pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

February 23, 2021

Allie Juarez, G&P Engineer I
MarkWest Liberty Midstream and Resources, L.L.C.
4600 J Barry Court, Suite 500
Canonsburg, PA 15317

Re: Technical Deficiencies
Application No. GP5-63-01011B
MarkWest Liberty Midstream and Resources, L.L.C. – Harmon Creek Gas Plant
Smith Township, Washington County

Dear Mr. Ondrejko:

On December 10, 2020 the Department of Environmental Protection (Department) received your GP5 application for the above referenced facility. The Department has reviewed the above referenced Application and has determined it to be deficient as explained below.

1. Does this facility have the potential for blowdown emissions, or are there any NG-driven pneumatic pumps or controllers? If so, please provide emission estimates for these activities.

2. During January 2018, two (2) 20" pig launchers, one (1) 20" pig receiver, and two (2) potential future 20" pig receivers, were exempted from Plan Approval and Operating Permit. The current application indicates four (4) pig launchers that are 12", 10", 20", and 24" in size as well as one 20" pig receiver. Are any of the launchers/receivers listed in the current application the same launchers/receivers in the 2018 review memo, or are these new/proposed pieces of equipment?

3. For the fugitive emissions estimates, The Department understands that Table V: Control Efficiencies from TCEQ-(APDG 6422v2) for LDAR was utilized in the estimates. Per this table, it appears that the reduction for 28VHP – for flanges/connectors is 30%. In the emissions estimates, a 75% reduction was used. Please clarify if 75% is accurate or correct this estimate.

4. Flare-related questions:
    a. In the GP5-63-01011A review memo, dated January 12, 2018, it was observed that the John Zink flare was rated at 8,134 MMBtu/hr. Within this application, Section J.2 states the rating and flare capacity to be 180,429 MMbtu/yr (roughly 20.6 MMbtu/hr) and 126.52 MMscf/yr, respectively. Is this GP5 application proposing to modify the capacity of the flare?
    b. It was also observed in the provided emissions estimates that the "pilot + purge gas heat input" is 3.205 MMBtu/hr which is smaller than the capacity. Is the intention for the flare to run at a level lower than the maximum capacity?
    c. The VOC and HAPs emissions estimates for the flare appear to include the annual gas flow for the combustion of hydrocarbons but does not include estimates from the "pilot + purge gas". Please clarify why "pilot + purge gas" is not part of the estimates.

5. For H-1711, H-2711, H-1767, H-1768, H-1769, and H-1776, the VOC emission factor used was 6.22 lb/mmscf. The VOC guarantee for each of these units, per the specification sheets, is 0.019 lb/MMbtu. Please clarify why 0.019 lb/MMbtu is not utilized for these estimates.

6. Per GP5 Conditions, Section L (1)(b)(i), please confirm that H-1711, H-2711, and H-1769 will meet the 3% O2 requirement for NOx and CO emission limits.

7. Are the Tulsa heaters (H-1711 and H-2711) identical pieces of equipment? It was observed that the specification sheet only listed H-1711. Please confirm that the specification sheet for H-1711 is applicable

to H-2711 as well.

8. During the site visit in March 2020, a reboiler was mentioned. It was mentioned that this reboiler is not permitted due to the fact that a permitted heater fuel's it. Please confirm which heater fuels it, the capacity of the reboiler. Please also confirm that the potential emissions from the reboiler are already accounted for through the heater that fuels it.

9. In the RFD request received in 2020, a request for a 4,200 gallon drain tank was included for consideration. The RFD determination for this tank will be included within the GP5 review memo.
    a. What year was the 4,200 gallon drain tank (and related truck load-out operations) installed at the facility?
    b. Is the vapor pressure greater than 1.5 psia, and is the PRV set to release at no less than 0.7 psig of pressure or 0.3 psig of vacuum?
    c. Please provide emissions estimates for truck loading.
    d. The Department understands that the Emissions for this tank accounted for in flare and does not vent to the atmosphere. If the flare is down, is it possible for uncontrolled emissions to vent into the atmosphere, or would emissions stay within the vessel?
    e. Is there a flash tank associated with the drain tank? If so, what is the capacity, and does the tank follow the same emissions process as (d) above?

10. During the site visit in March 2020, a second amine unit tank with was observed.
    a. Was the vessel (and related truck load-out operations) installed before August 8, 2018?
    b. Please confirm that the capacity of this tank is 1,500 gallons.
    c. Please provide truck loading emissions estimates.
    d. Is this tank similar to the drain tank where it is not vented to atmosphere and is controlled via the flare? If the flare is down, is it possible for uncontrolled emissions to vent into the atmosphere, or would emissions stay within the vessel?

11. In the RFD request received in 2020, it requested to increase the two (2) 200 MMscf/day cryogenic processing plants to 230 MMscf/day. The Department understands that actual emissions from this request would increase by roughly 10% but PTE would not be increased. The only emission sources for these plants are fugitives and Tulsa heaters. Please confirm that with this GP5 application, the 230 MMscf/day capacity was considered within the emission estimates.

For any questions regarding this application, please do not hesitate to contact me via email at ldickson@pa.gov or via phone at 412.442.4155 or contact Edward Orris via email at eorris@pa.gov or via phone at 412.442.4168. I kindly request a response within 30 days of receipt.

Sincerely,

**Laura S. Dickson/LSD**

Laura S. Dickson
Environmental Engineering Specialist
Air Quality Program

CC: File 63-01011 Operations (A. Fabrizi) Harrisburg C.O. (Permits)