

**BEFORE THE AIR QUALITY CONTROL COMMISSION
OF THE STATE OF COLORADO**

**IN THE MATTER REGARDING
PROPOSED AMENDMENTS TO REGULATION NUMBER 7**

**PREHEARING STATEMENT OF
THE LOCAL GOVERNMENT COALITION
OF**

**CITY OF AURORA; BOULDER COUNTY PUBLIC HEALTH; CITY AND COUNTY
OF BROOMFIELD; CITY OF COMMERCE CITY; CITY AND COUNTY OF DENVER;
JEFFERSON COUNTY PUBLIC HEALTH; AND ADAMS COUNTY, CITY OF ASPEN,
TOWN OF AVON, TOWN OF BASALT, CITY OF BOULDER, BOULDER COUNTY,
TOWN OF BRECKENRIDGE, CITY AND COUNTY OF BROOMFIELD, TOWN OF
CARBONDALE, CLEAR CREEK COUNTY, TOWN OF CRESTED BUTTE, TOWN OF
DILLON, EAGLE COUNTY, CITY OF EDGEWATER, TOWN OF ERIE, CITY OF
FORT COLLINS, TOWN OF FRISCO, GILPIN COUNTY, CITY OF GLENWOOD
SPRINGS, CITY OF GOLDEN, CITY OF LAFAYETTE, CITY OF LONGMONT, CITY
OF LOUISVILLE, TOWN OF LYONS, TOWN OF MOUNTAIN VILLAGE, TOWN OF
NEDERLAND, TOWN OF NORTHGLENN, PITKIN COUNTY, TOWN OF RIDGWAY,
TOWN OF SALIDA, SAN MIGUEL COUNTY, TOWN OF SNOWMASS VILLAGE,
SUMMIT COUNTY, TOWN OF TELLURIDE, TOWN OF VAIL, AND CITY OF
WESTMINSTER ACTING THROUGH COLORADO COMMUNITIES FOR CLIMATE
ACTION**

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I. EXECUTIVE SUMMARY

The Local Government Coalition (LGC) generally supports the Colorado Air Pollution Control Division's (Division) proposed amendments to Air Quality Control Commission (Commission or AQCC) Regulation Number 7, as noticed by the Notice of Rulemaking Hearing on December 17, 2020. If adopted, the Division's proposed revisions will help to limit future emissions of volatile organic compounds (VOCs) and methane from pneumatic controllers in the oil and gas sector across Colorado. Such reductions are critical to meeting Colorado's climate goals and addressing the climate crisis as well as the continued violations of the federal ozone standards in the Denver Metro/North Front Range ozone nonattainment area (DMNFR).

The Division's proposed amendments to Regulation 7 respond to Colorado's ozone challenges as well as the requirements of Colorado Senate Bill 19-181 (SB19-181), which was signed into law on April 16, 2019. The bill directs the Commission to promulgate emissions control regulations to "minimize emissions of methane and other hydrocarbons, volatile organic compounds, and oxides of nitrogen" from the oil and gas sector.¹ The bill further requires the Commission to specifically consider adopting more stringent provisions in existing oil and gas regulations, including "a requirement to reduce emissions from pneumatic devices."² The Division's proposed amendments to Regulation 7 respond to SB19-181's directives by proposing increased emissions controls at new oil and gas facilities on a state-wide basis.

The Division's proposed amendments to Regulation 7 also respond to the requirements set forth in Colorado Senate Bill 19-096 (SB19-096) and Colorado House Bill 19-1261 (HB19-1261), which lay out specific obligations of the Commission and Colorado Department of Public Health and Environment (CDPHE) regarding greenhouse gas (GHG) emission reduction goals, inventories, and strategies for meeting the reduction goals. The LGC supports the Division's efforts to comply with these statutory mandates.

Regarding the specific regulatory changes proposed for this rulemaking:

- **Pneumatic Controllers at New Facilities:** The LGC supports the Division's proposal to require pneumatic controllers that do not emit natural gas to the atmosphere (Non-Emitting Pneumatics) at new well production facilities and compressor stations. Non-emitting pneumatic technology exists as well as the equipment and engineering knowledge to construct these facilities in the Colorado market. The potential VOC reductions summarized to date show the proposal could be a very significant emission reduction opportunity for the DMNFR.
- **Pneumatic Controllers at Existing Facilities:** Parties have made significant progress in developing an alternative proposal to replace conventional pneumatic controllers that vent natural gas at existing facilities. The LGC has participated in these negotiations and believes the emissions reduction impact is substantial, particularly from facilities that do not use any Non-Emitting Pneumatics at this time. We support the Pneumatic Controllers

¹ 2019 Colo. Legis. Serv. Ch. 120 (S.B. 19-181), § 3, eff. April 16, 2019; C.R.S. § 25-7-109(10) (2019).

² *Id.*

Compliance Plan approach since it requires companies to meet company-wide targets without requiring that specific facilities be retrofitted.

II. STATEMENT OF FACTUAL AND LEGAL ISSUES & THE LGC'S POSITION

A. Ozone Levels in the Denver Metro/North Front Range Nonattainment Area Continue to Be a Major Health Threat and Other Parts of Colorado Experience Elevated Ozone Levels.

Breathing ground-level ozone causes symptoms such as coughing, throat irritation, pain, burning, tightness or discomfort in the chest, and wheezing or shortness of breath. Long-term exposure to ozone causes more frequent and severe asthma attacks, increased hospitalizations, and higher rates of illness and death. Ozone is particularly concerning during the current COVID-19 pandemic, as it can increase the risk of respiratory infection.³ While it is a regional pollutant potentially affecting large swaths of Colorado's population, ozone particularly impacts minority and low-income populations that statistically already suffer disproportionately from asthma, cardiovascular disease, and recently COVID-19. We cannot allow the harms of ozone to continue to accrue to residents already disadvantaged by socioeconomic stressors.

The Denver metropolitan area has a long history of nonattainment with the various ozone National Ambient Air Quality Standard (NAAQS) over the years: the six-county metropolitan area (Adams, Arapahoe, Boulder, Denver, Douglass, and Jefferson Counties) was designated nonattainment with the first ozone standard in 1978. In 2004, the ozone nonattainment area was expanded to include the northern Front Range area as well when all except the northern portions of Larimer and Weld Counties were included in the 1997 8-hour nonattainment area (Broomfield County was also included). Finally, the DMNFR was first designated nonattainment with the 2008 8-hour ozone NAAQS of 75 parts per billion (ppb) in 2012. Due to continued violations of the 2008 NAAQS, the DMNFR was reclassified as Serious nonattainment, effective January 27, 2020, with an attainment date of July 20, 2021,⁴ based on 2018-2020 air monitoring data. With this reclassification, the State of Colorado was required to take further measures to reduce ozone precursor pollutants, VOC and NOx. But by July 2020, the DMNFR reached levels that will result in the area being reclassified to Severe nonattainment with the 2008 NAAQS and will need to meet additional requirements for Severe nonattainment areas under the federal Clean Air Act.

Protecting Colorado's residents from the adverse health impacts of ozone is of utmost importance. The DMNFR accounts for almost 58% of the state's population, with over 3.3 million people residing in the area. Denver ranks among the top 10 U.S. metropolitan areas for number of asthma attacks and is the eighth most ozone-polluted city in United States.⁵ There is

³ LGC PHS EX-001, L.B. Ware, *et al.*, *Long-Term Ozone Exposure Increases the Risk of Developing the Acute Respiratory Distress Syndrome*, (May 15, 2016), at 1145–46, available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4872663/#:~:text=Conclusions%3A%20Long%2Dterm%20ozone%20exposure,environmental%20risk%20factor%20for%20ARDS.>

⁴ 84 Fed. Reg. 70,897 (Dec. 26, 2019); *see* 40 C.F.R. § 81.16.

⁵ LGC_PHS_EX-002, Clean Air Task Force, *Gasping for Breath* (Aug. 2016), available at http://www.catf.us/wp-content/uploads/2018/10/CATF_Pub_GaspingForBreath.pdf.

already a clear correlation between these pollutants and respiratory morbidity,⁶ with greater impact on low-income communities.⁷ The current COVID-19 crisis tightens our focus on the critical importance of air quality to respiratory health. The Centers for Disease Control and Prevention has cited asthma as a risk factor for poor COVID-19 outcomes.⁸ While improvements in air quality have been made in some areas, these improvements have generally not been felt as much in marginalized and low-income communities as in more privileged areas.

The EPA's Clean Air Scientific Advisory Committee (CASAC) has been recommending for several years that the ozone standard be set to a lower concentration. In 2006, the CASAC unanimously recommended a more protective, lower 8-hour ozone NAAQS of between 60 and 70 ppb.⁹ And again in 2014, the CASAC recommended a revised NAAQS between 60 and 70 ppb, issuing the following statement:

The CASAC advises that, based on the scientific evidence, a level of 70 ppb provides little margin of safety for the protection of public health, particularly for sensitive subpopulations. In this regard, our advice differs from that offered by EPA staff in the Second Draft [Policy Assessment for the Review of the Ozone NAAQS]. At 70 ppb, there is substantial scientific evidence of adverse effects as detailed in the charge question responses, including decrease in lung function, increase in respiratory symptoms, and increase in airway inflammation. Although a level of 70 ppb is more protective of public health than the current standard, it may not meet the statutory requirement to protect public health with an adequate margin of safety.¹⁰

⁶ LGC_PHS_EX-003, B.L. Alman, *et al.*, *The Association of Wildfire Smoke with Respiratory and Cardiovascular Emergency Department Visits in Colorado in 2012: a Case Crossover Study*, *Environmental Health*, Vol. 15, No. 64 (June 4, 2016), available at <https://ehjournal.biomedcentral.com/articles/10.1186/s12940-016-0146-8>; LGC_PHS_EX-004, E.M. Lipner, *et al.*, *Geohealth, The Associations Between Clinical Respiratory Outcomes and Ambient Wildfire Smoke Exposure Among Pediatric Asthma Patients at National Jewish Health, 2012–2015* (Apr. 9, 2019), at 4, available at <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2018GH000142>; LGC_PHS_EX-005, J.C. Liu, *et al.*, *Future respiratory hospital admissions from wildfire smoke under climate change in the Western US*, *Environmental Research Letters*, Vol. 11, No. 12 (Dec. 8, 2016), available at <https://iopscience.iop.org/article/10.1088/1748-9326/11/12/124018>.

⁷ LGC_PHS_EX-006, P.M. Shrestha, *et al.*, *Impact of Outdoor Air Pollution on Indoor Air Quality in Low-Income Homes during Wildfire Seasons*, *International Journal of Environmental Research and Public Health*, Vol. 16, No. 19 (Oct. 2019), available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6801919/>.

⁸ LGC_PHS_EX-007, Centers for Disease Prevention and Control (CDC), *People with Certain Medical Conditions* (updated Oct. 16, 2020), available at <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html>; LGC_PHS_EX-008, CDC, *People with Asthma* (updated Sept. 11, 2020), <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/asthma.html#>.

⁹ LGC_PHS_EX-009, Letter from R. Henderson, CASAC Chair, to S. Johnson, EPA Administrator (Oct. 24, 2006), at 2, available at [https://yosemite.epa.gov/sab/sabproduct.nsf/AB290E0DB8B72A33852572120055858F/\\$File/casac-07-001.pdf](https://yosemite.epa.gov/sab/sabproduct.nsf/AB290E0DB8B72A33852572120055858F/$File/casac-07-001.pdf).

¹⁰ LGC_PHS_EX-010, Letter from H. Christopher Frey, CASAC Chair, to G. McCarthy, EPA Administrator (June 24, 2014), at ii, available at <https://yosemite.epa.gov/sab/sabproduct.nsf/5EFA320CCAD326E885257D030071531C/%24File/EPA-CASAC-14-004+unsigned.pdf>.

These recommendations eventually led to the 2015 8-hour ozone NAAQS of 70 ppb, for which the DMNFR is also designated nonattainment. But the fact that this area still struggles to achieve the less stringent 75 ppb NAAQS means that many of the state's residents have been living with unhealthy levels of ozone for too many years.

On a larger scale, tropospheric ozone is a greenhouse gas that hastens climate change, which worsens ozone pollution, thus creating a cyclical reinforcement between ozone and the climate crisis.¹¹ Communities that are already experiencing higher rates of infection and disruption from COVID-19 in Colorado are also more vulnerable to other negative health impacts of air pollution and ultimately suffer more from climate change.

Specifically, oil-and-gas-related air pollution is a concern to Coloradans throughout the state. Studies have identified elevated levels of atmospheric VOCs in Colorado's North Front Range as a result of oil and natural gas emissions and the potential for significant ozone production from these emissions.¹² And ozone monitors in areas of the state outside the DMNFR are approaching the 2015 NAAQS of 70 ppb. According to the Division's September 30, 2020 running ozone update, the design values (the three-year average of the fourth maximum recorded 8-hour concentration) for 2018-2020 were approaching the 2015 NAAQS at several locations, as shown in Table 1, below. New Mexico requires new air quality regulations to be adopted to curtail ozone-forming emissions whenever concentrations exceed 95% of the NAAQS.¹³ All the monitors listed in Table 1, with the exception of Paonia, have recorded values that exceed 95% of the NAAQS (above 66.5 ppb). Colorado should follow New Mexico's lead and continue its proactive approach to tackling ozone pollution before more areas reach nonattainment.

¹¹ LGC_PHS_EX-011, University Corporation for Atmospheric Research, *Ozone in the Troposphere* (2014), available at <https://scied.ucar.edu/ozone-troposphere>; see also LGC_PHS_EX-012, EPA Climate Change Adaptation Resource Center (ARC-X), *Climate Adaptation – Ground -Level Ozone and Health*, available at <https://www.epa.gov/arc-x/climate-adaptation-ground-level-ozone-and-health>.

¹² See LGC_PHS_EX-013, G. Pétron, *et al.* *Hydrocarbon emissions characterization in the Colorado Front Range—A pilot study*, *Journal of Geophysical Research*, Vol. 117 (Feb. 2012), at 90, available at <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2011JD016360>; LGC_PHS_EX-014, J.B. Gilman, *et al.*, *Source Signature of Volatile Organic Compounds from Oil and Natural Gas Operations in Northeastern Colorado*, *Environmental Science & Technology*, Vol. 47 (Jan. 2013), available at <https://pubs.acs.org/doi/abs/10.1021/es304119a>; LGC_PHS_EX-015, R.F. Swarthout, *et al.*, *Volatile organic compound distributions during the NACHTT campaign at the Boulder Atmospheric Observatory: Influence of urban and natural gas sources*, *Journal of Geophysical Research: Atmospheres*, Vol. 118 (2013), at 65, available at <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/jgrd.50722>.

¹³ N.M. Stat. Ann. § 74-2-5.3.

Table 1: Colorado Ozone Monitoring Sites Outside the DMNFR with Possible Oil and Gas Influence (2018-2020 4th maximum 8-hr average data in ppb)¹⁴

Monitoring Site¹⁵	2018	2019	2020	Design Value (2018-2020 3-Year Average 4th Maximum Value)
Black Hawk	NA	NA	77	NA
Palisade	69	63	65	65
Cortez	67	60	58	61
Paonia - BLM	54	59	61	58
Gothic - EPA	69	66	66	67
Shamrock - USFS	71	NA	64	NA
Ignacio - Southern Ute	67	61	66	64
Bondad - Southern Ute	67	63	65	65
Rocky Mountain NP - NPS	74	65	73	70
Mesa Verde NP - NPS	72	65	67	68
Rangely - BLM	68	64	65	65

Since 2004, the Commission has enacted regulations to reduce emissions from the oil and gas sector across Colorado, including additional controls for sources in the DMNFR ozone nonattainment area. Nonetheless, the nonattainment area was reclassified to Serious nonattainment and will soon be reclassified to Severe nonattainment for continued failure to attain the ozone standards. Emission inventories for top-down scenarios have estimated that 2.3-7.7% of the oil and natural gas hydrocarbons extracted in the Denver-Julesburg Basin are vented into the atmosphere.¹⁶ These emissions directly affect ozone nonattainment and must be addressed.

B. Further VOC Reductions Are Needed in the Denver-Julesburg Basin.

While Colorado has made progress reducing oil and gas VOC emissions, leaks and venting of natural gas are clearly still occurring and more progress is needed to reduce VOC-related ozone precursors in the DMNFR. The Division has monitored VOCs in Platteville since 2003. While these data show a steady decrease in VOC concentrations over time, there is still a large difference in the VOC concentrations in rural Platteville versus urban downtown Denver, indicating that oil and gas emissions greatly affect the entire region.

Figure 1 shows the latest 2018 and 2019 VOC data from the Division's Platteville monitoring location versus the Division's downtown Denver monitor.¹⁷ The graphs show the monthly averages of propane, isobutane, n-butane, isopentane, and n-pentane are significantly higher in

¹⁴ LGC_PHS_EX-016, APCD, *Ozone Summary Table: 2020 Running O3 Update Through 10-31-20*, available at https://www.colorado.gov/airquality/html_resources/ozone_summary_table.pdf.

¹⁵ The non-Division monitors are noted with the operating agency after their name.

¹⁶ Pétron, et al., *supra* note 12, at 80.

¹⁷ See LGC_PHS_EX-017, for 2018 and 2019 North Front Range Ozone Precursor Monitoring data, available at https://www.colorado.gov/airquality/tech_doc_repository.aspx.

Platteville, a location with relatively little urbanization when compared to downtown Denver. The monthly averages are calculated from five to six samples collected each month on the same days between the hours of 6:00 AM to 9:00 AM. These specific VOCs were chosen from research based on data collected at the Boulder Atmospheric Observatory demonstrating these compounds are highly correlated to oil and gas operations in the Denver-Julesburg Basin.¹⁸

Figure 1: 2018 and 2019 Oil-and-Gas-Related VOCs at Platteville versus Downtown Denver (ppb)

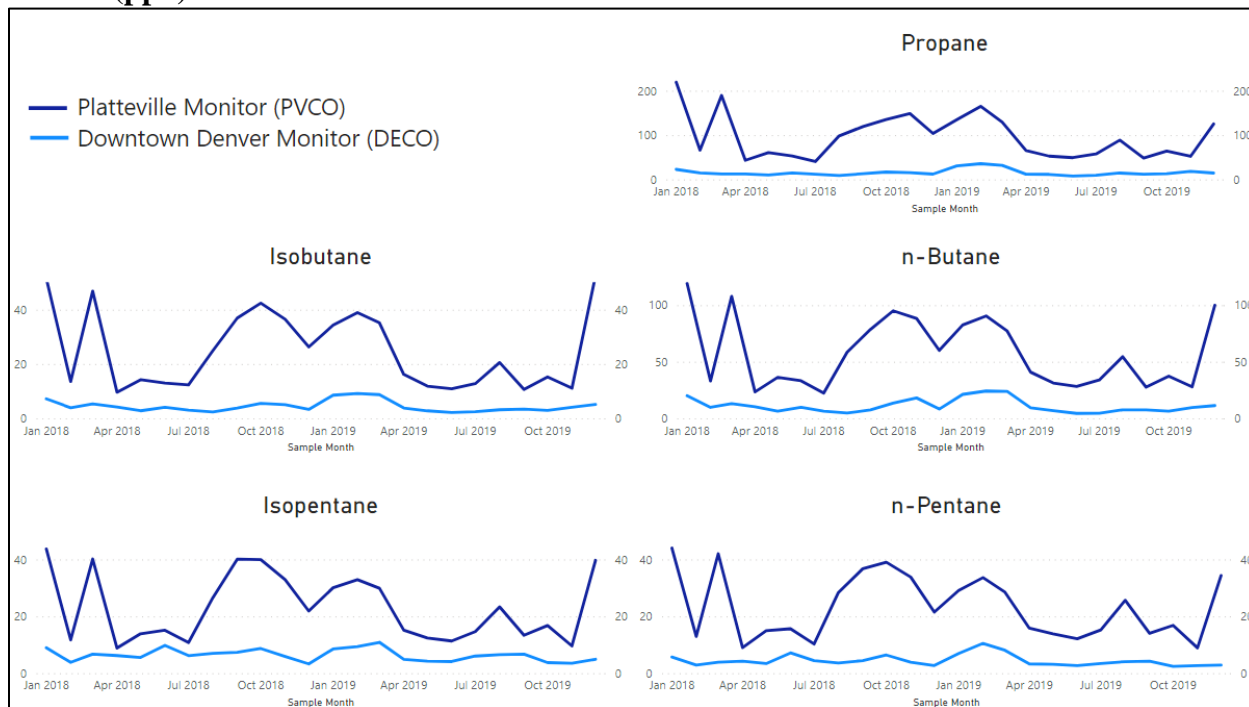


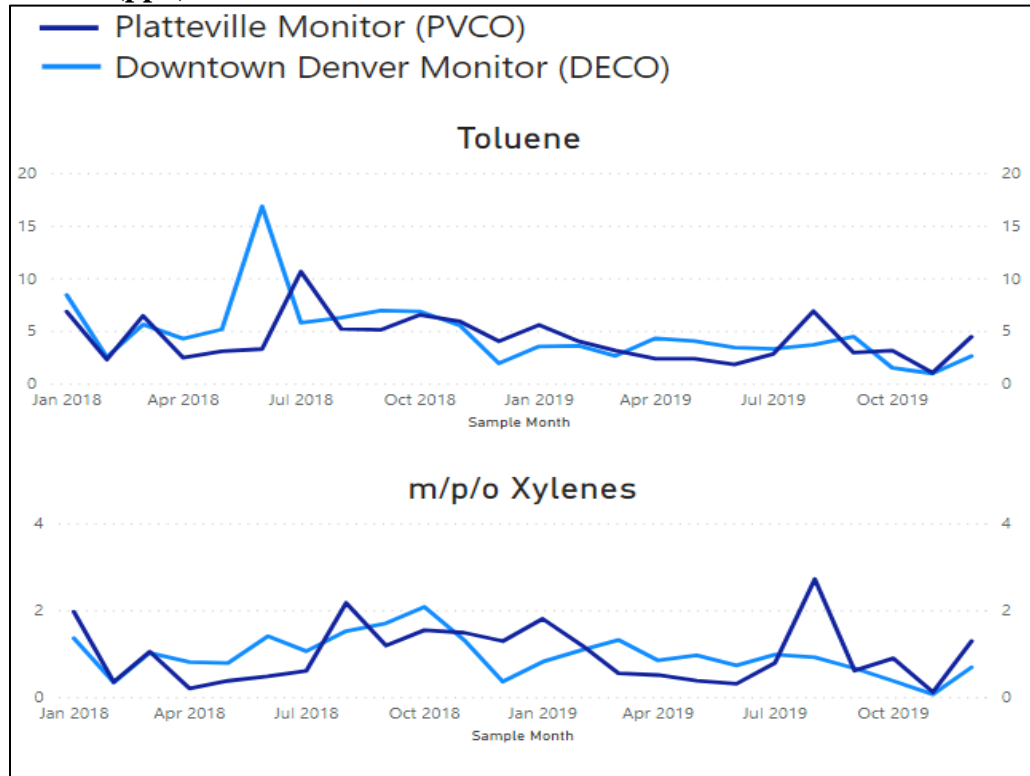
Figure 1 also displays spikes over monthly periods of these VOC compounds at the Platteville monitor. The events that created these spikes cannot be specifically explained, but they are likely events at nearby oil and gas operations creating high levels of oil-and-gas-related VOCs. In addition, there are much smaller, but corresponding, increases at the downtown Denver monitor. This suggests that there could have been enough releases of VOCs near the Platteville monitor that were significant enough to increase concentrations near the Denver monitor over 30 miles to the south.

Analysis of VOCs correlated with vehicle exhaust provide further evidence that the high concentrations of VOCs in Platteville are due to oil and gas operations. Figure 2 displays concentrations of toluene and xylenes, two VOCs that are correlated with vehicle exhaust.¹⁹ The concentrations of these VOCs are relatively balanced between the two monitoring locations, which is expected since there is vehicle traffic at both locations.

¹⁸ J.B. Gilman, *et al.*, *supra* note 12.

¹⁹ *Id.* at 1302.

Figure 2: 2018 and 2019 Vehicle Exhaust-Related VOCs Platteville versus Downtown Denver (ppb)



In summary, continued action is needed to reduce VOCs from oil and gas operations in the DMNFR. When recent data shows a small city in Weld County has substantially higher oil-and-gas-related VOCs than downtown Denver, the most urban environment in Colorado, clearly there remain issues in oil and gas operations that release VOCs. The Division and Commission must continue to focus in this rulemaking and future rulemakings on reducing VOCs from this sector.

C. Local Governments Bear Many of the Costs of Climate Change and the Impacts in Colorado Are Increasing.

Higher temperatures, more intense storms, and increased intensity of wildfires will dramatically increase local governments' long-term infrastructure and operational costs. Stronger storms bringing greater rainfall can overload urban drainage systems and cause local flooding, higher temperatures will cause asphalt on roads to degrade more quickly, requiring more frequent maintenance and repairs, and bridges may suffer damage that requires adaptation and repair.²⁰

Local governments also bear the burden of the increase in fire frequency and intensity. While the federal government and other organizations may shoulder a large portion of short-term expenses, such as fire suppression and immediate economic relief, local and state governments,

²⁰ LGC_PHS_EX-018, State of Colorado, *Colorado Climate Plan* (2018), at 49 available at <https://dnrweblink.state.co.us/cwcb/0/doc/205387/Electronic.aspx?searchid=4fdc6e80-96ca-44b1-911c-57fe7793e3f6> (listing numerous impacts to transportation infrastructure to be expected from climate change).

individuals, and taxpayers foot the bill for long-term expenses, which are generally greater than short-term expenses and can go on for years.²¹ Private insurance increasingly does not cover these damages, and recent disasters have shown that federal aid is also not adequate to cover the costs.²² The strain of disaster response and recovery is expected to increase in a context of state budget shortfalls and climate-influenced economic uncertainty.

This year's mega-fires in Colorado vividly bring home the impacts of climate change. The heat that broke 90-degree day records in Front Range cities accelerated a statewide warming trend. Statewide drought conditions completed the set-up for record fires this year of over 700,000 acres in Colorado and 6 million around the West. Eight of Colorado's 20 largest recorded fires hit after 2018 and all occurred in the last two decades. And the three largest burned since this past August. In just 48 hours, the East Troublesome Fire in Grand and Larimer Counties *grew* to more acres than were burned by the 2002 Hayman Fire, which was the biggest fire recorded in Colorado before 2020.²³

Fire smoke is a public health threat, with particulate matter as the main constituent pollutant. Wildfire smoke accounted for up to half of particulate matter pollution in the West in recent years.²⁴ Particulates cause short- and long-term health problems, including exacerbation of asthma and other respiratory diseases as well as cardiovascular diseases, such as heart failure.²⁵ These health problems can occur from both short- and long-term exposures to fire smoke. Approximately 90% of the particles in wildfire smoke are in the fine particulate size range (PM_{2.5} or smaller); this particle size is easily inhaled and can enter the bloodstream, causing cardiovascular problems.²⁶ At the October 22, 2020 joint AQCC and Board of Health meeting Anthony Gerber MD, Ph.D. of National Jewish Health presented information to the Commission on the increased health effects from fire smoke, ranging from increased respiratory,

²¹ LGC_PHS_EX-019, Headwaters Economics, *The Full Community Costs of Wildfire* (2018), at 28–29, available at <https://headwaterseconomics.org/wp-content/uploads/full-wildfire-costs-report.pdf>.

²² LGC_PHS_EX-020, Z. Colman, *Insurance for When FEMA Fails*, Politico (July 14, 2020), available at <https://www.politico.com/news/agenda/2020/07/14/climate-change-fema-insurance-341816>.

²³ LGC_PHS_EX-021, Bruce Finley, *As Colorado wildfires burn, fears that climate change is causing 'multi-level emergency' mount*, Denver Post (Oct. 25, 2020), available at <https://www.denverpost.com/2020/10/25/colorado-wildfires-climate-change/>; LGC_PHS_EX-022, University of Nebraska – Lincoln, National Drought Mitigation Center, *U.S. Drought Monitor – Colorado* (Oct. 20, 2020), available at <https://droughtmonitor.unl.edu/Maps/MapArchive.aspx>; LGC_PHS_EX-023, J. Ingold, *Five charts that show where 2020 ranks in Colorado wildfire history*, Colorado Sun (Oct. 20, 2020), available at <https://coloradosun.com/2020/10/20/colorado-largest-wildfire-history/>; LGC_PHS_EX-024, K. Plotner, *The 20 largest wildfires in Colorado history by acreage burned, updated for 2020*, Denver Post (Oct. 18, 2020), available at <https://www.denverpost.com/2020/08/18/20-largest-wildfires-colorado-history-acreage/>.

²⁴ LGC_PHS_EX-025, M. Burke, *et.al.*, *The changing risk and burden of wildfire in the United States*, Proceedings of the National Academy of Sciences 118 (2) (2021), available at <https://www.pnas.org/content/118/2/e2011048118>.

²⁵ LGC_PHS_EX-026, EPA, *Wildfire Smoke: A Guide for Public Health Officials*, EPA-452/R-19-901 (Aug. 2019), at 1, available at <https://www.airnow.gov/sites/default/files/2019-10/wildfire-smoke-guide-revised-2019.pdf>.

²⁶ *Id.* at 4.

cardiovascular, and other morbidity requiring medical attention, hospitalizations, and restricted activity days, to deaths.²⁷

In addition to particulates, wildfire smoke also includes carbon dioxide and water vapor, which are both greenhouse gases. Thus, the fires that are worsened by climate change are also further exacerbating the greenhouse gas effect.

A warming climate will dramatically change the hydrologic cycle in Colorado. Increased temperatures have already decreased snowpack, led to earlier runoff, and increased the proportion of rain to snow.²⁸ Overall, we can expect to see substantial flow declines in key waterways.²⁹ According to Colorado's State Climatologist, Colorado's precipitation was about two-thirds of the longtime average during 2020, the driest year since 2002.³⁰ Colorado's 2019-2020 water year demonstrates the increased volatility in our hydrologic cycle. As recently as April 20, 2020, federal data showed snowpack statewide measuring 104 percent of the norm. But due to extreme dryness since then, as of January 21st of this year, the entire state is in some level of drought and 91 percent of the state is in severe or exceptional drought.³¹

Climate change will also increase air pollution, with severe consequences for human health. Higher temperatures lead to increased production of ozone, causing premature deaths, hospital visits, lost school days, and acute respiratory symptoms.³² While the literature is still developing regarding COVID-19 morbidity and mortality and air pollution, air pollution is closely linked to negative outcomes from similar respiratory diseases.³³

²⁷ LGC_PHS_EX-027, A. Gerber, National Jewish Health, *COVID-19 and Air Pollution: Knowledge and Gaps* (Oct. 22, 2020), at 9, available at <https://drive.google.com/drive/folders/1nocUAUaVow7cWyBkFlrScZFHzVkgZiH8>.

²⁸ LGC_PHS_EX-028, U.S. Global Change Research Program, *Fourth National Climate Assessment, Volume II: Impacts, Risks, and Adaptation in the United States* 1112 (2018), available at https://nca2018.globalchange.gov/downloads/NCA4_2018_FullReport.pdf. Volume II of the Fourth National Climate Assessment represents the consensus of government scientists and is the latest and best explanation of the impacts of climate change in the United States.

²⁹ LGC_PHS_EX-029, B. Udall & J. Overpeck, *The Twenty-First Century Colorado River Hot Drought and Implications for the Future*, Water Resources Research, Vol. 53, Issue 3 (2017), at 6, available at <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2016WR019638>.

³⁰ LGC_PHS_EX-030, M. Otarola, *In 2020, Colorado saw one of its driest and warmest years ever recorded*, Colorado Public Radio, January 9, 2021, available at https://www.cpr.org/2021/01/09/in-2020-colorado-saw-one-of-its-driest-and-warmest-years-ever-recorded/?utm_medium=email&utm_source=lookout&utm_campaign=lookout20210111.

³¹ LGC_PHS_EX-31, K. Nicholson, *Denver Water concerns rise as drought lingers and reservoir levels dip below norms*, Denver Post (January 21, 2021), available at <https://www.denverpost.com/2021/01/21/denver-water-concerns-drought/>.

³² Clean Air Task Force, *Gasping for Breath*, *supra* note 5, at 12.

³³ LGC_PHS_EX-032, K. Clay, *et al.*, *Pollution, Infectious Disease, and Mortality: Evidence from the 1918 Spanish Influenza Pandemic*, The Journal of Economic History, Vol. 78, No. 4 (2018), at 1179-1209, available at <https://www.nber.org/papers/w21635>; LGC_PHS_EX-033, Y. Cui, *et al.*, *Air pollution and case fatality of SARS in the People's Republic of China: an ecologic study*, Environmental Health, Vol. 2 (2003), at 15, available at <https://doi.org/10.1186/1476-069X-2-15>; LGC_PHS_EX-034, E.L. Landguth, *et al.*, *The delayed effect of wildfire*

Local governments and health agencies are on the front lines of the COVID-19 crisis, which is revealing the fragility of our economy and infrastructure to seismic disruptions of the type to be expected more frequently under climate change. Local municipalities cannot address these challenges on our own, nor can we address climate-forcing emissions sources beyond our boundaries. A state regulatory framework reducing climate-forcing emissions from oil and gas, including monitoring and enforcement mechanisms such as those contained in the Division’s proposed amendments to Regulation 7, is necessary to address the disproportionate impacts from this sector.

All the sources addressed by these proposed rules are also implicated in climate change, which affects minority, low-income, tribal, and indigenous populations disproportionately. These proposals are part of the suite of rules that under HB19-1261 must “include strategies designed to achieve reductions in harmful air pollution affecting those communities” and “equitably distribute the benefits of compliance” and “enhance the resilience of Colorado’s communities and natural resources to climate impacts.”³⁴ The Division has convened a Climate Equity Framework Advisory Committee to assist with stakeholder input in these aims; feedback through this group has noted that it is still unclear how specific proposals will net-benefit disproportionately impacted communities, either through immediate air and environmental quality or through climate change mitigation. We must ensure the centrality of equity, not only through direct regulation of greenhouse gases through Regulation 22, but through all of the AQCC regulations that affect GHGs and other air pollutants disproportionately harming our most vulnerable residents.

D. The Division’s Non-Emitting Pneumatics Proposal Is Reasonable for New Facilities.

The LGC supports the Division’s Non-Emitting Pneumatics proposal as an important response to the statutory mandate for the AQCC to “consider requiring oil and gas operators, under appropriate circumstances, to use pneumatic devices that do not vent natural gas.”³⁵ The Division’s proposal would apply to new well production facilities and compressor stations constructed on or after May 1, 2021, which the LGC believes is a reasonable timeline because these systems are available and engineering groups already design facilities with these systems. In the Denver Basin, several operators have voluntarily constructed Non-Emitting Pneumatics at new well production facilities as company best practices, to comply with local regulations or operator agreements, or to reduce potential to emit emissions for Division permitting. Information provided by industry shows all operating compressor stations in the DMNFR use instrument air-driven or other types of non-emitting pneumatics. Since 2012, federal regulations have required no-bleed pneumatic devices at gas processing plants. Due to these examples, engineering design knowledge and manufacturer capacity to construct non-bleed systems is in adequate supply and experience for the Colorado market.

season particulate matter on subsequent influenza season in a mountain west region of the USA, Environment International (June 2020), available at <https://www.sciencedirect.com/science/article/pii/S0160412019326935>.

³⁴ C.R.S. § 25-7-105(1)(e) (codification of HB19-1261).

³⁵ C.R.S. § 25-7-109(10)(b)(D).

i. *The Division's Proposal Will Result in Substantial VOC and Methane Emissions Reductions*

As the DMNFR steadily progresses into higher levels of nonattainment status and elevated ozone levels in other parts of the state raise concern, the Division must implement VOC emission reduction strategies that make a significant impact to materially affect the ozone pollution problem. As stated above, methane emissions from the oil and gas sector are a significant contributor to the climate crisis and emissions from pneumatic controllers are also an important source of methane emissions. The Division's proposal will clearly reduce VOC and methane emissions in the oil and gas sector.

As a point of comparison to the impact of the Division's proposal, over the last two decades the Commission has worked extensively to reduce emissions from condensate tanks. Condensate tanks are still the primary source of oil and gas VOC emissions in the DMNFR at 50.2 tons per day VOC even after major rulemaking accomplishments.³⁶ The LGC supports the Division moving forward to similarly regulate another leading emission source in the state: pneumatic controllers. Not only are pneumatic controllers prone to failure, but, assuming they work correctly, they are still the *second largest* VOC emission source from oil and gas in the DMNFR at 19.4 tons per day.³⁷ As this leading source, pneumatic controllers represent 16% of the oil and gas VOC emissions in the DMNFR, as summarized in Table 2 below.

Table 2: Pneumatic Controllers Are Second Highest Source of Oil and Gas VOCs in DMNFR

<i>Source</i>	<i>2020 VOC (tons per day)</i>	<i>Percentage of total oil and gas VOC</i>
Condensate Tanks	50.2	42%
Pneumatic Controllers	19.4	16%
<i>Other Area Sources</i>		
Fugitives	9.5	8%
Internal Combustion Engines	6.8	6%
Venting - blowdowns	4.2	4%
Truck loading of condensate liquid	3.9	3%
Separator control	3.4	3%
Venting - initial completions and recompletions	2.5	2%
Hydraulic fracturing	2.0	2%
Water tank losses	2.0	2%
Drilling	0.7	1%
Heaters	0.2	0%
Pneumatic pumps	0.1	0%

³⁶ LGC_PHS_EX-035, APCD (2020). *Technical Support Document for Point Source and Oil and Gas Emissions Inventory Development Supporting the Denver Metro/North Front Range Serious State Implementation Plan for the 2008 8-Hour Ozone National Ambient Air Quality Standard*, Table 3.

³⁷ *Id.* at Table 4.

<i>Point Sources</i>		
Internal Combustion Engines	5.6	5%
Petroleum and Solvent Evaporation	4.3	4%
Industrial Processes	4.3	4%
External Combustion Boilers	0.1	0%

Similar to VOC emissions, pneumatic controllers are the second-largest source of methane from the US oil and gas industry, according to the EPA’s Greenhouse Gas Inventory.³⁸ Methane's lifetime in the atmosphere is much shorter than carbon dioxide (CO₂), but CH₄ is more efficient at trapping radiation than CO₂. Pound for pound, the comparative impact of CH₄ is 25 times greater than CO₂ over a 100-year period,³⁹ and in the first two decades after its release, methane is 84 times more potent than carbon dioxide.⁴⁰ According to CDPHE’s draft 2021 Greenhouse Gas Inventory, methane from the oil and gas industry in 2019 was the source of 17 percent of Colorado’s overall greenhouse emissions.⁴¹

Given their magnitude of emissions, the LGC supports the Division prioritizing further reductions from pneumatic controllers that go beyond inspections from the “find and fix” program. It is time to focus on reducing emissions through the technology of the controller itself. Alternatives are available and cost effective for use at many well production facilities and compressor stations.

ii. *The Division’s Proposal Is a Cost-Effective Means to Reduce VOC and Methane Emissions*

The Division’s initial Economic Impact Analysis (EIA) demonstrates that the Division’s proposal, if adopted, would result in significant VOC and methane reductions. Specifically, the proposal would constitute the largest reduction of VOC associated with any single source since the 2015 Storage tank emissions management (STEM) system and inspections rulemaking. Table 3 illustrates this proposal’s impact in comparison to estimated VOC reductions from recent rulemakings.⁴²

³⁸ LGC_PHS_EX-036, Clean Air Task Force, *Zero emission controllers in the USA* (2016), available at <https://www.catf.us/wp-content/uploads/2019/09/CL2016-ZeroEmitting-Pneumatics-Alts-1Aug2016.pdf>.

³⁹ LGC_PHS_EX-037, Environmental Protection Agency, Overview of Greenhouse Gases, available at <https://www.epa.gov/ghgemissions/overview-greenhouse-gases#methane>.

⁴⁰ LGC_PHS_EX-038, Environmental Defense Fund, Methane: the other important greenhouse gas, available at <https://www.edf.org/climate/methane-other-important-greenhouse-gas>.

⁴¹ LGC_PHS_EX-039, Colorado Department of Public Health and Environment, Air Pollution Control Division, *Colorado 2021 Greenhouse Gas Inventory Update Including Projections to 2050 Draft Publication*, (2021), available at <https://drive.google.com/file/d/1YR-DAYkZcagZPiYgafiIESwACzSSidAn/view>.

⁴² LGC_PHS_EX-040, APCD. *Colorado Emission Reductions for Ozone Precursors Emissions (NO_x and VOC)*. Included as APCD_REB_EX-010 in APCD’s December 2, 2020 *Rebuttal Statement In the Matter of Colorado’s Serious Ozone SIP and Proposed Revisions to Regulation Number 3, Regulation 7, and Air Quality Standards, Designations, and Emission Budgets Regulation* (December 17-18, 2020).

Table 3: Comparison of VOC tpy reductions to previous rulemakings

<i>Year and Source</i>	<i>DMNFR (VOC tpy)</i>	<i>Statewide (VOC tpy)</i>	<i>Reference</i>
2021: Non-emitting Controllers at New Facilities (this proposal)	3,298	8,634	Division Initial EIA
2019: Regulation 21 consumer products and AIM coatings		3,650	Past Division Estimates. <i>See</i> LGC_PHS_EX-034
2019: Increase LDAR on compressor stations < 12 tpy		78	
2019: Increase LDAR on well production facilities > 6tpy < 12 tpy		75	
2019: Increase LDAR on well production facilities > 2 tpy < 6 tpy		1,594	
2019: Increase LDAR on well production facilities > 1 tpy < 6 tpy	637		
2019: Lower control threshold on all storage tanks to 2 tpy		2,582	
2019: Expand condensate tank controls to all storage tanks (crude and water)	611		
2019: Replace 90% system-wide tank controls with 2 tpy storage tank control requirement	189		
2019: Hydrocarbon liquid loadout controls		936	
2018/2019: Regulation 20 LEV/ZEV automobile program (through 2030 MY)		169	
2015: Expansion of dehydrator controls		1,472	
2015: Storage tank emissions management (STEM) system and inspections rulemaking		53,386	

In addition, these reductions can be achieved cost effectively in comparison to previous rulemakings. As summarized in the Division's EIA, the SHER task force estimated that replacing natural gas-driven pneumatic devices at well production facilities with four or more wells would

cost \$1,545/ton VOC in the nonattainment area.⁴³ This represents a lower dollar per ton cost than measures adopted in previous rulemakings when this cost effectiveness could be calculated by the Division (Table 4). In addition, these costs would likely be spent during the initial capital investments for new facilities.

Table 4: Cost Effectiveness of VOC reductions in comparison to previous rulemakings

<i>Source</i>	<i>Estimated VOC Reductions in DMNFR (tpy)</i>	<i>Estimated Cost Effectiveness (\$/ton VOC)</i>	<i>Rulemaking</i>
Non-emitting Controllers at New Facilities (this proposal)		\$1,545/ton	This rulemaking
Condensate Tanks (2-4 tpy only)	188.9	\$2,232/ton	December 2019 rulemaking ⁴⁴
Crude and Produced Water (2-4 tpy only)	611.4	\$1,857/ton	
LDAR at Well Production Facilities (2-6 tpy)	636.6	\$4,031/ton	

E. The LGC Recommends the AQCC Approve the Conservation Groups' Proposal for Existing Pneumatic Controllers

The LGC has participated in the negotiations among several parties regarding the Conservation Groups' alternative proposal for existing pneumatic controllers. We are encouraged by the progress of these negotiations and generally support the concepts set forth in the alternative proposal. We will continue to be engaged in these discussions to bring a consensus proposal to the Commission at the February hearing.

Because the final alternative proposal will be submitted with the Conservation Groups' Prehearing Statement, the LGC withholds specific comments on rule language until rebuttal. However, the LGC maintains the following positions regarding the main items that are still outstanding in the negotiations to date:

- The LGC supports including drilling and/or hydraulic fracturing or refracturing a well as activities that constitute a "modification" to an existing facility. This modification should be triggered regardless of a net increase or decrease in emissions.
- The LGC supports the targets to replace existing natural gas-driven pneumatic controllers by 2023. From analyses conducted by the Parties, the proposal will retire a significant number of pneumatic controllers with operators who still exclusively use this equipment. For operators that already use Non-Emitting Pneumatics, the number of pneumatics to retire will be lower but still achieve 90% or greater by 2023.

⁴³ LGC_PHS_EX-041, Earthjustice, *Proposed Hydrocarbon Emission Reduction Strategy: Final Well Production Facility Pneumatics* (2018), Page 2.

⁴⁴ LGC_PHS_EX-042, DORA. *Cost Benefit Analysis* (November 29, 2019), Tables 2 and 6.

- The LGC supports providing operators with flexibility to retrofit facilities across all their assets through the Pneumatic Controller Compliance Plan approach. With this method, operators who still use natural gas-driven pneumatic controllers at their production facilities will have flexibility in choosing which facilities to retrofit as long as overall liquids production targets are met. We understand that several large operators in the DMNFR already use Non-Emitting Pneumatics for most of their liquids production. This proposal allows those operators to account for this beneficial implementation to reach statewide goals.
- The LGC supports allowing 15 or less barrels of oil per day per well to be exempted from existing facility applicability. This is an adequate starting point for reducing the number of natural gas-driven pneumatic devices in the state. In the future as the Commission continually looks for ways to reduce VOC and methane emissions, this threshold should be revisited.
- The LGC supports exemptions from retrofits for unique circumstances such as safety concerns, temporary equipment use, and at wellheads distant from production facilities. We are working with the parties to reach a consensus to narrow the applicability of these exemptions, so they do not undermine the emission benefit of the proposal. Given these exemptions are for existing facilities, it is highly likely operators will inventory their equipment subject to these exemptions and submit them one time in bulk and/or through a Division template. Because there could be a substantial number of these exemptions claimed; the LGC believes industry should apply for and be granted approval from the Division to qualify for these exemptions.

III. EXHIBITS

A summary of all exhibits, including voluminous exhibits, attached by the LGC to this Prehearing Statement and incorporated herein by reference is included in the Exhibit Table of Contents, LGC_PHS_EX-TOC. The LGC and its member parties reserve the right to list further exhibits or revise the LGC or individual party exhibit lists in response to other parties' prehearing statements, including the Division's prehearing statement. The LGC and its member parties will identify any further exhibits necessary as part of their individual rebuttal statements or joint rebuttal statement, as applicable.

IV. WITNESSES AND WRITTEN TESTIMONY

While the LGC does not intend to offer any written testimony beyond what is contained in this prehearing statement, its rebuttal statement, and associated filings, the LGC may call the following witnesses at the rulemaking hearing:

- **William Obermann**, Air Policy Program Manager, Denver Department of Public Health and Environment: testimony in support of the LGC prehearing statement.
- **Lindsay Carder**, Assistant City Attorney, Denver City Attorney's Office: facts and legal argument in support of the proposed regulation.

- **Cindy Copeland**, Air & Climate Policy Analyst, Boulder County: testimony in support of the LGC prehearing statement.
- **Olivia Lucas**, Assistant County Attorney, Boulder County: facts and legal argument in support of the proposed regulation.
- **Jacob Smith**, Executive Director, Colorado Communities for Climate Action: testimony in support of the LGC prehearing statement.
- **Sarah Keane**, Kaplan Kirsch & Rockwell LLP: facts and legal argument in support of the proposed regulation.
- **Samantha Caravello**, Kaplan Kirsch & Rockwell LLP: facts and legal argument in support of the proposed regulation.

The LGC reserves the right to identify additional rebuttal witnesses in the rebuttal prehearing statement as necessary based on issues identified in other parties' prehearing statements.

V. TIME REQUESTED

The LGC requests a time allocation of 20 minutes for direct testimony, rebuttal testimony, and cross-examination of other parties' witnesses.

VI. CONCLUSION

The LGC members appreciate the opportunity to participate in this process as well as the Commission's consideration of the issues the LGC has raised. The LGC also appreciates the Division's significant efforts to respond to the directives of the Colorado legislature in SB 19-181, SB19-096, and HB19-1261 as well as the climate crises and ozone nonattainment in the DMNFR.

Respectfully submitted this 26th day of January 2021,

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CERTIFICATE OF SERVICE

The undersigned certifies that on this 26th day of January 2021, an electronic copy of the foregoing PREHEARING STATEMENT OF THE LOCAL GOVERNMENT COALITION was emailed to the following:

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