Message

From: Lou Ann Lee [llee@anteroresources.com]
Sent: 10/11/2019 10:43:40 PM
To: Loukeris, Constantinos [loukeris.constantinos@epa.gov]
CC: Jena Resnick [jresnick@anteroresources.com]
Subject: RE: Follow-Up Documentation
Attachments: 7_Stuck Dump_Malfunction Documentation_Updated.pdf

Kosta,

Thank you again for the additional time to identify malfunction data resulting from a manufacturing programming error associated with the combustors' burner management system. Please find attached an updated attachment 7 with the additional malfunctions added.

Thanks,
Lou Ann

From: Lou Ann Lee <llee@anteroresources.com>
Sent: Wednesday, October 2, 2019 5:58 PM
To: Loukeris, Constantinos (loukeris.constantinos@epa.gov) <loukeris.constantinos@epa.gov>
Cc: Jena Resnick <jresnick@anteroresources.com>
Subject: FW: Follow-Up Documentation

Kosta,

Please find below and attached Antero's responses to your request for follow-up documentation.

Thanks,
Lou Ann

From: Loukeris, Constantinos [mailto:loukeris.constantinos@epa.gov]
Sent: Tuesday, September 10, 2019 3:30 PM
To: Lou Ann Lee
Subject: Follow-Up Documentation

Hi Lou Ann,

It hit me now that I was supposed to send a follow-up email to our closing conference with the records I was seeking. Here is the list:

1. **Documentation from the last quarterly OGI inspection performed by Antero at the well pads EPA inspected on August 29, 2019;**
    a. See attachment 1.
2. **Well names associated with the well pads EPA inspected on August 29, 2019;**
    a. Warner Pad, Troyer Pad, Schultz Pad, Fuller Pad, Andes Pad.
3. **Pressure settings for the thief hatch, emergency vent, conservation vent, vacuum breakers for each tank/tank battery at the well pads EPA inspected on August 29, 2019;**
    a. See attachment 3.
4. **Antero indicated that all sites are complying with NSPS OOOO/OOOOa; however based on Antero's PTE calcs, which ones are required to and which ones are not? Provide the emissions calcs for those Antero believes are not required to;**

a. See attachment 4. Quintel Pad is the only facility that has tank affected facilities per NSPS OOOO/OOOOa.

5. **Model for Jayco "zero-emission" thief hatch that was observed at a few of the Antero well pads EPA inspected on August 29, 2019;**
   a. Jayco NV-8 (See attachment 5.)
6. **Arrangement and pressure settings of the 5 enclosed combustors at the Andes Well Pad, including how the vapor recovery systems;**
   a. All 5 combustors were set to shut off at 1 osi and open at 6 osi. There are three phases of separation. The high pressure VRU pulls from the first flash separator at 30-50 psi, the low pressure VRU pulls from the vapor recovery tower at 5-7 psi and the tank VRU pulls from the tanks at 2-6 osi.
7. **Emission calcs associated with dump events and/or other malfunction events for the past 2 years at the well pads EPA inspected on August 29, 2019; and**
   a. See attachment 7 for the dump valve information per EPA GHG Reporting Subpart W requirements. Attachment 7 also contains the information you requested as it relates to malfunctions, as that term is defined in 40 CFR 60, Subpart A. We identified the malfunction excess emissions by calculating the production volume by the time the combustor was down. In addition, as we discussed on the phone, Antero will soon be providing additional malfunction data resulting from a manufacturing programming error associated with the combustors' burner management system. Essentially, the error caused the system's data cards to be overloaded with data, which in some cases impacted combustor function. Because of the volume of data, we are still working to identify the discrete malfunctions, but are working diligently and will provide you with this information as soon as possible. Please note that Antero is working with manufacturer to address these issues, and roll the necessary changes out by the middle of October.
8. **Names and titles of those who participated on our well pad inspections (I don't believe I asked for this, but if you could please provide).**
   - Antero
     - Doug Stebbins, Production Superintendent
     - Mark Hertzler, Production Supervisor
     - Eddy Grenert, Field Production Engineer
     - Gary Stephens, Production Roustabout
     - Bob Lucas, Production Roustabout
     - Lou Ann Lee, Environmental Field Supervisor
     - Jeremy Kinney, Environmental Field Specialist II
   - Contract Employee
     - Ken Callaway- Production FSS

Hope this matches up with what I indicated at the closing conference. Hopefully the week of September 23rd still works to receive this follow-up information. Thank you again for your help in setting up the inspections on such short notice.

Kosta Loukeris
312-353-6198