Message

From: Seligman, Angela N. [aseligman@nd.gov]
Sent: 10/25/2019 4:50:34 PM
To: Lagerstrom, Mitch [Mitch.Lagerstrom@crestwoodlp.com]
CC: Rookey, Adam S. [arookey@nd.gov]; North, Alexis [North.Alexis@epa.gov]; Rivinius, Nicole J. [nRivinius@nd.gov]
Subject: RE: Arrow Field Services, LLC Bear Den Gas Plant - tank emissions video

Mr. Lagerstrom,

Thank you for the detailed response.

The current plan is to conduct a permit to construct inspection at Arrow's Station 8 Compressor Station and Bear Den Gas Plant on November 14th. The plan is to arrive at the Station 8 Compressor Station around 10:00 am CST and to arrive at the Bear Den Gas Plant between 1:00 and 2:00 pm CST. We plan to conduct a full inspection of both facilities.

Note that we will have the FLIR camera with us for both inspections. Please have any necessary permits (e.g. a hot work permit) completed prior to our arrival.

Let me know if you will have the opportunity to meet us for either or both of the inspections.

Angela Seligman, PhD
Environmental Scientist
Division of Air Quality

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From: Lagerstrom, Mitch <Mitch.Lagerstrom@crestwoodlp.com>
Sent: Monday, October 14, 2019 11:47 AM
To: Seligman, Angela N. <aseligman@nd.gov>
Cc: Rookey, Adam S. <aRookey@nd.gov>; North, Alexis <North.Alexis@epa.gov>
Subject: RE: Arrow Field Services, LLC Bear Den Gas Plant - tank emissions video

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Ms. Seligman,

Thank you for the response and providing additional information. It seems there is some concern with how this situation was handled. I believe much of this concern would have been alleviated with a conference call or in-person meeting. Please allow me to clarify a few points. The email I sent on August 30th did not make a claim that there were no issues with the produced water tanks, it reviewed the regulatory applicability of the tanks to explain why the plume from the produced water tank is visible and why the tanks are not controlled. NDDEQ did not request a review of maintenance

records or additional details in the email sent August 23rd, a review of the video led to the conclusion that emissions were the result of working losses from the produced water tanks which could occur over the duration of the video. Subsequent to this email NDDEQ requested a review of maintenance performed through the Letter of Anticipated Noncompliance, the written response included the discussion of the stuck dump valve on the slop separator in response to the request.

Regarding the condensate tank enardo ABV included on the DOR list; these records were reviewed as well as additional information. The concentration of the leak on the report is included as 2,382 ppm, a concentration that is generally not visible from the distance of 300 ft. An inquiry was sent to the LDAR contractor about this leak, their response was (emphasis added) "[t]he probability of picking up on a 2,400 ppm leak from 300 ft away is next to zero. A leak at that level would need to be inspected from less than 6 feet away with the ideal thermal contrasts. [...] I agree with you, it is apparent that the emissions are coming from the produced water tanks. A leak at 2400 ppm from the condensate tank would not be visible from the road." Based on the vendor's expertise, citing the enardo ABV that is on the delay of repair list as the source of the plume would have been misleading. As clarified in the email and photo sent September 3rd the primary source of emissions that are visible are from the tank closest to the viewer in the tank battery, which is not a condensate tank.

Additional details are included on the photo below, showing the condensate tanks are well below the visible plume from the produced water tank. Condensate tanks are the third and fourth tanks from the viewer, there is no visible plume from these tanks in the video as the roof of the condensate tanks are well below the plume. In other words, emissions from an enardo valve would be visible directly from the roof of these tanks and not masked by the plume from the produced water tank. Other sources or contributing factors to the plume were also considered and excluded from the written response because it would not have been accurate.

In response to your request, the enardo ABV on the condensate tank was repaired last week. Please let me know when you would like to visit the site to inspect the valve and walk down Phase 2. Note that I plan to attend if possible.

From: Seligman, Angela N. <aseligman@nd.gov>
Sent: Friday, September 20, 2019 1:38 PM
To: Lagerstrom, Mitch <Mitch.Lagerstrom@crestwoodlp.com>
Cc: Rookey, Adam S. <aRookey@nd.gov>; North, Alexis <North.Alexis@epa.gov>
Subject: RE: Arrow Field Services, LLC Bear Den Gas Plant - tank emissions video

Dear Mr. Lagerstrom,

The North Dakota Department of Environmental Quality, Division of Air Quality (Department) met with Fielding Lewis and Donald Fuller of Crestwood Equity Partners, LP (Crestwood) on September 16th, 2019 at approximately 4:45 pm CDT at the Bear Den Gas Plant. I discussed my concerns with them regarding initially being told that there was no issue with any tanks at the Bear Den Gas Plant and then being informed that there was an issue causing the automated dump valve from the slop separator to stick in the open position on August 22nd.

Alexis North from the Environmental Protection Agency (EPA) was conducting inspections with the Department on September 16th. Ms. North noted that, according to the 40 CFR 60, Subpart OOOOa semi-annual report submitted to the EPA on June 4, 2019, the pressure relief valve associated with the vapor recovery unit and the condensate storage tanks is leaking, but is on delay of repair until December 31, 2019 since it will require a process unit shutdown. Ms. North stated that this could be where the plume is sourced from.

During the September 16, 2019 visit, Mr. Fuller escorted us to the south side of the facility where the condensate storage tanks are located. Department personnel and Ms. North utilized optical gas imaging (OGI) cameras to document that the plume is being sourced from the pressure relief valve, as was indicated in the June 4, 2019 Subpart OOOOa semi-annual report submitted to the EPA.

In addition, it was noted that gas was still being emitted from the RJT flare even though it was not turned on and is no longer in use. Mr. Fuller notified the Department later in the evening on September 16th, 2019 that he remedied the leak from the RJT flare after Department personnel left the facility.

It is the Department's understanding that the Bear Den Gas Plant is scheduled to be shut down for maintenance on October 1st, 2019. As the plume coming from the pressure relief valve appears to be significant, the Department recommends that all reasonable efforts be made to replace or repair the pressure relief valve during this scheduled shut down of the Bear Den Gas Plant.

I can understand the confusion sourced from the initial OGI video that was sent to Crestwood and the difficulty in determining the source of the plume, since the source was outside the view of the video. However, had more effort been made by Crestwood personnel to determine where the plume could be sourced from, such as reviewing previously submitted leak detection reports, much of this confusion could have been avoided.

The Department will require that Crestwood notify the Department once the pressure relief valve has been repaired or replaced. Following the replacement or repair of the pressure relief valve, we can schedule a permit to construct inspection of the Bear Den Gas Plant.

Following a permit to construct inspection that includes documenting that the source of the leak has been repaired, the Department will consider this matter closed.

Please let me know if you have any questions.

Angela Seligman, PhD
Environmental Scientist
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