



Department of Environmental Quality

*To protect, conserve and enhance the quality of Wyoming's
environment for the benefit of current and future generations.*



Matthew H. Mead, Governor

Todd Parfitt, Director

April 8, 2013

Ozone Advance
c/o Laura Bunte, Mail Code C304-01
109 TW Alexander Dr.
RTP, NC 27711

RE: Wyoming Department of Environmental Quality – Air Quality Division’s “Path Forward Letter” Submission to EPA for Ozone Advance

Dear Ms. Bunte:

On April 12, 2012, the Wyoming Department of Environmental Quality – Air Quality Division (AQD) signed up to participate in the Environmental Protection Agency’s (EPA) Ozone Advance Program as a proactive measure intended to encourage and identify early emission reductions in ozone attainment areas in order to help maintain the 2008 National Ambient Air Quality Standards (NAAQS) for ozone. On July 20, 2012, the Upper Green River Basin (UGRB) in southwest Wyoming was designated nonattainment for the 2008 8-hour ozone standard. While the State is aware that participation in the program does not relieve the State of its obligations under nonattainment regulations, it is understood that participation in the program can better position the State to comply with the requirements associated with such a designation. The State appreciates EPA’s establishment of an Ozone Advance Program that will provide incentives for areas that achieve early emission reductions.

As the Ozone Advance Guidance instructs, no later than one year after signing up for the program, the State shall submit to the EPA a “path forward letter” describing measures and/or programs the area can implement. The “path forward letter” for the State of Wyoming details activities that can be implemented in the UGRB which experiences unique wintertime ozone episodes. The Wyoming Department of Environmental Quality (WDEQ) has been working to understand these unique wintertime episodes since 2005, and already instituted a number of control measures in the UGRB. The WDEQ has also been moving forward on implementing some of the Clean Air Act (CAA) requirements for “marginal” nonattainment areas. On February 21, 2012, the UGRB Air Quality Citizen’s Task Force (Task Force) was convened by WDEQ with the purpose to consider and provide advice on additional potential solutions to further reduce ozone levels in the UGRB. All Recommendations generated by the Task Force were vetted through the consensus process.



WDEQ is submitting a “path forward letter” to best describe the combination of the measures and programs that the State commits to undertake at this point in time. The “path forward letter” is not the final step in nonattainment planning for the WDEQ. A number of the more complicated control strategies that the WDEQ has identified and the Task Force has supported through its Recommendations will require rulemaking or unidentified funding, and therefore, cannot be included as commitments at this time. Rulemaking, by definition, is a process with decision points and public input that cannot be predetermined. Funding for government programs, as EPA well knows, is becoming a more complicated process. In order to fulfill the obligation to get an Ozone Advance “path forward letter” to EPA by the date specified in the guidance, WDEQ is submitting those aspects of the State’s nonattainment planning process that the State can fully commit to by mid-April 2013. Those programs are described below:

Near-term strategies consist of measures and programs already underway that help reduce emissions of nitrogen oxides (NO_x) and volatile organic compounds (VOCs) in the UGRB.

- 2008 - New Source Review Permitting Demonstration
 - o A summary of the ongoing emission reductions resulting from the 2008 Interim Policy utilized for demonstrations required under Wyoming Air Quality Standards and Regulations (WAQSR) Chapter 6, Section 2(c)(ii). (*Attachment A*)
- 2005 - WDEQ-AQD Green Completion Permit Requirements
 - o Emission reductions achieved by the AQD as a result of green completion permitting. (*Attachment B*)
- 2008 - 2014 UGRB Winter Ozone Update/Ozone Action Day Program
 - o Air quality awareness campaign that informs an area of the potential for elevated ozone.
 - Winter Ozone Updates
 - Weather-based forecast geared towards increasing public health awareness of high ground level ozone potential.
 - o Initiates implementation of emission reduction contingency plans for program participants and encourages non-participants to take actions that reduce ozone precursor emissions.
 - Ozone Contingency Plans
 - Short-term emission reduction plans that can be implemented with 24-hour notice of an Ozone Action Day. (*Attachment C*)
 - Currently emission reductions have not been quantifiable.
- Nonattainment Area New Source Review (NAA NSR)
 - o Permitting requirements for new and modified major sources in a nonattainment area.

Long-term strategies consist of measures and programs that over time will make a difference in the amount of emissions reduced in the UGRB.

- General Conformity State Implementation Plan (SIP) Approval
 - o Federally required rule that requires federal activities conform to the WDEQ’s nonattainment strategy.
 - o Submitted to EPA on 12/26/12.

- Implementation of New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) for oil and gas industries

Actions and activities that help inform the AQD's ozone nonattainment "path forward."

- 2007 - 2014 Upper Green Winter Ozone Studies (UGWOS)
 - o Focus on regulatory monitoring of ozone, NO_x, and VOCs to aid in the understanding of ozone formation.
- March 2013 Meteorological Solutions Inc. and the University of Houston contract
 - o Analyses of past monitoring data to evaluate the complex chemistry involved with ozone formation at the Boulder Station.

The WDEQ knows that the emissions reductions cited in the attachments to this letter are significant reductions, which EPA has begun to recognize through the establishment of federal rules. From the State's perspective, it is critical to recognize these early reductions in order to incentivize industry to make more reductions.

While we consider our participation in the Ozone Advance Program to be a potential benefit, the State has concerns going forward without a proposed or final ozone implementation plan, and without modeling tools appropriate for rural and wintertime ozone areas. EPA has offered assistance to areas participating in Ozone Advance and these are two areas where assistance would be greatly appreciated. The above measures and programs are our best attempt to comply with providing an April 2013 "path forward" without all the necessary information to do so.

The State of Wyoming looks forward to continuing to work with the EPA as the Ozone Advance Program continues to evolve.

Sincerely,



Steven A. Dietrich, P.E.
Air Quality Administrator

Attachments

cc: Todd Parfitt, Director, WDEQ
Jerimiah Rieman, Governor's Office Policy Advisor
Christine Anderson, AQD
Jeni Cederle, AQD
Carl Daly, EPA, w/o attachments
Jody Ostendorf, EPA, w/o attachments

Attachment A

New Source Review (NSR) Permitting Demonstration

New Source Review Permitting Demonstration

Under the Wyoming Air Quality Standards and Regulations (WAQSR), applicants for permits are required to demonstrate to the Administrator of the Air Quality Division (AQD), that “[t]he proposed facility will not prevent the attainment or maintenance of any ambient air quality standard.” [WAQSR Chapter 6, Section 2(c)(ii)]

Given 2008 monitored ambient ozone data in the Upper Green River Basin (UGRB), the AQD concluded that allowing increases without a demonstration, the existing ozone precursor emission levels could not be justified. Therefore, the AQD pursued a comprehensive approach to secure needed emission reductions to allow companies to continue to apply for permits for new and modified sources in the UGRB. In order to allow for new and modified sources of VOC and/or NO_x emissions while AQD and industry initiatives were taken to reduce the overall emission levels of VOC and/or NO_x, the AQD adopted the *Interim Policy on Demonstration of Compliance with WAQSR Chapter 6, Section 2(c)(ii) for Sources in Sublette County* (Interim Policy).

The Interim Policy describes options that AQD has considered to be an adequate demonstration under Chapter 6, Section 2(c)(ii) for permit applications. These options include: (1) ambient ozone modeling for any application requesting increases in VOC and/or NO_x emissions; (2) emission reductions for VOC and/or NO_x emissions; and (3) applicants may propose an alternative demonstration. To date, most applicants have opted for emission reductions. These offsets/emission reductions are required to be either at the facility where the permit increase is being sought, at a facility owned or controlled by the applicant within the UGRB, or a project which results in a change of operation (e.g., reduction in vehicle miles travelled as a result of the construction or modification of the facility).

Additionally, the AQD issued a July 14, 2009 letter, titled Removal of Control Equipment and Inter-company Trading in Sublette County. This letter clarified, that for permits where control removal was authorized, that the AQD would track the expected increase in VOC emissions against a company’s offset bank based on the control removal notification. This letter also clarified that it was not the Division’s intent to prohibit trades where companies involved in a trade could reach agreement on the value of the offset involved, nor was it to prohibit new companies from operating in Sublette County.

AQD does want to note that the Interim Policy and letter clarifying removal of control equipment and intercompany trading are documents that are subject to change and may also have a finite life based on the AQD’s evaluation and implementation of the Task Force Recommendations.

The following table summarizes the running year-to-date emission reductions in the UGRB (as of March 13, 2013) that have been achieved through the implementation of the Interim Policy from the permitting baseline of April 1, 2008. It should be noted that the totals in the 2008-2013 column are a snapshot in time and will change as the AQD processes additional applications in the UGRB. Controlled emission reductions in the UGRB have been achieved through, but are not limited to, the installation of controls on storage tanks, installation of low bleed/no bleed pneumatic controllers, installation of controls on drill rig engines, and the installation of centralized gathering facilities.

Running Year-to-date Emissions Reductions (tpy)

	2008	2008-2009	2008-2010	2008-2011	2008-2012	2008-2013*
VOCs	-196.6	-1322.1	-2302.2	-3555.1	-3926.9	-4086.6
NO _x	-33.6	-606.7	-1695.2	-1545.7	-1457.2	-1484.1

* Through March 13, 2013

The AQD believes these running emission reductions to be a conservative estimate since some industry initiatives (emission reductions) in the UGRB are not accounted for in the tracking sheets as these actions were performed prior to the Interim Policy, which established a permitting baseline (April 1, 2008) for emission reductions.

Attachment B

Green Completions

Green Completions

In 2005, the Air Quality Division (AQD) required operators to submit applications for air quality permits to conduct well completion/re-completion activities in the Jonah/Pinedale Anticline Development Area (JPDA) defined in the July 28, 2004 addendum to the Oil & Gas Production Facility Chapter 6, Section 2 Permitting Guidance (Guidance) by using Best Management Practices to meet Best Available Control Technology requirements to reduce to the extent practicable emissions of regulated pollutants associated with such activities. These “green” completion requirements were then extended to cover operators in the entire Upper Green River Basin (UGRB) and concentrated development area (CDA) in the March 2010 revision to the Guidance. These permits require operators to submit reports for every well that is completed/re-completed summarizing the associated NO_x, CO, VOC, and HAP emissions associated with the completion activities. Additionally, these permits considered the use of four-phase separation or green completion equipment to reduce VOC and HAP emissions by ninety percent (90%).

The AQD has compiled all of the emissions reports from the JPDA operators since the permits were issued. The table below summarizes the emissions from these reports and compares what emissions could have resulted by not having the “green” completion permit requirements in place.

Completion Emissions Summary (VOCs tpy) ¹

	2005	2006	2007	2008	2009	2010	2011	2012 ²
Reported (Controlled) Emissions ³	122	203	144	130	67	57	19	8
Uncontrolled Emissions ⁴	1220	2033	1443	1304	665	569	194	84
Emissions offset by AQD Permits	-1098	-1830	-1299	-1174	-598	-512	-175	-76

¹ Emission rounded to the nearest ton.

² Based on all reports received through March 13, 2013.

³ Total reported emissions from all operators in the JPDA.

⁴ Assuming the 90% VOC emissions reductions included in BACT section for the AQD’s permits.

Attachment C
Ozone Contingency Plans

ANNUAL OCP

Annual OCP due date:
December 1, 2011

COMPANY NAME:
COMPANY REPRESENTATIVE:
DATE OF SUBMISSION: 1-Dec-11

EXAMPLE OCP

* Annual OCP submissions represent measures ANTICIPATED to be completed on an Ozone Action Day.

NOTES:

References to "all aspects of energy recovery and production" apply to Drilling, Completion, Production, Construction, Maintenance and other general activities.
 Comment Boxes: Use to answer and expand upon any activity question or individual process.
 The ANNUAL OCP checklist is a SEPARATE form from the Event Summary checklist. Both can be found online @ <http://deq.state.wy.us/aqd/Ozone%20Main.asp> >>> 2012 Standardized "Annual OCP" and "Event Summary" Checklist Templates
 Submit via email to: brett.davis@wyo.gov

ACTIONS: WDEQ-AQD is cognizant that not all companies can or will initiate all measures listed.	YES	NO	Comment Boxes:
A. Annual OCP submittal only: Most current contact information for company representative(s) with regard to all wintertime ozone actions/literature.	X		notification list is attached.
B. Annual OCP submittal only: Submit as an attachment to WDEQ-AQD a comprehensive list of contractors/sub-contractors and service companies under contract with your company and expected to have a role in ozone contingency plan implementation. brett.davis@wyo.gov	X		believes that it is the operator's responsibility to train and notify contractors on ozone contingency plan implementation. commits to proper training and notification of its contractors and will document all contractor training and notifications, as in previous years.
C. Annual OCP submittal only: Will your company commit to providing PRE-SEASON ozone contingency plan (OCP) awareness training for company personnel and all associated service company personnel?	X		Completion date: Scheduled in December 2011
D. Annual OCP submittal only: Did a company representative attend the August 2011 BMP/Technology Transfer Fair?	X		What was the representatives name? [REDACTED]
E. Does your company plan on utilizing Best Management Practices (BMPs)?	X		If utilization of BMP's is not considered, please discuss why.
F. Annual OCP submittal only: Will your company and affiliated service companies commit to the suspension/shut-in of ALL energy recovery and production operations during the winter months? (Jan. 4 - Mar. 31)		X	It is not feasible from an operational or safety standpoint to shut a field in for such an extended period of time.

Annual OCP for: [REDACTED]

ACTIONS: WDEQ-AQD is cognizant that not all companies can or will initiate all measures listed.	YES	NO	Comment Boxes:
1. Will your company commit to providing a pre-shift awareness update regarding Ozone Action Day status/Contingency Plan implementation for all immediate staff and contracted employees?	X		If this action was not considered, please discuss why.
2. Will staff and affiliated service company employees be notified of an impending Ozone Action Day? 2a. How will this be achieved? (Attach a separate sheet of the notification process if necessary.)	X		If this action was not considered, please discuss why. will notify all necessary personnel following Notification Process Flow Diagram, included as Appendix D in 2012 Ozone Contingency Plan. will document notification to personnel and contractors, as in prior years.
3. Will your company and affiliated service companies commit to not overfilling gas tanks, and tighten fuel caps on vehicles associated with all aspects of energy recovery and production? (i.e., trucks, engines, snowcats, etc.)	X		If this action was not considered, please discuss why.
4. Will your company and affiliated service companies commit to minimize the idling of vehicles & engines associated with all aspects of energy recovery and production? (i.e., trucks, engines, construction equipment, etc.)	X		If this action was not considered, please discuss why.
5. Will your company and affiliated service companies commit to defer truck & equipment refueling to evening hours?	X		If this action was not considered, please discuss why.
6. Will your company and affiliated service companies commit to keeping vehicles tuned up and tires properly inflated?	X		If this action was not considered, please discuss why.

ACTIONS: WDEQ-ADD is cognizant that not all companies can or will initiate all measures listed.

Comment Boxes:

	YES	NO	Comment Boxes:
7. Will your company and affiliated service companies commit to using environmentally safe paints, cleaning products & chemicals? (i.e., non-aerosol, low VOC paints)	X		If this action was not considered, please discuss why.
8. Will your company and affiliated service companies commit to reducing driving speed by 5 mph?	X		If this action was not considered, please discuss why.
9. Will your company and affiliated service companies commit to minimize the use of ancillary equipment with respect to all aspects of energy recovery and production? (i.e., light plants, portable generators, pumps, etc.)	X		If this action was not considered, please discuss why. When safely feasible.
10. Will your company and affiliated service companies commit to minimize vehicle traffic and miles traveled? (consolidate trips, car-pool, postpone travel etc.)	X		If this action was not considered, please discuss why.
11. Will your company and affiliated service companies commit to utilizing various leak detection techniques to prevent/fix the venting of gas? 11a. List the type of activity that will be used to detect equipment leaks and timetables for inspection.	X		If this action was not considered, please discuss why. Leak detection is conducted on a quarterly schedule utilizing infrared (IR) cameras and/or gas leak detection instruments. personnel conduct daily visual and auditory inspections of equipment for leaks and other problems.
12. Will your company and affiliated service companies commit to defer/postpone liquid hauling into and out of the field?	X		If this action was not considered, please discuss why.
12a. On average, how many liquid hauling trips occur per day in relation to your operations?		1	
13. Will your company and affiliated service companies commit to suspend and/or reschedule the use of diesel and, or gasoline powered equipment associated with all aspects of energy recovery and production? (i.e., generators, engines, vehicles, etc.)	X		If this action was not considered, please discuss why. When safely feasible
14. Will your company and affiliated service companies commit to postpone construction activities associated with all aspects of energy recovery and production?	X		If this action was not considered, please discuss why. [REDACTED] will commit to postpone nonessential construction activities.

ACTIONS: WDEQ-AQD is cognizant that not all companies can or will initiate all measures listed.

	YES	NO	Comment Boxes:
15. Will your company and affiliated service companies commit to postpone maintenance activities associated with all aspects of energy recovery and production?	X		If this action was not considered, please discuss why. [REDACTED] will commit to postpone nonessential maintenance.
16. Will your company and affiliated service companies commit to limit, and or suspend drilling operations on Ozone Action Days?		X	If this action was not considered, please discuss why. Complete shut down of a rig (including heaters and boiler) would likely result in freezing of critical rig components, including well control equipment. This would eliminate a layer of well control redundancy required by Onshore Order 2. Rig shutdown also could lead to a well control situation because the inability to agitate drilling mud could result in an artificially low mud weight. Shutting down while drilling would require the rig to trip out of hole to prevent sticking pipe. Tripping pipe is a high horsepower operation which would generate more emissions at a point when emission reduction is the goal. There are different operational and safety risks related to partial shutdown of a rig dependent on the actual operation (directional drilling, running casing, logging, etc.) at the time of declaration of an Ozone Action Day. If an Action Day occurs while a rig is in the intermediate hole section, the main concern is sticking pipe (drill string or casing). To prevent sticking pipe, the drill rig would need to trip out of the hole, increasing emissions as discussed previously. The primary concern in the production hole is a well control situation. If the well begins to flow, operations must be resumed and would likely result in flaring, adding additional emissions when emission reduction is the goal. [REDACTED] will instead concentrate its efforts on assuring that emission controls are properly functioning on rig engines.
16a. Will your company and affiliated service companies commit to limit, and or suspend drilling operations throughout the entire winter ozone season? (Jan. 4 - Mar. 31)		X	
17. Will your company and affiliated service companies commit to postpone fracking operations on Ozone Action Days?	X		If this action was not considered, please discuss why. [REDACTED] will commit to postpone fracking operations when safely feasible.
17a. Will your company and affiliated service companies commit to postpone fracking operations for the entire winter season? (Jan. 4 - Mar. 31)		X	
17b. How many engines does your company/service companies use per frac? Include number of controlled engines in use on typical frac. (i.e., 6 engines used, 3 controlled)		6 Tier II Frac Engines	
18. Will your company and affiliated service companies commit to postpone the initiation of new completion actions on Ozone Action Days?	X		If this action was not considered, please discuss why. [REDACTED] will commit to postpone the initiation of new completion actions when safely feasible.
18a. Will your company and affiliated service companies commit to postpone the initiation of new completion actions for the entire winter season? (Jan. 4 - Mar. 31)		X	
19. Will your company and affiliated service companies commit to postpone the initiation of re-completion/work over actions on Ozone Action Days?	X		If this action was not considered, please discuss why. [REDACTED] will commit to postpone the initiation of re-completion/work over actions when feasible.
19a. Will your company and affiliated service companies commit to postpone the initiation of re-completion/work over actions for the entire winter season? (Jan. 4 - Mar. 31)		X	
20. Will your company and affiliated service companies commit to postpone blowdown actions tied to all aspects of energy recovery and production?	X		If this action was not considered, please discuss why. [REDACTED] will commit to postpone blowdown actions where feasible.
21. Will your company and affiliated service companies commit to turn down or control uncontrolled pneumatic heat trace pumps?	X		If this action was not considered, please discuss why. Most of [REDACTED] pneumatic heat trace pumps are controlled. For the few that are uncontrolled, [REDACTED] will commit to turn down the pumps.
22. Will your company and affiliated service companies commit to delay line pigging?	X		If this action was not considered, please discuss why. [REDACTED] will commit to delay line pigging where feasible.

Annual OCP for: [REDACTED]

ACTIONS: WDEQ-AQD is cognizant that not all companies can or will initiate all measures listed.

23. Will your company and affiliated service companies commit to delay the charging of desiccant dehydration units?	YES	NO	Comment Boxes: If this action was not considered, please discuss why. [REDACTED] does not utilize desiccant dehydration units.
24. Will your company and affiliated service companies commit to shutting down uncontrolled equipment associated with all aspects of energy recovery and production? (i.e., dehydration units, engines, pneumatic pumps?) 24a. List equipment likely to be targeted for this action.	N/A	N/A	If this action was not considered, please discuss why. [REDACTED] will commit to shutting in single well facilities with no control on the dehydrators, when safely feasible.
25. Will your company and affiliated service companies commit to controlling uncontrolled equipment associated with all aspects of energy recovery and production? 25a. List percentage of currently controlled equipment. Include date that 100% of equipment is anticipated to be controlled.			If this action was not considered, please discuss why. [REDACTED] will control remaining uncontrolled sources as each pad is modified. Drill Rigs: 100% controlled by December 31, 2011 Liquid level controller: 100% replaced with low bleed Heat trace pumps: 99% controlled Dehys: 96% controlled Condensate tanks: 100% controlled Other pneumatics (methanol injection pumps, pneumatic wellhead flow controllers): 50% controlled
26. Will your company and affiliated service companies commit to the suspension/shut-in of all energy recovery & production operations during a specific WDEQ-AQD declared Ozone Action Day? (short-term)		X	If this action was not considered, please discuss why. Field wide shut-in of production equipment during cold weather conditions would require that all equipment (piping, separators, dehydration units, etc) be de-pressured. De-pressuring production equipment would result in the release of a substantial quantity of methane and VOC emissions to atmosphere, which would ultimately increase the possibility of ozone formation. After an extended shut-in of production, well pressures increase to higher than normal operating pressure which increases the possibility of hydrate formation (freezing) within piping and equipment. In order to manage hydrate formation during start up of production, additional emission releases would be required. As such, [REDACTED] will concentrate its efforts on assuring that the emission control equipment installed on its facilities are operating within the WDEQ control efficiency requirements.
27. List any year-round emission reduction activities your company employs: As part of its standard operating procedures, [REDACTED] implements the following year round good housekeeping measures: keep vehicles tuned up and tires well inflated to increase mileage and reduce the need for refueling, do not overfill fuel tanks when re-fueling, lighten fuel caps, use environmentally safe products, properly use and seal cleaners, paints, and other chemicals, and share best management practices with other operators. In addition to these standard procedures, liquids and condensate from [REDACTED] Pinedale lease operations have been transported via its Liquids Gathering System since late 2005. Selective Catalytic Reduction emission controls are installed on all of [REDACTED] drill rig engines operating in the Pinedale Field. [REDACTED] utilizes onsite mud plants to reduce trucking distances for transport of drilling fluids. [REDACTED] performs flareless completions over 99% of the time. Drill Rigs: 100% controlled by December 31, 2011, Liquid level controller: 100% replaced with low bleed, Heat trace pumps: 99% controlled, Dehys: 96% controlled, Condensate tanks: 100% controlled, Other pneumatics (methanol injection pumps, pneumatic wellhead flow controllers): 50% controlled			
28. List any "winter season" emission reduction activities implemented regardless of Ozone Action Day status. (Include listed and unlisted activities) Throughout the winter season, [REDACTED] reduces idling of vehicles, busses crews to drill rigs and frac operations, minimizes use of or turns off engines (e.g. water pumps, light plants) during daylight hours, and limits vehicle and ancillary equipment idle time. Additionally, for the 2012 winter season, [REDACTED] has postponed completion activities during the month of January.			
29. List anticipated future emission reduction activities or ideas: (i.e., operational procedures & equipment changes that help minimize emissions) As [REDACTED] expands its drilling program onto existing pads, [REDACTED] will upgrade emission controls for wells on those pads grandfathered under previous air quality standards.			

WDEQ-AQD is cognizant that not all companies can or will initiate all measures listed.

Wyoming air Quality Division: STANDARDIZED OZONE CONTINGENCY PLAN (OCP)

EXAMPLE EVENT SUMMARY

EVENT SUMMARY	COMPANY NAME: [REDACTED]
Include DATE of OZONE ACTION DAY for Event Summary	COMPANY REPRESENTATIVE: [REDACTED]
March 4, 2012	DATE OF SUBMISSION: 3/9/2012

*Event Summary submissions represent measures ACTUALLY completed on an Ozone Action Day.

NOTES:
 References to "all aspects of energy recovery and production" apply to Drilling, Completion, Production, Construction, Maintenance and other general activities.
Comment Boxes: Use to answer and expand upon any activity question or individual process.
 The ANNUAL OCP checklist is a SEPARATE form from the Event Summary checklist. Both can be found online @ <http://deq.state.wy.us/aqd/Ozone%20Main.asp> >>> 2012 Standardized "Annual OCP" and "Event Summary" Checklist Templates
 Submit electronicall brett.davis@wyo.gov

EVENT SUMMARY for [REDACTED] March 4, 2012 [REDACTED]

ACTIONS: WDEQ-AQD is cognizant that not all companies can or will initiate all measures listed.	YES	NO	ACTION IMPLEMENTATION	COMMENTS
1. Did your company execute a pre-shift awareness update regarding Ozone Action Day status/Contingency Plan implementation for all immediate staff and contracted employees?	X		Pre-shift safety meetings with crews included notification of Ozone Action Day Status and discussion of Contingency Plan Implementation.	If this activity was not implemented, please discuss why.
2. Were all personnel and service company staff alerted to Ozone Action Day status and Contingency Plan implementation?	X		Use comment box to <u>LIST</u> all service companies contacted.	If this activity was not implemented, please discuss why. Baker Hughes, Baroid, Cameron, Gyrodata, Halliburton, Hughes, Hunting, Knight Oil Tool, Quail, Reed, Smith, Stallion Solids Control, Weatherford, Nevis, Specialized Oilfield, Balance Concepts, United-Diamond, Alliance Drilling Tools, BICO, Down Hole Stabilization, Pason, Rocky Mountain Casing, Sublink Stage, Team Casing Inc., White Mountain, Native Navigation Services, Bunning Trucking, Hemphill Trucking, Ulterra, StabilDrill, Unit Corporation/Unit Drilling, Western Petroleum, ToolPushers Supply, Patterson Drilling, Peak, Mathena, Industrial Welding, Superior Inspection, Warco, Quality Mud Logging, Baker Inteq, Broken Spoke Roustabouts, M&N Equipment, JFC Engineers Surveyors, Koch Construction, RED1 Services, Soli-Bond Inc., Mountain States Water Service, Noble Construction, OWP, Colt, ETS, DDH
3. Did your company and affiliated service companies successfully avoid overfilling gas tanks & tighten fuel caps on vehicles associated with all aspects of energy recovery and production? (i.e., trucks, engines, snowcats, etc.)	X		Checked fuel caps on forklifts, fuel tanks, and personal vehicles at active drilling locations	If this activity was not implemented, please discuss why. General Activities: Drilling: Completion: Production: Construction: Maintenance:
4. Did your company and affiliated service companies minimize the idling of vehicles and engines associated with all aspects of energy recovery and production? (i.e., trucks, engines, snowcats, etc.)	X		Use comment box to <u>LIST</u> specific equipment targeted on the Ozone Action Day.	If this activity was not implemented, please discuss why. General Activities: Company Vehicles Drilling: Forklifts, Manlifts, Pickup trucks, Rig moving trucks, Cranes, Personal Vehicles Completion: All vehicles and equipment Production: All vehicles and equipment Construction: No dirt construction activity scheduled Maintenance:
5. Did your company and affiliated service companies defer truck & equipment refueling to evening hours?	X		Use comment box to <u>LIST</u> the specifics of refueling implementation.	If this activity was not implemented, please discuss why. Personnel instructed to not refuel during daylight hours and refuel at night, if necessary, or defer fueling until the following day, if not designated as an Ozone Action Day. One active drilling location was able to delay fuel delivery to Tuesday and if Ozone Action Day on Tuesday, requested night delivery.
6. Did your company and affiliated service companies tune up vehicles and inflate tires to proper pressure?	X		If this action is part of your "standard operating procedure" please highlight the frequency this action occurs.	If this activity was not implemented, please discuss why. Standard operating procedure for fleet vehicles includes monthly vehicle inspections to check for proper vehicle operation. Fleet vehicle tune-ups are scheduled every 3000 miles. Checked tire pressure of vehicles at active drilling locations.

ACTIONS: WDEQ-AQD is cognizant that not all companies can or will initiate all measures listed.		YES	NO	ACTION IMPLEMENTATION	COMMENTS
7. Did your company and affiliated service companies commit to using environmentally safe paints, cleaning products and chemicals? (i.e., non-aerosol, low VOC paints)	X			Use comment box to include a <u>LIST</u> of products used to implement this activity. →	If this activity was not implemented, please discuss why. Standard operating procedures include the use of environmentally safe products and proper use of and sealing of cleaners, paints, and other chemicals. Personnel were instructed to limit the use of aerosols on the Ozone Action Day. No cleaning or painting activities were scheduled on the Ozone Action Day.
8. Did your company and affiliated service companies reduce driving speed by 5 mph for the entire Ozone Action Day?	X			Use comment box to <u>LIST</u> the specifics of reduced speed implementation. →	If this activity was not implemented, please discuss why. Personnel on shift were instructed to reduce driving speeds.
9. Did your company and affiliated service companies minimize the use of ancillary equipment with respect to all aspects of energy recovery and production? (i.e., light plants, portable generators, pumps, etc.)	X			Use the comment box to <u>LIST</u> the amount and type of ancillary equipment targeted for usage reduction. →	If this activity was not implemented, please discuss why. General Activities: Drilling: Shut off derrick lights and mud tank lights during daylight hours, turned off excess lighting Completion: Ensured light plants were shut down during daylight hours Production: Construction: No dirt construction activity scheduled Maintenance: Use of a portable diesel heater was minimized
10. Did your company and affiliated service companies minimize vehicle traffic and miles traveled?	X			Use comment box to <u>LIST</u> : 1. How much vehicle traffic was minimized. 2. Total number of less miles traveled. →	If this activity was not implemented, please discuss why. Busses rig crews to/from location during January, February, and March. Bussing the rig crews eliminates approximately 84 personal vehicle trips a day and reduces miles traveled by approximately 5040 miles per day. Estimated 9 nonessential visits to the field were postponed resulting in 540 less miles traveled. Personnel working on active drilling locations were told to stay on location and not to drive to/from location that day. Rescheduled diesel fuel delivery at one active drilling location, 1 semi truck x 60 miles. Three infield transfer of liquids truck trips were postponed, 1 semi truck x 110 miles.
11. Were leak detection techniques utilized by your company and affiliated service companies to prevent/fix the venting of gas?	X			Use comment box to <u>INCLUDE</u> a discussion of leak detection techniques utilized (FLIR camera, AVO, etc); last & next date of inspection and amount of hatches that passed/failed inspection. →	If this activity was not implemented, please discuss why. In addition to LEL monitors and drill rig gauges, visual and auditory indicators are used for leak detection on active drilling locations. Production facility leak detection is conducted on a quarterly schedule utilizing IR cameras and/or gas leak detection instruments. First quarter leak detection inspections and repair were conducted 2/26/12; the next inspection is scheduled for mid-April. Personnel also conduct daily visual and auditory inspections of production equipment for leaks and other problems. Visual inspections and gas detection meters are used for leak detection at compressor stations.
12. Did your company and affiliated service companies defer/postpone liquid hauling into and out of the field? NOTE: If the use of a Liquid Gathering System (LGS) has reduced your hauling of liquids to ZERO, please mark N/A.....if not, proceed to complete this section.	X			Use the comment box to <u>LIST</u> the number of hauling trips that were deferred/postponed. →	If this activity was not implemented, please discuss why. Three infield transfer of liquids truck trips were postponed, 1 semi truck x 110 miles
13. Did your company and affiliated service companies suspend and/or reschedule the use of diesel and, or gasoline powered equipment associated with all aspects of energy recovery and production?	X			Use the comment box to <u>LIST</u> the amount and type of equipment included in usage reduction. →	If this activity was not implemented, please discuss why. General Activities: Postponed rig up until after ozone action day, 1 crane, 1 manlift, 4 semi-trucks, 3 pickup trucks; postponed welding operations, 2 pickup trucks; postponed fuel delivery, 1 semi-truck; postponed mud hauling, 2 semi-trucks; postponed pipe inspection, 2 pickup trucks; shut off derrick lights and mud tank lights during daylight hours; turned off excess lighting. Drilling: Completion: Ensured light plants were shut down during daylight hours Production: Construction: No dirt construction activity scheduled Maintenance: Postponed maintenance on a heater, minimized the use of a portable diesel heater
14. Did your company and affiliated service companies postpone construction activities associated with all aspects of energy recovery and production?	X			Use the comment box to <u>LIST</u> specific construction activities included in reduction action. →	If this activity was not implemented, please discuss why. General Activities: Pit solidification crew and other contractors were on days off during the Ozone Action Day Drilling: Postponed rig up and welding operations Completion: Production: Facility install crew were on days off during the Ozone Action Day Construction: No dirt construction activity scheduled Maintenance:

ACTIONS: WDEQ-AQD is cognizant that not all companies can or will initiate all measures listed.		YES	NO	ACTION IMPLEMENTATION	COMMENTS
15. Did your company and affiliated service companies postpone maintenance activities associated with all aspects of energy recovery and production?	X			Use the comment box to LIST specific maintenance activities included in reduction action. →	If this activity was not implemented, please discuss why. General Activities: _____ Drilling: Unnecessary maintenance postponed on one rig, no maintenance scheduled on other rigs Completion: _____ Production: [REDACTED] personnel were instructed to not perform maintenance activities that would result in the venting of gas to atmosphere Construction: No dirt construction activity scheduled Maintenance: Compressor plant maintenance postponed
16. Did your company and affiliated service companies limit, and/or suspend drilling operations on the Ozone Action Day? NOTE: If your company committed to limit, and/or suspend drilling operations for the entire winter season (Jan. 4 - Mar. 31) please mark N/A.		X		Use the comment box to LIST the number of operational drill rigs on the Ozone Action Day and the number of rigs included in the reduction action. →	If this activity was not implemented, please discuss why. Complete shut down of a rig (including heaters and boiler) would likely result in freezing of critical rig components, including well control equipment. This would eliminate a layer of well control redundancy required by Onshore Order 2. Rig shutdown also could lead to a well control situation because the inability to agitate drilling mud could result in an artificially low mud weight. Shutting down while drilling would require the rig to trip out of hole to prevent sticking pipe. Tripping pipe is a high horsepower operation which would generate more emissions at a point when emission reduction is the goal. There are different operational and safety risks related to partial shutdown of a rig dependent on the actual operation (directional drilling, running casing, logging, etc.) at the time of declaration of an Ozone Action Day. If an Action Day occurs while a rig is in the intermediate hole section, the main concern is sticking pipe (drill string or casing). To prevent sticking to flow, operations must be resumed and would likely result in flaring, adding additional emissions when emission reduction is the goal. [REDACTED] will instead concentrate its efforts on assuring that emission controls are properly functioning on rig engines.
17. Did your company and affiliated service companies postpone fracking operations on the Ozone Action Day? NOTE: If your company committed to postpone fracking operations for the entire winter season (Jan. 4 - Mar. 31) please mark N/A.		X		Use the comment box to LIST the number of fracking operations planned for the date of the Ozone Action Day and the number postponed. →	If this activity was not implemented, please discuss why. During the 2012 winter season, [REDACTED] suspended completion operations during January and February.
18. Did your company and affiliated service companies postpone the initiation of new completion actions on the Ozone Action Day? NOTE: If your company committed to postpone the initiation of new completion actions for the entire winter season (Jan. 4 - Mar. 31) please mark N/A.			X	Use the comment box to LIST the number of new completions planned for the date of the Ozone Action Day and the number postponed. →	If this activity was not implemented, please discuss why. Completion operations had begun prior to the declaration of the Ozone Action Day.
19. Did your company and affiliated service companies postpone the initiation of re-completion/work-over/flowback activities on the Ozone Action Day? NOTE: If your company committed to postpone the initiation of re-completion/work-over/flowback activities the entire winter season (Jan. 4 - Mar. 31) please mark N/A.	N/A	N/A		Use the comment box to LIST the number of recompletes/work-overs/flowbacks planned for the date of the Ozone Action Day and the number postponed. →	If this activity was not implemented, please discuss why. [REDACTED] had no recompletion/workover activities scheduled for the time period of the Ozone Action Day.
20. Did your company and affiliated service companies postpone blowdown actions tied to all aspects of energy recovery and production?	X			Use the comment box to LIST the number of blowdowns postponed. →	If this activity was not implemented, please discuss why. General Activities: Postponed 3 blowdowns associated with removing 3 pigs from barrels Drilling: _____ Completion: _____ Production: Postponed 5 blowdowns associated with unloading 5 wells Construction: _____ Maintenance: _____
21. Did your company and affiliated service companies turn down or control uncontrolled pneumatic heat trace pumps?	X			Use the comment box to LIST the number of operational uncontrolled pneumatic heat trace pumps and the number included in reduction action. →	If this activity was not implemented, please discuss why. The circulation rate of 5 pneumatic heat trace pumps were reduced.
22. Did your company and affiliated service companies delay line pigging?	N/A	N/A		Use the comment box to LIST the number of planned lines to be pigged for the date of the Ozone Action Day and the number delayed. →	If this activity was not implemented, please discuss why. No pigging events were scheduled for the Ozone Action Day.

ACTIONS: WDEQ-AQD is cognizant that not all companies can or will initiate all measures listed.		YES	NO	ACTION IMPLEMENTATION	COMMENTS
23. Did your company and affiliated service companies delay the charging of desiccant dehydration units?	N/A	N/A		Use the comment box to LIST the number of desiccant dehydration units in operation and the amount included in reduction action. →	If this activity was not implemented, please discuss why. [REDACTED] does not own or utilize any desiccant dehydration units.
26. Did your company and affiliated service companies shut down uncontrolled equipment associated with all aspects of energy recovery and production?		X		Use the comment box to LIST the amount and type of uncontrolled equipment included in reduction action. →	If this activity was not implemented, please discuss why. General Activities: _____ Drilling: _____ Completion: _____ Production: De-pressuring production equipment would add ozone precursor emissions to atmosphere Construction: _____ Maintenance: _____
27. Did your company and affiliated service companies add controls to any uncontrolled equipment associated with all aspects of energy recovery and production prior to this Ozone Action Day?	X			Use the comment box to LIST any newly controlled equipment. →	If this activity was not implemented, please discuss why. General Activities: _____ Drilling: Selective Catalytic Reduction (SCR) emission controls were installed on all drill rig engines prior to 1/1/2012. Completion: _____ Production: _____ Construction: _____ Maintenance: _____
28. Did your company and affiliated service companies suspend/shut-in all energy recovery and production operations during this specific Ozone Action Day?		X		Use the comment box to LIST which operations and equipment were included in the reduction action. →	If this activity was not implemented, please discuss why. Field wide shut-in of production equipment during cold weather conditions would require that all equipment (piping, separators, dehydration units, etc) be de-pressured. De-pressuring production equipment would result in the release of a substantial quantity of methane and VOC emissions to atmosphere, which would ultimately increase the possibility of ozone formation. After an extended shut-in of production, well pressures increase to higher than normal operating pressure which increases the possibility of hydrate formation (freezing) within piping and equipment. In order to manage hydrate formation during start up of production, additional emission releases would be required. As such, [REDACTED] will concentrate its efforts on assuring that the emission control equipment installed on its facilities are operating within the WDEQ control efficiency requirements.
29. List Ozone Action Day specific emission reduction activities not listed. (List any and all emission reduction activities your company and associated service companies do that are not listed) Liquids and condensate from [REDACTED] Pinedale lease operations have been transported via its Liquids Gathering System since late 2005. [REDACTED] utilizes onsite mud plants to reduce trucking distances for transport of drilling fluids. [REDACTED] performs flareless completions over 99% of the time. Drill Rigs: 100% controlled - Selective Catalytic Reduction emission controls were installed on all of [REDACTED] drill rig engines operating in the Pinedale Field prior to 1/1/2012 Liquid level controller: 100% replaced with low bleed Heat trace pumps: 99% controlled Dehys: 96% controlled Condensate tanks: 100% controlled Other pneumatics (methanol injection pumps, pneumatic wellhead flow controllers): 50% controlled					

WDEQ-AQD is cognizant that not all companies can or will initiate all measures listed.

ANNUAL OCP

Annual OCP due date:
December 1, 2011

COMPANY NAME:
COMPANY REPRESENTATIVE:
DATE OF SUBMISSION:

25 Companies participating as of 1/10/11

OCP STATS From 2012 Season

*Annual OCP submissions represent measures ANTICIPATED to be completed on an Ozone Action Day.

NOTES:

References to "all aspects of energy recovery and production" apply to Drilling, Completion, Production, Construction, Maintenance and other general activities.
Comment Boxes: Use to answer and expand upon any actively question or individual process.
 The ANNUAL OCP Checklist is a SEPARATE form from the Event Summary Checklist. Both can be found online @ <http://deq.state.wy.us/azod/Ozone%20Main.asp> >>> 2012 Standardized "Annual OCP" and "Event Summary" Checklist Templates

Submit via email to: brett.davis@wyo.gov

ACTIONS: WDEQ-AQD is cognizant that not all companies can or will initiate all measures listed

	YES	NO	Comment Boxes:
A. Annual OCP substantial only: Most current contact information for company representative(s) with regard to all winter-time ozone actions/literature.	24 (96%)		24 companies (96%) supplied updated or supplemental contact information.
B. Annual OCP substantial only: Submit as an attachment to WDEQ-AQD a comprehensive list of contractors/sub-contractors and service companies under contract with your company and expected to have a role in ozone contingency plan implementation. <i>brett.davis@wyo.gov</i>	9 (45%)		9 companies (45%) offered contractor contact information to Wyoming DEQ.
C. Annual OCP substantial only: Will your company commit to providing PRE-SEASON ozone contingency plan (OCP) awareness training for company personnel and all associated service company personnel? <i>brett.davis@wyo.gov</i>	24 (96%)		Completion date: _____ 24 companies (96%) have committed to providing PRE-SEASON O ₃ training. 14 companies (56%) have completed the PRE-SEASON training as of 01/17/2012
D. Annual OCP substantial only: Did a company representative attend the August 2011 BMP/Technology Transfer Fair?	8 (33%)		What was the representatives name? _____ 8 companies (33%) of the 25 participating in the OCP program sent representatives to the BMP/Technology Transfer Fair. At least 19 individuals were named as having attended the BMP/Technology Transfer Fair.
E. Does your company plan on utilizing Best Management Practices (BMPs)?	21 (84%)		If utilization of BMP's is not considered, please discuss why. _____ 21 companies (84%) have committed to using BMPs.
F. Annual OCP substantial only: Will your company and affiliated service companies commit to the suspension/shut-in of ALL energy recovery and production operations during the winter months? (Jan. 4 - Mar. 31)	0 (0%)		Zero companies participating in the OCP program have committed to this action.

Annual OCP for: 25 Companies participating as of 1/10/11

ACTIONS: WDEQ-AQD is cognizant that not all companies can or will initiate all measures listed.

	YES	NO	Comment Boxes:
1. Will your company commit to providing a pre-shift awareness update regarding Ozone Action Day status/Contingency Plan implementation for all immediate staff and contracted employees?	24 (96%)		If this action was not considered, please discuss why. _____ 24 companies (96%) have committed to providing pre-shift awareness of Ozone Action Days to employees.
2. Will staff and affiliated service company employees be notified of an Impending Ozone Action Day? 2a. How will this be achieved? (Attach a separate sheet of the notification process if necessary.)	25 (100%)		If this action was not considered, please discuss why. _____ All the companies participating in the OCP program have committed to alerting staff and service companies of Ozone Action Days.
3. Will your company and affiliated service companies commit to not overfilling gas tanks, and tighten fuel caps on vehicles associated with all aspects of energy recovery and production? (i.e., trucks, engines, snowcats, etc.)	25 (100%)		If this action was not considered, please discuss why. _____ All the companies participating in the OCP program have committed to not overfilling fuel tanks and tightening fuel tank caps on Ozone Action Days.
4. Will your company and affiliated service companies commit to minimize the idling of vehicles & engines associated with all aspects of energy recovery and production? (i.e., trucks, engines, construction equipment, etc.)	24 (96%)		If this action was not considered, please discuss why. _____ 24 companies (96%) have committed to minimizing engine idling on Ozone Action Days.
5. Will your company and affiliated service companies commit to defer truck & equipment refueling to evening hours?	22 (88%)		If this action was not considered, please discuss why. _____ 22 companies (88%) have committed to deferring refueling on Ozone Action Days.
6. Will your company and affiliated service companies commit to keeping vehicles tuned up and tires properly inflated?	25 (100%)		If this action was not considered, please discuss why. _____ All of the companies participating in the OCP Program have committed to keeping their vehicles tuned up.

ACTIONS: WDEQ-AQD is cognizant that not all companies can or will initiate all measures listed.

	YES	NO	Comment Boxes:
7. Will your company and affiliated service companies commit to using environmentally safe paints, cleaning products & chemicals? (i.e., non-aerosol, low VOC paints)	19 (76%)		If this action was not considered, please discuss why. 19 companies (76%) have committed to using environmentally safe paints.
8. Will your company and affiliated service companies commit to reducing driving speed by 5 mph?	22 (88%)		If this action was not considered, please discuss why. 22 companies (88%) have committed to reducing their driving speeds on Ozone Action Days.
9. Will your company and affiliated service companies commit to minimize the use of ancillary equipment with respect to all aspects of energy recovery and production? (i.e., light plants, portable generators, pumps, etc.)	21 (84%)		If this action was not considered, please discuss why. 24 companies (84%) have committed to minimizing their use of ancillary equipment.
10. Will your company and affiliated service companies commit to minimize vehicle traffic and miles traveled? (consolidate trips, car-pool, postpone travel etc.)	25 (100%)		If this action was not considered, please discuss why. All of the companies participating in the OCP Program have committed to minimize the miles they travel on Ozone Action Days.
11. Will your company and affiliated service companies commit to utilizing various leak detection techniques to prevent/fix the venting of gas? 11a. List the type of activity that will be used to detect equipment leaks and timetables for inspection.	20 (80%)		If this action was not considered, please discuss why. 20 companies (80%) have committed to employing leak detection and fixing detected leaks.
12. Will your company and affiliated service companies commit to defer/postpone liquid hauling into and out of the field? 12a. On average, how many liquid hauling trips occur per day in relation to your operations?	20 (83%)	>81 will be deferred >233 hauls will occur.	If this action was not considered, please discuss why. 20 companies (80%) have committed to deferring or postponing liquid hauling on Ozone Action Days. This will amount to at least 81 less liquid hauls on a given Ozone Action Day. However, at least 233 liquid hauls will still commence on Ozone Action Days.
13. Will your company and affiliated service companies commit to suspend and/or reschedule the use of diesel and/or gasoline powered equipment associated with all aspects of energy/recovery and production? (i.e., generators, engines, vehicles, etc.)	15 (63%)		If this action was not considered, please discuss why. 15 companies have committed to suspend and/or reschedule the use of diesel and/or gasoline powered equipment on Ozone Action Days.
14. Will your company and affiliated service companies commit to postpone construction activities associated with all aspects of energy/recovery and production?	22 (92%)		If this action was not considered, please discuss why. 22 companies (92%) have committed to postponing construction activities on Ozone Action Days.

ACTIONS: WDEQ-AOD is cognizant that not all companies can or will initiate all measures listed.

YES NO

Comment Boxes:

<p>15. Will your company and affiliated service companies commit to postpone maintenance activities associated with all aspects of energy recovery and production?</p>	<p>18 (72%)</p>	<p>If this action was not considered, please discuss why: 18 companies (72%) have committed to postponing maintenance activities on Ozone Action Days.</p>
<p>16. Will your company and affiliated service companies commit to limit, and or suspend drilling operations on Ozone Action Days?</p>	<p>2 (25%)</p>	<p>If this action was not considered, please discuss why: 2 companies (25%) have committed to limit or suspend drilling operations on Ozone Action Days. (25% based upon those companies with drilling plans for the winter season). Of those companies participating in the OCP program who perform drilling, 12 (60%) have not planned any drilling for the winter season. 0 companies have committed to not drill during the winter months based upon OCP considerations.</p>
<p>16a. Will your company and affiliated service companies commit to limit, and or suspend drilling operations throughout the entire winter ozone season? (Jan. 4 - Mar. 31)</p>	<p>12 (60%) have not planned any drilling for the winter season.</p>	<p>If this action was not considered, please discuss why: 2 companies (25%) have committed to limit or suspend drilling operations on Ozone Action Days. (25% based upon those companies with drilling plans for the winter season). Of those companies participating in the OCP program who perform drilling, 12 (60%) have not planned any drilling for the winter season. 0 companies have committed to not drill during the winter months based upon OCP considerations.</p>
<p>17. Will your company and affiliated service companies commit to postpone fracking operations on Ozone Action Days?</p>	<p>5 (63%)</p>	<p>If this action was not considered, please discuss why: 5 companies (63%) have committed to postpone fracking operations on Ozone Action Days. (63% based upon those companies with drilling plans for the winter season). 12 companies (60%) do not have any fracking plans for the winter season. (60% based upon those companies who may perform fracking operations). 0 companies have committed to not frack during the winter months based upon OCP considerations. The following fracking rig information was offered on and gathered from OCPs: On a given winter day, >91 total fracking rigs could be operating (16 Tier II, 5 Tier III, 2 Tier IV, the rest with undisclosed controls). Of those >91 fracking rigs, at least 44 (48%)(6 Tier II, 11 with some sort of emission controls, the rest with undisclosed controls) are operated by companies who committed to postponing fracking operations on Ozone Action Days.</p>
<p>17a. Will your company and affiliated service companies commit to postpone fracking operations for the entire winter season? (Jan. 4 - Mar. 31)</p>	<p>12 (60%) have not planned any fracking.</p>	<p>If this action was not considered, please discuss why: 7 companies (70%) have agreed to postpone the initiation of new completions actions on Ozone Action Days. (70% based upon those companies that plan to complete wells during the winter season). 10 companies (50%) have no plans to complete wells this winter season. (50% based upon those companies that perform completions). 2 companies (20%) have agreed to postpone their completion activities for the entire winter season based upon OCP considerations.</p>
<p>17b. How many engines does your company/service companies use per frac? Include number of controlled engines in use on typical frac. (i.e., 6 engines used, 3 controlled with SCR)</p>	<p>>44 engines (48%) affected</p>	<p>If this action was not considered, please discuss why: 7 companies (70%) have agreed to postpone the initiation of new completions actions on Ozone Action Days. (70% based upon those companies that plan to complete wells during the winter season). 10 companies (50%) have no plans to complete wells this winter season. (50% based upon those companies that perform completions). 2 companies (20%) have agreed to postpone their completion activities for the entire winter season based upon OCP considerations.</p>
<p>18. Will your company and affiliated service companies commit to postpone the initiation of new completion actions on Ozone Action Days?</p>	<p>7 (70%)</p>	<p>If this action was not considered, please discuss why: 9 companies (75%) have agreed to postpone the initiation of re-completions/work-overs on Ozone Action Days. (75% based upon those companies that plan to re-complete/work-overs over this winter). 8 companies (60%) have no plans to re-complete or work-over any wells this winter season. (40% based upon those companies that perform re-completions/work-overs). 1 company (8%) has agreed to postpone the initiation of re-completions/work-overs for the entire winter season based upon OCP considerations.</p>
<p>18a. Will your company and affiliated service companies commit to postpone the initiation of new completion actions for the entire winter season? (Jan. 4 - Mar. 31)</p>	<p>2 (20%)</p>	<p>If this action was not considered, please discuss why: 9 companies (75%) have agreed to postpone the initiation of re-completions/work-overs on Ozone Action Days. (75% based upon those companies that plan to re-complete/work-overs over this winter). 8 companies (60%) have no plans to re-complete or work-over any wells this winter season. (40% based upon those companies that perform re-completions/work-overs). 1 company (8%) has agreed to postpone the initiation of re-completions/work-overs for the entire winter season based upon OCP considerations.</p>
<p>19. Will your company and affiliated service companies commit to postpone the initiation of re-completion/work over actions on Ozone Action Days?</p>	<p>9 (75%)</p>	<p>If this action was not considered, please discuss why: 17 companies (81%) have agreed to postpone blowdown actions on Ozone Action Days. (81% based upon those companies that perform blowdown actions)</p>
<p>20. Will your company and affiliated service companies commit to postpone blowdown actions tied to all aspects of energy recovery and production?</p>	<p>1 (8%)</p>	<p>If this action was not considered, please discuss why: 16 companies (70%) have agreed to turn down or control uncontrolled pneumatic heat trace pumps. (70% based upon those companies that operate this type of equipment). 8 companies (35%) have estimated that 100% of their pneumatic heat trace pumps are controlled. (35% based upon those companies that operate this type of equipment)</p>
<p>21. Will your company and affiliated service companies commit to turn down or control uncontrolled pneumatic heat trace pumps?</p>	<p>16 (70%)</p>	<p>If this action was not considered, please discuss why: 16 companies (70%) have agreed to turn down or control uncontrolled pneumatic heat trace pumps. (70% based upon those companies that operate this type of equipment). 8 companies (35%) have estimated that 100% of their pneumatic heat trace pumps are controlled. (35% based upon those companies that operate this type of equipment)</p>
<p>22. Will your company and affiliated service companies commit to delay line pigging?</p>	<p>14 (88%)</p>	<p>If this action was not considered, please discuss why: 14 companies (88%) have agreed to delay line pigging on Ozone Action Days. (88% based upon those companies that pig lines)</p>

ACTIONS: WDEQ-AQD is cognizant that not all companies can or will initiate all measures listed.

	YES	NO	Comment Boxes:
23. Will your company and affiliated service companies commit to delay the charging of desiccant dehydration units?	5 (83%)		If this action was not considered, please discuss why. 5 companies (83%) have committed to delaying the charging of desiccant dehydration units on Ozone Action Days. (83% based upon those companies that operate this type of equipment.)
24. Will your company and affiliated service companies commit to shutting down uncontrolled equipment associated with all aspects of energy recovery and production? (i.e., dehydration units, engines, pneumatic pumps?) (Uncontrolled = equipment that is running without emission reduction technology or emission reduction devices such as SCR on engines or solar pumps).		4 (19%)	If this action was not considered, please discuss why. 4 companies (19%) have committed to shutting down uncontrolled equipment on Ozone Action Days. (19% based upon those companies that have uncontrolled equipment within the area of concern)
24a. List equipment likely to be targeted for this action.			
25. Will your company and affiliated service companies commit to adding emission reduction "control" technology and/or emission "control" devices to equipment associated with all aspects of energy recovery and production?		3 (13%)	If this action was not considered, please discuss why. 3 companies (13%) have committed to adding emission reduction technology and/or emission "control" devices to their equipment. 4 companies estimated the percentage of their equipment that currently has emissions controls. These companies estimated that 50%, 98%, 99%, and 98% of their respective equipment had emissions controls.
25a. List percentage of currently controlled equipment. Include date that 100% of equipment is anticipated to be controlled. (Controlled equipment represents equipment turning with emission reduction devices or utilizing emission reduction technology)			
26. Will your company and affiliated service companies commit to the suspension/shut-in of all energy recovery & production operations during a specific WDEQ-AQD Declared Ozone Action Day? (short-term)		2 (9%)	If this action was not considered, please discuss why. 2 companies (9%) committed to the suspension/shut-in of all energy recovery and production operations during a specific WDEQ-AQD declared Ozone Action Day.
27. List any year-round emission reduction activities your company employs:			14 companies (56%) offered meaningful comments to this question.
28. List any "winter season" emission reduction activities implemented regardless of Ozone Action Day status: (include listed and unlisted activities)			12 companies (48%) offered meaningful comments to this question.
29. List anticipated future emission reduction activities or ideas: (i.e., operational procedures & equipment changes that help minimize emissions)			13 companies (52%) offered meaningful comments to this question.

WDEQ-AQD is cognizant that not all companies can or will initiate all measures listed.