

2.2.12 Applicant-Committed Environmental Protection Measures (ACEPMs)

Under the action alternatives, Newfield has committed to the following measures to reduce the potential environmental impacts of the proposed oil and natural gas development and waterflooding operations within the MBPA. The following ACEPMs would apply to all Federal lands within the MBPA.

2.2.12.1 Air Quality

2.2.12.1.1 General

- Newfield would use water or other BLM-approved dust suppressants as needed during drilling, completion, and high traffic production operations for dust abatement.
- Newfield employees would comply with posted speed limits on unpaved county roads used for access and would use safe vehicle speeds on other unpaved access roads. Newfield would instruct contractors to comply with posted speed limits.
- The use of carpooling would be encouraged to minimize vehicle traffic and related emissions and Newfield would implement a vehicle policy to minimize idling while also recognizing safety concerns.
- Newfield would conduct a pilot test to evaluate the feasibility for converting fleet vehicles to cleaner-burning compressed natural gas (CNG) or liquefied natural gas (LNG) fuels. The results of this pilot test would be submitted to the AO.

2.2.12.1.2 Drilling / Completion Operations

- Newfield would use Tier II diesel drill rig engines or equivalent, with the phase-in of Tier IV engines or equivalent emission reduction technology by 2018.
- Newfield would employ reduced-emission completion practices, including: using the recovered gas as fuel for another useful purpose when feasible; routing all saleable quality gas to a flow line as soon as practicable; and safely maximizing resource recovery and minimizing potential VOC emissions from hydraulically fractured, high-pressure gas well flowback operations (not including low-pressure oil wells). If high-pressure gas well flowback emissions cannot be routed to a flow line, they will be captured and routed to a completion combustion device, unless such device will result in a fire or explosion hazard.

2.2.12.1.3 Production Operations

- Newfield would utilize for new construction low- or intermittent-bleed pneumatic devices to minimize VOC emissions. High-bleed devices may be allowed for critical safety and/or process purposes.
- High-bleed pneumatic devices at existing Newfield facilities would be replaced/retrofitted with low- or intermittent-bleed devices when repair or replacement is warranted, and no later than 6 months after the ROD is signed. High-bleed devices may be allowed to remain in service for critical safety and/or process purposes.
- Newfield would employ for new construction glycol dehydrator still vent emission controls with a control efficiency of 95 percent or greater.

- Newfield would conduct a study to evaluate the feasibility for the implementation of “low emission” glycol dehydrators. The results of this study would be submitted to the AO.
 - Newfield would install emission controls with an efficiency of 95 percent on tanks that have been constructed, modified or re-constructed after August 23, 2011, with the potential to emit greater than 6 tons per year (tpy) VOC.
- Newfield would implement a telemetry monitoring system where feasible to provide for the effective management of production exceptions, while reducing the number of vehicle trips and miles traveled.

2.2.12.1.4 Central Facilities

- Newfield would install electric motor driven compression where feasible. Where electrification is not feasible, Newfield would utilize lean-burn natural gas fired compressor engines or equivalent rich-burn engines with catalysts. Lean-burn engines would be fitted with oxidation catalysts to minimize carbon monoxide and VOC emissions.
- Newfield would maximize the use of central compression, thereby reducing the need for smaller and less efficient (higher emission) well site compressor units.
- Newfield would periodically replace rod packing systems on reciprocating compressors and when feasible use dry seals on centrifugal compressors to minimize the loss of VOC.
- Newfield would employ for new construction glycol dehydrator still vent emission controls with a control efficiency of 95 percent or greater.
- Newfield would install for new construction emission controls with an efficiency of 95 percent or greater on stock tanks that have the potential to emit VOC greater than 6 tpy.

2.2.12.1.5 GOSP Implementation

- Where feasible, Newfield would implement Green River oil gathering systems and construct GOSPs. With GOSP implementation, the majority of the stock tanks, produced water tanks, and related tank heaters at affected existing well sites would be removed from service. New wells served by a GOSP would be constructed without tank batteries, thereby eliminating tank battery and related tanker truck emissions.
- The GOSP facilities would be specifically designed to minimize the emission of VOC. Storage tank emissions would be captured and reused within the facility process or sold as product. Vapors from truck loading operations would be controlled by 95 percent

2.2.12.1.6 Monitoring Programs

Newfield will conduct Audio-Visual-Olfactory (AVO) leak inspections on all existing and new facilities within the Project Area on an annual basis and repair observed leaks. Newfield will utilize IR Camera observations in place of AVO inspections for at least 10% of facility inspections. If future regulations are implemented to address leak detection and repair requirements, the regulatory program will replace the voluntary inspection program.

- Newfield will develop, and submit for BLM approval, a corrective action plan for the Project Area that would include appropriate timeframes to complete necessary repairs that may be identified in the future through the Monitoring Program.
- Newfield will provide an annual report listing the facilities where leaks were observed, the date the leak was observed, the cause of the leak, and the date corrective actions were completed at facilities.

2.2.12.1.7 Adaptive Management

Annual Emissions Balance Sheet

Newfield will ensure that new stationary sources authorized by the ROD will not result in net increases of volatile organic compounds (VOC) emissions. This will be accomplished by achieving reductions of VOC emissions from existing stationary sources prior to operating new sources, balanced on a calendar year annual basis. Newfield will document such reductions in VOC, as well as additions in VOC, from stationary sources in an Annual Emissions Balance Sheet that will have sufficient information for BLM to verify the Operator's actions.

The Project Area shall be defined as the area analyzed in the GMBU FEIS (this shall be the "geographic area" as referenced elsewhere in this document). Stationary sources include, but are not limited to, engines, heaters, glycol dehydrators, oil and produced water storage tanks, truck loading, pneumatic controls, pneumatic pumps, and fugitive leaks.

Newfield will develop and use the Initial Emissions Balance Sheet as follows:

1. The reporting tool for the Initial Emissions Balance Sheet will be the emissions inventory workbook created by UDAQ and EPA for the Uinta Basin 2014 inventory (2014 emissions inventory workbook), which provides facility-by-facility and source-by-source emissions detail.
2. Newfield will use the emissions quantification methods used in the 2014 emissions inventory workbook to calculate VOC emissions for the 2012 operating year. This calculation of VOC emissions for the 2012 operating year will serve as the initial inventory against which subsequent increases or decreases in VOC emissions will be calculated and documented.
3. Technical corrections and revised calculation methodologies may be applied to the 2014 emissions inventory workbook following consultation between UDAQ, EPA, BLM and Newfield.

For subsequent year Annual Emissions Balance Sheets, the above-referenced 2012 emissions inventory calculated by using the 2014 emissions inventory workbook shall continue to serve as the template from which further emissions reductions and additions are calculated and documented. A separate 2015 or 2016 inventory of VOC emissions, as appropriate based upon the timing for the 1 issuance of the ROD, will subsequently be prepared for comparison with the calculations of VOC emissions for the 2012 operating year to determine the net change in VOC emissions and available VOC headroom for project activities that result in new sources of VOC emissions.

VOC emissions reductions including, but not limited to, actions taken in response to voluntary actions, the implementation of applicant committed environmental protection measures, natural production decline (defined in the Technical Support Document), existing or new regulations, and/or ozone attainment and maintenance plans can be used to create headroom for project activities that result in new sources of VOC emissions.

Annually, or upon request by Newfield, BLM will conduct an internal review and assessment and confer with Newfield to consider new state and federal regulatory requirements and evaluate if portions of this mitigation strategy are no longer necessary. Upon review and Newfield consultation, BLM may remove components of the mitigation strategy that are determined to be equivalent in effect or duplicative of state or federal regulatory requirements or otherwise create contradictory or overlapping requirements. The review will also evaluate the impact of new regulations upon project VOC emissions and the need to continue the annual emissions balance sheet requirement.

The implementation of General Conformity requirements following an ozone non-attainment designation shall be considered equivalent to the annual emissions balance sheet provisions of this strategy, and the annual emissions balance sheet requirements may be terminated at Newfield's option. Upon adoption of a nonattainment FIP/SIP/TIP (or comparable provisions if the area is classified as marginal), this mitigation strategy in its entirety shall be replaced by the FIP/SIP/TIP.

2.2.12.1.8 Cooperative Efforts and Outreach

- Newfield would encourage and lend technical support to scientific research efforts focused on improving the understanding of ozone formation chemistry within the Uinta Basin, emission inventory enhancements, source apportionment studies, ozone precursor transport studies, precursor sensitivity studies, and evaluations of cost effective control strategies.
- Newfield would incorporate ozone awareness and specific actions for reducing ozone precursor emissions into the current employee training program.

2.2.12.1.9 Ozone Training for Operations Personnel

Newfield will develop an Ozone Action Mitigation Plan which includes an operator training component as well as a list of Project activities that could be delayed or minimized during ozone episodes.

For the purposes of the Ozone Actions Mitigation Plan, an ozone episode would be any next day that the UDAQ air quality forecast is Unhealthy for Sensitive Groups (Code Orange – minimum ozone concentration of 0.071) or higher as published on the UDAQ website (current link is: <http://air.utah.gov/forecast.php?id=v4>).

Newfield will develop and submit for BLM approval an Ozone Action Mitigation Plan which includes the following components:

- Newfield will incorporate in its current employee training program ozone awareness and specific actions for reducing ozone precursor emissions.
- To the extent practical, Newfield will halt, defer and/or otherwise schedule activities that may contribute to ozone formation to periods outside of ozone episodes.

Operations personnel shall receive training prior to ozone season. Training programs shall cover the following:

- Ozone – what it is and how it impacts air quality and human health.
- Ozone formation ingredients – NO_x, VOCs, and weather conditions.
- Ozone attainment status in the Uinta Basin.
- Review of applicable regulations.
- What can be done to prevent and/or reduce emissions of ozone precursor gases – such as limiting driving, maintaining equipment, delaying optional activities (e.g. equipment and well blowdowns, well completions, etc.).
- The importance of proper maintenance of tank hatches, vapor capture and combustor systems, and other equipment that reduces emissions.

2.2.12.1.10 Work Practices

Work Practices

- Newfield will remain fully compliant with applicable UDEQ-DAQ rules at all times, including permitting for new and existing sources, and specifically found in Utah Administrative Code Title R307 501 through 504.
- Newfield will comply with Utah Division of Air Quality (UDAQ) Rule 307-502 requiring effective December 1, 2015, all existing pneumatic controllers in Duchesne County or Uintah County meet the standards established for pneumatic controller affected facilities that are constructed, modified or reconstructed on or after October 15, 2013, as specified in 40 CFR 60, Subpart OOOO Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution to minimize VOC emissions. High-bleed devices may be allowed for critical safety and/or process purposes.
- When technically and/or economically feasible, Newfield will consider non-gas driven (no bleed) pneumatics and potential opportunities for power supply for such devices through renewable resources for both existing and new development.
- Newfield would comply with the applicable requirements of UDAQ Rule 307-401-8a as they apply to the installation of Best Available Control Technology (BACT) compliant emission controls on glycol dehydrator still vents which requires the degree of pollution control for emissions, to be at least best available control technology. When determining best available control technology for a new or modified source in an ozone nonattainment or maintenance area that will emit volatile organic compounds or nitrogen oxides, best available control technology shall be at least as stringent as any Control Technique Guidance document that has been published by EPA that is applicable to the source. The control efficiency shall be at least 95 percent or greater.
- Newfield would comply with the applicable requirements of UDAQ Rule 307-401-8a as they apply to the installation of Best Available Control Technology (BACT) compliant emission controls on tanks which requires the degree of pollution control for emissions to

be at least best available control technology. When determining best available control technology for a new or modified source in an ozone nonattainment or maintenance area that will emit volatile organic compounds or nitrogen oxides, best available control technology shall be at least as stringent as any Control Technique Guidance document that has been published by EPA that is applicable to the source.

- When technically and/or economically feasible, Newfield would route saleable gas from oil/water/gas separators to a gas gathering pipeline or otherwise control emissions via a vapor combustor or equivalent methodology.
- Wells that utilize plunger lift systems (or otherwise automated systems) shall be operated so as to minimize fugitive emission from well pressure fluctuation and liquid accumulation within the well.
- The GOSP facilities would be specifically designed to minimize the emission of VOC. Storage tank emissions would be captured and reused within the facility process or sold as product. Vapors from truck loading operations would be controlled through a vapor capture system utilizing Best Available Control Technology (BACT) compliant with UDAQ Rule 307-401-8(a) which requires the degree of pollution control for emissions to be at least best available control technology. When determining best available control technology for a new or modified source in an ozone nonattainment or maintenance area that will emit volatile organic compounds or nitrogen oxides, best available control technology shall be at least as stringent as any Control Technique Guidance document that has been published by EPA that is applicable to the source.
- Evaporation Ponds
 - Newfield would not own or operate evaporation ponds for the storage or disposal of liquids.
- Dehydrators
 - Optimize dehydrator recirculation rates for the prevailing conditions
- Venting Blow Downs
 - Defer and/or minimize blow down of wells, pipelines, and pressure vessels during ozone events
- Pneumatic Pumps
 - Adjust and optimize pneumatic heat trace pump rates for the prevailing conditions
- General Episodic Practices
 - To the extent practical, defer and/or otherwise schedule activities that may contribute to ozone formation to periods outside of ozone events
- Limit Vehicle Idle Time
 - Limit vehicle idle time to the extent practical