ConocoPhillips

Niobrara

Air Quality Plan

Fieldwide

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Acronyms and Abbreviations

ACRONYM	Definition
ARL	Air Resources Laboratory
AVO	Audio, Visual, Olfactory
BTEX	Benzene, Toluene, Toluene, Ethyl Benzene, Xylene
CDPHE	Colorado Department of Public Health & Environment
COGCC	Colorado Oil & Gas Conservation Commission
COPC	ConocoPhillips Company
EPA	Environmental Protection Agency
GC-MS	Gas Chromatography-Mass Spectrometry
GC-FID	Gas Chromatography-Flame Ionization Detector
HYSPLT	Hybrid Single-Particle Lagrangian Integrated Trajectory model
LDAR	Leak Detection and Repair
LEL	Lower Explosive Limit
NDIR	Nondispersive Infrared
NOAA	National Oceanic and Atmospheric Administration
PID	Photoionization Detector
PM	Particulate Matter

1. Purpose

The purpose of this plan is to provide the necessary information for meeting Air Quality requirements as required by the Oil and Gas Operator Agreement between ConocoPhillips Company (COPC), a Delaware corporation, and its subsidiaries, and Burlington Resources Oil & Gas Company LP, a Delaware limited partnership, and the City of Aurora, Colorado, a municipal corporation. Air quality management is an integral component of the Best Management Practices in order to minimize degradation to air quality.

COPC has a proud history of environmental awareness and sustainable development in the State of Colorado. COPC seeks to be to the preferred oil and gas exploration and production company in every community in which we operate. One of the many ways to achieve this is to minimize our impact on the environment.

2. Scope

This Air Quality Plan outlines the requirements related to air quality management for the Niobrara Operations that are required to satisfy Federal, State, and Local regulations. More specifically, the Air Quality Plan includes detailed monitoring requirements which describes the use of real-time air monitoring data to demonstrate that COPC activities are not adversely affecting the citizens and environment of the City of Aurora, Colorado. During Pre-Construction, Drilling and Completion phases, COPC will conduct sampling using a continuous emission monitoring system that detects Volatile Organic Compounds (VOC) including Benzene, Toluene, Ethyl Benzene, xylene (BTEX) and Particulate Matter (PM). The presence of Methane will be represented as a change over time based on the NDIR sensor reading. For the Production Phase, COPC will conduct sampling using a continuous emission monitoring system that detects Volatile Organic Compounds (VOC) including BTEX.

In addition to monitoring the air quality, COPC will comply with the odor requirements of the Operator Agreement and CDPHE reg 2.

Targeted compounds can be separated across the two types of monitoring:

- Indicator-level monitoring involves using small-sensors that react to a wide range of pollutants but cannot provide quantitative data.
- Reference-quality samples involve collecting an air sample and having a certified lab analyze the sample using EPA approved methods. These samples can identify both the specific VOC pollutants in the air sample, as well as a specific concentration measurement for each of the measurable VOC's.

Small sensors cannot provide actual measurements for specific compounds, but they are extremely useful for detection of air quality events (or sudden changes in air quality), discovery of emissions patterns, and for triggering the collection of a reference-quality sample.

The following compounds are monitored using our proposed solution:

Monitoring System	Sensor Type	Description
Continuous monitoring system	PID 10.6 eV sensor A total VOC indicator sensor with ppb sensitivity	The PID sensor responds to VOC compounds of concern, including BTEX and aromatic hydrocarbons.
Continuous Monitoring System	NDIR sensor A total hydrocarbon indicator with ppm sensitivity	The NDIR sensor responds to methane, ethane and heavier hydrocarbons that can be emitted from oil & gas operations. This sensor does not have ppb sensitivity but responds to methane which has a 1.9 ppm background level worldwide.
Continuous Monitoring System	Optical PM sensor	The optical particulate matter sensor uses light to measure the size and quantity of particulate matter particles in the air. These sensors measure PM 2.5 and PM 10.
Continuous Monitoring System	Meteorological Sensors	Temperature, Pressure, Humidity, Wind Speed, and Wind Direction.
Whole-air canister sample with EPA TO-15 analysis (both triggered and manually deployed)	Lab Analysis using GC-MS and/or GC-FID	The whole-air canister samples are analyzed at a lab for a suite of VOC's under the EPA's Method TO-15. VOC compounds, including benzene, toluene, ethylbenzene, xylenes, ethane, and methane.

The overall focus of the Air Quality Plan is to document the requirements to minimize degradation to air quality through elimination, capture, or minimization of potential emissions and protection of exposures during certain activities.

3. Objectives

The following objectives are applied to the management of air quality:

- Compliance with the Oil and Gas Operator Agreement, Best Management Practices, and relevant regulations and requirements for the management of air emissions.
- Provide an early indication of potential issues that can be managed prior to a non-conformance.
- Provide guidance on the monitoring and reporting requirements including assignment of responsibilities.

4. Responsibilities

4.1. Asset Leadership

- Reinforce adherence to the Oil and Gas Operator Agreement, Best Management Practices, and relevant regulations.
- Provide resources for effective implementation of this Air Quality Plan.
- Monitor compliance with the Air Quality Plan through periodic reviews.

4.2. Operations and Maintenance Supervision

- Ensure compliance with and promote implementation of the Air Quality Plan.
- Provide resources for effective implementation of the Air Quality Plan.
- Ensure compliance with federal, state, and local laws and regulations and with company standards
- Ensure training is provided such that employees have the skills, knowledge, and understanding of the Oil and Gas Operator Agreement, Best Management Practices, and relevant regulations.

4.3. Health, Safety, and Environmental

- Provide advice, support, technical resources, and tools related to the Air Quality Plan.
- Overall responsibility for coordination of environmental matters associated with facility air emissions.
- Submission of required regulatory reports.
- Manage Incident and non-conformance reporting.
- Review and report on pertinent matters arising from air quality monitoring specialist reports
- Ensure the Air Quality Plan is reviewed on a quarterly basis by internal team of environmental, operations, and maintenance staff. Results will be provided in quarterly reports to the City.
- Contact, as needed, the City Point of contact Steve Rodriguez srodrigu@auroragov.org

4.4. Niobrara Employees and Contract Designees

- Adhere to this Air Quality Plan.
- Monitor the performance of the facility equipment.
- Notification to Operations/Maintenance Superintendents and Environmental staff of any potential non-conformances.
- Provide relevant resources to enable completion of air emissions monitoring.

4.5. Contractors and Third-Party Emissions Monitoring Company

- Adhere to this Air Quality Plan.
- Perform air emissions monitoring in accordance with this Plan.
- Contact information of third-party emissions monitoring company:

Ajax Analytics, Inc.
Brent Buck – CEO
970-310-5007

5. Process

5.1. Overview

ConocoPhillips Company is committed to ensuring that environmental impacts from emissions on air quality are to be minimized and managed from our operations. As an operator in Colorado, COPC is required to comply with its obligations under the EPA, State of Colorado, and City of Aurora. These obligations include:

- Applying the relevant regulatory requirements to monitor the environmental performance of COPC facilities.
- Reporting on environmental compliance as required by this Plan.
- COPC must also comply with its own corporate requirements related to air quality.

5.2. Legal Requirements

The Federal Clean Air Act governs nationwide air quality, including key regulations that govern emissions from individual sources. The State of Colorado also governs air quality. These requirements include:

- Prevention of Significant Deterioration/ New Source Review (40 CFR part 51 subpart 1)
- Nonattainment provisions (40 CFR part 93, subpart A & B)
- New Source Performance Standards (40 CFR part 60)
- National Emission Standards for Hazardous Air Pollutants (40 CFR part 63)
- CDPHE reg 2, 3, 6, 7, 8 (5 CCR1001-4), (5 CCR 1001-5), (5 CCR1001-8), (5 CCR 1000-9) & (5CCR 1001-10)

COGCC applicable standards (Rule 100-1200 series), The State of Colorado, CDPHE, promulgated new requirements for leak detection utilizing optical gas imaging (OGI) in 2014. Two programs were created, one for leak detection and repair (LDAR) of fugitive emissions from components (Valves, fittings, flanges,) and another program that focuses on storage tanks and associated equipment (STEM.) In 2017 CDPHE revised Regulation 7 to add an Enhanced Inspection and Repair program for pneumatic controllers to identify and reduce emissions. OGI inspection frequency is generally based on production. Larger producing wells are inspected monthly and lower producing wells are inspected either quarterly or annually.

All Niobrara operations must ensure that processes and procedures are developed and implemented to ensure that all legislative requirements related air quality are complied with. All future City/State/Federal standards and regulations will be complied with.

6. Best Management Practices

This section describes the Best Management Practices for ConocoPhillips Company Niobrara operations related to:

- Minimization of Emissions
- Leak Detection and Repair

- Ambient Air Sampling
- Ozone Air Quality Action Days
- Compliance
- Reduced Emissions Completions
- Combustion Devices

6.1. Minimization of Emissions

To protect air quality, the following will be required:

- Use of electric equipment and electric line power, for the Drilling Phase, starting June 1, 2020 if:
    - using electric line power is technically and economically feasible;
    - the Well Site is along Monaghan Road or west of Monaghan Road, and
    - sufficient electrical capacity and infrastructure exists to power a rig at the Well Site 6 months prior to drilling.
- Diesel engines are allowed onsite currently, and in the event of intermittent electric supply or other emergency.
- Use of electric line power, for the Production Phase, to power permanent production equipment on Well Sites, such as motors and pump jacks, in order to mitigate noise and to reduce emissions. Other appropriate means to power equipment are currently utilized and may be used until electrical infrastructure becomes available. Reasonable efforts must be used to expedite use of electrical line power. COPC does not have specifics regarding the future electricity delivery routes at this point. Electric line power to power compressors is not required.
- Use of Tier 2 hydraulic fracturing pumps. Use of Tier 4 fracturing pumps is required if they become technically and economically feasible and commercially available.
- Use of no-bleed continuous and intermittent pneumatic devices that do not bleed natural gas to the atmosphere. This requirement can be met by replacing natural gas with electricity or instrument air or routing the discharge emissions to a closed loop-system or process.
- Any combustion device, auto ignition system, recorder, vapor recovery device or other equipment used to meet the hydrocarbon destruction or control efficiency requirement shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.
- Year-round compliance with the odor standards pursuant to COGCC and CDPHE regulations is achieved through combustion.
- Reduction of emissions from gas pipeline maintenance activities such as pigging or blowdowns. For planned maintenance activities involving the intentional venting of gas from a well tank, compressor or pipeline, provide forty-eight (48) hour advance written notice to the City of such proposed venting. Such notice shall identify the duration and nature of the venting event, a description as to why venting is necessary, a description of what vapors will likely be vented, what steps will be taken to limit the duration of venting, and what steps will be taken to minimize similar events in the future. If emergency venting is required, or if accidental venting occurs, provide such notice to the City of such event as soon as, but in no event longer than 24 hours from, the time of the event, with the information listed above and with an explanation as to the cause and how the event will be avoided in the future.
- Use of telemetric control and monitoring systems to detect when pilot lights on control devices are extinguished. Telemetric monitoring is also used for notification of pressure, temperature, and flow changes that may indicate issues or non-routine operation.
- Exhaust from all engines, motors, coolers, and all other equipment must be vented up.

- Operator agrees to continue participation in the CDPHE Environmental Leadership Program or other voluntary programs to encourage innovation in pollution control at well sites.
- Any permanent production tanks utilized during the Production Phase must be connected to a combustion device with 95% or better of total volatile organic compounds (VOC) destruction, provided that sufficient onsite gas is available to fuel a combustor if used or if alternative technology is available.

6.2. Leak Detection and Repair

Fugitive Emissions Management is essential to minimize fugitive emissions to prevent losses of hydrocarbon vapor at operating facilities. The control of fugitive emissions is a matter of minimizing the potential for large leaks and providing early detection and repair.

For the purpose of this plan, a leak is defined as an unintended emission, visible with an IR camera, and not associated with normal equipment operation.

Fugitive Emissions Management for Niobrara Operations has three main components including operational practices and procedures and the leak detection program required by the Best Management Practices.

- Informal leak detection during normal operations - "leak-detection" takes place any time operational staff visit a site during the normal course of business wearing a personal gas detection monitor. Most sites are visited daily while some lower producing well sites are visited every 2-3 days if the operations center indicates all equipment is online. Personal monitors have the following alarms:
  - LEL – 10%
  - O2 – 19.5% (low) and 23.5% (high)
  - H_2S – 10 ppm
  - CO – 35 ppm
- CDPHE Air Permit compliance – As a component of CDPHE air permit compliance, Operations staff conduct internal monthly field inspections which include inspection of emission control equipment, i.e., flares, combustors, tanks, and truck loading equipment, to ensure proper operation and audio, visual, olfactory (AVO) or “look, listen, and smell” inspections to detect potential emissions.
- The third component is a formal leak detection program which is carried out in accordance with State and Federal requirements for both Colorado (CDPHE) and EPA and the City of Aurora Best Management Practices as outlined:

COPC shall develop and maintain a leak detection and repair (“LDAR”) program as required by CDPHE using modern leak detection technologies such as infra-red cameras for equipment used on the Well Sites, as follows:

- For the five (5) year period beginning with the start of the Production Phase for each New Well, COPC shall conduct IR camera monitoring of all equipment at the respective Well Site based on the following minimum frequency:
  - Year 1 – Monthly
  - Year 2 – Quarterly
  - Year 3-5 – Semi-annually
- After the initial five (5) year period, Operator will conduct annual IR camera monitoring until all wells on the Well Site are plugged and abandoned. The first inspection will occur within 30 days of the facility commencing production. Records of all leaks found, date the leaks

were repaired, and the date the location is re-screened to verify that the leak has been repaired will be maintained.

- LDAR records must be maintained for five years and must be made available to the City upon request. Except when an emergency circumstance would necessitate an immediate repair, leaks must be repaired as quickly as practicable. If more than 5 days repair time is needed after a leak is discovered, an explanation of why more time is required must be submitted to the City. At least once per year, the City shall be notified five (5) business days prior to an LDAR inspection of its facilities to provide the City the opportunity to observe the inspection.

6.3. Ambient Air Sampling

COPC shall conduct, as approved by the City, specific ambient air quality testing following specific practices and procedures. Proposed technology may include:

Baseline Monitoring

At least 5 days prior to oil & gas operations (preferably more), COPC will deploy one or more air quality monitoring stations within 500' of the pad site. The background monitoring station(s) will be placed away from and upwind of the emission concern areas. These air quality monitoring stations include the same sensor technologies that will be used for the duration of the oil & gas activities. Vendor will also manually deploy at least one whole-air canister collecting over a 1-week sampling period prior to oil & gas operations at a site.

Continuous Monitoring Station

Air quality monitoring system manufactured and serviced by Apis, Inc., headquartered in Oregon, with manufacturing facilities in Ohio. Apis calibrates all systems in an environmental chamber after assembly and before shipping. On an annual basis, systems are returned to Apis for a thorough cleaning, sensor replacement (if needed), and re-calibration in the environmental chamber. The continuous air monitoring stations are solar-powered and take measurements every 15 seconds. These 15-second measurements are output as either a 5-minute or 15-minute average. The Apis system utilizes a 10.6 eV PID sensor for VOC indicator measurements. This PID sensor responds to part-per-billion level changes in over 100 VOCs, including BTEX. The output from this sensor is dimensionless (ie. does not have a meaningful y-axis label when graphed) and is presented as the change in total VOCs over time. The Apis system autonomously triggers the collection of a whole-air canister sample, which will then be collected by staff and sent to a certified lab for analysis.

The EPA has not defined standards for small sensors. COPC will work to align with guidelines published by the EPA in their "Air Sensor Toolbox" and the South Coast Air Quality Management District– both of which are active in working to consolidate learning and information around small sensor use. PM measurements are presented as concentration values, as the small PM sensors are typically within 10% to 20% accuracy when compared to a reference station

Whole-Air Canister

Whole-air canister samples may be collected in two ways:

- An instantaneous sample triggered by the continuous monitoring station when an air-quality event is detected.

- A week-long sample deployed manually by staff. For example, a week-long canister sample may be deployed and opened on a Thursday, will slowly draw air into the canister over the course of a week, and then be closed and removed for analysis on the following Thursday.

Whole air canisters, whether triggered by the continuous monitoring station or deployed manually by staff, are collected and analyzed under the guidelines of EPA Method TO-15. Lab analysis of whole-air canisters can take up to 3-4 weeks, meaning it may be 4 weeks before the results of a canister sample are available in the platform.

Whole air canisters are cleaned and analyzed per EPA TO-15 methods. The TO-15 method outlines requirements for chain-of-custody, defines how canister equipment is to be cleaned and calibrated, and how the analysis is to be performed.

Continuous monitoring will be performed for the life of the well. Continuous means that sampling will be performed with indicator-level sensors at least once every 15 minutes, though we are targeting a higher frequency.

- Periodic monitoring will be performed with whole-air canisters sampled on demand as air quality events are identified by the continuous monitoring system
- Pre-Construction or pre-drilling baseline air quality testing – COPC shall conduct air sampling for a period of 5 days prior to any construction activities for any new Well Sites or prior to drilling additional wells on any Well Sites already constructed as of the Effective Date. COPC shall conduct baseline sampling using a continuous monitoring system that responds to methane and detects VOCs including BTEX. COPC shall also conduct continuous monitoring for particulate matter. Deploying monitoring stations made up of continuous monitoring systems and whole-air canisters per siting principles in advance of any oil & gas operations in an area. Monitoring stations remain deployed for the duration of the oil & gas operations; including construction, drilling, completion, and production. As operational activity slows and a well site moves into production, CoP may reduce the number of monitoring stations around the production site.
- Drilling Phase – COPC shall conduct drilling rig sampling using a continuous monitoring system that responds to methane and detects VOCs including BTEX during the Drilling Phase at each Well Site. COPC shall also conduct continuous monitoring for particulate matter.
- Completion Phase - COPC shall conduct completion sampling using a continuous monitoring system that responds to methane and detects VOCs including BTEX during the Completion Phase and flowback at each Well Site. COPC shall also conduct continuous monitoring for particulate matter.
- Production Phase – Within 30 days of initial production of a New Well at a Well Site, COPC shall place on-site monitors capable of continuous monitoring, responding to methane and detecting VOCs including BTEX in the parts per billion range, either automatically or manually.
- Seasonal, regional and meteorological influencers within the software platform are considered. Data is collected from monitoring stations, and bolstered with publicly available data from trusted sources, such as CDPHE monitoring stations and university research. With this expanded dataset, expected seasonal changes, temperature or humidity influence on sensors, and operational phase expectations, are incorporated into the analysis that identifies air quality events and separates oil & gas pad impact from other regional changes to air quality.
- Measurements are put into context, aiding in determining whether a change is expected due to regional or seasonal air quality patterns, or whether a change is a result of on-pad operational activities.

- The continuous monitoring system will have the ability to automatically trigger the collection of a summa canister or other technology capable of detecting VOCs including BTEX in the ppb range and methane in parts per million range.
- Meteorological sensors on location will also record wind, temperature, humidity and pressure date to take into account seasonal and operational variations to help separate ambient background from local pad impacts.
- Continuous monitors will be capable of capturing and providing timely data to the City through a data portal of any monitored elevated spikes in methane or VOC levels, upon request.
- City shall have full access and use of the collected data during any phase. In addition, the City may require the Operator to use a third party to conduct additional air monitoring and analysis as needed in response to emergency events such as spill, process upsets, or accidental releases.
- Alert-level thresholds are evaluated in layers.
    - A Tier 1 air quality event is an indication of dangerous concentrations of pollutants in the air. Systematic alerts are setup that send communications immediately if any sensor measures concentrations at levels that would pose an immediate threat to people in the area. An example of a Tier 1 alert would be a sensor reading 10% of a lower explosive limit, or multiple particulate matter sensors reading exceptionally high levels for a sustained period.

      Alerts for Tier 1 air quality events can be sent via email, SMS, and/or via API call to a defined recipient.

    - A Tier 2 air quality event is an indication of a change in the air quality in an area. Tier 2 air quality events are identified through the use of machine learning algorithms that are part of the Ajax software platform. The algorithms judge the difference between predicted air quality measurements and actual air quality measurements and identify anomalies if they occur. Examples of Tier 2 events could be multiple sensors reading slight, but unexpected changes in the air quality indicator metrics, multiple metrics from a single monitoring station elevating in an odd pattern, or by a sudden change, or spike, in a single parameter.
    - Tier 2 air quality events are triggers for additional characterization. These types of events don't pose an immediate threat to human health. Tier 2 events may trigger the collection of an automated whole-air canister, a visit to a site with a handheld leak-detection sensor, and/or investigation into operational activities occurring during the time of the air quality event. The result of a Tier 2 event may be inconclusive or may indicate that an operational activity resulted in elevated levels of emissions for a short period of time.
    - Alerts for Tier 2 air quality events can be sent via email, SMS, and/or via API call to any defined recipient.
    - The alert-level thresholds will be established during the course of the monitoring and in collaboration with City staff.
- Sample site locations rationale and data will include prevailing wind direction, comparative location of site operations, proximity to residential uses, proximity to off-site fueling stations, and possible nearby mobile source activity such as traffic. Upwind and downwind sampling near the well source will be considered and noted. Base principles that inform monitoring station site selection include:

- Triangulate the concern areas with bias to prevailing wind directions and pollutant dispersion modelling.
- Place impact monitoring stations in areas where people live, work, and play.
- Place monitoring stations near other potential emissions sources that could influence measurements around the concern area including high traffic areas and fueling stations.

On a site-by-site basis,

- Complete a dispersion model based on point emissions from well pad and prevailing wind direction,
- Avoid areas where wind swirls due to landscape or buildings.
- Select site spacing that may inform how pollutants move through an area.
- Account for prevailing wind direction, working to have a clear path to upwind emissions sources.

Concern areas may include the targeted oil & gas operations as well as nearby pollutant sources, such as other industries or heavily trafficked roadways that could impact the measurements around the oil & gas pad.

To inform site selection, The National Oceanic and Atmospheric Administration (NOAA) Air Resources Laboratory's (ARL) Hybrid Single-Particle Lagrangian Integrated Trajectory model (HYSPLIT), which is a widely used model for tracking the source of pollutants and dispersion derived from meteorology data, is utilized. This model provides important predictions regarding the best placement around multiple concern areas and in some cases allows for optimizing the number of monitoring stations required for complete coverage in an area.

- COPC may evaluate other technologies throughout the life of the wells and may use other technologies if they are as effective in detecting target compounds.
- Air Modelling Study – As required by the Operating Agreement, COPC shall contribute its proportionate share of collateral in a form of bond to the City for use in a dispersion model up to $25,000.00. Operator shall post the bond ten days following execution of this Agreement by both parties.
- Optional City Program - If the City elects to take ownership of the ambient air monitoring program, COPC may discontinue the program described in this Section, and the Operator shall contribute its proportionate share of collateral in the form of a bond to the City for use in sampling and monitoring. COPC shall pay $10,000 for every Well Site with a New Well drilled after the City elects to initiate the City Program and a yearly contribution which will be negotiated, but not to exceed $100,000.
- As part of the City Program, the City may require COPC to use a third party to conduct additional air monitoring and analysis as needed in response to emergency events such as spill, process upsets, or accidental releases.

6.4. Ozone Air Quality Action Days

COPC shall respond to Air Quality Action Day advisories posted by the Colorado Department of Public Health and Environment for the Front Range Area by implementing their suggested air emission reduction measures as feasible. Emission reduction measures, as determined by the Operations manager, will be implemented for the duration of an Ozone Air Quality Action Day advisory and may include measures such as:

- Minimize vehicle and engine idling
- Reduce truck traffic and worker traffic
- Delay vehicle refuelling

- Postpone construction activities to the maximum extent practicable.

At COPC, alerts are received by Operations staff and disseminated to the COPC Watkin field office employees. Employees are instructed to re-fuel in the evening hours and minimize driving/idling where feasible. If there are maintenance activities associated with emissions that can be deferred, they are asked to do so.

Within 30 days following the conclusion of each annual Ozone Air Quality Action Day season, Operator shall submit a report to the City that details which measures it implemented during any Action Day advisories.

6.5. Compliance

COPC shall submit quarterly reports to the City of Aurora certifying:

- Compliance with these air quality requirements and documenting any deviations from the requirements of the OA, including the date and duration of each such deviation and a compliance plan and schedule to achieve compliance.
- Equipment at the Well Sites continues to operate within its design parameters, and if not, what steps will be taken to modify the equipment to enable the equipment to operate within its design parameters.
- Truth, accuracy, and completeness of the quarterly report by providing signature of the Responsible Official, as defined by CDPHE. The Operator shall also provide the City with a copy of any self-reporting submissions that the Operator provides to the CDPHE due to any incidence of non-compliance with any CDPHE air quality rules or regulations at the Well Sites.

6.6. Reduced Emissions Completions

COPC shall comply with EPA Reduced Emission Completion rules for oil and gas wells.

6.7. Combustion Devices

To the extent flares, thermal oxidizers, or combustion devices are utilized, all such flares shall be designed and operated as follows:

- A combustion device must be available at each Well Site during the entire Production Phase for maintenance or emergencies only.
- The combustion device must be fired with natural gas and designed to operate with a 98% or higher hydrocarbon destruction efficiency.
- The combustion device must be designed and operated in a manner that will ensure no visible emissions during normal operation. Visible emissions mean observations of smoke for any period or periods of duration greater than or equal to one minute in any 15-minute period during normal operation, pursuant to EPA Method 22. Visible emissions do not include radiant energy or water vapor.
- The combustion device must always be operated with a flame present when emissions may be vented to it, or other mechanism that does not allow uncontrolled emissions.
- All combustion devices must be equipped with an auto-igniter unless manned while in use.

7. Data Management and Response to Alerts

Air Monitors are equipped with a modem that provides a cellular connection. The modem will transmit data to COPC and displayed on a dashboard where alerts can be sent if pollutant concentrations exceed the alert-level thresholds of Tier 1 and Tier 2.

All alarms and or alerts received, or notification received by the City of Aurora, will be considered a "critical alarm" managed 24/7 in our COPC call out center. In the rare event that an alert is received, and it is identified to be an emergency situation, the well would be remotely shut in. Otherwise upon receipt of an alarm, alert or notification, COPC field operations personnel would respond to the location within 1 hour to investigate to identify the cause for the alert.

If the investigation determines that the alert was caused by a non-COPC activity, a record of the findings will be entered in the operating log. Should the alert be caused by a COPC activity, COPC personnel and/or its contractors will follow their existing procedures to eliminate and/or mitigate the source of the validated alert. In the unlikely event that the event may impact the community, COPC will follow its established Emergency Response procedures. Written response to the notification and/or alert will be provided to the City regarding status and/or resolution will be provided within 24 hours.

8. Compliance Assurance

As required by COPC Lower 48 Compliance Assurance Manual, Environmental staff will develop an internal list of work orders to implement the Operator Agreement and Best Management Practices. The requirements will be communicated to impacted personnel supporting the Niobrara operations.

Requirements of the Operator Agreement and Best Management Practices will be incorporated into compliance plans. A list of tasks and/or roles and responsibilities will also be developed to ensure compliance with obligations. Personnel responsible for completing tasks will be made aware of their responsibilities and be trained appropriately. Defined tasks will be incorporated into Niobrara processes such as SAP. To ensure timely compliance of requirements and tasks, reviews will be conducted to assess compliance status associated with these compliance activities.

9. References

- Oil and Gas Operator Agreement
- Best Management Practices

10. Site Specific Information

See attachments