

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

N787425013

FACILITY: JORDAN DEVELOPMENT COMPANY, L.L.C. - 451 RUM		SRN / ID: N7874
LOCATION: NW NE SW, SEC 29, RUST TWP		DISTRICT: Cadillac
CITY: RUST TWP		COUNTY: MONTMORENCY
CONTACT: Troy Molby		ACTIVITY DATE: 04/24/2014
STAFF: Kurt Childs	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: 2014 FCE. Site inspection and records review.		
RESOLVED COMPLAINTS:		

Full Compliance Evaluation (FCE)

I conducted an FCE of this facility including a site inspection, records review and review of reporting. I inspected the site on April 24, 2014. The 451 Rum CPF is located at the end of a private road west of Klein Rd. and one half mile north of Carter Rd. in Rust Twp. Montmorency County. The site is shared with the NuEnergy 7-Up Club CPF. The Jordan Development Company (JDC) site consists of one building containing a compressor engine and a dehydrator. There is also a containment area holding two tanks. There are no heaters or flares and sour gas is not processed at the facility.

At the time of the inspection only the CAT 3516LE 1400 (EUENGINE1) was present and operating. It is a 1265hp V-16 engine which is not equipped with catalytic control (it is a low emission engine). This unit identified as 190209 is equipped with a Caterpillar "Engine Supervisory System". This controller is located adjacent to the engine and contains the digital display that was only indicating cylinder temperatures at the time of the inspection, though it can display other information such as engine RPM. The stack appeared as described in the permit and there were no visible emissions or noticeable odors.

The engine identified as EUENGINE2 in PTI 313-07A has been removed. This engine was a CAT G3306NA that was located in a shed that was attached to the west side of the compressor building. At the time of the inspection the shed and all of its contents were gone. This engine served the Barney Miller South gas field not the 451 Rum so this has lead to some confusion in the past. There is also a CAT G3408NA engine located off site that is the sales line booster for the 451 Rum. It now has PTI 83-10 under SRN P0096. This engine was originally permitted with EUENGINE1 at the CPF site but it was not identified in the application as being at a separate location. According to records provided by Jordan Development Company (JDC) the P0096 booster engine has not operated in the last 12 mos.

The 2013 MAERS report indicates emissions of NOx from EUENGINE1 were 11 tons per year while CO emissions were 10 tons per year using manufacturers emission data. The NOx emission limit is 50 tons per year and the CO emission limit is 25 tons per year.

The 2013 MAERS report for EUENGINE2 provides information for the P0096 451 Booster and indicates it did not operate during the past year. The MAERS report still reflects the original permitting which was not correct. EUENGINE2 actually has been removed.

The dehydrator was operating and is equipped with a condenser. The vent from the condenser exited the side of the building, mild odors were present.

I requested records for the 451 Rum facility including emission calc's, maintenance logs, and monthly fuel use. The records I received indicate that maintenance logs have been maintained and that EUENGINE1 operated almost continually the entire year. Fuel consumption was recorded and emissions were calculated using the vendor supplied emission factors (see below for further discussion). NOx emissions from EUENGINE1 were calculated as 10.84 tons/yr. CO emissions were 9.75 tons/yr. The NOx emission limit for EUENGINE1 is 50 TPY and the CO emission limit is 25 TPY. As indicated above EUENGINE2 has been removed and the 451 booster is permitted separately and is not operating.

Following the inspection AQD received a request from Environmental Consulting & Technology, Inc. on behalf of JDC to void the PTI (313-07A) for N7874 (451 RUM) stating that the engine and glycol dehydrator meet the Part 2 exemptions. The void request was based on the engine having less than 10,000,000 Btu/hr heat input and actual emissions below the significance levels for NOx(40 TPY) and CO

(100 TPY). Emission calculations for the engine were provided using the manufacturers spec sheet emission factor for 100% load. A review of the records provided from the inspection which covered the period from September 2013 through April 2014 indicated that average actual operating load was 75.4% (avg. RPM of 1055 vs. 1400 for 100% load). The spec sheet provides a NOx emission factor for 75% load of 4.5 g/bhp-hr. Using this emission factor the calculated NOx emissions are 54.9 TPY which is greater than the significance level for NOx of 40 TPY. Using the 75% load emission factor of 2.2g/bhp-hr for CO results in calculated CO emissions of 26.8 TPY. If actual emissions exceed the significance level for NOx or CO the R 336.1285(g) exemption can not be applied pursuant to R 336.1278(1)(b). Since this engine is operating below 100% load and has the potential to operate even lower the permit should not be voided until correct actual emission calculations are provided.

The emission calculation information that came to light due to the permit void request indicates that it is possible annual emissions of NOx and CO exceed the PTI limits of 50 TPY and 25 TPY respectively. I requested that JDC recalculate the annual emissions using the correct emission factor based on actual operation of EUENGINE1 over the 12 month period from April 2013 to March 2014 and submit the results by May 30, 2014.

On May 16, 2014 I received the attached email verifying that EUENGINE1 runs at 75% load and including revised emission calculations. The revised calculations indicate total NOx emissions were 24.68 TPY and CO emissions were 12.07 TPY. Note that the calculations used by JDC are more precise than the screening calculation I used. Their calculations take into account the actual heating value of the fuel used and the fuel consumption rate instead of being based on the rated horsepower of the engine. The email also states that the P0096 G3408 HCNA engine was shut down 5/1/12 and returned to Exterran in 2013 and the G3306 NA EUENGINE2(313-07A) engine returned to Exterran 1/12/12.

As a result of these investigations it appears the 451 Rum CPF is in compliance with PTI 313-07A at this time and that the remaining engine and glycol dehydrator are suitable for exemption based on the information provided by JDC. Therefore I will approve the previously submitted request to void PTI 313-07A. I will forward the information regarding P0096 to Becky Radulski of AQD - Gaylord Office for review for potential void of PTI 83-10.

NAME 

DATE 5-22-14 SUPERVISOR 