




MEMO TO : ND Oil and Gas Operators-Bakken Guidance Applicable

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RE : Air Pollution Control Equipment Operations

DATE : August 20, 2012

The ND Department of Health (Department), in conjunction with the US EPA Region 8, recently completed a week of inspections of oil production facilities in Western North Dakota. The majority of the inspections were conducted at oil well sites in ND that are associated with the Bakken formation. The inspections included a review of pollution control equipment installed at each site. EPA and Department personnel utilized a FLIR GR-Series infrared camera and a PID to detect gas leaking from tanks, valves, combusters and other gas-associated equipment.

In general, the Department found that proper pollution-control equipment has been installed in accordance with the Bakken Guidance Document.

However, a variety of compliance issues were discovered at the sites, which covered a range of equipment with multiple operators. These issues lead to the unintended release of vapors to the atmosphere. The most common issues were:

- Open thief hatches on oil and produced water tanks.
- Unlatched thief hatches on tanks.
- Ends of tank lines that had valves that were either open or stuck open venting opposite of the control equipment connections. This may be due to valve issues on the lines.
- Combustors that were unlit (but appeared to have gas for ignition available).
- Flares that were unlit or non-sparking.
- Leaks on seals of thief hatches.
- Pit flares underneath water.

The camera was not able to quantify the leaks, but was able to detect that the equipment needed attention. The camera was clearly able to detect leaks, including those from produced water tanks and from oil tanks. The camera indicated leaks that were confirmed to be non-methane by testing using a PID.

The Department has notified the Operators who had open thief hatches that they appear to be in violation of the Section 33-15-07-02 of the North Dakota Air Pollution Control Rules "Requirements for organic compounds gas disposal" of this chapter requires the owner or operator of any oil or gas well completed or recompleted on/or after July 1, 1987, with volatile organic compounds (stated in part below)"

" . . . .

1. No person may cause or permit the emission of organic compounds gases and vapors, except from an emergency vapor blowdown system or emergency relief system, unless these gases and vapors are burned by flares, or an equally effective control device as approved by the department. Minor sources, as determined by the department and not subject to New Source Performance Standards (NSPS), may be granted exemptions to this subsection.
2. Organic compounds gases and vapors which are generated as wastes as the result of storage, refining, or processing operations and which contain hydrogen sulfide, shall be incinerated, flared, or treated in an equally effective manner before being released to the ambient air. The emissions from all devices designed for incinerating, flaring, or treating waste organic compounds gases and vapors shall result in compliance with chapters 33-15-02 and 33-15-16.

. . . ."

The North Dakota Oil and Gas Guidance document, effective May 2, 2011, outlines measures to be taken at oil production facilities to comply with the above requirements. This Guidance specifies that the tank vapors be routed to a control device.

Equipment, maintenance, and operator issues at the sites where these problems were noted must be addressed by Operators immediately. Properly used, the equipment can destroy the vapors, but it must be maintained and operational to do so. Because the Operators depend on this equipment working properly to claim control of vapors for permitting and compliance purposes, Operators of equipment that is not operating properly will be sent letters of apparent noncompliance. These operators will be required to explain why the equipment was malfunctioning, and the Department will determine if further enforcement actions, including monetary penalties will be pursued.

The Department will be making a concentrated effort to conduct more wellsite inspections and will note the issues above when performing the inspections. Operators are expected to be in compliance with the Guidance Document and with the North Dakota Air Pollution Control Rules.

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