe Downgrade"].
[51] Reclassification of Areas Classified as Marginal for the 2015 Ozone National Ambient Air Quality Standards, 87 Fed. Reg. 60,897, 60,898-900 (Oct. 7, 2022) [hereinafter "2015 Moderate Downgrade"].
[52] Colo. Air Pollution Control Div., Memorandum of Notice at 6 (Sept. 15, 2022).
[53] Draft SIP at 5-34.
[54] Reg'l Air Quality Council, Denver Metro/North Front Range Area – 2020 8-Hour Ozone Summary (2020), https://raqc.egnyte.com/dl/xYuyVRI4aD/2020_Ozone_Season_Report.pdf_ [JHG_PHS_EX-035].
[55] *Id.*
[56] Reg'l Air Quality Council, Denver Metro/North Front Range Area – 2021 8-Hour Ozone Summary (2021) [hereinafter "2021 Ozone Summary"], https://raqc.egnyte.com/dl/zNvSI1PsBN/2021_Ozone_Summary.pdf_ [JHG_PHS_EX-036].
[57] Reg'l Air Quality Council, Denver Metro/North Front Range Area – 2022 8-Hour Ozone Summary (Oct. 2022) [hereinafter "Oct. 2022 Ozone Summary"], https://raqc.egnyte.com/dl/cvhvRG5fnc/2022_October_02_Summary.pdf_ [JHG_PHS_EX-037].

II. Climate change will impact ozone formation, and this SIP presents an opportunity to address both ozone and greenhouse gas emissions.

A. Climate change is worsening ozone pollution.

Meteorological conditions—including temperature, humidity, cloud cover, and winds—significantly impact ozone formation.[58] Hot, sunny conditions are most conducive to ozone formation; stagnant days with little wind can also result in high ozone days.[59] As a result, ozone levels in the United States are highest during extended episodes of extreme heat and sunshine.[60]

As the climate crisis results in higher temperatures and more extreme weather events, there is "robust evidence from models and observations that climate change is worsening ozone pollution."[61] Indeed, scientists have concluded that climate change "has been [increasing] and will continue to increase ozone concentrations."[62] Peak ozone seasons will also be prolonged as the climate changes, leading to more high ozone days and additional public health impacts.[63] EPA has accordingly recognized the likely "need for more stringent emissions reductions to counteract the higher ozone potential from warmer conditions."[64]

These warming trends are already occurring in Colorado. Studies show that Colorado has some of the fastest rising temperatures of any other state. The state's average temperature has increased by 2 degrees in just the past 30 years, and temperatures are expected to rise another 5

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[58] Neal Fann et al., Ch. 3: Air Quality Impacts at 69-98, *in* The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment (2016), https://health2016.globalchange.gov/high/ClimateHealth2016_03_Air_Quality.pdf [JHG_PHS_EX-038].

[59] Christopher G. Nolte et al., Ch. 13: Air Quality at 516, *in* Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Vol. II (2018), https://nca2018.globalchange.gov/downloads/NCA4_Ch13_Air-Quality_Full.pdf [JHG_PHS_EX-039].

[60] *See generally* Jordan L. Schnell & Michael J. Prather, Co-occurrence of Extremes in Surface Ozone, Particulate Matter, and Temperature Over Eastern North America, 114 Proceedings Nat'l Acad. Sci. 2,854 (2017), https://www.pnas.org/doi/full/10.1073/pnas.1614453114 [JHG_PHS_EX-040].

[61] Nolte et al., *supra* note 59, at 516; *see also* AAFA 2020 Asthma Disparities in America, *supra* note 29, at 131 ("Climate change is directly linked to increased ozone . . . .").

[62] Junfeng Zhang et al., Ozone Pollution: A Major Health Hazard Worldwide, 10 Frontiers Immunology 1, 1 (2019), https://www.frontiersin.org/articles/10.3389/fimmu.2019.02518/full [JHG_PHS_EX-041].

[63] *See id.* at 3.

[64] U.S. Env't Prot. Agency, Modeling Guidance for Demonstrating Air Quality Goals for Ozone, PM2.5, and Regional Haze at 32 (2018) [hereinafter "EPA 2018 Modeling and Weight of Evidence Guidance"], https://www.epa.gov/sites/default/files/2020-10/documents/o3-pm-rh-modeling_guidance-2018.pdf.

degrees by 2050.[65] Overall, the 2020–2022 summers were some of the hottest on average in the state's history.[66] This trend is also reflected in the Denver metro area. Historically, average summer temperatures in the Denver area have hovered in the low- to mid-80s, but over the last three summers (from 2020 to 2022), Denver has recorded some of its largest number of days above 90 degrees.[67] Experts expect this trend to continue: 90-plus degree days could become Colorado's average summertime temperature by mid-century.[68] These rising temperatures are likely to produce increased ozone levels, as ground-level ozone is at its highest levels in the summer when temperatures reach the upper 80s and mid-90s.[69] In fact, the Regional Air Quality Council (RAQC) has recognized that the 2020 Serious Ozone SIP "greatly underestimated actual observed ozone [design values]," in part due to 2020's hot summer.[70]

Thus, as the impacts of the climate crisis intensify, Colorado must work even harder to counteract ozone formation in the nonattainment area.

B. Reducing ozone pollution will also result in much needed greenhouse gas emission reductions.

Two of the nonattainment area's key sources of ozone precursors—the transportation and oil and gas sectors—both contribute heavily to greenhouse gas (GHG) emissions in Colorado. Transportation recently surpassed the electric sector as the state's leading source of GHG emissions, with 31.4 million-metric-tons of carbon dioxide equivalent per year (MMT CO2e/yr), while the oil and gas sector contributes 20.26 MMT CO2e/yr.[71] In addition, much of the oil and gas sector's GHG emissions come in the form of methane, a highly potent GHG that must be reduced with speed to avoid the worst impacts of the climate crisis.

To address GHG emissions, the Colorado General Assembly tasked this Commission with reducing GHG emissions by 26% by 2025, 50% by 2030, and 90% by 2050 (as compared to

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[65] Colo. Health Inst., Colorado's Climate and Colorado's Health: Examining the Connection at 4 (2017) [hereinafter "CHI Study"], https://www.coloradohealthinstitute.org/sites/default/files/file_attachments/Colorados%20Climate%20Colorados%20Health%20v2.pdf [JHG_PHS_EX-042].

[66] Nat'l Oceanic Atmospheric Ass'n, Nat'l Weather Serv., List of 100 Degree Days and Streaks at Denver (1872-Present), https://www.weather.gov/bou/DenverSummerHeat (last visited Oct. 27, 2022).

[67] *Id.*; *see also* CHI Study, *supra* note 65, at 4.

[68] CHI Study, *supra* note 65, at 4-5.

[69] *Id.* at 6.

[70] Ramboll U.S. Consulting, Inc., Regional Air Quality Council Ozone Modeling Forum at Slide 13 (May 18, 2022) [hereinafter "RAQC 2022 Modeling Forum"], https://raqc.egnyte.com/dl/8AGJMMksXC/2022_Modeling_Forum_-_2016_Base_Year_Modeling_Platform_Updates.pdf_ [JHG_PHS_EX-043].

[71] Colo. Air Pollution Control Div., Greenhouse Gas Reduction Goals Progress Report to Air Quality Control Commission at 21-22 (Aug. 2022) [hereinafter "GHG Reduction Progress Report"], https://drive.google.com/file/d/1PEKtECd-WFpVpZ7hYfZjihV88RV0K_1b/view (reporting most current inventory GHG Emissions by sector) [JHG_PHS_EX-044].

2005 emission levels).[72] Further, the oil and gas sector must reduce its share of emissions by at least 36% by 2025 and 60% by 2030.[73] In achieving these reductions, the Commission *must* prioritize disproportionately impacted communities: the Commission's efforts "must include strategies designed to achieve reductions in harmful air pollution affecting [disproportionately impacted] communities."[74] The General Assembly also required the Commission to "prioritize near-term reductions in greenhouse gas emissions."[75] These near-term reductions are necessary to avoid the worst impacts of the climate crisis.[76] We still have an opportunity to forestall the most severe impacts of the climate crisis, but only if we enact measures to achieve "immediate, rapid and large-scale reductions" of greenhouse gases.[77]

Unfortunately, Colorado is woefully behind on achieving its GHG reduction commitments. In August of this year, the Division reported that the transportation sector will only achieve .81 MMT CO2e of reductions by 2025—a mere fraction of its target of 10.11 MMT CO2e.[78] In addition, the oil and gas sector's reductions are partially dependent on the Commission's GHG intensity program, which does not yet have a compliance and verification structure in place. Overall, the Division estimates that Colorado's 2025 emissions will fall short of its targets by 11.39 MMT CO2e. This amounts to a 39% shortfall compared to the state's goal of 29.28 MMT CO2e.[79]

Foreseeing the possibility of a shortfall, the Commission passed a resolution in 2020 declaring that, under these circumstances, "the Commission *will* take actions to get back on track to meet the emissions targets."[80] Reducing ozone pollution, particularly from the oil and gas and transportation sectors, will have critical climate co-benefits that the Commission cannot afford to pass up. The Commission must act in accordance with its statutory mandates and its own resolution by using this rulemaking as an opportunity to reduce both ozone and GHG emissions.

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[72] C.R.S. § 25-7-102(2)(g).
[73] *Id.* § 25-7-105(1)(e)(XII).
[74] *Id.* § 25-7-105(1)(e)(II).
[75] *Id.* § 25-7-105(1)(e)(XII).
[76] *See id.* § 25-7-105(1)(e)(I), (XIII).
[77] Rebecca Hersher, A Major Report Warns Climate Change is Accelerating And Humans Must Cut Emissions Now, Colo. Pub. Radio (Aug. 9, 2021, 4:00 AM), https://www.npr.org/2021/08/09/1025898341/major-report-warns-climate-change-is-accelerating-and-humans-must-cut-emissions- (quoting Maisa Rojas Corradi, co-author of the U.N. Intergovernmental Panel on Climate Change Sixth Assessment Report)
[78] GHG Reduction Progress Report, *supra* note 71, at 21-22.
[79] *See id.* Totaling the categories listed in the table, total current GHG emissions are 132.18 MMT CO2e; 2025 reductions amount to 17.89 MMT CO2e; and the 2025 target is 102.9 MMT CO2e.
[80] Colo. Air Quality Control Comm'n, Resolution to Ensure Greenhouse Gas Reduction Goals Are Met at ¶ 5.F. (Oct. 23, 2020) (emphasis added), https://drive.google.com/file/d/1sryCKwqu9hILJTU11iE8um0Fp9fWwNpR/view [JHG_PHS_EX-045].

III. The National Ambient Air Quality Standards Program

Under the Clean Air Act, EPA is tasked with setting health-based standards for "criteria" air pollutants that endanger public health and welfare, known as the National Ambient Air Quality Standards (NAAQS).[81] For ground-level ozone, one of six criteria pollutants with NAAQS, there are two standards at issue here: (1) the 2008 standard of 75 ppb; and (2) the 2015 standard of 70 ppb.[82] An area that meets the relevant NAAQS is known as an "attainment" area,[83] and one that exceeds the NAAQS is a "nonattainment" area.[84] The Clean Air Act establishes five levels of nonattainment: Marginal, Moderate, Serious, Severe, and Extreme.[85] Colorado is in Severe nonattainment with the 2008 NAAQS and Moderate nonattainment with the 2015 NAAQS.[86] The Clean Air Act establishes a system of cooperative federalism for the NAAQS program, where EPA sets the NAAQS and states create SIPs that implement them.[87]

A. Applicable SIP requirements for the Denver Metro/North Front Range nonattainment area

In line with the Clean Air Act, the DM/NFR nonattainment SIP must include a set of general requirements, as well as some specific requirements based on the area's nonattainment status.[88] Most importantly, the SIP "shall provide for attainment" of the NAAQS by the applicable attainment dates (2024 for the 2015 standard and 2027 for the 2008 standard)[89] and must include federally enforceable measures and terms.[90] The SIP must also show that the nonattainment area is making "reasonable further progress" towards attainment.[91] For Severe and Moderate nonattainment SIPs, the Clean Air Act defines specific percentage reductions in emissions, or rates of progress, the SIP has to achieve.[92]

The SIP must include "attainment demonstrations" to satisfy the Moderate and Severe SIP requirements that verify the SIP will bring the nonattainment area into attainment with the ozone NAAQS by the required attainment dates.[93] The attainment demonstrations must be based

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[81] 42 U.S.C. § 7409(a)-(b).
[82] 40 C.F.R. §§ 50.15, 50.19; 2008 Severe Downgrade, 87 Fed. Reg. at 60,927-28; 2015 Moderate Downgrade, 87 Fed. Reg. at 60,898-900.
[83] 42 U.S.C. § 7407(d)(1)(A)(ii).
[84] *Id.* § 7407(d)(1)(A)(i).
[85] *See generally id.* § 7511a (setting out levels of nonattainment and SIP requirements for each nonattainment status).
[86] 2008 Severe Downgrade, 87 Fed. Reg. at 60,927-28; 2015 Moderate Downgrade, 87 Fed. Reg. at 60,898-900.
[87] 42 U.S.C. § 7410(a); *Oklahoma v. EPA*, 723 F.3d 1201, 1204 (10th Cir. 2013).
[88] 42 U.S.C. §§ 7410, 7502, 7511a.
[89] 2008 Severe Downgrade, 87 Fed. Reg. at 60,928; 2015 Moderate Downgrade, 87 Fed. Reg. at 60,900.
[90] 42 U.S.C. §§ 7410(a)(2)(A), 7502(c)(1).
[91] *Id.* § 7502(c)(2).
[92] *Id.* § 7511a(b)(1)(A)(i), (d).
[93] *Id.* § 7511a(b)(1)(A)(i), (c)(2), (d).

on photochemical grid modeling.[94] EPA SIP modeling guidance (EPA 2018 Modeling and Weight of Evidence Guidance) recommends that states conduct additional weight of evidence analyses to determine whether SIP modeling accurately projects future ozone levels and attainment status.[95] The weight of evidence analysis is a totality of the circumstances review in which states conduct three basic types of supplemental analyses: (1) analysis of additional modeling; (2) analysis of ozone trends; and (3) analysis of additional emission controls and reductions.[96]

To ensure attainment by the required dates, SIPs must include control measures to reduce emissions from various source categories of VOC and NOx emissions in the nonattainment area. The Clean Air Act requires that the SIP "provide for the implementation of all reasonably available control measures [RACM] *as expeditiously as practicable*."[97] EPA has long interpreted the RACM requirement to direct states to "consider all available control measures" and to implement all measures that are found to be "reasonably available for implementation."[98] To satisfy this requirement, the State must adopt *all* technically and economically feasible measures that could, alone or cumulatively, advance the attainment date.[99] The universe of potential RACM includes measures adopted in other states, measures identified in EPA guidelines or other documents, and the transportation control measures listed in section 108(f) of the Act.[100] States are also required to "closely review[]" any measure raised during a public comment period.[101]

RACM also requires that existing stationary sources implement "reasonably available control technology" (RACT) as expeditiously as possible.[102] Though the Clean Air Act does not define RACT, EPA has interpreted it as "the lowest emission limitation that a particular source is

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[94] *Id.* § 7511a(c)(2)(A).
[95] EPA 2018 Modeling and Weight of Evidence Guidance, *supra* note 64, at 69, 99, 169-77.
[96] *Id.* at 170.
[97] 42 U.S.C. § 7502(c)(1) (emphasis added).
[98] General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990, 57 Fed. Reg. 13,498, 13,560 (Apr. 16, 1992) [hereinafter "1990 Amendments General Preamble"]; Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements, 78 Fed. Reg. 34,178, 34,194 (June 6, 2013) [hereinafter "2013 SIP Requirements Proposed Rule"] (interpreting RACM to "require a demonstration that the state has adopted all reasonable measures (including RACT) to meet RFP requirements and to demonstrate attainment as expeditiously as practicable and thus that no additional measures that are reasonably available will advance the attainment date or contribute to RFP for the area.").
[99] 2013 SIP Requirements Proposed Rule, 78 Fed. Reg. at 34,194.
[100] 1990 Amendments General Preamble, 57 Fed. Reg. at 13,560; Memorandum from John S. Seitz, Off. of Air Quality Plan. & Standards Dir., Env't Prot. Agency, to the Reg'l Air Div. Dirs. at 2 (Nov. 30, 1999) [hereinafter "EPA RACM Guidance"], https://www3.epa.gov/ttn/naaqs/aqmguide/collection/cp2/19991130_seitz_racm_guide_ozone.pdf.
[101] 1990 Amendments General Preamble, 57 Fed. Reg. at 13,560.
[102] 42 U.S.C. § 7502(c)(1).

capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility."[103] States must implement RACT for (1) all sources for which EPA has issued control technique guidelines, and (2) major stationary sources of VOC emissions.[104] Stationary sources within the 2015 NAAQS Moderate nonattainment area are major if they emit or have the potential to emit 100 tons-per-year (tpy) of VOCs.[105] Sources in the 2008 NAAQS Severe nonattainment area are major if they emit or have the potential to emit 25 tpy of VOCs.[106] States have the burden to show that a proposed control measure satisfies the RACT requirement.[107] All measures on which a State relies to attain the NAAQS must be included in the SIP.[108]

Finally, the SIP must include contingency measures that automatically take effect when states fail to meet the reasonable further progress requirement or fail to attain the NAAQS by the applicable attainment dates.[109] The contingency measures must ensure that appropriate progress in reducing emissions is made even if attainment or reasonable further progress is not achieved.[110] States cannot propose as contingency measures controls that are already in place. Rather, contingency measures must be entirely new control measures that will not require any further action to be implemented, i.e., states would not have to conduct a rulemaking before the controls would take effect.[111] Recent case law has affirmed these requirements, and EPA is expected to issue additional guidance for states in the near future.[112]

B. EPA review process

As an additional step in the Clean Air Act's cooperative federalism approach to the NAAQS program, EPA must review and approve or disapprove of a SIP before it takes effect.[113] There are multiple steps in the EPA review process. First, EPA must determine whether the SIP is complete—meaning it contains all required SIP elements.[114] Should a state fail to submit a SIP by the submission deadline, or submit an incomplete SIP, EPA must issue a finding of

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[103] 1990 Amendments General Preamble, 57 Fed. Reg. at 13,541.
[104] 42 U.S.C. § 7511a(b)(2).
[105] *Id.* §§ 7511a(b)(1)(A)(ii)(I)-(II), 7602(j).
[106] *Id.* § 7511a(d). The Division estimates that a significant number of facilities will require major source permits under this new threshold. The Division must continue to acquire necessary resources in terms of staff and funding to ensure that all new major source permits are timely issued.
[107] *Nat'l Steel Corp., Great Lakes Steel Div. v. Gorsuch*, 700 F.2d 314, 324 (6th Cir. 1983); *see also EPA v. EME Homer City Generation, L.P.*, 572 U.S. 489, 498 (2014) ("The Act . . . shifts the burden to States to propose plans adequate for compliance with the NAAQS.").
[108] *Comm. for a Better Arvin v. EPA*, 786 F.3d 1169, 1176 (9th Cir. 2015).
[109] 42 U.S.C. § 7502(c)(9).
[110] *Id.*
[111] *Id.*; *Sierra Club v. EPA*, 21 F.4th 815, 827-29 (D.C. Cir. 2021).
[112] Draft SIP at 10-1.
[113] 42 U.S.C. § 7410(k)(1)-(4).
[114] *Id*. § 7410(k)(1)(B).

incompleteness within six months of the submission deadline.[115] Should the state still fail to submit a SIP or fail to complete the missing portions of the SIP, EPA then must issue a federal implementation plan (FIP) within two years of issuing a finding of incompleteness.[116] Additionally, states could be subject to sanctions if they fail to submit a SIP or complete the missing portions of a SIP within 18 months of receiving a finding of incompleteness.[117]

Second, once EPA determines that a SIP is complete, it must conduct an enforceability review. Within 12 months of determining a SIP is complete, EPA must take action to: (1) approve or disapprove the SIP in full or in part, (2) approve or disapprove the SIP on a limited basis, or (3) conditionally approve the SIP.[118] Should EPA disapprove the SIP in any way, it then has two years to issue a FIP.[119] And, as with a finding of incompleteness, states may become subject to sanctions if they fail to submit a corrected SIP that addresses identified deficiencies within 18 months of EPA's final decision disapproving a SIP.[120] EPA cannot approve a SIP that does not satisfy all required elements.[121]

ARGUMENT

I. The Commission should adopt SBAP language directing the Division to amend the SIP to include an equity analysis.

The Commission has a duty to incorporate environmental justice and equity principles into its rulemakings, including for this draft SIP, in accordance with HB 19-1261 and HB 21-1266. HB 21-1266 provides a clear definition for what constitutes a disproportionately impacted community and sets best practices for increasing meaningful participation in decision-making processes.[122] The statute also created the Environmental Justice Action Task Force (EJATF), tasked with issuing recommendations to the legislature and state agencies on various topics.[123] The General Assembly also recognized that climate change has a disproportionate impact on certain local communities in Colorado with the passage of HB 19-1261.[124] As part of its duty to reduce greenhouse gas pollution in the state, HB 19-1261 requires the Commission to identify disproportionately impacted communities and develop strategies to reduce harmful air pollution

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[115] *Id.*
[116] *Id.* § 7410(c)(1)(A).
[117] *Id.* § 7509(a)(1).
[118] *Id.* § 7410(k)(2)-(4); U.S. Env't Prot. Agency, Ch. 6: EPA Decision Options, *in* SIP Processing Manual, https://cfpub.epa.gov/oarwebadmin/sipman/sipman/mContent.cfm?chap=6&filePos=1 (last visited Oct. 29, 2022).
[119] 42 U.S.C. § 7410(c)(1)(B).
[120] *Id.* § 7509(a)(2).
[121] *See Sierra Club v. EPA*, 294 F.3d 155, 163-64 (D.C. Cir. 2002) (holding that EPA "lacked authority to approve" of a SIP that failed to satisfy all SIP requirements).
[122] C.R.S. § 24-4-109(2)(b)(II), (3)(b).
[123] *Id.* § 25-1-133.
[124] *Id.* § 25-7-102(2)(b).

that affects those communities.[125] It also requires the Commission to incorporate consideration of equity and environmental justice into its rulemakings.[126]

Beyond the Commission's statutory duties, the EJATF has issued draft recommendations highlighting the need for state agencies to closely analyze, and act to mitigate, the disparate impacts of pollution on disproportionately impacted communities.[127] The EJATF's draft recommendations suggest that agencies conduct environmental equity and cumulative impact analyses that consider cross-media (air, water, soil, etc.) effects to inform actions impacting disproportionately impacted communities.[128] These analyses are meant to "ensure that state agency decisions . . . do not perpetuate a history of environmental racism"[129] and instead "ensure that their decisions minimize harm and prioritize improvements in [disproportionately impacted] communities."[130] To that end, the EJATF recommends that analyses not only address cumulative impacts and health impacts, but also identify solutions to redress inequities in agency actions.[131] The EJATF highlights both the Division and the Commission as priority agencies for conducting cumulative impact analyses for their regulatory actions.[132] The EJATF will finalize its recommendations in early November.[133]

Moreover, EPA has taken steps to prioritize equity and environmental justice in regulatory actions. EPA is in the process of implementing an Equity Action Plan for making equity, environmental justice, and civil rights a centerpiece of the agency's regulatory actions, including its actions on SIPs.[134] As part of the Action Plan, EPA has prioritized development of a comprehensive framework for analyzing cumulative impacts in agency decisions.[135] "Such a framework needs to incorporate the vulnerabilities and susceptibilities related to the accumulation of multiple environmental and social stressors . . . that lead to adverse health and quality of life outcomes."[136] EPA has also prioritized development of capacity to engage

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[125] *Id.* § 25-7-105(1)(e)(II)-(III).
[126] *Id.* § 25-7-105(1)(e)(IV).
[127] Env't Justice Action Task Force, Recommendations Draft 4 (Oct. 21, 2022), https://drive.google.com/drive/folders/1xN8Pg7cpetRNST09IcS_GATv2SjXmsky [JHG_PHS_EX-046].
[128] *Id.* at 5.
[129] *Id.* at 6.
[130] *Id.* at 14.
[131] *Id.* at 9.
[132] *Id.* at 12-14.
[133] *Id.* at 1. Various groups and individuals have submitted comments on the draft recommendations urging the EJATF to strengthen those recommendations, including as they relate to cumulative impact analyses. *See* Lucy Molina et al., Public Comments on the Environmental Justice Action Task Force's Draft Recommendations Published June 24, 2022 (July 25, 2022), https://drive.google.com/file/d/1xIlcKmspTOfR7Q9ggJNeYjRFnY02YSio/view.
[134] U.S. Env't Prot. Agency, E.O. 13985 Equity Action Plan (Apr. 2022), https://www.epa.gov/system/files/documents/2022-04/epa_equityactionplan_april2022_508.pdf.
[135] *Id.* at 3.
[136] *Id.* at 4.

underserved communities and implement clear and accountable processes to act based on community input.[137] EPA acknowledges that feedback and analysis without responsive action is not sufficient.[138] Additionally, EPA has issued guidance encouraging states to address equity and justice principles in their regional haze SIPs.[139] EPA's guidance explains that states should consider environmental justice and equity in their technical analyses supporting regional haze SIPs, both when determining which sources to select for analysis and when determining what control measures to require for a source.[140] With its recent plans and guidance, EPA recognizes that air pollution regulation, including through SIPs, has equity and justice impacts on local communities.

The Division and the Commission have both committed to addressing environmental justice in their regulatory action and have made great strides in engaging with local impacted communities. Yet, the Division's draft SIP still ignores the equity and environmental justice issues raised by this rulemaking. As explained above, ozone pollution disproportionately impacts low-income communities and communities of color. Communities in north Denver and south Commerce City, for example, have much higher rates of diseases and ailments connected to ozone pollution, like asthma attacks, respiratory problems, cardiovascular disease, and lower life expectancy, than the rest of the state.[141] Despite the severe and disparate health impacts of ozone pollution, the Division does not acknowledge or analyze the equity or environmental justice impacts that ozone pollution has on disproportionately impacted communities in the nonattainment area. Nor does the Division propose any control measures to address these disparate impacts.

The Commission should require the Division to take further steps to satisfy its environmental justice obligations for this rulemaking by conducting an equity analysis for the draft SIP. Namely, the Division should follow the EJATF draft recommendations and EPA actions and guidance to consider the cumulative impacts of emissions from each source sector covered by the SIP, as well as the benefits to be gained by reducing ozone-forming pollution from each sector. To inform its technical analysis on what controls to include in the SIP, the Division should prepare maps that detail the locations of environmental justice communities in Colorado, overlayed with the locations of emission sources, data on ozone and other environmental pollution, and data on public health impacts. There are numerous tools available that the Division can use to develop such maps, including the Colorado Department of Public Health and Environment (CDPHE) Colorado EnviroScreen,[142] CDPHE Climate Equity Data

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[137] *Id.* at 3.
[138] *Id.* at 5-6, 11.
[139] Memorandum from Peter Tsirigotis, Dir., EPA, to Reg'l Air Dirs., Regions 1-10 at 16 (July 8, 2021), https://www.epa.gov/system/files/documents/2021-07/clarifications-regarding-regional-haze-state-implementation-plans-for-the-second-implementation-period.pdf.
[140] *Id.*
[141] *See supra* Background section I.C.
[142] Colo. Dep't Pub. Health Env't, Colorado EnviroScreen, https://cdphe.colorado.gov/enviroscreen (last visited Oct. 27, 2022).

Viewer,[143] CDPHE Community Health Equity Map,[144] and EPA EJScreen mapping tool.[145] The equity and environmental justice benefits to be gained by various control measures to reduce emissions are real and should inform the Division's and the Commission's actions on the SIP.

The Division can also use its equity analysis to better inform the public about the impacts of the SIP and allow for more meaningful engagement. The Division conducted only one public outreach session targeted to disproportionately impacted communities for the draft SIP on September 8, 2022—just one week before making its formal request for a rulemaking hearing on the SIP.[146] The information provided during this outreach session was limited and vague, as the Division did not provide community members with any information on how ozone pollution may affect them, the sources of ozone pollution in the nonattainment area, or what emission reductions could be achieved by the various control measures available for different source sectors. The Division must provide additional information in a clear and easily accessible form to allow for meaningful and substantive public engagement. To that end, the Division can use the maps developed in its equity analysis to help the public and disproportionately impacted communities better understand how the SIP may impact them and allow community members to provide more detailed comments for the Commission's consideration.

Unless and until the Division amends the SIP to include an equity analysis and acts to address the disparate impact of ozone pollution in the nonattainment area, the SIP may not be approvable. EPA has proposed to disapprove of the San Joaquin Valley fine particulate matter (PM) SIP for, among other things, failing to address the environmental justice impacts of pollution in that SIP.[147] Using EJScreen data, EPA determined that the communities impacted by the San Joaquin Valley SIP—just as the communities impacted by the draft SIP here[148]—ranked above the national average for percent low-income population, population of color, and

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[143] Colo. Dep't Pub. Health Env't, Climate Equity Data Viewer, https://cdphe.maps.arcgis.com/apps/webappviewer/index.html?id=25d884fc249e4208a9c37a34a0d75235 (last visited Oct. 27, 2022).

[144] Colo. Dep't Pub. Health Env't, Community Health Equity Map (2015-2019 Data), https://www.cohealthmaps.dphe.state.co.us/cdphe_community_health_equity_map/ (last visited Oct. 27, 2022).

[145] U.S. Env't Prot. Agency, EJScreen, https://ejscreen.epa.gov/mapper/ (last visited Oct. 27, 2022).

[146] Email from Env't Justice Program, Colo. Dep't Pub. Health Env't, to Caitlin Miller, Sr. Assoc. Att'y, Earthjustice (July 27, 2022) [JHG_PHS_EX-047]; Colo. Dep't Pub. Health Env't, Environmental Justice, https://cdphe.colorado.gov/environmental-justice (last visited Oct. 27, 2022) (calendar and "Air Quality events" drop down listing the September 8 meeting). Notably, the Division's webpage on the draft SIP does not note the September 8 meeting. Colo. Dep't Pub. Health Env't, Severe Ozone Planning, https://cdphe.colorado.gov/severe-ozone-planning#collapse-accordion-98066-1 (last visited Oct. 27, 2022) (click on the "Public Meetings" drop down).

[147] 2012 Fine Particulate Matter Serious Nonattainment Area Requirements San Joaquin Valley, California, 87 Fed. Reg. 60,494, 60,527-28 (Oct. 5, 2022) [hereinafter "San Joaquin Valley SIP Proposed Disapproval"].

[148] *See supra* Background section I.C.

air pollution environmental justice index.[149] EPA also noted that California state law—like Colorado state law—establishes further requirements for community-focused action to reduce air pollution in the state.[150] EPA explained that, if it finalizes the proposed disapproval, that action would "ensure that the identified [SIP] deficiencies are resolved in an expeditious manner, consistent with the principles of environmental justice."[151]

The Commission and the Division can, and must, do more to incorporate equity and environmental justice principles into the final ozone SIP. The Commission should, thus, direct the Division to conduct an equity analysis and pursue further outreach to disproportionately impacted communities in the nonattainment area as it assesses additional control measures within the next year, as discussed in more detail below.[152] To that end, the Justice and Health Groups urge the Commission to adopt the following Statement of Basis and Purpose (SBAP) language:

> In line with its duties to address environmental justice in regulatory actions, the Commission directs the Division to conduct an equity analysis assessing the disparate impact of ozone pollution on communities in the nonattainment area for the 2008 and 2015 NAAQS and to conduct additional outreach to local impacted communities. The Division should complete the analysis as it assesses additional control measures for a rulemaking before the Commission in 2023.

II. The Commission should reject the attainment demonstrations for the 2008 and 2015 standards.

Both the Division and the RAQC, which leads on modeling efforts for the SIP, have acknowledged that the SIP is inadequate in a number of ways. First, the Division admits that the SIP will not bring the DM/NFR into attainment with the 2015 standard by the 2024 attainment date. Yet, the Division still requests that the Commission approve an admittedly deficient SIP that EPA must disapprove. The Division's request blatantly violates the Clean Air Act. Second, the modeling and weight of evidence analyses that support the attainment demonstrations for both the 2008 and 2015 standards do not account for the impact of climate change on future ozone trends, calling into question the validity of the attainment demonstrations for both standards. Given the significant shortcomings of the draft SIP, the Commission should reject the 2008 standard and 2015 standard attainment demonstrations.

A. The Division's draft SIP is insufficient and fails to attain the 2015 NAAQS, in violation of the Clean Air Act.

The Clean Air Act requires, at a minimum, that the draft SIP bring the nonattainment area into compliance with the ozone NAAQS.[153] For a Moderate nonattainment area, the SIP must demonstrate that the plan includes all necessary measures and terms to achieve that requirement.[154] Because the DM/NFR is a moderate nonattainment area for the 2015 ozone

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[149] San Joaquin Valley SIP Proposed Disapproval, 87 Fed. Reg. at 60,527-28.
[150] *Id.* at 60,528
[151] *Id.*
[152] *See infra* Argument section III.
[153] 42 U.S.C. §§ 7410(a)(2)(A), 7502(c)(1).
[154] *Id.* § 7511a(b)(1)(A)(i), (c)(2)(A), (d).

NAAQS, the Division's proposed SIP must include sufficient control measures to achieve the 2015 standard by the required 2024 attainment date.

Yet, the Division admits that the draft SIP fails to satisfy these basic requirements. The attainment demonstration for the 2015 NAAQS shows that the DM/NFR will not attain the 2015 standard by 2024.[155] As the SIP explains, the NREL monitor is projected to have a design value of 73.4 ppb in 2023.[156] Three other monitors—the Chatfield, Rocky Flats-North (RFNO), and Fort Collins-West monitors—are also projected to have design values that are very close to the 2015 70 ppb standard in 2023, at 70.6 ppb, 70.3 ppb, and 70.4 ppb respectively.[157] Indeed, the attainment demonstration for the 2008 NAAQS shows that the draft SIP will not even bring the DM/NFR into compliance with the 2015 NAAQS by 2026, with the NREL monitor still projected to have a design value of 72 ppb that year.[158]

The draft SIP thus fails to include measures sufficient to bring the DM/NFR into attainment with the 2015 standard by the 2024 attainment date, in violation of the Clean Air Act. Despite the draft SIP's shortcomings in meeting the 2015 standard, the Division does not propose to include additional control measures in the SIP beyond those automatically required by the Clean Air Act as a result of the DM/NFR's downgrades in nonattainment status.[159] As result, EPA will be required to disapprove of the 2015 attainment demonstration, making Colorado subject to a possible FIP and sanctions.[160]

B. The Division's modeling and weight of evidence analyses fail to account for the impact of climate change on future ozone trends.

Meteorological conditions have a significant influence on ozone formation, with hot, sunny conditions being most conducive to ozone formation. As climate change continues to affect Colorado's meteorology, the state will get hotter and have more extended periods of sunshine. As explained above, the changing climate will likely contribute to worsening ozone conditions, requiring the Commission to do more to mitigate ozone pollution and meet the NAAQS in future years.

EPA's 2018 Modeling and Weight of Evidence Guidance for SIPs acknowledges the impact of meteorological conditions on ozone modeling and the ability of states to meet the NAAQS as climate change worsens.[161] As EPA explains, "[b]ecause of the strong sensitivity of the eventual air quality results to the input meteorology . . . , it is recommended that air agencies spend extensive effort in developing and evaluating the meteorological inputs."[162] EPA directs states to select a recent year for the modeling base case to accurately reflect and project meteorological conditions in ozone modeling.[163] EPA encourages states to discuss their base

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[155] Draft SIP at 5-24 to 5-25 & tbl.56.
[156] *Id.* at 5-25, tbl.56.
[157] *Id.*
[158] *Id.* at 5-23, tbl.55.
[159] *See infra* Argument section III.
[160] 42 U.S.C. §§ 7410(c)(1)(B), 7509(a)(2); *Sierra Club*, 294 F.3d at 163-64.
[161] *See generally* EPA 2018 Modeling and Weight of Evidence Guidance, *supra* note 64.
[162] *Id.* at 27.
[163] *Id.* at 18.

year selections with the appropriate EPA regional office—here, Region 8—as part of the SIP planning process for attainment demonstrations.[164]

EPA's modeling guidance further acknowledges the role climate change will play in future ozone trends. EPA notes that recent research indicates that "climate change could lead to higher future ozone concentrations."[165] As a result, EPA explains that states may need "more stringent emissions reductions to counteract the higher ozone potential from warmer conditions" caused by climate change in order to meet and maintain the NAAQS.[166] Similarly, in its weight of evidence discussion on ozone trends, EPA again notes that states may need to make more stringent reductions to account for future ozone trends, stating that "[a]n area may appear to be on track to attain the NAAQS (or close to attaining) but, in reality, may need substantial additional emissions reductions in order to attain under average or above average meteorological conditions."[167] Although EPA does not recommend that states make changes to their models based on long-term climate trends as a general matter, it explains that states can "consider potential climate impacts in their specific areas, especially where and when there is evidence of significant potential impacts."[168]

There is ample evidence that climate change already has impacted, and will continue to impact, Colorado's meteorology and ozone trends in significant ways. As noted above, Colorado has had some of the fastest rising temperatures of any state over the last 30 years, with temperatures projected to increase another five degrees by 2050.[169] This trend has also been observed in the Denver metro area more specifically.[170] However, the RAQC's modeling and the Division's attainment demonstrations for the 2008 and 2015 standards fail to account for the impact of climate change on future ozone trends in the nonattainment area in at least two ways.

First, the RAQC has admitted that the 2016 base year used for the attainment demonstration modeling for both standards is outdated and does not capture Colorado's changing meteorological conditions due to climate change. Projected future year modeling in the draft SIP assumes that meteorological conditions will be the same in 2023 and 2026 as they were in the 2016 base year.[171] This assumption, however, is false. The 2016 base case does not capture the effects of climate change on Colorado's meteorology—as the RAQC explicitly acknowledged during its May 18, 2022, Modeling Forum.[172] As a result, the RAQC stated that "this is probably

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[164] *Id.* at 35.
[165] *Id.* at 32.
[166] *Id.*
[167] *Id.* at 174.
[168] *Id.* at 32.
[169] *See supra* Background section II.A.
[170] *See id.*
[171] Draft SIP at 5-2 to 5-7; *see also* RAQC 2022 Modeling Forum, *supra* note 70, at Slides 4-5, 15-17, 41-42.
[172] Reg'l Air Quality Council, 2022 Modeling Forum Recording at 40:12 to 40:29, 41:10 to 41:16 (May 18, 2022), https://raqc.egnyte.com/dl/Bka7EuaChB/2022_Modeling_Forum_Recording.mp4_.

the last time we use [the 2016 base year] for SIP planning"[173] and that the RAQC "need[s] to move to a more recent episode to see if the model can simulate the[] more severe [meteorological] conditions" the state now experiences.[174] The RAQC noted that temperatures have been hotter in Colorado since 2016, causing some of its past modeling to be incorrect.[175] The RAQC's use of this outdated base year for its modeling therefore contravenes EPA's guidance that states use a recent base year to provide for more model accuracy.[176]

Second, the Division's weight of evidence analyses for the attainment demonstrations also ignore the impact climate change is likely to have on future ozone trends. Although the Division's weight of evidence analyses include a discussion of ozone trends,[177] a review of the SIP does not reveal a single reference to "climate change." Instead, the Division includes only general statements in the attainment demonstrations that "if [future] meteorological conditions . . . are more adverse than 2016 or wildfire emissions greatly influence ozone concentrations" the DM/NFR may not attain the 2008 standard by 2027 and may be even further out of attainment with the 2015 standard in 2024 than projected.[178] The Division also broadly states that 2021 ozone concentrations were "very high" because meteorological conditions in that year were "conducive to ozone formation (e.g., some of the hottest temperatures . . . in many years) and [there was] lots of influence of emissions from many wildfire."[179] But these conclusory statements cannot substitute for actual analysis given the readily available information concerning climate impacts on Colorado.[180]

Underscoring the Division's failure to account for the impact of climate change on ozone formation in the SIP is the fact that the Division turns a blind eye to documented ozone level increases over the past two years. The Division tries to claim in its ozone trend analysis that ozone levels have generally decreased, entirely ignoring the fact that ozone levels sharply increased in 2020 and 2021.[181] In an attempt to write off these recent increases, the Division baldly claims that "two years of increased ozone do not make a trend."[182] However, the Division ignores that the upticks in ozone formation in 2020 and 2021 are likely the result of climate-change fueled trends that will only worsen in future years as temperatures in Colorado continue to rise.[183] The Division tries to blame wildfire emissions for the state's worsening ozone problem, but the Division again ignores that the particularly bad wildfire seasons those two years

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[173] *Id.* at 40:12 to 40:29.
[174] *Id.* at 53:01 to 53:18; *see also id.* at 40:49 to 41:01, 1:57:50 to 1:57:57, 1:58:33 to 1:58:39.
[175] RAQC 2022 Modeling Forum, *supra* note 70, at Slides 7-8, 13 (demonstrating that differences between 2016 base year meteorology and 2020 actual meteorology caused 2020 ozone projections to be incorrect).
[176] EPA 2018 SIP Modeling Guidance, *supra* note 64, at 18, 32.
[177] Draft SIP at 5-28 to 5-29, 5-34 to 5-35.
[178] *Id.* at 5-23, 5-25
[179] *Id.* at 5-26.
[180] *See supra* Background section II.A.
[181] Draft SIP at 5-34.
[182] *Id.*
[183] *See supra* Background section II.A.

were also fueled by climate change.[184] And, in any event, data shows that the DM/NFR still would not have met either the 2008 or 2015 NAAQS even without the forest fire events in 2020 and 2021. During its May 18 Modeling Forum, the RAQC provided data showing that the DM/NFR had already exceeded both standards in 2020 before the wildfire season began that year.[185] Additionally, ozone data from 2021 shows that the NREL monitor recorded a fourth maximum ozone reading well above both standards—at 89 ppb—prior to the start of the fire season that year.[186]

The Division's failure to analyze and account for the impact of climate change on future ozone formation calls into question the modeling and attainment demonstrations for both the 2008 standard and the 2015 standard. In fact, a comparison of ozone data from 2021 and 2022[187] against the 2023 ozone projections in the draft SIP shows that the modeling for the 2015 standard is incorrect. Compliance with the 2015 standard by the 2024 attainment date will be based on 2021 to 2023 ozone data.[188] At the RFNO monitor, for example, the draft SIP projects that ozone levels at that monitor will not exceed the 2015 standard, with a projected 2023 design value of 70.3 ppb.[189] However, data shows that the fourth maximum ozone levels at that monitor in 2021 and 2022 were 87 ppb and 79 ppb, respectively.[190] Thus, to meet the Division's projected 70.3 ppb design value, the fourth maximum ozone reading for the RFNO monitor cannot exceed 44.9 ppb in 2023. This is highly unlikely to impossible, as there would have to be a 34.1 ppb drop in ozone levels at this monitor from 2022 to 2023. Similarly, a review of available data for the NREL monitor shows that ozone levels will be even further out compliance with the 2015 standard than the Division's modeling projects. The draft SIP projects a 2023

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[184] Philip E. Higuera et al., Rocky Mountain Subalpine Forests Now Burning More Than Any Time in Recent Millennia, 118 Proceedings Nat'l Acad. Sci. 1 (2021), https://www.pnas.org/doi/abs/10.1073/pnas.2103135118 (finding that climate change caused more forest fires in Rocky Mountain subalpine forests, including in Colorado, in 2020 than any other time in history) [JHG_PHS_EX-048]; A. Park Williams et al., Growing Impact of Wildfire on Western US Water Supply, 119 Proceedings Nat'l Acad. Sci. 1, 1 (2021), https://www.pnas.org/doi/epdf/10.1073/pnas.2114069119 (noting that 2020 forest fires were larger than any other year on record and projecting climate change will cause forest fire area to exceed that of 2020 from 2021 to 2050) [JHG_PHS_EX-049]; *see also* Jason Samenow, How Extreme Climate Conditions Fueled Unprecedented Colorado Fire, Wash. Post (Dec. 31, 2021, 2:55 PM), https://www.washingtonpost.com/weather/2021/12/31/colorado-fires-climate-weather-drought/.

[185] RAQC 2022 Modeling Forum, *supra* note 70, at Slides 9-10.

[186] Colo. Dep't Pub. Health Env't, DRAFT DATA: 2021 8-Hour Ozone (Updated through September 30, 2021) [JHG_PHS_EX-050].

[187] Although 2022 is not yet over, the ozone season ended in August. Thus, already available data for 2022 likely captures the fourth maximum reading for all monitors for this year.

[188] Draft SIP at 5-25. To determine the design value for attainment in 2023, the Division will apply the following equation: (2021 4th maximum + 2022 4th maximum + 2023 4th maximum) / 3 = 2023 design value.

[189] *Id.* at 5-25, tbl.56.

[190] 2021 Ozone Summary, *supra* note 56; Oct. 2022 Ozone Summary, *supra* note 57.

design value of 73.4 ppb at that monitor.[191] Yet, available data shows that the fourth maximum ozone levels at that monitor were 89 ppb and 77 ppb in 2021 and 2022 respectively.[192] Thus, to meet the Division's projected 73.4 ppb design value, the fourth maximum reading at that monitor cannot exceed 54.2 ppb in 2023, requiring a 22.8 ppb drop in the ozone level from 2022.

The Division acknowledges that the draft SIP will not achieve attainment for the 2015 standard by 2024 and concludes that the weight of evidence analysis supports that determination. However, it does not acknowledge anywhere in the draft SIP that already available data for 2021 and 2022 shows that the DM/NFR will exceed the 2015 standard at multiple monitors and exceed the standard at the NREL monitor by much more than the modeling projects. Although data is not available to assess the 2026 modeling projections, the available data on the 2023 projections indicates that the Division's modeling is unreliable.

Given the likely effect of climate change on future ozone trends and the proven unreliability of the modeling in the draft SIP for the 2015 standard, it is questionable whether the DM/NFR will attain the 2008 standard by 2027, as the Division projects in the SIP. The DM/NFR also will be further out of compliance with the 2015 standard in 2023 and likely in 2026 than the Division projects in the draft SIP. Consequently, the Commission should reject the 2008 attainment demonstration, in addition to the 2015 attainment demonstration, and direct the Division to prepare new attainment demonstrations that adequately account for the impact of climate change on future ozone formation as the Division also assesses additional control measures.

III. Additional control measures, specifically those for the transportation and oil and gas sectors, are required to meet the NAAQS.

Given the likelihood that the DM/NFR area will not attain either the 2008 or the 2015 standard by the next attainment dates, the Division should have included additional control measures in the draft SIP to address the shortfall.[193] Timing is no excuse: the RAQC and the Division have had several years to prepare this SIP. Indeed, in December of 2020, Governor Polis directed state agencies and stakeholders to "plan for the downgrade of the [nonattainment area] to a Severe status following the attainment deadline . . . . [W]e expect such a downgrade to occur in early 2022."[194] In light of that mandate, the RAQC began planning for this proposed SIP over a year ago.[195] Yet the draft SIP lacks any new control measures beyond those mandated by the Clean Air Act or previously adopted by the Commission. While the RAQC's

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[191] Draft SIP at 5-25, tbl.56.
[192] 2021 Ozone Summary, *supra* note 56; Oct. 2022 Ozone Summary, *supra* note 57.
[193] 42 U.S.C. § 7502(c)(1) ("The plan provisions . . . shall provide for attainment of the [NAAQS].").
[194] Colo. Governor Jared Polis, Statement Regarding Ozone Nonattainment Status in the Denver Metropolitan/North Front Range Area at 1 (Dec. 15, 2020) [JHG_PHS_EX-051].
[195] *See* Mike Silverstein, Exec. Dir., Reg'l Air Quality Council, Overview of the State Implementation Planning Process at Slide 20 (Aug. 18, 2022), https://drive.google.com/file/d/1A3vIjN9RAyX64vBMoFwqryGH8sdXKPc5/view?usp=sharing (showing that analysis and strategy development began no later than August 2021) [JHG_PHS_EX-052].

subcommittees have spent months and even years discussing possible control strategies, none of those are included in the draft SIP—despite more than two years' notice of an anticipated downgrade.

This delay is inexcusable. As explained below, the Division should have included readily available control measures to ensure attainment of the NAAQS. Because it did not, the Commission must lay out a decisive plan—including a definite schedule—for the adoption of additional control strategies. In particular, the Commission should focus on the transportation and oil and gas sectors, which are two large sources of both ozone precursors and GHGs, and which also impact disproportionately impacted communities. For the transportation sector, the Justice and Health Groups urge the Commission to focus on Indirect Source Review (ISR) rules and regulations that will speed the electrification of cars and trucks in Colorado. For the oil and gas sector, the Commission should pursue emission reduction strategies for reciprocating internal combustion engines (RICE) and regulations on pre-production sources. We include proposed SBAP language below for the Commission's consideration, which would set forth a clear plan of action and timeline for these regulatory proposals.

A. The Division is required by the Clean Air Act to examine all technically and economically feasible measures available.

Under the Clean Air Act, this SIP must provide for the implementation of all RACM, including RACT for existing stationary sources, as expeditiously as practicable to achieve attainment of the NAAQS.[196] States must explain "why the selected [RACM] implementation schedule is the earliest schedule based on the specific circumstances of that area."[197] The ozone attainment deadline functions only as a "failsafe."[198] To act "as expeditiously as practicable," Colorado cannot "procrastinate until the deadline . . . . Rather, the primary standards ha[ve] to be met in less [time] if possible."[199] And even if full implementation of a new measure is impossible by the attainment date, states "should evaluate whether [the measures] could be implemented in part."[200] Thus, although a measure may not be reasonably available based on technological or economic grounds, "general claims that more time is needed" cannot excuse an otherwise available measure from consideration.[201]

But the Division did not show that the various RACM options noted in the draft SIP were technologically or economically infeasible. Rather, the Division simply lists the historic and ongoing efforts of various work groups at the RAQC.[202] The Division offers no valid explanation as to why the various control measures under consideration have not been adopted.

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[196] 42 U.S.C. § 7502(c)(1); *see also* Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements, 80 Fed. Reg. 12,264, 12,282 (Mar. 6, 2015).
[197] EPA RACM Guidance, *supra* note 100, at 2.
[198] *Wisconsin v. EPA*, 938 F.3d 303, 317 (D.C. Cir. 2019) (quoting *Union Elec. Co. v. EPA*, 427 U.S. 246, 259-60 (1976)).
[199] *Id.*
[200] San Joaquin Valley SIP Proposed Disapproval, 87 Fed. Reg. at 60,511.
[201] EPA RACM Guidance, *supra* note 100, at 2.
[202] Draft SIP at 7-3 to 7-4.

For example, one RAQC committee focused on exploring Employer-Based Trip Reduction Programs (ETRP) and "the development of a regulatory proposal for future consideration."[203] But the Commission allowed the Division to withdraw the proposed ETRP rule from consideration last year, and the proposal is not included in the draft SIP.[204] The ETRP proposal's withdrawal was marked by "a steadfast refusal by state officials to explain [its unusual decisions]."[205] The only reason given in the draft SIP for not including ETRP as RACM is that "[t]here has not been support for these types of mandatory ordinances."[206] First, that explanation is false, as a number of groups advocated for adopting the ETRP rule.[207] Second, the draft SIP's explanation fails to demonstrate that the ETRP rule is not "reasonably available" as a control measure, as the Division offered no technological or economic ground for rejecting such a rule.[208]

As another example, the draft SIP rejects the inclusion of ISR rules as control measures. The only explanation given is that "this strategy is not able to be completed by the time of this SIP submittal."[209] But, as explained, the Division has had years to develop these and other control strategies. In fact, the RAQC completed an initial analysis of ISRs in October of 2019—more than three years ago.[210] This unwarranted delay contravenes the Division's claimed commitment to attaining the NAAQS as soon as possible. EPA has made clear that RACM may not be delayed based on "general claims that more time is needed."[211] Rather, Colorado may only delay RACM implementation if the need for delay is "specifically grounded in evidence of economic or technologic infeasibility."[212] Yet the draft SIP disregards EPA's guidance by failing to make any specific claims of economic or technological infeasibility as to ISR rules, the ETRP proposal, or most of the other measures briefly considered—and hastily rejected—as RACM.

In fact, there were—and are—a suite of control measures readily available and feasible for Colorado to implement. Earlier this year, a group of local governments within the

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[203] *Id.* at 7-4.
[204] Chase Woodruff, Smokescreen: Who Killed ETRP, Colorado's Traffic-Reducing Climate Rule?, Colo. Newsline (Sept. 21, 2021, 5:00 AM), https://coloradonewsline.com/2021/09/21/smokescreen-killed-etrp-colorado-traffic-climate/.
[205] *Id.*
[206] Draft SIP at 7-22; *see also id.* at 7-38.
[207] *See* Chase Woodruff, *supra* note 204 (noting support for the proposed rule from various environmental groups).
[208] San Joaquin Valley SIP Proposed Disapproval, 87 Fed. Reg. at 60,511-12 (EPA proposing to reject SIP because "the State has not adequately identified potential control measures").
[209] Draft SIP at 7-40.
[210] Jessica Ferko, Air Quality Planner, Reg'l Air Quality Council, Indirect Source Rule (ISR) (Oct. 2019), https://raqc.egnyte.com/dl/4t8fVwhY9x/Indirect_Source_Rule_Write_Up.pdf_ [JHG_PHS_EX-053].
[211] EPA RACM Guidance, *supra* note 100, at 2.
[212] *Id.*

nonattainment area offered nine specific ideas for inclusion in the SIP.[213] These proposed control measures spanned the transportation, oil and gas, industrial, and area source sectors.[214] For example, refinery flaring should be limited,[215] and emissions from abandoned oil and gas wells and pipelines should be restricted.[216] Similarly, the RAQC has more than a dozen potential control strategies listed on its website.[217] Yet none have been included in the draft SIP. As such, we urge the Commission to mandate swift action for the Division to adopt additional control measures from two key sectors: the transportation and oil and gas sectors.

B. The Commission should commit to adopting key transportation sector control measures.

The Commission should focus on the transportation sector for three reasons. First, the transportation sector is a major source of ozone precursors.[218] Second, pollution from transportation is concentrated in low-income and minority communities. Neighborhoods within 1,500 feet of a highway suffer the greatest impacts of air pollution—and marginalized communities are more likely to live within 500 feet of a major road.[219] For example, the disproportionately impacted north Denver neighborhoods of Elyria-Swansea and Globeville, and south Commerce City in Adams County, endure heavy traffic and the resulting pollution from the intersection of highways I-70, I-25, and I-270. Much of that traffic is composed of trucks, contributing even more to harmful air pollution.[220] Third, transportation is the largest source of GHG emissions in the state, and Colorado has fallen far behind in reducing emissions from this sector.[221] The Commission should take every available action to catch up.

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[213] Letter from Comm'r Marta Loachamin, Chair, Boulder Cty. Bd. of Cty. Comm'rs et al., to Mike Foote, Chair, RAQC Board at 3-4 (July 7, 2022) [hereinafter "Local Government Letter"], https://assets.bouldercounty.gov/wp-content/uploads/2022/07/Local-government-ozone-SIP-comments-to-RAQC-board-July-7-2022.pdf [JHG_PHS_EX-054].

[214] *Id.*

[215] *See, e.g.*, Bay Area Air Quality Mgmt. Dist. Flare Minimization Plans, https://www.baaqmd.gov/plans-and-climate/emission-tracking-and-monitoring/flare-minimization-plans (last visited Oct. 28, 2022).

[216] *See supra* Background section I.B. (noting that these pieces of infrastructure can contribute large amounts of air pollution).

[217] *See* Reg'l Air Quality Council, Control Strategies Evaluation, https://raqc.org/control_strategies/ (last visited Oct. 28, 2022).

[218] *See supra* Background sections I.B.

[219] Courtnee Melton, The Sycamore Inst., How Transportation Impacts Public Health at 2 (2017), https://www.sycamoreinstitutetn.org/wp-content/uploads/2017/02/How-Transportation-Impacts-Public-Health.pdf [JHG_PHS_EX-055].

[220] *See* Ean Thomas Tafoya, Presentation to the Colorado Transp. Legislation Rev. Comm. at 4:32:56 (Oct. 13, 2021) (noting high volumes of trucks in north Denver and concerns about increases in air toxics), https://sg001-harmony.sliq.net/00327/Harmony/en/PowerBrowser/PowerBrowserV2/20211013/20/12400#info_; *see also supra* Background section I.C.

[221] *See supra* Background sections II.A-B.

Colorado has no shortage of opportunities with respect to potential control measures for the transportation sector. In particular, the Justice and Health Groups urge the Commission to take swift action on ISR rules, as well as regulations that will speed Colorado's transition to electric vehicles—especially medium- and heavy-duty vehicles, which are particularly harmful to public health in disproportionately impacted communities.

1. Indirect Source Review rules

ISR rules are an innovative approach to mitigate against expected increases in mobile source emissions associated with warehouses, railyards, airports, ports, and other stationary facilities. ISR rules take varying forms, but generally require each facility to reduce its emissions stemming from associated truck traffic and cargo handling equipment. As explained, truck traffic poses a significant health risk to disproportionately impacted communities, where warehouses and other indirect source facilities tend to be located.

The Clean Air Act authorizes states, including Colorado, to include "indirect source review program[s]" in their SIPs for NAAQS attainment.[222] For example, the South Coast Air Quality Management District in California recently adopted an ISR applicable to warehouses within that district.[223] The Warehouse ISR applies to warehouses that are 100,000 square feet or larger and requires operators to earn points each year by completing specific actions to reduce emissions. These actions include acquiring and using zero or near-zero emission trucks, zero-emission cargo handling equipment, or a zero-emission charging and fueling system, among others.[224] If warehouse operators fail to earn the required number of points, they must pay a mitigation fee.[225] These fee payments will fund a mitigation program to assist in further emissions reductions in nearby communities.[226] The rule is expected to save up to 300 lives, prevent up to 5,800 asthma attacks, and result in up to 20,000 fewer sick days in the South Coast

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[222] 42 U.S.C. § 7410(a)(5)(A)(i).

[223] S. Coast Air Quality Mgmt. Dist., Warehouses, http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/facility-based-mobile-source-measures/warehs-distr-wkng-grp (last visited Oct. 30, 2022).

[224] Press Release, S. Coast Air Quality Mgmt. Dist., South Coast AQMD Governing Board Adopts Warehouse Indirect Source Rule at 1 (May 7, 2021) [hereinafter "Warehouse ISR Announcement"], https://www.aqmd.gov/docs/default-source/news-archive/2021/board-adopts-waisr-may7-2021.pdf [JHG_PHS_EX-056].

[225] Paul Stroik & Ryan Finseth, S. Coast Air Quality Mgmt. Dist., Second Draft Socioeconomic Impact Assessment for Proposed Rule 2305 at ES-1 (April 2021) [hereinafter "Warehouse ISR EIA"], http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/pr-2305_sia_2nd-draft_4-7-21.pdf?sfvrsn=8 [JHG_PHS_EX-057].

[226] Warehouse ISR Announcement, *supra* note 224, at 2.

region.[227] In total, the health benefits will amount to up to $2.7 billion.[228] Further, businesses will save due to less expensive fueling and maintenance costs.[229]

The Commission should urgently consider a similar rule to reduce NOx emissions from the many trucks that are associated with warehouses and distribution centers, in addition to considering ISRs that would address other types of stationary facilities, including any "facility, building, structure, installation, real property, road, or highway" that might result in increased traffic.[230]

The draft SIP explains that a RAQC work group is investigating ISR rules.[231] In addition, the RAQC is working to gather data that would inform an ISR rule.[232] The Commission must ensure that this work is completed "as expeditiously as practicable," such that strong rules can be crafted without further delay. In particular, the data-gathering project should capture data from a variety of indirect sources, including warehouses and railyards, among others. The project must also use comprehensive data sets to ensure that new rules are informed by accurate information. For example, the data should include information about warehouses with cold storage, which can impose higher health risks on the surrounding community. The data should also include information about both existing sites as well as proposed or possible new sites of indirect sources.

In addition, the RAQC should gather data about transport refrigeration units (TRUs) used to service warehouses, grocery stores, distribution centers, and other facilities. TRUs are significant sources of pollutants including NOx, PM, and black carbon, degrading air quality—especially in neighborhoods adjacent to warehouses.[233] California's regulations concerning

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[227] Warehouse ISR EIA, *supra* note 225, at ES-9.
[228] *Id.*
[229] Calculating TCO for Evs: Where to Find the Greatest Long-Term Cost Savings for Medium- and Heavy-Duty Vehicles, Advanced Clean Tech News (Aug. 26, 2020), https://www.act-news.com/news/calculating-tco-for-medium-and-heavy-duty-evs/ (explaining that Class 8 electric trucks are estimated to cost 4.7 cents/mile less to maintain than diesel options, adding up to hundreds of thousands in savings over a fleet's lifetime).
[230] 42 U.S.C. § 7410(a)(5)(C).
[231] Draft SIP at 7-4.
[232] Reg'l Air Quality Council, Approval of Indirect Sources Work and Contract (Aug. 5, 2022), https://raqc.egnyte.com/dl/zs4Pderaug/ISRslides.pdf_ [JHG_PHS_EX-058].
[233] Cali. Air Res. Bd. Staff, Preliminary Health Analyses: Transport Refrigeration Unit Regulation: Public Review Draft at ES-2 to ES-3 (2019) [hereinafter "CARB Preliminary Health Analyses], https://ww2.arb.ca.gov/sites/default/files/classic//cc/cold-storage/documents/hra_healthanalyses2019.pdf [JHG_PHS_EX-059]; Cali. Air Res. Bd., Transport Refrigeration Unit Emissions Inventory and Preliminary Health Analyses Workshop at Slide 8 (Oct. 31, 2019), https://ww2.arb.ca.gov/sites/default/files/classic//cc/cold-storage/documents/tru_healthanalysisslidesworkshop10312019.pdf [JHG_PHS_EX-060].

TRUs are ripe for consideration in Colorado.[234] The California Air Resource Board estimates that 8,000 hours of TRU runtime per week causes a cancer risk of roughly 1,800 per million at cold-storage warehouses and 600 per million at grocery stores.[235] California's regulations, which require a transition to zero-emission technology for truck TRUs and include a PM standard for new non-truck TRUs, could reduce those risks by up to 98% by 2031.[236] Yet again, though, the draft SIP fails to consider regulations on TRUs. The Commission should ensure prompt consideration of TRU regulations, starting with the collection of any necessary data as part of the ISR consultant's work.

2. Advanced Clean Trucks, Low-NOx Omnibus, and Advanced Clean Cars II Rules

The Advanced Clean Trucks (ACT), Low-NOx Omnibus, and Advanced Clean Cars II (ACC II) Rules will each help Colorado rapidly transition to electric fleets, reducing ozone precursors and greenhouse gas emissions while improving public health. While EPA sets nationwide emissions standards for new motor vehicles, the Clean Air Act allows California to set stricter vehicle emissions standards due to its unique air pollution issues and its early efforts to reduce vehicle emissions before Congress enacted the Act.[237] Other states may also adopt California's motor vehicle emissions standards.[238]

The ACT rule, adopted by California in June 2020, contains two primary components: (1) a manufacturer sales requirement, and (2) a fleet reporting requirement. First, under the manufacturer sales requirement, truck manufacturers must build and sell progressively more zero emission medium- and heavy-duty vehicles over time.[239] Second, the fleet reporting requirement is a one-time reporting requirement for large entities that own, operate, or direct the movement of trucks, buses, or vans.[240]

The Low-NOx rule, adopted by California in December 2021, updates standards, testing, and compliance mechanisms for NOx and PM pollution from heavy-duty vehicles for model years 2024–2031.[241] Further, the Low-NOx rule includes updated emission limits for heavy duty vehicles starting in model year 2024 and updates them again in model years 2027 and 2031.[242]

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[234] *See generally* Cali. Air Res. Bd., Transportation Refrigeration Unit: About, https://ww2.arb.ca.gov/our-work/programs/transport-refrigeration-unit/about (last visited Oct. 28, 2022).
[235] CARB Preliminary Health Analyses, *supra* note 233, at ES-8 to ES-9.
[236] *Id.* at ES-4, ES-8 to ES-9.
[237] 42 U.S.C. § 7543(a)-(b).
[238] *Id.* § 7507.
[239] Cal. Code Regs. tit. 13, §§ 1963-1963.5.
[240] *Id.* § 2012.
[241] *Id.* § 1956.8.
[242] *Id.* § 1956.8(a)(2)(C), (D).

The Commission currently plans to consider the ACT and Low-NOx rules in a rulemaking in April 2023, after declining to consider the rules earlier this year.[243] As a result of this delay, the regulations will not apply until at least model year 2027 vehicles, postponing the health and climate benefits of the rules by a full year.[244] The Commission must avoid further delays by adopting the rules as scheduled and without weakening provisions in order to advance Colorado's ozone, climate change, and environmental justice goals. For example, the Commission should not entertain early credit systems that would undermine the rules' incentive systems and result in more pollution.

The ACC II Rule, approved by the California Air Resources Board on August 25, 2022, builds on the prior Advanced Clean Cars I (ACC I) Rule. This Commission adopted ACC I in August of 2019, which included low emission vehicles standards (LEV) and zero emission vehicle standards (ZEV).[245] ACC I required manufacturers in Colorado to sell increasing percentages of ZEV light-duty vehicles, up to 22% for model year 2025.[246] ACC II extends the ACC I schedule, ensuring 100% new zero-emission vehicle sales by 2035.[247] ACC II also includes a number of flexibilities that will help manufactures achieve compliance. In particular, manufacturers can earn environmental justice credits by offering lower cost vehicles, placing ZEVs in community car share programs, and otherwise encouraging sales among low-income community members. Overall, ACC II will result in nearly $13 billion in health benefits for Californians.[248]

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[243] Colo. Air Quality Control Comm'n, Long Term Calendar (Oct. 1, 2022), https://drive.google.com/file/d/1jjzVxkA7NA7jEh9GMq2ew-qD9kKJwfgq/view (noting that the Commission will consider the ACT and Low NOx rules in April 2023) [JHG_PHS_EX-061]; GreenLatinos et al., Petition for Declaratory Order to Expedite the Advanced Clean Trucks and Low-NOx Omnibus Rulemaking (Mar. 17, 2022) [hereinafter "Petition to Expedite Clean Truck Rules"], https://drive.google.com/file/d/1sBSJgYzu-es6S9xz6j1MQGiHG052DeZ4/view?usp=sharing [JHG_PHS_EX-062]; Colo. Air Quality Control Comm'n, Notice: In the Matter of the Petition for Declaratory Order (Apr. 28, 2022), https://drive.google.com/file/d/1n2doytmf4uHP_33RFTuHjHHrJYMLOy7Q/view?usp=sharing (declining to entertain petition to expedite the ACT/Low-NOx rulemaking) [JHG_PHS_EX-063].

[244] *See* Petition to Expedite Clean Truck Rules, *supra* note 243, at 6, 13-19.

[245] *See* Colo. Dep't Pub. Health & Env't, Zero Emission Vehicle Mandate Proposal, https://cdphe.colorado.gov/zero-emission-vehicle-mandate-proposal (last visited Oct. 28, 2022).

[246] 5 C.C.R. § 1001-24:B (low emission vehicle requirements, incorporating by reference 13 Cal. Code Regs. § 1961.2 et seq.); *id.* § 1001-24:D (zero emission vehicle requirements, incorporating by reference 13 Cal. Code Regs. § 1962.2 et seq.).

[247] *See generally* Cali. Air Res. Bd., Advanced Clean Cars II, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/advanced-clean-cars-ii (last visited Oct. 28, 2022).

[248] Cali. Air Res. Bd., Final Statement of Reasons for Rulemaking, Appendix F: Updated Costs and Benefits Analysis at 12 tbl.IV-2 (Aug. 25, 2022), https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/accii/fsorappf.pdf [JHG_PHS_EX-064].

The Commission must act quickly to adopt ACC II, as regulatory certainty is key for smooth implementation of the rule. Because the Clean Air Act requires two years of lead time between rule adoption and implementation,[249] Colorado is already likely to miss participation in the first year of ACC II (model year 2026), as adoption would be required by the end of this calendar year. The Commission should therefore commit to adopting the rule during calendar year 2023, to apply beginning with model year 2027. In addition, the Commission should adopt the full ACC II schedule through 2035 in order to maximize the air pollution benefits from the rule.

C. The Commission should commit to adopting additional controls on the oil and gas sector.

As with the transportation sector, the Commission has various opportunities to secure further emission reductions from the oil and gas sector, which warrants particular focus for three key reasons. First, the oil and gas sector is a significant source of ozone precursors.[250] Second, emissions from oil and gas production impacts disproportionately impacted communities. The health hazards of ozone pollution are particularly acute in disproportionately impacted communities due to the cumulative effects of pollution burdens.[251] In addition, hazardous air pollutants emitted by oil and gas development, such as benzene and formaldehyde, are a serious danger to public health; these health impacts are particularly severe for communities that live or work in close proximity to oil and gas operations, and especially for disproportionately impacted communities that are in close proximity to such operations.[252] It is thus imperative to reduce pollution from all sources affecting disproportionately impacted communities, including oil and gas production. And third, the sector is a large source of greenhouse gas emissions—particularly methane—so any reductions in ozone precursors from oil and gas production will result in co-benefits for Colorado's climate action.[253]

To address emissions from the oil and gas sector, the Justice and Health Groups urge the Commission to reduce emissions from reciprocating internal combustion engines (RICE) and to consider restrictions on preproduction activities during the ozone season or on high ozone days.

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[249] 42 U.S.C. § 7507(2).
[250] *See supra* Background section I.B.
[251] *See supra* Background section I.C.
[252] Lisa M. McKenzie et al., Birth Outcomes and Maternal Residential Proximity to Natural Gas Development in Rural Colorado, 122 Env't Health Persp. 412, 414 (2014), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3984231/pdf/ehp.1306722.pdf [JHG_PHS_EX-065]; Lisa M. McKenzie et al., Human Health Risk Assessment of Air Emissions From Development of Unconventional Natural Gas Resources, 424 Sci. Total Env't 79, 80 (2012), https://www.health.pa.gov/topics/Documents/Environmental%20Health/5-McKenzie%20et%20al.%202012.pdf [JHG_PHS_EX-066]; Ed Carr et al., ICF, Final Report: Human Health Risk Assessment for Oil & Gas Operations in Colorado (2019), https://www.fcgov.com/oilandgas/files/20191017-cdphe-healthimpactsstudy.pdf [JHG_PHS_EX-067].
[253] *See supra* Background section II.B.

1. Reciprocating internal combustion engines (RICE)

The Commission should revisit its strategies to reduce emissions from RICE in the oil and gas industry. In September 2020, the Commission adopted new standards to reduce emissions from a subset of these existing stationary engines operating at or above 1,000 horsepower (hp) and those placed in service, modified, or relocated after November 14, 2020.[254] The standards vary based on engine configuration and the date that the engine was placed in service, modified, or relocated.[255]

The Commission rejected additional controls and alternative limits that would have significantly reduced emissions from these engines that were proposed at the time. Instead, the Commission deferred consideration of the alternative controls and limits, "request[ing] that the Division consider evaluating strategies to increase the electrification of engines, lower emissions standards for engines, and possible controls applicable to smaller engines."[256] Yet in the two years since the RICE rulemaking, the Division has not proposed—and the Commission has not calendared—another rulemaking to address oil and gas RICE emissions.

Gas-fired RICE are a significant source of NOx emissions in Colorado, contributing to the state's ozone, regional haze, and greenhouse gas pollution problems.[257] In 2020, the Division found that stationary internal combustion engines, particularly gas-fired RICE units 100 hp and larger, "are a significant source category of NOx emissions that represents about 16% of [the] statewide point source NOx emission inventory."[258] Most of these gas-fired engines are associated with the oil and gas industry.[259] Additionally, RICE in the oil and gas sector emit more NOx than RICE used in other sectors. According to the Division's emission inventory technical support document, point source RICE units in the oil and gas industry emit 13.84 tons per day (tpd) of NOx, while non-EGU RICE units emit 4.46 tpd.[260] The Division has also recognized that electrification is a feasible and cost-effective option for reducing NOx pollution from these sources.[261]

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[254] 5 C.C.R. § 1001-9:F.T (Sept. 23, 2020).
[255] *Id.*
[256] *Id.*
[257] *See* TSD_005 at 15, tbl.A-4 (inventory of emissions from oil and gas point sources, including RICE).
[258] Colo. Dep't of Pub. Health & Env't, Reciprocating Internal Combustion Engine (RICE) Source Category at 1-2 [hereinafter, "RICE Source Category"], https://www.researchgate.net/profile/Vladimir-Kulchitsky/post/Any-cheaper-technologies-to-control-NOx-emissions-form-automobiles-instead-of-going-for-a-costly-Selective-catalytic-Reduction-methods/attachment/59d6287c79197b8077986da1/AS%3A330526276767749%401455815013892/download/AP_PO_Reciprocating-Internal-Combustion-Engine-RICE-engines_0.pdf [JHG_PHS_EX-068].
[259] *Id.* at 2.
[260] *Compare* TSD_005 at 15 & tbls.A-4 to A-5, 20 & tbl.B-4, *with id.* at 17-18 & tbls.A-12 to A-13, 23 & tbl.B-12.
[261] *See* RICE Source Category, *supra* note 258, at 5, 7, 9.

Despite the emission reductions to be gained, the Commission did not adopt rules requiring cost-effective electrification or compelling additional NOx reductions from rich burn engines between 100 hp and 1,000 hp. Although the 2020 rules the Commission did adopt were a step in the right direction, more rigorous standards are needed. Mandating electrification for rich burn and lean burn RICE (unless owners and operators demonstrate that electrification is infeasible) and setting lower NOx emissions limits for rich burn engines of 100 hp and larger will set Colorado on a path to achieving its ozone, haze, and climate targets. Strong regulation of these sources also will help ensure that Colorado does not fall further behind other states in controlling NOx pollution from these problematic sources. There is no reason that Colorado operators cannot attain the more rigorous NOx standards mandated by New Jersey, Pennsylvania, and California. While the draft SIP acknowledges the 2020 rules, it does not evaluate or consider further control measures for gas-fired RICE units.[262]

The Commission should adopt stronger rules that require operators to (a) electrify gas-fired engines and (b) comply with stricter NOx limits if an operator demonstrates that electrification is infeasible.[263]

2. Pre-production activity limits

In addition, the draft SIP fails to consider potential measures that would target pre-production emissions from the oil and gas sector. The Commission should consider these types of strategies, as well as any other proposed control measures for the oil and gas sector.

Oil and gas pre-production activity can result in large amounts of emissions, particularly during the summer months.[264] The emission inventories in the draft SIP show that these activities contribute significant amounts of ozone-forming pollution in the nonattainment area from drilling engines, hydraulic fracturing engines, drilling mud degassing, and venting during initial well completions and recompletions.[265] In 2020, oil and gas area sources, which include pre-production sources, were the largest contributor of VOC emissions and second largest contributor of NOx emissions in the nonattainment area.[266] Pre-production sources were responsible for 3.4 tpd of VOCs and 5.89 tpd of NOx that year.[267]

As oil and gas production continues to increase, area source emissions, including pre-production emissions, will also increase in future years. As noted above, oil and gas production

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[262] *See* Draft SIP at 4-12 (noting adoption of 2020 rules).
[263] *See* Nat'l Parks Conservation Ass'n, Prehearing Statement: Regarding Proposed Revisions to Regulations Number 7 at 3 (July 30, 2020) [JHG_PHS_EX-069]; Nat'l Parks Conservation Ass'n, Prehearing Statement Ex-002: Initial Economic Impact Analysis (July 30, 2020) (containing initial economic impact analysis of RICE electrification and lower NOx limits) [JHG_PHS_EX-070].
[264] *See* 5 C.C.R. § 1001-9:F.T (Sept. 23, 2020) (noting ozone precursor emissions from oil and gas pre-production activities and need for pre-production monitoring).
[265] TSD_005 at 8.
[266] *Id.* at 14, tbl.A-2.
[267] *Id.* at 16, tbl.A-9. Note that the 2020 inventory data excludes emissions from northern Weld County, which is not included in the nonattainment area for the 2008 NAAQS.

is projected to increase across the state, including within the DM/NFR, through 2030.[268] For instance, PDC Energy plans to drill 466 new wells over a 33,427-acre area of Weld County between 2023 and 2030.[269] PDC estimates that the project will result in an additional 10,085.88 tpy of NOx and 1,159.28 tpy of VOCs from pre-production and production activities over a 15-year period (2023-2037).[270] The Division thus projects increases—not decreases—in NOx and VOC emissions from oil and gas area sources in the DM/NFR from 2020 to 2026.[271] For pre-preproduction sources, the Division projects that emissions will increase to 7.15 tpd of VOCs and 16.69 tpd of NOx in 2026.[272]

The Commission should thus adopt rules to limit pre-production emissions, such as by regulating drilling engines as well as hydraulic fracturing engines. The Commission should also consider temporal restrictions to prevent non-electric rigs from drilling during the ozone season or on high ozone alert days.

D. The Commission should adopt the following SBAP language requiring the Division to analyze and propose additional controls within one year to address the SIP's deficiencies.

To implement the goals explained above, the Justice and Health Groups urge the Commission to adopt the following SBAP language:[273]

> Consistent with its mandates to expeditiously attain the ozone NAAQS, reduce greenhouse gases, and protect disproportionately impacted communities, the Commission directs the Division to propose regulatory recommendations to the Commission in 2023 regarding: Indirect Source Review rules; Advanced Clean Cars II rule; rules to reduce emissions from gas-fired reciprocating internal combustion engines (RICE) in the oil and gas sector; regulations on pre-production activity in the oil and gas sector, and any other measures that the Division determines would assist in attainment the ozone NAAQS. In the case of the Advanced Clean Cars II rule, the Commission directs the Division to time its proposal such that the Commission, if it chooses, may adopt the rules to apply to model year 2027.

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[268] *See supra* Background section I.B.

[269] PDC Energy, Comprehensive Area Plan: Amended Application at 9 (Aug. 1, 2022), http://www.pdce.com/guanella-cap/ (select Guanella CAP Application on the right-hand menu) [JHG_PHS_EX-071]

[270] *Id.*, AR-1: Cumulative Impact Evaluation at 26-27 & tbl.3-3.

[271] TSD_005 at 14, 20 & tbls.A-3, B-2.

[272] *Id.* at 16, tbl.A-9. Again, not that the 2026 projections do not include sources in north Weld County, which is not included in the nonattainment area for the 2008 NAAQS. The Division projects that pre-production sources in the 2015 NAAQS nonattainment area including north Weld County will increase to 7.32 tpd of VOCs 17.16 tpd of NOx in 2023. *Id.* at 21, tbl.B-7.

[273] We do not include the ACT and Low-NOx Omnibus rules in this SBAP language, as the Division currently plans to request a rulemaking for these rules in December 2022. However, if the Division has not requested a rulemaking by the time of this rulemaking hearing, the Commission should include the ACT and Low-NOx Omnibus rules in this SBAP language.

IV. The Commission should adopt the Division's proposal to remove SSM affirmative defense provisions, which is necessary for compliance with the Clean Air Act.

The Division has proposed removing affirmative defense provisions for SSM events from Colorado regulations and Colorado's SIP. The Justice and Health Groups strongly support full removal of these illegal and harmful provisions.

A. SSM provisions, including the affirmative defense provisions, harm surrounding communities.

The SSM affirmative defense provisions are just one form of exemption from pollution limits during startups, shutdowns, and malfunctions that riddle construction and operating permits for facilities throughout Colorado. These exemptions cause undue harm to surrounding communities, who bear the brunt of excess air pollution during SSM events. SSM events can result in bursts of massive amounts of pollution—sometimes emitting several times a source's permitted emission limit—over a period of several hours. Given the well-established public health impacts associated with short-term exposure to air pollutants such as NOx, sulfur dioxide (SO2), carbon monoxide (CO), and PM, these SSM events have the potential to seriously impact local communities regardless of attainment status. As such, EPA acknowledges that removal of SSM affirmative defense provisions "could potentially result in improved air quality for communities living near sources of air pollution as well as the broader population."[274]

As an example, the Suncor Refinery—located in the midst of disproportionately impacted communities in north Denver and south Commerce City—has attributed the majority of its air pollution exceedances to SSM conditions. From 2017 to 2020, Suncor claimed that an SSM event at its Plant 2 Fluid Catalytic Cracking Unit (FCCU) underpinned exceedances of its opacity limit (correlated with PM emissions) at least 15 times, resulting in 65 hours of opacity exceedances.[275] Meanwhile, at the Plant 1 flare, Suncor reported at least 102 exceedances of its hydrogen sulfide limit between 2017 and 2021.[276] Of these, Suncor attributed 81 events to SSM conditions. Over the same time period, Suncor reported 106 exceedances of its SO2 construction permit limit at the Plant 1 H-25; it attributed 78 to SSM conditions.[277] Likewise, Suncor attributed 38 of its 46 exceedances of its CO limit at the Plant 1 FCCU to SSM conditions over the same time period, as well as 104 of 108 exceedances for its 20% opacity (6-min block average) limit.[278] This astonishing number of excess emission events degrades the air quality in the surrounding communities, threatening public health.

Under the Division's proposal, while facilities would still be able to take advantage of a variety of SSM exemptions for specific pollutants and equipment, facilities could no longer use

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[274] Removal of Title V Emergency Affirmative Defense Provisions From State Operating Permit Programs and Federal Operating Permit Program, 81 Fed. Reg. 38,645, 38,654 (June 14, 2016).
[275] Summary of Opacity Events at FCCU for Suncor Refinery Plant 2 (East) at 1 (May 11, 2021) [JHG_PHS_EX-072].
[276] *See* Suncor Quarterly Exceedance Reports, Q1 2017–Q4 2021, https://cdphe.colorado.gov/public-information/information-about-suncor-refinery (last visited Oct. 28, 2022) (available for download by clicking on "Quarterly reports" under each year).
[277] *Id.*
[278] *Id.*

the sweeping affirmative defense loopholes that offer blanket exemptions for *any* excess emissions during *any* malfunction, startup, or shutdown.[279] The removal of all available SSM exemptions is long overdue and necessary to prevent significant and needless harm to communities. Removing the affirmative defense provisions from the Common Provisions as the Division proposes, however, is an important first step to cleaning up these SSM loopholes.

B. The Commission must approve the proposed repeal of the SSM affirmative defense provisions because these provisions violate the Clean Air Act.

The D.C. Circuit has concluded that these types of SSM affirmative defense provisions violate the Clean Air Act, determining in *NRDC v. EPA* that such provisions contravene the Act and encroach on the judiciary's role.[280] Following the court's ruling, EPA issued a SIP call ordering states—including Colorado—to remove SSM affirmative defense loopholes from state plans, explaining that SIPs "cannot contain exemptions for emissions during SSM events."[281] EPA reaffirmed its SIP call in 2021, explaining that it was "intended to ensure that all modes of source operation, including periods of SSM, have emissions limitations in place that can be appropriately enforced."[282] As a result, the Division's proposal to remove the SSM affirmative defense provisions in their entirety from Colorado regulations is required to satisfy the Clean Air Act.

Colorado had previously responded to the SIP call by revising its regulations to clarify that affirmative defenses are not available in federal court proceedings, but the revisions would have allowed the defenses to remain available in state court.[283] By allowing the loopholes to remain available in state court proceedings, those revisions would still violate the Clean Air Act. EPA cannot approve—and indeed, has not yet acted on—the previously proposed version of the regulations, because it fails to put sources fairly on notice as to possible penalties and interferes with enforceability in practice.[284] As EPA has explained, "the simple method to improve clarity for a court . . . would be to remove the affirmative defense entirely."[285]

Given EPA's recent renewed commitment to implementing its SIP call, the Commission must approve the Division's proposed repeal of the SSM affirmative defense provisions in their entirety, or risk EPA's disapproval of the previously proposed version of the Colorado

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[279] Under the affirmative defense provisions, courts are stripped of their statutory discretion to determine whether penalties are "appropriate" on a case-by-case basis. *See* 42 U.S.C. § 7604(a); *Nat. Res. Def. Council v. EPA*, 749 F.3d 1055, 1062-64 (D.C. Cir. 2014).
[280] *Nat. Res. Def. Council*, 749 F.3d at 1063-64; *see also Sierra Club v. EPA*, 551 F.3d 1019, 1027-28 (D.C. Cir. 2008).
[281] State Implementation Plans: Response to Petition for Rulemaking, 80 Fed. Reg. 33,840, 33,894 (June 12, 2015); *see also id.* at 33,852.
[282] Memorandum from Janet McCabe to Reg'l Admin'rs at 4-5 (Sept. 30, 2021), https://www.epa.gov/system/files/documents/2021-09/oar-21-000-6324.pdf.
[283] 5 C.C.R. § 1001-2:II.E.; *id.* § 1001-2:II.J.; *id.* § 1001-2:V.Q (Nov. 19, 2015).
[284] Letter from Carl Daly, Dir., Air Program, U.S. Env't Prot. Agency, to William Allison, Dir. Colo. Dep't Pub. Health & Env't (Nov. 12, 2015) [JHG_PHS_EX-073].
[285] *Id.* at 4.

regulations. The Commission cannot leave any loophole for facilities before either state *or* federal court.

CONCLUSION

The Division's draft SIP violates the basic requirements of the Clean Air Act. The Commission should direct the Division to conduct an equity analysis, as well as additional community outreach, as it assesses additional control measures within the next year. Moreover, the Commission should reject the 2008 standard and 2015 standard attainment demonstrations and require the Division to propose a rulemaking to include additional control measures—namely, an ISR rule, Clean Cars II rule, revised rules to address NOx emissions from reciprocating internal combustion engines in the oil and gas sector, and rules to limit preproduction emissions from the oil and gas sector—in the SIP within one year. The Commission should also avoid any further delay in adopting strong ACT and Low-NOx omnibus rules. Although the draft SIP is deficient in significant ways, the Division correctly proposes to remove illegal SSM affirmative defense provisions from the Common Provisions. The Commission should approve the Division's proposed repeal of these provisions in their entirety.

WITNESSES AND TESTIMONY, EXHIBITS, AND ESTIMATED TIME

Exhibits. The Justice and Health Groups have submitted a Table of Exhibits accompanying this Prehearing Statement.[286]

Witnesses and Written Testimony. The Justice and Health Groups anticipate offering the following witnesses during the rulemaking hearing:

- **Caitlin Miller.** Earthjustice counsel for the Justice and Health Groups, presenting recommended Statement of Basis and Purpose Language and facts and legal argument in support of the need for a revised and strengthened ozone SIP.
- **Alexandra Schluntz.** Earthjustice counsel for the Justice and Health Groups, presenting recommended Statement of Basis and Purpose Language and facts and legal argument in support of the need for a revised and strengthened ozone SIP.
- **Ean Tafoya.** GreenLatinos, presenting facts on the public health and environmental justice impacts of ozone pollution and related greenhouse gas pollution in support of the need for a revised and strengthened ozone SIP.
- **Renée M. Chacon.** Womxn from the Mountain, presenting facts on the public health and environmental justice impacts of ozone pollution and related greenhouse gas pollution in support of the need for a revised and strengthened ozone SIP.
- **Madhvi Chittoor.** Madhvi4EcoEthics, presenting facts on the public health and environmental justice impacts of ozone pollution and related greenhouse gas pollution in support of the need for a revised and strengthened ozone SIP.
- **Sabrina Pacha.** Healthy Air and Water Colorado, presenting facts on the public health and environmental justice impacts of ozone pollution and related greenhouse gas pollution in support of the need for a revised and strengthened ozone SIP.
- Any other witnesses that may be needed for rebuttal or impeachment purposes.

[286] JHG_PHS_EX-TOC.

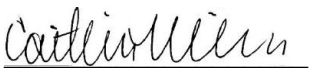
Estimate of Time Necessary for Presentation. The Justice and Health Groups estimate that the total time needed to present its direct testimony, conduct cross-examination, and provide rebuttal testimony is **45 minutes**. The Justice and Health Groups wish to reserve the right to request additional time based on information presented by other parties.

ISSUES TO BE RESOLVED BY THE COMMISSION

- Whether to adopt Statement of Basis and Purpose language directing the Division to conduct an equity analysis and additional community outreach as it assesses additional control measures to reduce ozone pollution;
- Whether to reject the 2008 standard and 2015 standard attainment demonstrations;
- Whether to adopt Statement of Basis and Purpose language directing the Division to propose a rulemaking within one year to include additional control measures in the SIP;
- Whether to adopt the Division's proposed repeal of SSM affirmative defense provisions in their entirety from the Common Provisions.

Date: October 31, 2022

Respectfully submitted,



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CERTIFICATE OF SERVICE

I hereby certify that on the 31st day of October, 2022, electronic copies of the foregoing **PREHEARING STATEMENT OF THE JUSTICE AND HEALTH GROUPS** and accompanying exhibits were filed via electronic mail and served on the following parties:

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