



Dedicated to protecting and improving the health and environment of the people of Colorado

November 6, 2018

Julie Murphy, Director
Colorado Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, Colorado 80203

Re: Colorado Department of Public Health and Environment (Department)
Consultation Recommendations for Petro Operating Flaschenriem Pad located in Weld
County

This letter provides the Department's consultation recommendations for the proposed Petro Operating Flaschenriem well site in SENE of Section 3 Township 4N Range 68W in Weld County. Consultation on this well pad was triggered by the submittal of an application for an oil and gas facility located within a Large Urban Mitigation Area (LUMA). As noted in COGCC Rule 604.c.(4) LUMA facilities are required to utilize best management practices (BMPs) and mitigation measures to "avoid or minimize adverse impacts to adjoining land uses." The Department conducted an onsite visit of the proposed well pad on October 24, 2018 and provides the following recommendations to enhance the BMPs and site-specific mitigation measures identified by COGCC staff.

Minimizing emissions from the well site

The proposed Flaschenriem well pad is located within the Denver Metro/North Front Range (DMNFR) ozone nonattainment area. Many sources contribute to ozone formation including oil and gas exploration and production. In particular, the flaring of natural gas produces nitrogen oxides (NOx) as well as additional volatile organic compound (VOC) emissions due to incomplete combustion. These pollutants contribute to ozone formation. Oil and gas operations can reduce these emissions by installing pipelines prior to completion work, ensuring adequate takeaway capacity before commencing commercial production, installing emission control devices, and conducting regular Leak Detection and Repair (LDAR) inspections.

Air quality monitoring at other well sites has indicated that emissions may be at their highest during flowback operations. Currently, natural gas pipelines in the DMNFR ozone nonattainment area are at or near capacity and some operators have requested



approval to flare natural gas. In addition to wasting a resource, flaring contributes to ozone formation. The Department recommends that Petro Operating not commence commercial production at this location until adequate pipeline takeaway capacity is available. This will ensure that green completions are utilized to the maximum extent practicable and that the flaring of natural gas will be minimized, thus reducing emissions from the well site. The Department also recommends that Petro Operating install emission control devices with a 98% control efficiency on all permanent condensate, oil and produced water storage tanks to reduce odors and emissions of ozone precursors. Lastly, the Department recommends that Petro Operating conduct LDAR inspections monthly during drilling and completion activities and quarterly during the production phase at the well site.

Stormwater protections

In addition to a spill or release impacting the riparian area and surface water, stormwater released from these well sites could also impact these resources. The Department is recommending stormwater management inspections be conducted weekly and immediately after a storm event to ensure stormwater is contained and does not leave the well sites. The Department is also requesting Petro Operating provide notice of the start of construction activities on these well sites. This notice will allow staff to manage workloads and prepare for citizen inquiries.

Enhanced notification of upset or emergency conditions

COGCC Rule 602.c.(3) requires notification to the Director of the COGCC, the local governmental designee and the jurisdiction of reportable safety events of any injury to personnel or general public that requires medical treatment as soon as practicable, but no more than six hours after the safety event. However, for the Flaschenriem location, the Department recommends that this requirement also include upset conditions. Immediate notification of an upset condition or emergency situation will allow COGCC and local officials to address the citizen concerns and determine if additional measures (air or water quality sampling) are needed to address those concerns.

Conclusion

The Department commends COGCC staff for their efforts on this location thus far and appreciates staff's consideration of the foregoing recommendations.



Sincerely,

Sean Hackett
Oil and Gas Liaison
Colorado Department of Public Health and Environment

