Wyoming Department of Environmental Quality – Air Quality Division
Upper Green River Basin Ozone Strategy
October 21, 2014

The Upper Green River Basin (UGRB) area was designated by the EPA as "Marginal" nonattainment for the 8-hour ozone NAAQS of 0.075 ppm on July 20, 2012. There has been much work done to address this ozone nonattainment status prior to this designation. Some of this work includes the creation of policy, increased monitoring, and detailed emission inventories by the Wyoming Department of Environmental Quality (WDEQ) Air Quality Division (AQD). It also includes stakeholder involvement since 2006 and the formation of the UGRB Air Quality Citizens Advisory Task Force (Task Force) in early 2012. The final ten Task Force recommendations were submitted to the WDEQ AQD in September 2012 for consideration.

The Task Force recommendations as well as many other elements were included in an *UGRB Ozone Strategy* dated March 11, 2013 that described WDEQ's overall ozone reduction strategy, which evolved to an *UGRB Ozone Strategy* dated September 24, 2013. The strategy continued to evolve to an *UGRB Ozone Strategy* dated April 22, 2014; based upon the status of elements in the *Ozone Strategy* dated September 24, 2013 and information that became available since September 2013. The strategy continued through September 2014 and identified four groups of activities based on when they were targeted to be worked on as well as their ongoing nature, if applicable.

Of the six (6) activities that were to be worked on through the end of September 2014, five (5) have been completed (#1, #2, #3, #4, #5) and are listed below.[1]

1. WDEQ-AQD Ozone Advance Status
2. Emissions Inventory Query Wizard Development
3. WyVisNet Improvement
4. Upper Green Winter Ozone Study (UGWOS) 2014
5. Produced Water Ponds Request for Proposal

Of the two (2) activities that were to be worked on through the end of September 2014, and go into subsequent time periods, one (1) has been partially completed (#1) and is listed below.[1]

1. Produced Water Tank Study

Of the four (4) rulemaking subject areas that were to be worked on through the end of September 2014, and go into subsequent time periods, one (1) has been partially completed (#1) and is listed below.[1]

1. Develop a Phase I control strategy and regulatory option to reduce emissions from existing upstream and midstream oil and gas sources while preserving the current New Source Review permitting processes. Initiate the statutory rulemaking process for a technology based rule.

In addition, although not listed as an element in the *UGRB Ozone Strategy*, the Ozone Nonattainment Emissions Inventory Rule was submitted to EPA for the State Implementation Plan, as required by the Clean Air Act.

[1] The bullet numbering corresponds to the numbering within the *UGRB Ozone Strategy* dated April 22, 2014.

The completion of seven (7) elements from the *Ozone Strategy* dated April 22, 2014 in addition to the eight (8) elements from the *Ozone Strategy* dated September 24, 2013 and the eleven elements from the *Ozone Strategy* dated March 11, 2013, are all important in continuing to build the foundation to help bring the UGRB back into ozone attainment. For example, development of a technology based control strategy and regulatory option and initiation of the statutory rulemaking process will ultimately reduce emissions from existing upstream oil and gas sources.

In consideration of how the strategy should evolve after September 2014, the AQD evaluated the status of elements in the *Ozone Strategy* dated April 22, 2014, information that has become available since April 2014, and consideration of AQD winter ozone season staff resource demands. The strategy will continue through March 2015 with four groups of activities. This document will go into more detail for activities that are to be worked on through the end of March 2015. Also described are those activities or rulemaking subject areas that are to be worked on through the end of March 2015, but will not be completed, as they are longer term to create and implement. Lastly, we will describe those elements that are ongoing. Please keep in mind that the strategy as described will evolve and thus, this document will evolve too.

The WDEQ-AQD has identified five (5) activities that are to be **worked on through the end of March 2015**. Those WDEQ-AQD activities are summarized below.

1. Produced Water Tank Study
    - Implement field study to research and quantify emissions from produced water tanks in the UGRB
    - Final report anticipated to be complete in December 2014
    - Fulfills aspects of Task Force Recommendation #7
2. EPA Ozone National Ambient Air Quality Standard (NAAQS) Review
    a. Court Ordered Deadline to Propose December 1, 2014
    b. AQD review and comment to EPA
3. Forecasting for the winter ozone season for 2015
    - January through March 2015
    - Forecast conditions conducive to elevated ozone formation
    - Daily winter ozone updates via winterozone.org website, hotline, and email list serve
    - Ozone action day notifications are communicated to those with ozone contingency plans via auto call and email and are also posted on the winterozone.org website
    - Fulfills aspects of Task Force Recommendation #9
4. Ozone Action Days 2015
    - Promote the development and implementation of ozone contingency plans, to utilize short-term emissions reduction measures on ozone action days, for all stakeholders throughout the nonattainment area
    - Listed as Task Force Recommendation #3

5. Review and evaluate data collected by EPA Office of Research and Development
    - 2011, 2012 and 2013 EPA ORD mobile monitoring studies in the UGRB
    - 2012 and 2013 EPA ORD diffusion tube monitoring studies in the UGRB
    - WDEQ-AQD focus on potential relevant information in regard to monitoring, emissions inventories, modeling, and control strategies

The WDEQ-AQD has identified three (3) activities that are to be **worked on through the end of March 2015, and go into subsequent time periods**. Those WDEQ-AQD activities are summarized below.

1. Upper Green Winter Ozone Study (UGWOS) 2015
    - January through March 2015 monitoring
    - WDEQ-AQD 2015 focus on monitoring of ozone, oxides of nitrogen and volatile organic compounds (VOCs) at long term stations as well as selected additional VOC locations to aid in the understanding of ozone formation
    - The January – March 2015 data will be finalized by the end of June 2015 with a final report anticipated in September 2015
    - Fulfills aspects of Task Force Recommendation #9
2. Oil & Gas Production Site Emissions Inventory Study
    - Assess the control effectiveness of combustors and quantify emissions from fugitive sources in the UGRB
    - Field study anticipated to be complete in February 2015
    - Final report anticipated to be complete in April 2015
    - May fulfill aspects of Task Force Recommendation #9
3. Produced Water Ponds Study
    - Implement field study to research and quantify emissions from produced water and storage ponds in the UGRB
    - Complete Request for Proposal process, contractor selection, and contract award
    - Field study to take place during winter season and summer season
    - Final report anticipated to be complete 180 days after completion of field study and analyses
    - Listed as Task Force Recommendation #7

The WDEQ-AQD has identified four (4) **rulemaking subject areas** that are to be **worked on through the end of March 2015, and go into subsequent time periods**. Those rulemaking subject areas are summarized below.

1. Continue to proceed through the statutory rulemaking process for a Phase I technology based control strategy and regulatory option to reduce emissions from existing upstream oil and gas sources while preserving the current New Source Review permitting processes. The statutory rulemaking process was initiated in June 2014. The rulemaking is anticipated to be complete during calendar year 2015. (Listed as Task Force recommendations #1 and #6.)

2. Evaluate a Phase II emission budget based control strategy and regulatory option to reduce emissions from existing upstream and midstream oil and gas sources. The WDEQ-AQD will consider more permanent mechanisms to address new growth that will function effectively and preserve the New Source Review permitting of WAQSR Chapter 6, Section 2. (Listed as Task Force recommendations #1 and #2.)
3. Gather information on how an incentive program could be coordinated with rulemaking processes to accelerate emission reductions in the UGRB nonattainment area prior to completion of statutory rulemaking processes. (Listed as Task Force Recommendations #1, #2, and #10.)
4. Integrate stakeholder involvement in the gathering and evaluation of information that may be utilized in a Phase II emission budget based control strategy and regulatory option to reduce emissions from existing upstream and midstream oil and gas sources.

The WDEQ-AQD has identified 18 **activities, studies and projects that are ongoing**. Those activities, studies and projects are summarized below.

1. WDEQ-AQD Ozone Advance Status
   Ozone Advance is a voluntary and collaborative effort by EPA, states, and local governments to encourage ozone reduction.
   a. WDEQ-AQD will provide an annual status update to EPA
2. Continue to work to improve the processes for regulatory ambient monitoring, annual and winter emissions inventories, and regulatory modeling. (Listed as Task Force Recommendation #9.)
3. Continue to communicate how to access information such as ambient monitoring and emissions inventory data. (Fulfills aspects of Task Force Recommendation #9.)
4. Implement Nonattainment New Source Review permitting for applications, which are subject to these permitting requirements (i.e., new major sources and major source modifications).
5. Continue to utilize Wyoming Air Quality Standards and Regulations Chapter 6, Section 2(c) (demonstrations for permit requirements) for new and modified facilities in the UGRB.
6. Continue to collaborate with the BLM, USFS, EPA and industry representatives to implement the federally required General Conformity Rule for areas in nonattainment of the NAAQS.
7. Continue to collaborate with the WYDOT to successfully meet the requirements of the Transportation Conformity rule as it pertains to nonattainment of the NAAQS.
8. Continue to utilize compliance inspections at production sites, compressor stations, etc. to confirm ongoing compliance with applicable permit requirements, Wyoming rules and regulations, as well as Federal rules and regulations.
9. Continue to require measurement of source emissions via stack testing to confirm ongoing compliance with applicable permit requirements, rules and regulations.
10. Continue to utilize the notice of violation process for sources determined to be in noncompliance.
11. Continue to improve actual emission inventories to support nonattainment planning including but not limited to modeling and demonstration of emission reductions.

12. Continue the WDEQ-AQD Statewide Engine Study contract, as appropriate, for source tests via stack testing to verify achievement of best available control technology control effectiveness and improvement of maintenance practices. (May fulfill aspects of Task Force Recommendation #9b.)
13. Continue WDEQ-AQD contract, as appropriate, to evaluate photochemical grid modeling performance to replicate elevated winter ozone formation, which will be utilized by the WDEQ-AQD if reasonable to evaluate control strategies in the UGRB.
14. Continue to collaborate on the regional efforts, which include a data warehouse, monitoring, and modeling that may be beneficial in a weight of evidence approach to nonattainment planning.
15. Continue to improve communication strategies including, but not limited to, updates to the Air Quality Advisory Board, press releases, public meetings, and stakeholder involvement.
16. Continue to explore community projects (e.g., diesel emissions reduction act (DERA), wood burning, school bus retrofits).
17. Continue to comply with the Governor's Sage Grouse Executive Order during the New Source Review permitting process and when siting new monitoring stations.
18. Continue to work cooperatively with State and Federal agencies to address wildlife concerns when siting new monitoring stations.