

## **DRAFT Uinta Basin Ozone Working Group Industry Seasonal Measures**



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The Uinta Basin, a major oil and natural gas production basin in Utah, has a unique topology which results in elevated ozone levels under certain weather conditions during the winter. As of August 3, 2018, the basin has been designated as nonattainment for the ozone national ambient air quality standard (NAAQS), which initiates a three-year process as prescribed by the Clean Air Act (CAA).

The air monitoring data supporting the designation represent three years from 2012-2014 and are on solid grounds. As such, a legal challenge does not seem fruitful and would likely drag on long past deadlines the state must meet in the meantime to fulfill CAA obligations. Western Energy Alliance supports the state and EPA following the prescribed CAA process to ensure healthy air quality is achieved in the Basin. In particular, the state must develop the necessary emissions inventory data and conduct modeling before imposing any new controls on oil and natural gas sources in order to ensure that development can continue even as the nonattainment process proceeds. The state, EPA, tribe, counties, industry and other stakeholders should work together to reduce emissions and avoid a future moderate designation.

### **Nonattainment Process**

The “marginal” nonattainment designation requires achievable steps to attempt to reduce ozone below the 70 parts per billion threshold: an emission inventory; a permitting program for major sources of air pollution; and 1.1-to-1 emission offsets for new major sources and major modifications at existing sources of ozone precursors. These are changes that would affect a small number of oil and natural gas sources in the basin, as typical wellhead facilities are below the major source threshold. Western Energy Alliance fully supports the Utah Division of Air Quality (UDAQ) as it works through these required steps to get the Basin into attainment for ozone.

However, 2015-2017 monitoring data indicate that a “moderate” nonattainment designation is a significant possibility in the near future, which would have a much larger impact on all operations in the Basin. If a future moderate designation becomes a reality, the burden of CAA requirements increases, starting with the creation of a State Implementation Plan and a Federal Implementation Plan for Indian Country. The SIP/FIP would include such measures as reasonably available controls for all existing sources, both major and minor, much stricter controls for new major sources, and 1.15-to-1 offsets for emission increases. Western Energy Alliance also fully supports UDAQ following the full CAA process in the event of a moderate designation. The CAA mandates the development of an emissions inventory and baseline emission modelling before imposing any further controls on oil and natural gas sources. Without proper inventories and baseline modeling, controls could be imposed that are not effective at improving air quality while at the same time curtailing new development and hence, economic and job growth.

Western Energy Alliance appreciates the opportunity to working cooperatively with UDAQ, EPA, the Ute Indian Tribe, the counties, Utah State University, and other appropriate stakeholders to improve air quality in the Basin. Stakeholders have a shared interest in improving air quality while enabling the continued environmentally responsible development of oil and natural gas.

The following is an outline of industry supported potential ozone mitigation measures that can help prevent future exceedances.

**Episodic Measures**- Ozone mitigation practices that can be implemented when there are predicted inversions or high ozone values. Using USU's ozone alert to inform operators of high ozone days, the following practices can be implemented when appropriate and feasible.

- Defer and/or minimize blow down of wells, pipelines, and pressure vessels
- Schedule maintenance activities to occur during planned shutdowns
- Defer or postpone liquids hauling or pond injection until after ozone event.
- Delaying the refueling of trucks and equipment
- Eliminating truck idling when possible

**Continual Winter Measures**- From January to March each year, implement the following measures when appropriate and feasible:

- Implement an Enhanced Inspection and Maintenance Program
  - Infrared (IR) Camera: Conduct a representative survey of facilities and equipment with the potential for fugitive VOC emissions using an infrared (IR) camera. The intention of this survey is to educate staff on the character and nature of fugitive volatile organic compound (VOC) emissions and to direct and prioritize audio, visual, olfactory (AVO) surveys and repairs.
  - IR Camera or AVO Surveys for Facilities with High Potential for Emissions: Conduct IR camera or AVO surveys of facilities and equipment with *highest potential* for VOC emissions on a regularly scheduled basis and repair as practical. This practice is most effective if performed prior to the winter ozone season. Significant leaks detected with this method should be repaired within two weeks.
  - Record Keeping and Reporting for IR Camera: Maintain records of inspections and repairs as necessary to provide an estimate of VOC reductions. Support post-season efforts to compile emission reduction data. Maintain data on the number of facilities inspected using IR or AVO methods, the number leaks repaired and an estimate of leak volume. Data should be compiled on a monthly basis for correlation with ozone events.
  - Inspection and Regular Maintenance: Inspect and perform regular maintenance of equipment such as vehicles, pneumatic devices, dehydrators, internal combustion engines and emission control equipment. Defer, if practical, maintenance that causes a temporary increase in emissions such as compressor blow down, to periods outside of ozone events.
  - Limit Vehicle Idle Time: Limit vehicle idle time to the extent practical.
- Staff training on minimizing VOCs and NOx
  - Ozone—What is it and its environmental impacts?
  - Ozone formation ingredients—NOx, VOCs, and weather conditions that create elevated winter ozone episodes.
  - Ozone attainment status in the Uinta Basin.

- Review of applicable regulations.
- Identifying and remaining conscious of opportunities for reducing ozone precursors and/or as practical rescheduling activities to avoid ozone episodes.
- Emphasize importance of proper maintenance of tank hatches, vapor combustors, and other equipment that reduces emissions, and the importance of remediating spills.
- Identifying a high ozone event—How to use USU's and UDAQ's air monitoring and forecasting Web page.

**Best Management Practices-** List of BMPs that companies in the Uinta Basin already implement.

- Exploration & Production
  - Storage Tanks
    - Utilize multi-stage separators to minimize emissions
    - Utilize flares to control tank emissions
    - Utilize vapor balance or vapor collection system/flare for tanker truck loading
    - Would like to use vapor balance more, but uneconomical
    - Maintain flares even when emissions fall under thresholds
  - Pneumatic Devices
    - Replace high bleed controllers
    - Employ intermittent/snap acting controllers
    - Employ solar power controllers (injection wells)
    - Employ mechanical valves
    - Design facilities to utilize less pneumatic controllers
    - Predominately use solar power pumps
  - Engines and General
    - Utilize electric powered pump jacks/jet lift pumps where power is available/reliable
    - Utilize bi-fuel (gas/diesel) engines
    - Transfer produced water by pipelines (minimizes truck transportation related emissions)
    - Minimize engine idling
    - Conduct annual training on Air Quality regulations and Ozone Awareness for Operations/Engineering
  - Fugitive Emissions Leaks
    - Conduct at least monthly AVO surveys
    - Conduct annual (voluntary) and semiannual (regulatory) LDAR surveys
    - Annual FLIR camera inspections of all sites
- Midstream
  - Storage Tanks and Glycol Dehydrators
    - Installed controls at every location with tanks
    - Weighted Enardo valves to reduce venting from relief valves
    - Moved to a wet gas gathering system to centralize dehydrators
    - Use low emission dehydration design <1 tpy VOC

- Control dehydrator emissions with BTEX capture systems
- Pneumatic Devices
  - Instrument air and solar-powered controllers and pumps when feasible
  - Replace pneumatic pumps with solar powered at end of life
- Engines and General
  - Installed catalysts on most engines
  - Minimize truck idling through monitoring devices
  - Work with Tri County Health to develop FLIR camera training
- Fugitive Emission Leaks
  - Additional FLIR camera inspections of plants, compressor stations, and pipelines; frequently on a quarterly basis.
  - FLIR camera inspection before and after shutdowns/repairs
  - Raising pipes off the ground to reduce corrosion/leaks