

**EMERGENCY CONTINGENCY PLAN  
FOR OZONE ADVISORIES**

**In Sublette County, Wyoming**

**December 14, 2009**

**For:**

**Yates Petroleum Corporation**

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## **Appendices**

- A Air Quality Index Breakpoints for Ozone
- B Event Log

# 1.0 INTRODUCTION

## 1.1 Purpose and Scope

This Emergency Contingency Plan for Ozone Advisories (Plan) in Sublette County, Wyoming describes activities that Yates Petroleum Corporation (Yates) will implement on short notice in response to air quality advisory forecasts of high ozone in the area. These forecast advisories (Advisories), which will be issued by the Wyoming Department of Environmental Quality (WDEQ), will be communicated to the public and operators in the area including Yates. This Plan describes short term actions that Yates will implement in the field to help minimize ozone concentrations on days forecasted to have meteorological conditions conducive for a high ozone event. This Plan covers proposed response actions to Advisories issued during the period of February 1 through March 31, 2010, which is the prime season for ozone formation in the area.

## 1.2 Background

Sublette County is located in the Upper Green River Basin where high ozone events have been observed consistently during prime season since 2005. The high ozone is a concern due to potential adverse health and ecological effects. The concentrations that have been monitored in late winter and early spring exceed the U.S. Environmental Protection Agency's (EPA) and WDEQ ozone standards for ambient air quality. Violations and potential future violations of the above standards will result in increased federal regulatory requirements for operators in the area. This would happen if the area is designated as non-attainment for ozone. The situation is made more critical by the fact that EPA lowered the ambient air quality standard from 80 ppb (8 hour average) to 75 ppb in March 2008.

WDEQ was required to report the State's ozone attainment status relative to the new standard to EPA at the end of the 2009 ozone season (March 2009). Therefore WDEQ, the Bureau of Land Management (BLM) and area operators worked to minimize and eliminate exceedances of the standard during those critical months. This Plan, which focuses on temporary reductions of nitrogen oxides (NOx) and volatile organic compounds (VOCs) during Advisory periods, is a continuation of that effort. VOCs and NOx are precursors to the formation of ozone.

### 1.3 Plan Approach

The goal of this Plan is to reduce NOx and VOCs emissions from Yates operations during 24-hour ozone Advisory days or periods of consecutive 24-hour ozone Advisories (Periods). The actions proposed in this Plan are those that can be implemented on a short-term basis given short notice (8-12 hours) by WDEQ. Actions that require weeks or months of planning and preparation are not feasible under this Plan. In addition, it is important to note that the proposed actions cannot be sustained for long periods of time.

## 2.0 NOTIFICATION AND COMMUNICATIONS PLAN

### 2.1 Wyoming DEQ Basis For Issuing Ozone Advisories

WDEQ will predict periods of elevated ozone levels in the ambient air based on a daily evaluation of weather forecasts. Ozone is elevated in the Upper Green River Basin when there are strong temperature inversions, low winds, snow cover, and bright sunlight. Ozone forecasts will be issued in the U. S Environmental Protection Agency's Air Quality Index (AQI) format. The forecasts will be done in advance and are expected to be issued the afternoon of the day before the Advisory goes into effect. The Advisory will go into effect at 12 a.m. (midnight) Mountain Time and will automatically expire after 24 hours unless another advisory is issued for the subsequent day. All Advisories expire after 24 hours but Advisories may be issued on consecutive days resulting in extended periods of Plan implementation.

The AQI values range from 0 to 500. When the AQI value is under 100 (forecasted as Yellow or Green), the air quality is considered to be satisfactory to protect public health. When the ozone forecast indicates the AQI will exceed 100 (forecasted as Orange, Red or higher) for the Upper Green River Basin, the WDEQ will issue an ozone Advisory.

Table A-1 in Appendix A provides the Ozone AQI breakpoints for each level of Advisory.

WDEQ has stated that it will issue ozone Advisories by 12 noon prior to each day the Advisory will be in effect. WDEQ has stated that the Advisories will automatically expire at the end of the forecast Advisory day. WDEQ will directly email and/or call the primary contact person for Yates as soon as the Advisory is

forecast. (The primary contact person for Yates is identified in Section 2.2.) Advisories will also be posted on the WDEQ website and communicated to the public via the media.

## 2.2 Yates Communication Plan

The primary contact person for Yates in regards to this Plan will be Mr. Brett Dempsey. Mr. Dempsey is the person that Wyoming DEQ will directly notify at Yates for ozone Advisories. The contact information for Mr. Dempsey is as follows:

Brett Dempsey, PE
Rocky Mountain Operations Manager
(303)618-4240 cell
<a href="mailto:bdempsey@yatespetroleum.com">bdempsey@yatespetroleum.com</a>

WDEQ will email and/or telephone Mr. Dempsey each day that an Advisory is forecast. Immediately after receiving each WDEQ notification, Mr. Dempsey will communicate with other Yates personnel about the upcoming event. Specifically he will communicate by email and/or telephone to Mr. Drew Podlesny, Mr. Rick Radke and Mr. Alan Ennis. These persons will communicate verbally with their respective teams and subcontractors in the field who have direct responsibility for implementing the response actions described in this Plan. The contact information for these persons is as follows:

Drew Podlesny	Rick Radke	Alan Ennis
Rocky Mountain Operations Superintendent	Rocky Mountain Drilling Superintendent	Rocky Mountain Regulatory Superintendent
(307) 389-4687	(307) 389-3743	(307) 389-2985
<a href="mailto:podlesny@yatespetroleum.com">podlesny@yatespetroleum.com</a>	<a href="mailto:rickr@yatespetroleum.com">rickr@yatespetroleum.com</a>	<a href="mailto:alane@yatespetroleum.com">alane@yatespetroleum.com</a>

Within 8-12 hours of notification, the Plan actions will be implemented. Therefore prompt communications will be made to affected Yates staff and subcontractors in the PAPA area. Actions will continue to be implemented for a 24-hour period until the Advisory automatically expires or another Advisory notification is received. Normal operations will resume when a 24-hour period has passed without receipt of a new notification from WDEQ. Immediately following the Advisory period, Mr Dempsey will notify Kelly Bott (WDEQ) via phone (307.777.6088) or email ([kbott@wyo.gov](mailto:kbott@wyo.gov)) that the Communication and Plan actions were successfully implemented.

## **3.0 RESPONSE ACTIONS**

This section of the Plan presents actions to be implemented by Yates in Sublette County when an Ozone Advisory notification is received from the WDEQ. The goal is to reduce the generation and/or release of NOx and volatile organic compounds (VOCs) during Advisory Periods. Actions will be continuously reviewed by Yates during implementation to assess feasibility, effectiveness, and safety concerns to the field workers. Safety issues will be immediately mitigated and response actions will be added, changed, or deleted as necessary to improve the Plan.

Under this Plan, Yates will implement the response actions on a short-term basis beginning no later than midnight on the day the Advisory is received and continue implementation for 24-hours. Operations will automatically return to normal after 24-hours (at midnight the next day) unless additional Advisories are issued and notifications are received from WDEQ for consecutive days.

### **3.1 Minimize Emissions from Motor Vehicles**

Motor vehicles are essential to Yates operations and they fulfill an important role in assuring the safety of field personnel working in the area. The safety aspect of motor vehicles is especially important during winter months in southwest Wyoming. A vehicle that is kept running and heated even when it is parked provides shelter and warmth to field workers deployed in remote areas where shelter is not otherwise available. Second, on the coldest days, vehicle motors must be kept running in order to assure drivability (especially diesel vehicles) when ambient temperatures are very low.

Essential operations for motor vehicles include hauling liquids from tanks before they overfill and spill. Motor vehicles are also critical to support ongoing drilling and fracing especially those operations initiated prior to the Advisory. Motor vehicle support for drilling/fracing is not a “short-term” operation which can be curtailed and restarted every 24 hours. Finally, vehicles associated with fire, medical, and spill cleanup emergencies must continue to operate as needed. This is also true of vehicles deployed for security.

The following actions will be taken to minimize emissions related to motor vehicles to the extent they do not affect essential motor vehicle operations as described above. Only non-essential motor vehicle operations will be postponed or curtailed during Advisory Periods as further described in this section.

- **Minimize Vehicle Miles Traveled:**
  - Postpone errands and trips for non-essential supplies until after the Advisory is cancelled
  - Increase the occupancy of vehicles such as “car pooling” up to work sites; double up the occupancy of a vehicle and leave one parked for the day
  - Minimize travel by communicating supply needs and send a single vehicle for essential supplies rather than multiple vehicles making a trip for a single item
  - Defer hauling liquids when tank levels are confirmed to be safely below overfill levels and there is no risk of spill or other discharge
- **Schedule Refueling Operations Around Advisories:**
  - To the extent possible, refuel vehicles and equipment either prior to the Advisory or postpone refueling until after the Advisory expires.
- **Minimize Vehicle Idling:**
  - Idle vehicles only when necessary for safety in the field and during extreme cold conditions to keep personnel warm or to avoid problems associated with re-starting.
  - When feasible, utilize block heaters and park vehicles in heated garages instead of idling combustion engines to keep them warm for re-start.

### 3.2 Minimize Use of Other Combustion Equipment

These actions will be taken with ancillary equipment not essential to safety or emergency operations or equipment not associated with fracing or completion activities initiated before the Advisory was issued. (See Section 3.4 for further explanation.)

- Restrict use of equipment that is powered by an internal combustion engine *if* its use is non-essential and can be postponed. This equipment may include portable generators, compressors, vacuums, wash units, diesel and gasoline powered pumps, and portable light plants.
- Postpone refueling of non-essential equipment until after the Advisory expires.

### 3.3 Postpone Non-Essential Construction and Maintenance

Under this action, construction and maintenance activities that are not essential will be postponed if they involve the use of motor vehicles or machinery powered by an internal combustion engine or if

they involve venting of gases. Circumstances will be evaluated in the field to determine what is non-essential. Possible activities include but are not limited to:

- Postpone construction of well pads
- Postpone construction of access roads
- Postpone construction of pipelines and other production facilities
- Postpone snow removal on non-essential roads if safety will not be compromised

In some cases, it may be possible to continue activities during Advisory Periods as long as combustion engines are not used and equipment and vehicles are not refueled. Permissible construction and maintenance activities may include but are not limited to some electrical and pipefitting activities, hand work with shovels, surveying and staking small areas, etc. In general, permissible activities are those that do not generate emissions from combustion engines or equipment and do not vent VOCs.

### **3.4 Postpone Initiation of Fracture Stimulation and Completion Activities**

- During an Advisory, well fracing initiated prior to the Advisory notification will continue until such time as activities can be postponed or terminated. New well fracing activities will be postponed until any Advisories expire and normal operations are resumed.
- Well completion activities will be suspended during Advisories Periods to the extent that the activities generate NOx or VOCs and it is safe to suspend operations. These activities include flaring and venting and activities which utilize motor vehicles, frac equipment, workover rigs, etc. These actions will be postponed until Advisories expire.
- Yates does not propose to postpone, defer, or suspend drilling activities during Advisory Periods. This is because logistical, technical and worker safety concerns do not warrant the actions especially considering there would be little to no reduction in NOx and VOC emissions. Mud circulation and bit rotation must be maintained at all times even if drilling is suspended. Therefore the power supply engines could not be shutdown.

### **3.5 Postpone Initiation of Well Blowdowns**

Blowdown activities initiated prior to an Ozone Advisory may continue until these activities can be safely terminated or deferred. Initiation of wellhead and pipeline blowdowns will be postponed during ozone Advisory Periods.

## **4.0 Recordkeeping and Training**

### **4.1 Event Log**

Yates will log Advisory notifications as they are received and responded to in the field. Appendix B presents a copy of a typical log form to be completed at the end of each Advisory or Advisory Period. The log form will document the date and length of Advisories and subsequent Plan implementation. The comments section can be used to log problems encountered and potential solutions and corrections. The log will be maintained in Yates files. If requested by WDEQ, a copy of the Event Logs will be made available.

### **4.2 Training**

Yates will conduct a training session with field personnel including subcontractors to review this Plan and discuss implementation of Proposed Actions. A training log will be created to document the date and attendance. The log form will be kept in Yates files and will be available to WDEQ upon request.

APPENDIX A  
Ozone Air Quality Index  
Breakpoints

**TABLE A-1**  
**Ozone Air Quality Index (AQI) Breakpoints**

<b>Category</b>	<b>AQI Value</b>	<b>1997 8-hour (ppm)</b>	<b>2008 8-hour (ppm)</b>
<b>Good</b>	0-50	0.000-0.064	0.000-0.059
<b>Moderate</b>	51-100	0.065-0.084	0.060-0.075
<b>Unhealthy for Sensitive Groups</b>	101-150	0.085-0.104	0.076-0.095
<b>Unhealthy</b>	151-200	0.105-0.124	0.096-0.115
<b>Very Unhealthy</b>	201-300	0.125-0.374	0.116-0.374
<b>Hazardous</b>	301-400	No Change	No Change
	401-500	No Change	No Change

APPENDIX B  
Event Log

**Yates Petroleum Corporation  
Ozone Advisory Response Log  
2010 Season**

1. Date/Time Advisory Received: \_\_\_\_\_

2. Period of Time Advisory in Effect: \_\_\_\_\_

3. WDEQ Advisory Notification Details: \_\_\_\_\_

Method of Notification \_\_\_\_\_ email \_\_\_\_\_ telephone

WDEQ Person Making Contact: \_\_\_\_\_  
(if applicable)

Comments/Concerns/Upset

4. Conditions:

5. Log By: \_\_\_\_\_  
Name and Date

CHECK ACTIONS TAKEN ( √ )	DRILLING	PRODUCTION	COMPLETIONS
Restricted Motor Vehicle Operations			
Restricted Use of Other Combustion Equipment			
Postponed Non-Essential Construction & Maintenance			
Postponed Initiation of Fracturing & Completion			
Postponed Initiation of Well Blowdowns			
Note other actions taken or problems encountered:			
Reporting Person (name/signature):			

TIMING OF ACTION	Date Control Measure Was Taken	Duration	Responsible Party
Restricted Motor Vehicle Operations			
Restricted Use of Other Combustion Equipment			
Postponed Non-Essential Construction & Maintenance			
Postponed Initiation of Fracturing & Completion			
Postponed Initiation of Well Blowdowns			

Other Actions Taken (If Applicable):

Date

Duration

Responsible Party