EARTHWORKS

November 3, 2025

Earthworks appreciates the opportunity to provide comments on the proposed revisions to the ozone state implementation plan (SIP).

Earthworks is a nonprofit organization committed to working with frontline communities to address the adverse impacts of mining and energy development on public health and the environment while promoting sustainable solutions. For more than 20 years, Earthworks staff have worked on the ground with local partners across the US and the world to expose harmful pollution and to engage local, state, and federal regulators and lawmakers to reform policies and adopt stricter rules that put the lives of people before the interests of industry. In Colorado, Earthworks' optical gas imaging (OGI) thermographers have conducted over 2000 surveys of oil and gas facilities using FLIR G-Series OGI cameras[1] designed to detect hydrocarbon gases and have documented numerous leaks, equipment malfunctions, and other compliance issues that are reported to compliance staff at the Air Pollution Control Division (APCD) and the Energy and Carbon Management Commission (ECMC). Our extensive field experience, rigorous data collection, and strong relationships with communities impacted by oil and gas production and processing in Colorado guide and inform our advocacy.

Our comments on the ozone SIP will be narrowly focused on:

1) Support for the proposed revisions to Regulation 7 that would require operators of facilities in the Denver Metro/North Front Range (DMNFR) ozone nonattainment area to control emissions from separator maintenance during the summer ozone season while also urging the Commission to adopt the proposals offered by the Local Government Coalition (LGC) and Environmental Defense Fund (EDF) to further strengthen the draft rule.
2) Request that the Air Quality Control Commission (AQCC) take more aggressive action to curb ozone precursor emissions and consider control strategies outlined in the Regional Air Quality Council's (RAQC) Control Strategy Blueprint.[2]

Separator maintenance

Earthworks strongly supports the proposed revision to Regulation 7 that would require operators of facilities in the DMNFR ozone nonattainment area to control emissions from separator maintenance during the summer ozone season and urges the

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[1] https://www.flir.com/products/flir-g-series/
[2] https://raqc.org/control-strategy-blueprint-2025/

Commission to disregard arguments by industry stakeholders that aim to strip this provision from the draft rules.

Given the widespread adoption of control technologies such as enclosed combustion devices (ECDs) in Colorado, all uncontrolled releases of ozone precursors from oil and gas production facilities in the nonattainment area should be mitigated and eliminated wherever and whenever possible. In this case, the proposed provision is not an outright prohibition on uncontrolled emissions from separator maintenance activities. Instead, it is a seasonal prohibition to account for the outsized impact those emissions may have during periods of high ozone formation potential. Therefore, operators will not be forced to adopt new control technologies. They will maintain the option to schedule maintenance, and the concomitant release of uncontrolled emissions, outside of the summer ozone season.

However, we urge the Commission to consider the common sense, proposed improvements to the draft rule put forward by LGC[3] and EDF that would eliminate this option for deferred maintenance on facilities where control technology is already installed. For these facilities, control technology should be employed year-round to reduce emissions, eliminating any reason to defer separator maintenance. This change would still not impose the cost of new technology on operators of facilities where control technology is not yet installed, and more importantly, it acknowledges the benefits of controlling these emissions even outside of the summer ozone season. A recent study by EDF, Colorado State University, Ajax Analytics, and the Colorado School of Public Health[4] analyzes data collected by Broomfield's air quality monitoring system and finds that separator maintenance activities are responsible for emissions with high concentrations of volatile organic compounds (VOCs) that pose a potential threat to public health in nearby communities, even when not accounting for the compounding impact these emissions have during days with high ozone levels. The co-benefits of eliminating emissions from these activities should not be ignored.

Turning to some of the other concerns raised by industry stakeholders, we believe that the Division, in its rebuttal statement,[5] sufficiently addresses many of the arguments put forward regarding the feasibility and cost-benefits of the draft rule. The Division also corrects a calculation error, based on an assumption that operators routinely follow unenforced best practices to mitigate emissions during separator maintenance, that resulted in a much lower emissions estimate from separator maintenance than what is likely the actual emissions associated with this activity. Simply assuming that operators are adhering to practices that are not strictly required by regulation is not a sufficient context for understanding the benefits of new regulations. In this case, that is especially true because, in discussing concerns raised by certain operators about how the draft rule may disrupt established maintenance schedules for separators, the Division makes it clear that there is a lack of clarity as to how often separators are even inspected following the first year of production.

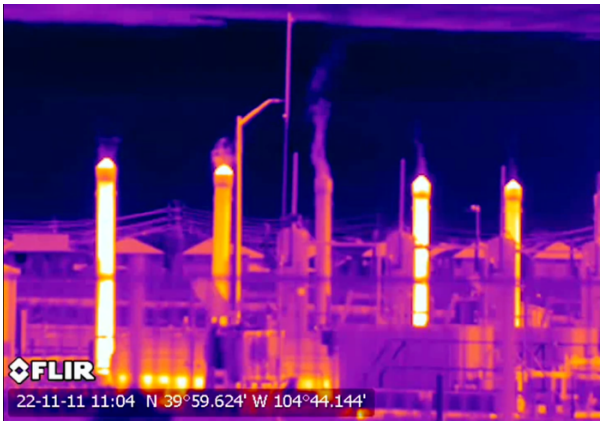
[3] https://drive.google.com/file/d/1bCh6fJrpQvT4dxqitVpzZ_3aTD4VerRh/view?usp=drive_link
[4] https://ehp.niehs.nih.gov/doi/10.1289/EHP16272
[5] https://drive.google.com/file/d/1quKqjR_agb_9yE_EjjQS4LaZ1iOy7Mre/view?usp=drive_link

To this point, our OGI surveys of oil and gas facilities routinely identify emissions due to leaks and malfunctions in separators that must be repaired by operators. In looking at our most recent data from 2024-25, we have shared OGI evidence from 55 different surveys of active oil and gas production facilities[6] in Colorado with the Division. This evidence identifies emissions due to possible leaks, malfunctions, and/or noncompliance with air quality rules. Nearly a quarter of these observations (13 of 55) are of emissions due to leaks or malfunctions in separators.

All but two of these 13 observations[7] resulted in operators taking corrective action. Most importantly, more than 2/3 of these 13 observations were of uncontrolled emissions due to unlit separator burner stacks,[8] for which the corrective action typically involves merely relighting an unlit pilot light. To put that in some context: in the same time frame, we have only observed one ECD on a well pad where we documented emissions due to a pilot light that had failed to ignite.[9]

While ensuring that pilot lights are functioning properly in separator burner stacks is not directly equivalent to discussions of best practices for depressurizing equipment during maintenance, we highlight these observations to emphasize our concerns about merely assuming that best practices are being followed in regards to separator maintenance routines. Therefore, we believe that the Division's revised emissions estimate should still only be viewed as a possible baseline. Indeed, the actual emissions reductions from curbing separator maintenance emissions, especially if control technology is employed year-round, would likely be even greater.

Ultimately, this provision hinges on a simple premise: if operators are already adhering to best practices for mitigating emissions from separator maintenance, then adopting the draft rule serves to enshrine these practices in regulation and ensure their enforceability. If they are not, then, in order to address our ozone nonattainment, we need to ensure that operators are making every reasonable effort to prevent uncontrolled emissions from routine activities.



OGI image showing uncontrolled emissions from unlit separator burner stack (middle) on well pad near Brighton, CO.

[6] Total excludes evidence of possible noncompliance gathered from surveys of other oil and gas facilities such as inactive or abandoned production facilities and facilities in the midstream sector.
[7] One investigation into emissions due to what appeared to be an unlit burner stack is still ongoing.
[8] Some examples include (https://youtu.be/tdWvb3j-8WY), (https://youtu.be/5agzXSnvkzw), and (https://youtu.be/ENfEQ1S8YQU).
[9] Our primary observations of malfunctions in ECDs are related to incomplete combustion and destruction efficiency.

AQCC must take more aggressive action to achieve attainment

While the provisions before the Commission during this rulemaking are important, we urge the Commissioners to consider additional actions that could be queued up now for future, near-term rulemakings aimed at further reining in ozone precursor emissions.

In taking on the challenge of ozone, Colorado's status quo has largely amounted to a "wait and see" approach where the necessity of additional control strategies is weighed against a cautious timeline that allows for implementation of previously adopted rules to have an impact. This is a disservice to every Coloradan in the DMNFR who suffers from respiratory illnesses and who has their quality of life impacted by persistent ozone nonattainment year after year.

The American Lung Association's 2025 State of the Air report[10] shows that the Denver metro continues to be the 6th worst city in the county for ozone-pollution (unchanged from 2024 report).[11] Meanwhile, the Fort Collins metro moved up in the rankings from 16th worst city to 13th in this most recent report. The state of Colorado acknowledged this reality with the recent request to voluntarily downgrade the nonattainment area to "severe" nonattainment under the 2015 standard. This delays the Environmental Protection Agency's (EPA) evaluation of the DMNFR's nonattainment status until 2032 and, more importantly, helps Colorado avoid sanctions that would be imposed by the EPA for its lack of progress.

While the state might avoid sanctions, the health of Coloradans is still penalized by these delay tactics.

For this reason, we strongly encourage the Commission to consider the RAQC's Control Strategy Blueprint and want to draw special attention to the well ventings and blowdown strategy. This strategy would require operators to adopt control technology or find some other purpose for pressurized gases to prevent uncontrolled emissions from venting and blowdowns during the summer ozone season. If adopted, it would complement the separator maintenance provision presently before the Commission as control technologies employed to mitigate emissions during separator maintenance might also serve that same purpose to prevent emissions from venting and blowdowns.

However, reiterating our aforementioned concerns, we cannot assume that the availability of control technology at a production facility necessarily means that operators will employ this technology and adopt best practices in the absence of oversight and enforcement. Indeed, our experiences in documenting emissions from blowdowns demonstrates the disconcerting lack of reporting requirements and regulatory oversight of emissions associated with these events, even when facilities are located in disproportionately impacted communities.[12] As with the separator

[10] https://www.lung.org/getmedia/5d8035e5-4e86-4205-b408-865550860783/State-of-the-Air-2025.pdf
[11] https://www.lung.org/getmedia/dabac59e-963b-4e9b-bf0f-73615b07bfd8/State-of-the-Air-2024.pdf
[12] https://earthworks.org/blog/enhanced-enforcement/

maintenance provision before the Commission, the RAQC's proposed strategy to reduce emission due to ventings and blowdowns would not only provide benefits due to a reduction of ozone precursors emissions but would also protect communities against exposure to harmful pollutants.

We acknowledge and appreciate the hard work this Commission has undertaken over the years to consider and adopt new regulations aimed at addressing the ozone problem in the DMNFR, including the work encompassed by the forthcoming hearing. However, all of this work has still not resulted in the necessary progress to bring ozone levels back into attainment and the Commission must consider taking additional steps to solve one of Colorado's most pressing public health crises. This is not a paperwork exercise - it is the obligation of state officials to prioritize the health and well-being of Coloradans and we urge you to take this obligation seriously.

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