



July 12, 2021

To: Larimer County Board of County Commissioners, Planning Commission and Planning Staff

From: Doug Henderson  
Larimer Alliance for Health, Safety, and Environment

Subj: Comments on the public hearing draft Oil and Gas Regulations

Dear Commissioners and County Staff,

Larimer County has substantial authority to regulate oil and gas development in a manner that will protect public health, safety, and the environment in matters of oil and gas development in the county. We believe the County government has responsibility to protect the health, safety, and environment of current and future residents from dangers and harm known to occur with oil and gas development. Evidence of these dangers and harm has been abundant in the Front Range and elsewhere for years, and the evidence continues to grow of harm and mounting costs wherever oil and gas development happens.

In our comments on the previous draft regulations (June 4<sup>th</sup> draft), we identified a number of significant shortcomings and insufficient standards, and we recommended revisions that would provide reasonable protection of public health, safety, welfare, the environment, and wildlife resources in Larimer County. We also provided reasons and evidence to support our concerns and recommendations. Other organizations and County residents also expressed concerns and made substantial recommendations for revisions, all aimed to achieve reasonable protection from known dangers, harms, and nuisance impacts arising from oil and gas development.

The public hearing draft regulations, released July 5<sup>th</sup>, incorporate a number of revisions that improve the regulations, such as regarding existing facilities, the ½ mile analysis area (11.2.3.A.2.b), and various provisions and reporting requirements.

However, most of the recommendations we made (and many others made) to provide reasonable protection of health, safety, environment, and financial assurance have not been incorporated in the public hearing draft. Moreover, a number of revisions in the public hearing draft reduce the level of protection – such as regarding emissions to be monitored, lower bonding requirements, shorter air quality baseline periods, deletion of

important subsections, and insertion of 'loopholes' in critical requirements. The use of loophole language to allow exceptions to protective standards – such as "where feasible", "unless", and "to the greatest extent practicable" – poses significant concern for adequate and reasonable protection of health, safety, environment, and financial assurance.

The current draft regulations have significant shortcomings, insufficient standards, and loopholes that weaken protective standards, which will not provide reasonable protection of public health, safety, welfare, the environment, and wildlife resources in Larimer County. No explanation has been provided by County staff for their refusal of recommendations for more protective standards, or for why some standards were weakened in revision to the current draft, and it is hard to understand how changes from the previous draft to the current draft align with a priority toward protection of public health, safety, and the environment.

We offer the following comments and recommendations the current public hearing draft regulations, released July 5<sup>th</sup>. Most of our comments and recommendations for the previous draft regulations (June 4<sup>th</sup> draft) remain relevant.

### General comments

Larimer County's regulations for managing oil and gas development should set high standards for protecting public health, safety, and the environment, to serve the best interest of the County and its residents and to uphold Colorado state law. Reasonable regulations need to prioritize protection of health, safety, and the environment, and need to be evidence-based.

We believe reasonable regulations will include:

- Industrial-scale oil and gas development should be limited to industrial zones and especially excluded from residential and conservation zones. Allowing industrial oil and gas facilities and operations in most land use zones would mock the County's system of land use zoning, result in foreseeable conflict, and inevitably harm people's health, safety, quality of life, and the environment.
- Leak detection and repair inspections and reports should be required monthly, to catch and fix problems reasonably quickly. Annual inspections, as required in the draft regulations, are of very limited use and do not provide reasonable protection.
- Air quality monitoring, reporting, and enforcement that significantly reduce and limit oil and gas emissions, to improve air quality and protect people's health, safety, and the environment.<sup>1</sup>

---

<sup>1</sup> Improving Larimer County's air quality is a priority for public health, environmental health, and quality of life. Larimer County's air quality is often unhealthy, due in major part to oil and gas emissions. The American Lung Association gives Larimer County a grade F for air quality. The NCAR FRAPPÉ study found conclusively that oil & gas industry emissions are the major driver of unhealthy air quality in the northern Front Range which includes Larimer County.

- All O&GFs should be required to have an emissions control and reduction plan, based on a local air modeling study and air quality assessment, prepared by a qualified independent expert.
- All oil & gas sites should have continuous monitoring conducted by a qualified independent expert, and real-time reporting to the County and other authorities, to quickly identify excessive and potentially dangerous emissions, and to enable rapid response when such emissions occur.
- The County should investigate possible emissions violations and complaints quickly; and if a violation has occurred, take enforcement action(s) including penalty sufficient to deter future violations.
- On Air Quality Alert days, operators should be required to significantly reduce emissions and dust, and to report on actions taken.
- Prohibit all venting and routine flaring
- While Larimer County remains in non-attainment of EPA ozone standards, prohibit new oil and gas development that would compromise attainment of ozone standards; require new oil and gas development to avoid a *net increase* in emissions contributing to ozone within Denver Metro/North Front Range ozone nonattainment area.<sup>2</sup>
- Setbacks and reverse setbacks should be based on evidence regarding the distance needed to achieve reasonable protection from danger, harm, and nuisance impacts by oil and gas development.<sup>3</sup> Published research on health impacts of oil and gas development shows overwhelming evidence that oil and gas activities are dangerous to public health, the environment and climate, with relatively powerless communities bearing disproportionate harm.<sup>4</sup> Medical and science research points a 2,500-foot minimum distance for reasonable health protection from oil and gas operations and emissions sources.<sup>5</sup> Emergency services also consider 2,500 feet as the minimum safe distance; for example, when a leak

---

2 Much of Larimer County is in non-attainment of the National Ambient Air Quality Standard (NAAQS) standards for ozone, as part of the Denver Metro/North Front Range ozone nonattainment area established by the US Environmental Protection Agency (EPA). Emissions from oil and gas operations are a significant contributor to excessive levels of ozone in the Front Range and moreso in the northern Front Range including Larimer County.

3 To provide reasonable protection, setbacks (11.3.2) and reverse setbacks (2.9.4) should be consistent. The health and safety risks and nuisance impacts to people and neighborhoods are no different when housing is built near an existing O&GF than when a new O&GF is developed near existing homes. Oil and gas facilities go through stages along their lifecycle, but each stage poses threat to people in close proximity. Any differences in setbacks and reverse setbacks should be based on evidence regarding health, safety, and nuisance impacts.

4 In review of nearly 2,000 medical, scientific and investigative reports, [Physicians for Social Responsibility](#) concluded: "There is no evidence that fracking can operate without threatening public health directly or without imperiling climate stability upon which public health depends."

5 Cited in comments submitted by 350 Colorado to Larimer County on June 25, 2021. Wong, N. "Existing scientific literature on setback distances from oil and gas development sites", June 2017, [https://www.stand.la/uploads/5/3/9/0/53904099/2500\\_literature\\_review\\_report-final\\_jul13.pdf](https://www.stand.la/uploads/5/3/9/0/53904099/2500_literature_review_report-final_jul13.pdf)

was discovered at an oil and gas facility near a sport facility in Greeley, emergency responders evacuated the area within 2,500 feet of the leaking facility. Based on evidence regarding distances that provide reasonable protection of public health, safety, and environmental resources, reasonable setbacks and reverse setbacks should be:

- 2500' from all occupied buildings, recreation areas and conservation areas, with variance allowable to 2000' minimum.
- 2500' from schools, playgrounds, and facilities for older people, with no exceptions.
- 1000' from any properly plugged and abandoned well.
- Larimer County faces increasing water demand and uncertain and possibly shrinking water supply. Oil and gas development uses billions of gallons of water and turns it into toxic wastewater, ("produced water") often with radioactive contaminants, which is often too polluted to be reused and must be permanently disposed of, typically by injecting it underground, permanently removing it from being available for other uses and posing a threat to groundwater.<sup>6</sup>  
To protect our water resources –
  - Water use and water quality impacts by O&GFs should be accurately measured and reported.
  - O&GF working pad surfaces should be at least 1000' from rivers and streams, water facilities, and ditches.
  - O&GF working pad surfaces should be at least 2500' from drinking water sources.
  - No O&GFs should be located within a 100-year floodplain. O&GFs within a 100-year floodplain pose serious public health and environmental risks.
  - No more Class II water disposal wells in the County.
- Public Conservation Lands should be for conservation – and not open to surface use and inevitable degradation by oil and gas development. County residents and taxpayers have supported the purchase of public conservation lands for conservation objectives. The draft regulations would open these lands to oil and

---

<sup>6</sup> Oil and gas activities can pose a serious threat to groundwater. Recent studies in Colorado have found that spills from oil and gas operations can lead to benzene, toluene, ethylbenzene, and xylene ("BTEX") contamination of groundwater, and elevated endocrine-disrupting chemicals in surface and groundwater. Recent laboratory analyses of historical releases documented benzene contamination as high as 906 micrograms per liter, which is 181 times the EPA's maximum contaminant level for benzene. The oil and gas industry self-reported almost 5,900 spills and releases from June 2016 – June 2020, an average of four reported spills per day, of which almost 900 contaminated groundwater and 35% reported an "unknown" the spill volume. Oil and gas byproducts can travel miles in groundwater over time, posing significant risk to groundwater well beyond an immediate spill location and time. Source: Public Water Suppliers' 400-Series Joint Prehearing Statement for COGCC rulemaking, July, 2020.

gas development, creating a blatant conflict with County residents' expressed intent for public conservation lands, and violating protection of wildlife and environment in state law (SB19-181).

- Financial Assurance -- needed to protect governments and taxpayers from costs arising from oil and gas developments such as major accidents, emergency response, operator bankruptcy, and failure to clean up from oil and gas operations and properly plug old wells. Uncovered costs and liabilities will financially impact all County residents/taxpayers and local governments.
  - Operators must carry adequate insurance
  - Full cost bonding for all wells
  - All conditions of approval survive a change of ownership

Larimer County is already suffering climate change impacts, which will only increase in years and decades ahead. Reducing greenhouse gas emissions – sooner rather than later – is necessary for public health and safety, quality of life, the environment, and the County's economy and finances. Oil and gas development contributes disproportionately to climate change, due to excessive greenhouse gas emissions, a portion of which which can be reduced significantly by regulation and enforcement. The County's oil and gas regulation should support reduction of greenhouse gas emissions – and reasonable regulations will minimize greenhouse gas emissions.

#### Specific comments

Our comments and specific recommendations (shown in red text) on specific articles in the draft regulations follow:

##### 11.1.3.D.

Comment: "nuisance effects" should be defined.

##### 11.2.1. General Requirements

No person, firm or corporation shall establish, construct, or build a new O&GF, or operate or modify an existing O&GF subject to the provisions of this Code, without first having obtained required land use approval(s) and permits as required by this Code. Applications to the County for new O&GFs, may be submitted simultaneously with the Colorado Oil and Gas Conservation Commission (COGCC) permitting process. So long as they meet County requirements, application submissions to the COGCC or Colorado Department of Public Health and Environment (CDPHE) may be used to satisfy County application submittal requirements.

##### 11.2.2.A

Comment: Why was this removed? Is no permit required?

##### 11.2.2.A.

Add: A geological map of the seismic study area showing geological features including any geologic hazards.

11.2.2.A.8 A public notification plan for the ~~all homes and occupied buildings along~~ within 800 feet of the vibroseis truck route;

Add:

11.2.2.A.14. Explosive seismic testing is prohibited.

11.2.3.A.1

Comment: 6.3.3 contains requirements that are insufficient for oil & gas development and which are not consistent with provisions in draft O&G regulations, such as the 500 foot standard in Section 6.3.3 E.

11.2.3.A.2.k. Active reservoirs, ~~lakes and water bodies~~, and public and private water supply wells of public record;

Add:

11.2.3.E The operator shall list any violations within the past 10 years issued by COGCC, CDPHE or any other state, local, or federal agency.

11.2.4.B

Comment: The revision from June 4<sup>th</sup> to July 5<sup>th</sup> significantly weakens protection of environment, including wildlife resources, and is inconsistent with the Intent (11.1.1 ), Purpose (11.1.3) and state law. The revision does not prioritize protection of the environment, but provides legal loopholes for oil and gas developers to harm the environment. 11.2.4.B should be consistent with the the Intent (11.1.1 ), Purpose (11.1.3) and state law.

11.2.4.B The proposal will, ~~to the extent necessary and reasonable, avoid~~ not have adverse impacts on public health, safety, welfare, and the environment, including wildlife resources, or will adequately ~~minimize and~~ mitigate potential adverse impacts.

Public Conservation Lands

Comment: Public Conservation Lands should be for conservation – and not open to surface use and inevitable degradation by oil and gas development. No exceptions.

11.2.4.G Larimer County and municipal-owned conserved lands will be granted a no surface occupancy status ~~for oil and gas development. unless the applicant can demonstrate they have adequately considered reasonable siting alternatives to avoid locating OGFs/O&Gs on Public Conservation Lands and adequately explain why such alternatives are not available or not feasible.~~

~~11.2.4.H. If surface use on the conservation property is the only viable alternative, the applicant will work with the local lead entity (County, municipality, or land trust) to perform a resource assessment planning process. The report titled “Mountains to Plains- Energy by Design, Report to the Colorado State Land Board (January 2013) will be used to provide guidance for best management and compensatory mitigation requirements.~~

11.2.4.H. Any application for a proposed site within 2500’ of Public Conservation Lands will be referred to the Larimer County Parks Advisory Board for a public hearing, or to the equivalent municipal board for municipal Conservation Lands, for the purpose of

protecting the ecology, historical, archaeological, cultural and recreational values in the area.

Comment: "Mountains to Plains Energy by Design" (2013) was written pre-SB181. It is outdated and should no longer be used without revision.

11.2.5. All O&GF special review applications shall be required to notify property owners and tenants **within** a minimum of  $\frac{1}{2}$  1 mile ~~(2,640 feet)~~ from the proposed oil and gas location for all neighbor referral, neighborhood meeting and public hearing notices, as outlined §6.3 Common Review Procedures.

11.2.9. Application to Existing Facilities

Comment: We appreciate the revisions to 11.2.9.A and 11.2.9.B

Add:

An updated Air Quality and Emissions Control Plan as required by 11.3.3.A.

An updated Chemical and Hazardous Materials Report and Handling Plan as required by 11.3.15.A.

11.3.2. Location Restrictions

Comment: As discussed above in General Comments, industrial-scale oil and gas development should be allowed only in industrial zones. New oil and gas sites should be excluded from residential and conservation zones without exception. Applications for O&GF in other land use zones should be required to first apply for re-zoning of the proposed site to industrial use. Development of O&GF (well pads, processing and storage equipment, compressor stations, etc) in residential zones should be prohibited without exception. Class II Water Disposal Wells should not be allowed within Larimer County.

11.3.2. Oil and gas locations (well sites and production facilities) shall only be located within the following zoning districts unless a variance is obtained under Section 6.7.3.: ~~NR – Natural Resources; FO – Forestry; A – Agriculture; ACE – Agricultural Commercial Enterprise; O – Open;~~ IH – Heavy Industrial; ~~AP – Airport; and PD – Planned Development and RPD – Rural Planned Development where oil and gas development is a specified use.~~ Class II Water Disposal Wells may ~~not only~~ be located in ~~any IH – Heavy Industrial Zones.~~

Sections 11.3.2.B - D and reverse setbacks (section 2.9.4)

Comment: Sections 11.3.2.B - D and section 2.9.4 should be revised:

- 2500' setback (including reverse setback) for all occupied buildings, recreation areas including parks and public open space, and conservation areas, from all operational oil & gas sites and facilities (including idle O&GF and not yet properly plugged and abandoned wells), unless a variance is allowed to a 2000' minimum setback, with no exceptions to the 2000' minimum setback;
- 2500' setback (including reverse setback) for schools, playgrounds, and care facilities and residential areas designated for the elderly, from all operational oil & gas sites and facilities, with no exceptions;
- 1000' minimum setback from any properly plugged and abandoned well.
- 2500' setback for water sources, including ground water under the direct influence of surface water wells.

- 1000' setback for rivers and streams, water facilities, and ditches from O&GF working pad surfaces.
- O&GFs should be prohibited within a 100-year floodplain, with no exceptions. O&GFs within a 100-year floodplain pose serious public health and environmental risk.

11.3.2.D.5. Locating O&GFs within a Federal Emergency Management Agency (FEMA) designated 100-year floodplain shall not be allowed ~~unless no other location is feasible, and all other appropriate permissions are obtained.~~

### 11.3.3. Air Quality

Comment: As discussed above in General Comments, emissions from the oil and gas industry are the major driver of Larimer County's bad air quality, and improving air quality depends on reducing emissions from all O&GFs. Emissions from all O&GFs (existing and new O&GFs) and associated operations need to be regulated, monitored, measured, and reported, to ensure compliance with local and state standards. 11.3.3 needs to be revised to also address existing O&GFs.

11.3.3.A. An Air Quality ~~and Emissions Control Mitigation~~ Plan shall be submitted with all O&GF applications ~~and for existing O&GFs to demonstrate how air quality will be protected by avoiding or minimizing emissions that the development and operation of the facility will avoid causing~~ degradation to air quality, ~~will minimize and mitigate adverse impacts to air quality,~~ and will demonstrate compliance with and implementation of standards in §§11.3.3 and 4.11 of this Code. ~~The plan will include:~~

Add:

11.3.3.A.1 An air modeling study for the O&GF site, conducted by a qualified independent expert approved by the County, that identifies local atmospheric conditions, current air quality, anticipated or known emissions from the O&GF, and impacts on local air quality from the proposed or existing O&GF.

11.3.3.A.2 A detailed plan for emissions control, monitoring, and reporting.

11.3.3.A.3 A plan for measures to be implemented on Air Quality Action Days that will significantly reduce emissions and dust.

11.3.3.A.4 While Larimer County remains in non-attainment for ozone, applications will include a plan for offsetting all new emissions by an equivalent reduction in emissions in the Denver Metro/North Front Range ozone nonattainment area, including the verification method to be used for monitoring and annual reporting of emissions and offset.

Comment: Larimer County should prohibit new oil and gas development that would compromise attainment of EPA ozone standards. While Larimer County remains in non-attainment for ozone<sup>7</sup>, no new oil and gas development should be permitted that would result in a *net increase* in emissions contributing to ozone within the Denver Metro/North Front Range ozone nonattainment area. While Larimer County remains in non-attainment for ozone, new oil and gas development should be required to off-set all new emissions by an equivalent reduction in emissions at other O&GFs in the Denver Metro/North Front

---

<sup>7</sup> Based on National Ambient Air Quality Standard (NAAQS) standards for ozone, as determined by the US Environmental Protection Agency.

Range ozone nonattainment area. Operators applying for a new O&GF should be required to submit a plan for achieving the required emissions offset.

#### 11.3.3.B

Comment: 11.3.3.B needs to be revised to also address existing O&GFs.

Canister sampling is inadequate to accurately measure and quickly report emissions, and cannot accurately monitor and report emission 'events' such as emission spikes which pose an immediate danger to public health and safety. Continuous monitoring and real-time reporting of emissions data, as required by Boulder County and other local governments, are needed for accurate air quality and emissions data at all O&GFs.

Re-insert language in the June 4<sup>th</sup> draft provided to the Board of County Commissioners:

"...the Operator will conduct continuous monitoring..."

11.3.3.B Ambient Air Monitoring. The air quality mitigation plan will include a section on air monitoring that describes how the Operator will conduct baseline monitoring prior to construction of the O&GF. The plan shall also describe how the Operator will conduct **continuous high-frequency** monitoring and collect periodic ~~canister~~ samples (~~or equivalent-by~~ method capable of speciating air samples) during the drilling, completion, and production phases of development. Air pollutants monitored shall include methane, **Oxides of Nitrogen (Nox), particulate matter (PM and PM 2.5), VOCs including BTEX, Hydrogen Sulfide, Carbon Monoxide, and Carbon Dioxide.** At Operator's cost, a third-party consultant approved by the County shall conduct baseline and ongoing air sampling and monitoring. Such sampling and monitoring shall comply with the following requirements:

**11.3.3.B.1. Baseline monitoring shall be conducted for the initial Air Quality and Emissions Plan, to provide a benchmark for evaluating O&GF impact on air quality.**

Comment: The June 4<sup>th</sup> draft provided to the Board of County Commissioners included 90-day baseline monitoring. Reducing baseline monitoring to 30-days is not evidenced-based. Baseline monitoring should be conducted for 90 days to provide an adequate baseline for future air quality impact assessment.

**11.3.3.B.1.a. For a proposed O&GF, baseline monitoring shall be conducted within 500 feet of the proposed O&GF site, at a location not impacted by emissions from another O&GF or other source of significant hydrocarbon emissions, over a 90~~30~~-day period. Baseline data shall be provided as part of the Air Quality and Emissions Plan, as required for application.**

**11.3.3.B.1.b. For an existing O&GF, baseline monitoring shall be conducted at a distance of 2500 feet from the O&G, at a location not impacted by emissions from another O&GF or other source of significant hydrocarbon emissions, over a 90-day period. Baseline data shall be provided as part of the Air Quality and Emissions Plan, to be submitted with the Annual Operator Registration as required in 11.2.9.**

Comments:

- Continuous monitoring and real-time reporting of emissions should be conducted at all O&GFs until all wells are properly plugged and abandoned. Allowing monitoring and reporting to cease after 3 years at some O&GFs (proposed in draft section 11.3.3.B.2) would not protect health, safety, and environment in proximity to O&GFs.

- Emissions monitoring and reporting should be linked to a mechanism for immediate alert to emergency responders and the public in case of a significant emissions event.
- Air quality standards and emission control measures may be required, including, but not limited to,
  - Compliance with air quality standards set by the EPA, CDPHE, COGCC, Centers for Disease Control, or other relevant authorities.
  - Upgrading emission control systems, equipment and practices to reduce emissions.
  - Participation in the Natural Gas STAR Program or other programs to promote innovation in pollution control.
- The County should retain authority to conduct unannounced inspections.
- The County should investigate possible violations and complaints quickly and if a violation has occurred, take enforcement action(s) including a penalty sufficient to deter future violations.
- Operators should be required to use electric motors (ie, not diesel engines) wherever electricity is available. If electricity is not available, operators should be required to use only Tier 4 diesel engines which are relatively high efficiency and lower emissions. No exceptions.

Add to 11.3.3.B:

11.3.3.B.4. The operator shall establish a mechanism to report the results of its monitoring program to the county in as close to real time as possible, and in no case shall reporting take longer than 24 hours. Air monitoring results must also be displayed in as close to real time as possible on a webpage maintained by the operator and shared with the County. As close to real time as possible shall mean at least daily.

11.3.3.B.5. The operator will submit an air quality and emissions report for each O&GF in Larimer County on an annual basis. The report will document air quality monitoring results for the preceding year; emissions control maintenance and improvements; all excess emissions, venting, and flaring; all complaints, violations, and penalties; and a plan for air quality protection and emissions control and reduction.

11.3.3.C. The Air Quality and Emissions Control Mitigation-Plan must consider the cumulative impacts to existing air quality including ambient air quality standards for ground-level ozone, attainment of EPA ozone standards within the non-attainment zone, meeting oil and gas sector greenhouse gas reduction targets, and the cumulative impacts of all approved and existing oil and gas operations within the County. ~~The cumulative impacts plan prepared for the COGCC may be used to meet this requirement.~~

11.3.3.J.1

Comment: The revision “to the extent practical” significantly weakens protection of air quality and public health. Operators should be required to implement measures on Air Quality Action Days that achieve significant reduction in emissions and dust, and to submit a report to the County following each Air Quality Action Advisory Day detailing actions taken to minimize emissions during the Action Day.

11.3.3.J.1. New and existing O&GF shall utilize operational provisions ~~to the extent practical~~ to substantially reduce emissions and dust on Air Quality Action Advisory Days posted by the CDPHE for the Front Range area. The provisions shall include how alerts are

received, outline specific emission reduction measures, and include requirements for documenting the measures implemented. **Documentation of measures implemented must be submitted to LCDHE and LGD.**

11.3.3.J.2 Venting is prohibited ~~except as allowed in COGCC rules.~~ during all phases of oil and gas development, unless there is an immediate threat to public health, safety, and welfare, the environment, and wildlife.

11.3.3.J.3 Flaring is prohibited ~~except as allowed in COGCC rules.~~ during all phases of oil and gas development, unless there is an immediate threat to public health, safety, and welfare, the environment, and wildlife. ~~When allowed, flaring shall comply with § 11.3.3.G.~~

11.3.4.B. A Leak Detection and Repair Plan shall be submitted with all O&GF applications and updated at least once every three years as part of an Operator's annual registration. **For existing facilities, a Leak Detection and Repair Plan will be submitted with its first required annual Operator Registration, and then subsequently once every three years.** The plan shall disclose techniques, methods and protocols that will be utilized at the proposed O&GF to identify, prevent, contain, document, repair, and report leaks, and shall demonstrate how it will comply with and implement the standards in this §11.3.4.

11.3.4.C. Operators shall conduct leak detection and repair inspections at every O&GF a minimum of once every ~~month~~**year** or at greater frequencies as required by the APCD (Air Pollution Control Division) **or the LCDHE** for the emission source using modern leak detection technologies (infrared cameras, etc.) and equipment. The results of said inspections, including all corrective actions taken, shall be reported to the LCDHE and County Local Government Designee (LGD) **within (7) days of conducting the inspection.** ~~upon request.~~

11.3.4.D. Repair of leaks shall occur within ~~4872~~ hours of detection. If a leak is not repaired within ~~4872~~-hours, the Operator must use other means to stop the leak including, but not limited to, isolating the component or shutting in the well, unless such other means will cause greater emissions. If it is anticipated that a repair will take longer than ~~4872~~ hours, the Operator shall provide a written explanation to the LCDHE and the LGD as to why more time is required and how the leak will be contained. **If a leak is not repaired within 72 hours, the County O&GF may shall be require the O&GF, the component, or well to be shut-in until the leak is repaired.**

11.3.4.E. Equipment leaks that pose an imminent safety risk to persons, wildlife, or the environment **as determined by the Operator, LCDHE, LGD, APCD, COGCC or other regulatory body** shall take the most appropriate safety response action, which may include shut down of the affected equipment or facility and not be allowed to resume operation until the Operator has provided evidence that the leak has been repaired.

11.3.4.F. At least **once every (6) months**~~annually~~, Operators shall provide a 2-week notice of a routine leak inspection to the LCDHE and LGD inviting them to attend and observe the inspection.

Add:

11.3.4.G. All Leak Detection and Repair plans, inspection notices and inspection reports, and documents regarding leaks and repairs of leaks, shall be considered a public record, and will be made available to the public by the County website or upon request.

11.3.5.A. An Odor Mitigation Plan shall be required for all O&GF applications and existing O&GFs indicating how the O&GF operations will minimize odors and prevent odors from adversely impacting the public and wildlife, provide a complaint process and response measures, and further demonstrating compliance with the standards in this §11.3.5.

11.3.5.B.1. If a resident within ~~½ mile (2,640 feet)~~ one-mile (5,280') of an O&GF complains of odor (either directly to the Operator, to the COGCC, or to the County), Operator shall determine whether the odor is caused by Operator's operations. If the odor is caused by Operator's operations, Operator shall resolve the odor concern to the maximum extent practicable within 24 hours of receiving the complaint. ~~Operator will provide a complete description of all activities occurring at the oil and facility at the time of the complaint. Operator shall report its conclusions, including the factual basis for the conclusions, a complete description of all activities occurring at the O&GF oil and facility at the time of the complaint, response action(s) taken by the operator, and relevant air quality/emissions monitoring data, to the County and the complainant within 72 hours of the complaint. If the odor is caused by Operator's operations, Operator shall resolve the odor concern to the maximum extent practicable within 24 hours of receiving the complaint.~~

11.3.5.B.1. For both existing and new O&GF, the Operator shall communicate the schedule/timing of well completion activities to all residents within ~~½ mile (2,640 feet)~~ 2,000 feet by mail, to be received by residents at least ~~Notifications shall be sent between seven and~~ 21 calendar days prior to the start of completion activities.

11.3.5.B.5. If odor persists after an Operator complies with §11.3.5.B.1, and there are reasonable grounds to believe the O&GF is causing the odor, the County may require the Operator to conduct additional investigation, or may require investigation to be conducted by an approved third-party consultant, which may include audio, visual, and olfactory inspections or instrument based (e.g., infrared camera) leak inspections, and take appropriate corrective action based on the results of investigation and the severity of odor.

11.3.6. Water Quality Resources and Water Bodies

Comment: This section should also address water quantities, as well as water quality.

11.3.6.A. A Water Resources ~~Quality Report/~~Plan shall be submitted with all O&GF applications and by Operators of existing O&GFs. The ~~report/~~plan shall demonstrate how the development and operations of the O&GF facility will avoid adverse impacts to surface and ground waters in Larimer County, identify all private and community permitted water wells of public record within ½ mile (2,640 feet) and demonstrate compliance with and implementation of standards in §11.3.6 of this Code, ~~and~~ the LUC Supplemental Materials, and COGCC water quality protection standards. The plan will provide information regarding anticipated water needs for all phases of the proposed development, including water quantities and source(s), and how water, stormwater, and produced water will be managed, including monitoring and reporting.

11.3.6.C.

Comment: How does an “application...provide documentation indicating how the COGCC water quality protection standards are being implemented”? That seems nonsensical.

11.3.6.C. **Operators** ~~The application~~ shall provide documentation indicating how the COGCC water quality protection standards are being implemented.

11.3.7.C.

Comment: “certain identified risks” is undefined and begs the question, What risks would be considered “certain identified risks”? and what risks would be excluded?

11.3.7.C. Operator shall identify any planned mitigation response (including emergency response, tactical response, and notifications) for **any certain**-identified risks.

11.3.8.A.3.g. A project-specific plan for any project that involves drilling or penetrating through known zones of hydrogen sulfide gas. **During flowback, monitoring will be conducted to to detect Low Level Explosives and hydrogen sulfide gas, with real-time alert system.**

Add:

**11.3.8.A.3.k. Operators shall notify the fire district at least 24 hours prior to initiation of flowback.**

11.3.8.A.5. The Operator shall have current Safety Data Sheets (SDS) for all chemicals used or stored on a Well Site. The SDS sheets shall be provided immediately upon request to County officials, a public safety officer, or a health professional as required by COGCC Rules. **Updated records of SDS sheets shall also be maintained offsite which can be available in an emergency if on-site records are unavailable.**

11.3.8.A.7.

Comment: Why was this section deleted?

**11.3.8.A.7. Operator shall provide the County with its emergency shutdown protocols and promptly notify the County of any shut downs that would have an impact to any area beyond the confines of the working pad surface.**

11.3.9.D Any spill or release of unrefined and refined petroleum products, hazardous substances, fracking fluids, E&P waste, or produced fluids of greater than 25 gallons outside of secondary containment areas on an O&GF, including those thresholds reportable to the COGCC, **or any emissions that could endanger public health, safety, or environment**, shall upon discovery, be immediately reported to the National Response Center and CDPHE as well as the following Local Emergency Response Authorities in Larimer County:

Add:

**11.3.9.E. Operators shall submit an annual summary report of all Incidents and Accidents.**

**11.3.10F. Operators shall submit an annual summary of all Spills and Releases.**

11.3.11.A.4. A complaint process, with requirements for operator response, reporting, and County oversight, similar to 11.3.5.B.3 (see above) and 11.3.12.F.1

11.3.11.B.

Comment: The section below the chart allows for noise levels to exceed limits by 10db for a period “not to exceed fifteen minutes in any one-hour period” which would allow exceedances for 25% of daytime 7:00 a.m. to 7:00 p.m. That is unreasonable noise.

11.3.11.B. In the hours between 7:00 a.m. and the next 7:00 p.m., the noise levels permitted above may be increased by ~~ten (10)~~five (5) db(A) for a single period of not to exceed ~~fifteen~~ten minutes in any one-hour period and no more than one hour total between 7:00 a.m. and the next 7:00 p.m.

11.3.11.D. During construction, drilling, and completion activities, ~~through at least the first three (3) years of production~~, the County will require continuous noise monitoring for all oil and gas facilities located with ½ mile (2,640 feet) of any existing residences, schools, or state licensed child cares. The County may adjust this distance based on the location, nature, and size of the facility. The County ~~may~~will require continuous noise monitoring to be conducted by an approved third-party consultant.

11.3.11.F. In situations where low frequency noise is a component of the problem, a sound level measurement shall be taken 25 feet from the exterior wall of the residence or occupied structure nearest to the noise source, using a noise meter calibrated to the db(C) scale. If this reading exceeds 60 db(C) ~~during the day, or 50 db(C) overnight~~, the County shall require the Operator to obtain a low frequency noise impact analysis by a qualified sound engineer, including identification of any reasonable control measure available to mitigate such low frequency noise impact to be implemented by the O&GF. Such study shall be provided to the County for consideration and possible action.

11.3.11.G. ~~Construction of O&GFs, including drilling/well completions, recompletions, and pipeline installations, shall be subject to the maximum permissible noise levels specified for light industrial zones for the period within which construction is being conducted.~~

Construction activities directly connected with abatement of an emergency are exempt from the maximum permissible noise levels.

11.3.11.J.7. The use of Tier 4 or better diesel engines, ~~diesel and~~ natural gas co-fired Tier 2 or Tier 3 engines, natural gas fired spark ignition engines, or electric line power for hydraulic fracturing pumps; and

11.3.11.J.8. The use of liquefied natural gas dual fuel hydraulic fracturing pumps ~~that meet Tier 4 diesel standard~~.

11.3.12. Dust

Comment: Produced water, E&P waste and hazardous waste can contain heavy metals, VOCs and radioactive materials harmful to people, wildlife and the environment. Using produced water, E&P waste and hazardous waste for dust suppression would pose danger to public health, people, wildlife and the environment.

11.3.12.D. ~~Produced water, E&P waste and hazardous waste shall not be used for dust suppression in Larimer County. The County may prohibit specific chemicals from use as dust suppressants.~~ Unless otherwise approved by the County Health and Engineering

Departments, only water will be used for dust suppression activities within 300-feet of the ordinary high- water mark of any body of water.

11.3.14.B New **and existing** O&GFs will comply with §4.4.4 – Wildlife.

11.3.15. Chemical Handling

Comment: also should address existing O&GFs

11.3.15.A. A Chemical and Hazardous Materials Report and Handling Plan shall be submitted with all O&GF applications **and the Annual Operator Registration for existing O&GFs**. The plan shall disclose the type of hazardous and non-hazardous materials and chemicals that will be used on the site of the proposed O&GF, including how they will be handled to prevent spills and demonstrate compliance with and implementation of standards in this §11.3.14.

11.3.16.B.3. **Produced water, E&P waste, and other hazardous waste should not be used for dust suppression or irrigation. The requirements of this §11.3.16 shall not prevent discharges or beneficial uses of water reviewed and permitted by the CDPHE Water Quality Control Division or another agency with jurisdiction.**

11.3.16.C.2. If not to be recycled or reused onsite, exploration and production waste may be temporarily stored in tanks for up to 30-days while awaiting transport to licensed disposal or recycling sites. ~~Where feasible, p~~Produced water shall be transported by pipeline **unless easements are not available**.

Add:

**11.3.16.D. Closed loop flowback systems, that are pitless, shall be used for managing drilling fluids and produced water.**

11.3.18.A.

Add:

**Prior to initiation of O&GF site development, all top soil will be removed to a safe location to be reapplied to the site during reclamation.**

**An O&GF must be properly plugged and abandoned within 5 years following shut in.**

11.3.18.A.1. Removal of all equipment **and all gathering and flowlines** from the **O&GFwell** site.

11.3.19A. Best management practices, including artificial lift, automated plunger lifts and at least 98% emission reductions when utilizing combustion to control venting shall be employed at all facilities **unless technically infeasible**.

11.3.22.A.3. A plan for revegetation and any landscaping outside of working pad surface, or for reclaiming to the final land use as designated by the surface owner, and how it will be watered and maintained. **The plan for revegetation should have a preference for native plants including plants beneficial to pollinators, removal of any noxious or invasive species, and minimization of watering needs.**

11.3.23.B. There shall be no **onsite maintenance of vehicles involving hazardous materials and** no maintenance of field equipment ~~involving hazardous materials~~ within 300-feet of a water body.

Add:

11.3.23.D. On-going maintenance checks of all equipment according to manufacturers instructions shall be documented and reported.

11.3.24.A. The use of pipelines to transport liquid production wastes and product is required ~~unless easements are not available to the greatest extent practicable.~~

11.3.24.E To the maximum extent feasible, pipelines shall be aligned with established roads in order to minimize surface impacts and reduce habitat fragmentation and disturbance. ~~Setbacks from public roadways shall be evaluated on a case-by-case basis, with the determining factor for the setback being the size, pressure and type of pipeline.~~

11.3.24.G Operators shall provide the County with information on size, pressure, age, depth of bury, content and daily flow rate of the product transported of all existing gathering lines. Coordinates of all flow lines, gathering lines, and transfer lines shall be provided ~~to the Community Development Department~~ in a format suitable for input into the County's GIS system depicting the locations and type of above and below ground facilities.

11.3.24.H.

Comment: Why was this deleted? The provisions are important for protection of public health and safety.

11.3.24.H. Pursuant to COGCC Rules, existing and permitted oil and gas operations must conduct leak detection inspections and pressure testing and monitoring in order to identify flowline leaks or integrity issues. Leaks, spills, or integrity issues will be reported to the County as soon as practicable but no later than 24 hours after discovery. Spills that have contaminated surface water within 15 miles upstream of a Public Water System must notify the County and the Public Water System immediately upon discovery.

11.3.25.A. Temporary waterlines, or other means rather than truck, will be used to transport water to the site for hydraulic fracturing and other purposes, ~~unless easements are not available to the extent practical.~~

11.3.26. Financial Assurance

Note: Our comments on Financial Assurance were submitted by Tim Gosar on July 12. A redline version will be submitted separately.

11.5.2. Right to Enter

The County reserves the right to inspect any O&GF for compliance. County inspections may occur without Operator present. ~~Inspections in response to odor, noise, plausible complaints that could involve dangers to health, safety, and environment, or possible violation of rules may occur as soon as feasible upon receipt of the complaint.~~ However, unless urgent circumstances exist, the County will use best efforts to give four (4) hours prior notice to the Operator's contact person at the telephone number on file. ~~Inspections in response to odor, noise, or possible violation of rules may occur as soon as feasible upon receipt of the complaint.~~ Routine inspections will be coordinated with the Operator to allow Operator presence onsite to the extent possible and to ensure the site visit is conducted in accordance with all applicable Operator safety requirements. The County

reserves the right to increase required inspections if Operator is found to be non-compliant.