Require Improvements in the Quality of Gas Received from Producers

PRO Fact Sheet No. 904

Applicable sector(s):
- Production
- Processing
- Transmission and Distribution

Partners reporting this PRO: Columbia Gulf Transmission
Other related PROs: None

Technology/Practice Overview

Description
Low quality natural gas can lead to excessive filtration unit liquid recovery and transmission line cleanings at compressor stations. A partner has reported reducing methane and volatile organic compounds (VOC) emissions associated with these maintenance practices by requiring improvements in the quality of gas received from producers.

To enact a methane quality improvement, the operator obtained revised gas processing and compression agreements requiring reduced levels of gas contaminants such as particulates, water, and gas liquids. This limited the amount of emissions associated with the gas filtration system operation, in particular, methane emissions from gas liquids storage tanks.

Operating Requirements
The implementation of this practice requires a new agreement between the gas producer and the transporter or enforcement of existing gas quality specifications.

Applicability
Any compressor facility directly receiving production gas and experiencing excessive liquids filtration, line pigging, or receiving natural gas of lower than desired quality may benefit from improving their gas quality specifications.

Methane Emissions Reductions
Methane emissions occur due to the venting of filtration liquid atmospheric storage tanks. One partner has reported methane reductions of more than 500 Mcf for 1 year.

Methane Savings: 500 Mcf per year

Costs
- Capital Costs (including installation)
  - <$1,000
  - $1,000 – $10,000
  - >$10,000
- Operating and Maintenance Costs (annual)
  - <$100
  - $100-$1,000
  - >$1,000

Payback (Years)
- 0–1
- 1–3
- 3–10
- >10

Benefits
Reducing methane emissions was an associated benefit of the project.
Economic Analysis

Basis for Costs and Savings
A methane emissions reduction of 500 Mcf per year is based on partner reported savings in a 600-psig system.

Discussion
Facility maintenance costs and VOC emissions will be lower with reduced liquid loading on the filtration unit. Methane savings are significant, but not a primary justification.