From: Allison, Craig
To: Braganza, Bonnie
Cc: OConnor, Mike
Subject: RE: Heater question
Date: Friday, February 24, 2017 2:44:42 PM
Attachments: image001.png
2011 Jicarilla CDP Ext Gas analysis-7-6-2011.pdf
XTO Jicarilla Flare Information.pdf
XTO Jicarilla Comp Blowdowns updated Feb-2017.pdf

Bonnie: Comments / answers to your questions are in RED-

- Then I will need the startup and shutdown emissions and estimated maximum startups for the compressor since it appears it does not run continuously. **Attached are the compressor startup / shutdown emissions that show the emissions from engine startups / shutdowns. This is based on 36 compressor / engine startups / yr and produces minimal VOC emissions (less than 0.2 tpy of VOC).**

- How many hours does the compressor run since the emissions are based on running for 8760 hours. **The compressor can run up to 8,760 hours per year. The downtime is due to maintenance or unplanned conditions, so we need to stick to the maximum runtime hours of 8,760 per year. The compressor may experience unplanned shutdowns due to third-party sales line shutdown or pressure issues and other unplanned mechanical failures which are beyond the control of XTO.**

- Please see the NMGC compressor permit that was written and let me know what monitoring you recommend to be less than the 100 tpy VOC and CO limits.

  - **First, the NMGC permit is to make the source a syn-minor for NOx and CO due to the engine emissions, which is different than the permit that XTO is submitting. The XTO permit engines and combustion sources do not need any controls or monitoring of fuel use, because they are minor sources without the need for emissions controls.**
  - **Second, the NMGC permit does not require the permit to be syn-minor for VOC, only NOx, however the XTO permit has requirements for syn-minor for VOC's and NOx is not applicable.**

- The NSR rules are independent especially for practical enforceability. So I need some practical enforceable conditions for the VOC and CO.
  - **Dehydrator – limits for the dehydrator VOC's are based on the maximum throughput and the maximum glycol circulation rate. Since these emissions are controlled by an enclosed flare, then these VOC's are limited to the DRE efficiency of the enclosed flare. The permit application calculations were based on the following:**

GRI-GLYCalc VERSION 4.0 - AGGREGATE CALCULATIONS REPORT

Case Name: Jicarilla Compressor Station
File Name: T:\XTO Energy - 229\229-32 Jicarilla NM Title V\Calculations\Jicarilla With Controls no condenser 12-
Date: December 29, 2011

DESCRIPTION:

Description: 4.5 MMSCD TEG Dehydrator System
Gas Analysis 07/06/2011 Jicarilla
7 lb water/mmscf discharge specification
1.92 gpm max flow for Kimray 10015

Annual Hours of Operation: 8760.0 hours/yr

  - **The demonstration of emissions for the dehy can be done annually through the Glycalc emissions calculation based upon actual operating rates for the dehydrator.**
  - **The flare design specifications are attached. I will need to get back to you with the design rate calculations for the enclosed flare.**

- My management will be concerned about not monitoring fuel rates but I shall see their response.
  - **As discussed, the max and calculated fuel rates are based on the highest (maximum) fuel use rate as determined by each equipment manufacturer and these were represented in the application and in all applicable calculations. The Jicarilla Compressor Station measures the fuel use for the entire site using an onsite fuel gas meter and then the fuel use for each source can be determined by using the operating hours and the fuel use rate for each individual piece of combustion equipment.**
  - **Engine – limited to the max fuel use submitted with the application (65.6 mmscf/yr) that is determined by the manufacturer's fuel use max rate and the maximum hours of operation for the engine which is 8,760 hours per year. The following compressor engine fuel use rates were taken from the Jicarilla application:**

Fuel Flowrates		
Fuel Use Rated Capacity	7.12	MMBtu/hr
Fuel LHV	950	Btu/scf, estimated
Fuel Use Rate	7,676	Btu/hp-hr, manufacturer
Fuel Use Rate	7,491.7	scf/hr
Fuel Use Rate	65.6	MMscf/yr

- Please let me know what is fuel gas- is it produced natural gas or natural gas pipeline quality? **The attached analysis shows that no H2S is present in the gas which is reflective that the fuel gas has limited to no sulfur present in the fuel gas. Refer to the attached analysis demonstrating sulfur values of the fuel gas.**

Please let me know if you need anything else.

Regards,

Craig Allison
EH&S Advisor

Environmental Health & Safety
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From: Braganza, Bonnie [mailto:Braganza.Bonnie@epa.gov]
Sent: Friday, February 17, 2017 5:15 PM
To: Allison, Craig
Subject: RE: Heater question

Then I will need the startup and shutdown emissions and estimated maximum startups for the compressor since it appears it does not run continuously. How many hours does the compressor run since the emissions are based on running for 8760 hours. Please see the NMGC compressor permit that was written and let me know what monitoring you recommend to be less than the 100 tpy VOC and CO limits.

I realize both the tanks and heaters do not have applicable NSPS or NESHAP requirements, which is why I am putting them as insignificant units.

The NSR rules are independent especially for practical enforceability. So I need some practical enforceable conditions for the VOC and CO. My management will be concerned about not monitoring fuel rates but I shall see their response. Please let me know what is fuel gas- is it produced natural gas or natural gas pipeline quality?

Bonnie Braganza P.E.
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The world moves at such a rapid rate that waiting to implement changes will leave you two steps behind

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From: Allison, Craig [mailto:Craig_Allison@xtoenergy.com]
Sent: Friday, February 17, 2017 3:54 PM
To: Braganza, Bonnie <Braganza.Bonnie@epa.gov>
Subject: RE: Heater question

Bonnie –

For the Jicarilla CDP compressor engine fuel gas, you had the following question:
"Also how do you monitor the fuel to the compressor station. It will need to be monitored on an hourly basis. Will you be able to give me a MMSCFH rate for the compressor ?"
No - XTO does not monitor or meter the fuel on an hourly basis. There is no regulatory requirement to monitor the fuel gas on an hourly basis. The fuel use for all of the heaters and the engine is based on the manufacturer's fuel use rating and this is given on the Caterpillar manufacturer specification for the engine and nameplate for the other heaters. XTO tracks the runtime hours for the engine and this determines the fuel use for that source.

Heater information from the application for the Jicarilla CDP is as follows:

Heater No.	Description	Construction Date	Fuel Fired	Design Heat Capacity based on LHV		
				MMBTU/yr	MMBTU/day	MMBTU/hr
H1	Tank Heater	Pre 7/2002	Fuel Gas	4,380.00	12	0.5
H2	Tank Heater	Pre 7/2003	Fuel Gas	4,380.00	12	0.5
H3	Separator Heater	Pre 7/2004	Fuel Gas	4,380.00	12	0.5
H4	Dehy Heater	Pre 7/2005	Fuel Gas	8,760.00	24	1.0

These are very small heaters (500,000 BTU/hr or less) and these 4 heaters are all on the CDP. Their purpose is on the preceding table.

The wellsite heaters were reported as a total of 2.0 mmbtu/hr aggregate for all heaters for PTE. The actual heater totals and function for each wellsite is as follows:

- Jicarilla Apache 14: One (1) separator heater rated at 100,000 BTU/hr
- Jicarilla Apache 14G: Two (2) separator heaters EACH rated at 250,000 BTU/hr for a site total of 500,000 BTU/hr
- Jicarilla Apache 16F: Two (2) separator heaters EACH rated at 250,000 BTU/hr for a site total of 500,000 BTU/hr

Here is the negative applicability for all of the heaters (including the wellsite heaters). There should be NO applicable requirements for the heaters on any of the locations including the CDP because they are less than 10,000,000 BTU/hr or 10 MMbtu/hr.

Heater No.	NSPS D		NSPS Db		NSPS Dc		MACT DDDDD	
	Negative Citation	Negative Applicability Reason	Negative Citation	Negative Applicability Reason	Negative Citation	Negative Applicability Reason	Negative Citation	Negative Applicability Reason
H1	§60.40(a)(1)	Capacity <250 MMBtu/hr.	§60.40b(a)	Capacity <100 MMBtu/hr.	§60.40c(a)	The capacity is not = 10 and =100 MMBtu/hr	N/A	Not a major source of HAP

H2	§60.40(a)(1)	Capacity <250 MMBtu/hr.	§60.40b(a)	Capacity <100 MMBtu/hr.	§60.40c(a)	The capacity is not = 10 and =100 MMBtu/hr	N/A	Not a major source of HAP
H3	§60.40(a)(1)	Capacity <250 MMBtu/hr.	§60.40b(a)	Capacity <100 MMBtu/hr.	§60.40c(a)	The capacity is not = 10 and =100 MMBtu/hr	N/A	Not a major source of HAP
H4	§60.40(a)(1)	Capacity <250 MMBtu/hr.	§60.40b(a)	Capacity <100 MMBtu/hr.	§60.40c(a)	The capacity is not = 10 and =100 MMBtu/hr	N/A	Not a major source of HAP
Jicarilla Apache Wellsite Heaters	§60.40(a)(1)	Capacity <250 MMBtu/hr.	§60.40b(a)	Capacity <100 MMBtu/hr.	§60.40c(a)	The capacity is not = 10 and =100 MMBtu/hr	N/A	Not a major source of HAP

Let me know if you have any questions. Thanks.

Regards,

Craig Allison
EH&S Advisor
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From: Braganza, Bonnie [mailto:Braganza.Bonnie@epa.gov]
Sent: Friday, February 17, 2017 2:35 PM
To: Allison, Craig
Subject: Heater question
Importance: High

Noticed that on the application update 11/16 pg 26/50 you have listed heaters as a source at the wellsites. Whats the purpose? I was reading the description and understood the heaters are used in the compressor station for separator, dehydrator and tanks. There are 4 heaters, so do the CDP emissions include the one other heater. What is the size of the CDP heater? I am looking at the exemptions for these heaters in the rule. They seem too small to b e monitored. Also how do you monitor the fuel to the compressor station. It will need to be monitored on an hourly basis. Will you be able to give me a MMSCFH rate for the compressor ?

Thank you.

Bonnie Braganza P.E.
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