OMB Control No. 2060-0722
Approval expires 08/31/2021

Empire Pipeline, Inc.

Transmission & Storage
***BMP* Commitment Option**
Methane Challenge Partner Since 2018

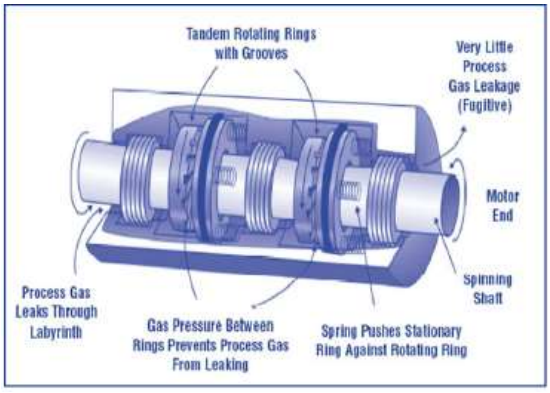
Background

The Pipeline & Storage segment of National Fuel Gas Company specializes in the interstate transportation and storage of natural gas. Empire Pipeline is a FERC-regulated interstate pipeline system that generally transports natural gas from various receipt points in southern New York and at the Pennsylvania border to various local distribution companies, end-users and other interstate pipelines in Western and Central New York and Canada. Empire Pipeline started operations in 1993. For years Empire has engaged in methane reduction BMPs, some of which are highlighted below from the last five years. Please visit our website for more information on Empire's continued commitment towards environmental stewardship.

Historical Highlights

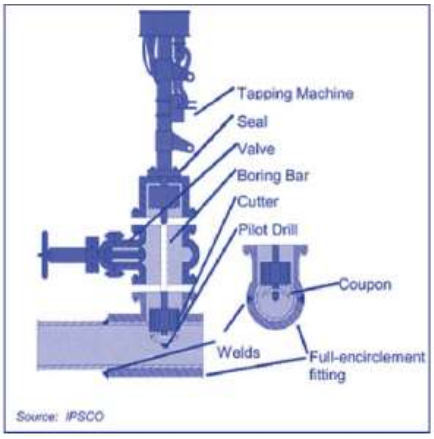
Dry Seals

Dry gas seal technology significantly reduces methane from centrifugal compressors. Empire has ensured that all centrifugal compressors have dry seals. This design decision has resulted in methane reductions of approximately 48,000 Mscf in the past 5 years.



Hot Taps

Hot tapping is an alternative to blowing down a line when making a new connection to a natural gas pipeline. Empire employs this technology when possible. Within the past 5 years, the utilization of hot taps have resulted in methane reductions of approximately 22,000 Mscf.



Footnotes: Historical emissions savings were calculated utilizing site specific data, estimated emission reductions as listed in EPA's Background Technical Support Document for 40 CFR Part 60, Subpart OOOOa, estimated emission reductions as in EPA's Natural Gas STAR Partner Reported Opportunities (PRO) Fact Sheets and rely on methodology outlined in 40 CFR Part 98. Some images and figures belong to Empire and the rest were borrowed from EPA's Natural Gas STAR PRO Fact Sheets and vendor documentation. The look back period was from 2014-2018.

Empire Pipeline, Inc. Historical Fact Sheet

Capped ESD Testing

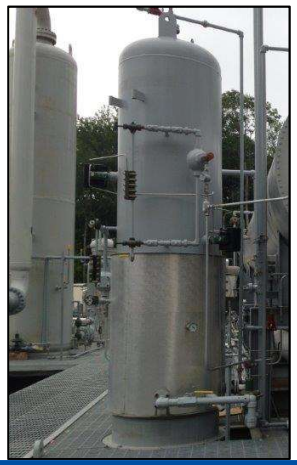
Department of Transportation (DOT) requires emergency shut down (ESD) systems at natural gas compressor stations be fully tested on an annual basis. To minimize gas vented to the atmosphere, Empire adopted the acceptable DOT alternate of utilizing blind flanges. The blind flanges prevent entire station blowdowns, while allowing ESD testing in order to meet DOT requirements. Over the last 5 years approximately 9,000 Mscf of methane has not been vented while utilizing this alternative practice.

Dry Seals – Air Buffer

In addition to utilizing dry seal technology, dry seals require a buffer, which often utilizes natural gas. Instead of natural gas, Empire uses air and therefore no natural gas vents from the dry seals. This has resulted in methane reductions of approximately 9,000 Mscf in the past 5 years.

Flash Tanks

Dehydrators utilize triethylene glycol (TEG) to remove water from natural gas. In addition to absorbing water, TEG also absorbs methane. The TEG is recycled via a reboiler, which vents absorbed water and methane into the atmosphere. Flash tanks are an emission reducing technology that recovers entrained methane before the TEG is routed to the reboiler and reduces methane emissions by approximately 90%. Empire recently installed its first dehydrator and flash tank and at this time the methane reductions are negligible.



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