EAGLERIDGE
ENERGY

November 16, 2016

City of Mansfield
1200 E. Broad Street
Mansfield, TX 76063
Attn: David Nicholson

RE: Request for Extension
Woodlands Estates East and West Padsites
Tarrant County, Texas

Gentlemen:

Eagleridge Energy, LLC, operated by Eagleridge Operating, LLC ("EagleRidge") is requesting approval to use Gas Lift Compressors at the Woodlands Estate sites. The reason for the request is due to the high cost of conversion to electricity, the commercial nature of the conversion and available units for rental.

In November of 2015, Eagleridge began an engineering analysis into the reason for the significant drop in gas production at the Woodlands Estates Padsites in the City of Mansfield. Production had dropped significantly from 8 million cubic feet per day to 2.5 million cubic feet per day from the 15 wells on the padsites. After review of hundreds of wells in the southeast portion of Tarrant County, the decline in gas production was a significant issue with most wells becoming low volume wells and unable to sustain commercial production if excessive or high cost of operating these wells is allowed to continue.

Prior to installing the first line compressor, engineering analysis determined that the gas lift pressure provided by the Summit Midstream Compressor Station ("Station") was too low to effectively gas lift all of the wells. This low pressure was ineffective in lifting water and has resulted in the wells continuing to load which ultimately reduces the total reserves of the well and impaired commercial production. Further, the Station's operational performance has negatively affected operations and production due to shut downs. The smaller gas compressors are easier to move in and out, repair and maintain. In addition, the gas provided by the Station for gas lift was at a higher cost than can be provided by the Station and Eagleridge can provide gas lift compression at 25% of the cost charged by the Station.

The Station operates two larger compressors; however, one of the compressors has been idled until such time as volumes increase from the Woodland Estates wells to justify operating both compressors. One compressor is capable of compressing 16 million cubic feet per day and volumes are presently 6 million cubic feet per day. The configuration and setup of these compressors will not allow the Station to provide pressures sufficient to lift water or at a commercial cost to EagleRidge.

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EagleRidge's proposed solution was to install smaller gas lift compressors which operate at a significantly lower cost than the Station compressors with a much smaller foot print and are small enough to place behind the existing walls around the wellheads to prevent noise from affecting the surrounding areas and limit the need for further construction or disturbances. Furthermore, all the compressors have been tested, meet and exceed TCEQ guidelines for emissions. Converting to higher pressure also requires that the gas lift valves in each well be changed out and reset to operate correctly at the higher pressures.

This was a proposal untested, thus Eagleridge needed to obtain compressors which were easy to move, low unit setup cost with short term rental contracts in case our solution was not effective in resolving the issue. To install compressors that were electric powered would result in an excessive expense of $350,000 to run electricity, sound proof building and other costs on low commercial wells. In addition, vendors are requiring long term leases from 2-3 years for electric compressors. For these reasons, electric compressors were not a commercial option for low volume wells which could result in excessive long-term cost to Eagleridge.

EagleRidge's goal is to effectively lift water, increase production at a lower cost that effectively reduces the need for gas lift or line compressors and reduce emissions in a commercially viable manner. To install large electric compressors now would render this project non-commercial, cause excessive operations and transportation costs into the area and potentially lead to greater emissions. To date, EagleRidge as installed 4 gas lift line compressors on 8 of the 15 wells. Gas production has increased from 2.5 million cubic feet per to 6 million cubic feet per day. The wells continue to improve and water production continues to decrease. We have learned that the increased pressure has effectively started to unload water which has increased gas production. However, we still have 7 wells to convert to line compression.

As these wells return to gas production, they come on with a significant increase in water production of 200-300 barrels per day. At these high rates of water, gas lift is the only way to lift the gas through artificial means because of its ability to move large volumes of water. As the water production decreases Eagleridge will be able to convert to a plunger lift system. Eagleridge is in the process of converting two of the wells to the plunger lift system. These wells were on our gas lift and water has dropped enough to enable this conversion. This lift design does not require compression to work and will provide a system that will not require compression or much less compression if the wells are too weak. The bottom line is that Eagleridge's objective is to eventually establish the smallest emissions footprint and at reasonable costs.

Due to the success of the operations and return of production, Eagleridge Operating, LLC requests a one year extension to use gas lift compressors. This will allow time for Eagleridge to convert the remaining wells to gas lift, and as water production falls, to convert from gas lift to a plunger lift system.

Should you need any other information or have any questions please call me at 817-946-2873 or my email at mgrawe@eagleridgeenergy.com.

Very truly yours,
EAGLERIDGE OPERATING, LLC

Mark L. Grawe
Executive Vice President and COO