

BARNETT SHALE AREA OIL AND GAS OPERATIONS SPECIAL INVENTORY – PHASE II

The Barnett Shale, as a significant and growing player in the oil and gas market, has experienced a rapid rise in natural gas production in recent years due to increasing natural gas prices and recent advances in drilling technology. As a consequence of the industry's high profile and visibility in the past few years, recent questions and concerns about suspected emissions from natural gas production facilities and associated potential negative health impacts have prompted immediate and widespread scrutiny from not only state and local governments, but also citizens and private interests.

Such scrutiny has driven the Texas Commission on Environmental Quality (TCEQ) to perform more frequent and thorough inspections of production sites. This has led to proposals that would drastically modify current TCEQ policy and regulations on oil and gas operations in Texas. To gather the information necessary to complete a review of the Barnett Shale operations, TCEQ has initiated a special inventory request for oil and gas sites located within the Barnett Shale area. The complete list of counties, considered as part of the Barnett Shale area, can be found on the TCEQ website. This complete list of counties is also listed in the table at the end of this PROVIsion. Companies that own/operate leases or have facilities associated with Barnett Shale oil and gas production, transmission, processing and related activities are required to submit data to TCEQ.

The TCEQ has successfully completed Phase I of the inventory, after having received special inventory data from companies that account for more than 99 percent of the 2009 production in the Barnett Shale. Phase I involved the collection of data on the location, number, and type of emissions sources located at upstream and midstream oil and gas operations associated with the Barnett Shale formation. Phase II is the next step in the inventory

process, which will collect detailed emissions data for sites subject to this inventory.

OVERVIEW

The completed and certified inventory data for Phase II must be submitted to TCEQ by **December 31, 2010**. In order to complete the Phase II Inventory, oil and gas companies will be required to provide detailed information on site operations, emissions, and equipment. Some of the information that will be requested includes the following:

- Location, number, and type of each emission source;
- Air emissions authorizations;
- Proximity of each source to the nearest off-site receptor;
- Emissions point data;
- Emissions in 2009 of nitrogen oxides, volatile organic compounds, and hazardous air pollutants;
- Material throughput data.

INVENTORY REQUIREMENTS

Based on the current Barnett Shale Special Inventory Workbook located on the TCEQ website,¹ it is likely that most of the following information will also be required in order for oil and gas operations to complete Phase II of the inventory:

- Separator configuration, operating hours, operating parameters, emissions, and sampling results;
- Tank configuration, operating hours, turnovers, dimensions and other construction parameters, material data, calculated emissions, and gas and liquid composition analysis;

¹<http://www.tceq.state.tx.us/implementation/air/industei/psei/psei.html#barnett>

- Information on the calculation of flash emissions using the gas oil ratio or Vasquez Beggs equation;
- Dehydrator operating parameters, type of glycol used, amount of gas treated, gas processing rate, wet/dry gas analysis, wet gas water content, regenerator operating parameters, regenerator control information, lean glycol flow rate and water content, pump information, control device information, flash tank information, stripping gas information, and calculated emissions including GRI-GLYCalc reports;
- Flare operating parameters, pilot gas usage, flare stream sulfur content, pilot gas and waste gas emission factors, gas flow rate from each source, flare gas composition, flare gas heating value from each source, emission point parameters, and calculated emissions;
- Engine, turbine, heater, and boiler unit information, operating hours, fuel type and heat content, fuel consumption, stack parameters, control device description and efficiency, emission factors, and calculated emissions;
- Fugitive emissions calculations;
- Loading capacity, annual loading volume, control device description and efficiency, parameters of liquid loaded, stack parameters, and calculated emissions;
- Blowdown and venting volume per event, number of events, control device type and efficiency, and gas composition.

Please keep in mind that this is by no means a comprehensive list of information that is required in the Phase II inventory, for further information refer Point Source Emissions Inventory section on TCEQ website. For more detailed information, please see the Barnett Shale Special Inventory Workbook located on the TCEQ website.

Counties with Oil and Gas Facilities Covered in Barnett Shale Area Phase II Inventory
Archer
Bosque
Clay
Comanche
Cooke
Coryell
Dallas
Denton
Eastland
Ellis
Erath
Hill
Hood
Jack
Johnson
Montague
Palo Pinto
Parker
Shackelford
Stephens
Somervell
Tarrant
Wise

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