Uinta Basin: Ozone in the Uinta Basin

Ozone in the Basin is unique because it occurs in winter during inversions. All the scientific studies on ozone have been for summertime ozone. More information is needed to develop effective strategies to deal with winter ozone pollution.

State's Proactive Process

1. Study the problem using best available science.
2. Collaborate with stakeholders on science-based solutions.
3. Implement effective measures to reduce emissions.

Methods

- **Air Quality Conditions and Health Messaging**
  Provide important health based information to empower residents to take appropriate actions to protect themselves and reduce their emissions.
- **Federal Regulations and Best Management Practices**
  Build on new regulations to further reduce emissions.
- **Ozone Advance**
  Use collaboration and voluntary early emissions reductions to address the problem.
- **State Permitting Guidelines**
  Use emissions offsets to prevent additional emissions into the Basin.
- **Uinta Basin Winter Ozone Study**
  Bring the best and the brightest researchers together to decipher the complex chemistry behind winter ozone and develop effective mitigation measures.

Uinta Basin Winter Ozone Study

- Multi-year study, beginning winter 2012, led by UDEQ.
- Partners include National Oceanic and Atmospheric Administration (NOAA), EPA, BLM, USU Bingham Research Center, University of Colorado, Western Energy Alliance, Ute Indian Tribe, Duchesne and Uintah County, Tri-County Health Department, Uintah Impact Mitigation Special Service District.
- $5 million dollars in funding.
- Important 2012 Findings:
  - Snow cover and temperature inversions are key elements of high ozone episodes.
  - Oil and gas operations were responsible for 98-99 percent of volatile organic compound (VOC)

emissions and 57-61 percent of nitrogen oxide (NOx) emissions.

- Study team's current best estimate is that VOC controls will reduce ozone, but effectiveness of this strategy is unknown.
- A voluntary "ozone action day" may be a cost effective way to reduce peak ozone concentrations.

Ozone Advance

- Collaborative national program between the EPA, State of Utah, and Indian tribes to support voluntary early emissions reductions.
- Utah one of the first states to sign up.
- Program improves public health through early emissions reductions, allows industry to budget future costs for emissions reductions into their long-term business plans, and provides companies with a voluntary phase-in period for control measures.
- State involved in productive discussions with industry on these voluntary reductions.

Air Quality Conditions and Health Messaging

- Real-time ozone conditions for Uintah and Duchesne counties available on DAQ Web site.
- Residents can check the ozone levels and take appropriate precautions to reduce their exposure and emissions.
- DAQ collaboration with Tri-County Health links air quality conditions with health impacts.

State Permitting Guidelines

- Designed to curb emissions by requiring a demonstration that new development will not add volatile organic compound (VOC) emissions to the airshed.
- Applies to new or modified major and minor sources.
- Uses emissions offsets to achieve no net emission increase in the Basin.
- Offsets derived through the use of new control technologies or replacement of older equipment.

Federal Regulations and Best Management Practices

- EPA New Source Performance Standards (NSPS) are predicted to cut VOC emissions by nearly one-fourth across the oil and gas industry, including a nearly 95 percent reduction in VOCs emitted from new and modified hydraulically fractured gas wells.
- EPA Minor Source Permitting on Tribal lands provides a permitting method for emissions sources not previously subject to regulation in Indian Country.
- BLM has developed Best Management Practices (BMPs) for oil and gas operations through its National Environmental Policy Act (NEPA) planning process. Applicants commit to working with the BLM to analyze and employ project specific mitigation measures.