

Case Study

How a USA Midstream Company Improved Gas Quality and Reduced Operating Costs



SECTOR:

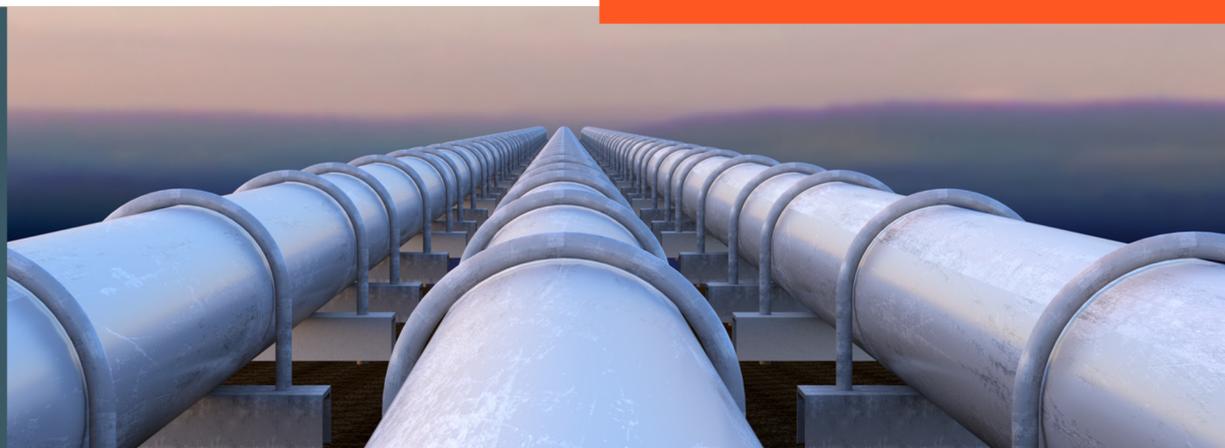
Gas Transmission

MEDIUM:

Natural Gas

CUSTOMER:

Withheld



One of North America's largest midstream operators, manages an extensive natural gas transmission network. In late 2024, the company initiated a LineVu Discovery study at a custody transfer point to better understand the presence of liquid carryover in its incoming gas supply.

The results were striking. Despite reported hydrocarbon dewpoints (HCDP) as low as -52 °F, significant liquid contamination was observed inside the pipeline. Based on these findings, the midstream operator has now standardized the use of LineVu Discovery studies across its transmission network, making LineVu an essential tool for monitoring gas quality, protecting compressors, and ensuring supplier accountability.

THE CHALLENGE

The midstream operator faced rising operational costs due to frequent pigging, disposal costs, compressor servicing, and instrumentation failures. Despite challenging suppliers regarding gas quality, traditional measurements for both moisture and hydrocarbons (following API 14.1 for gas sampling and frequent calibrations) indicated that the gas was dry. The company needed an indisputable, real-time method to determine gas quality and detect liquids present in gas streams entering the transmission network.

THE SOLUTION

The Midstream Operator deployed LineVu high-resolution process cameras at custody transfer points. Certified for hazardous areas (Class 1 Div 1 and ATEX Zone 1), these cameras deliver continuous, real-time video of the gas stream via the online dashboard, enabling managers and remote engineers to see mist and liquid flows that conventional analysers miss.

In some cases, video data was synchronized with process data, revealing links between the onset of mist flow and changes in Btu content and other parameters. Process Vision developed smart alarms that alert operators when abnormal conditions arise, enabling swift, targeted interventions to reduce pigging costs and compressor damage.

MORE INFORMATION

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A THREE STRIKE POLICY

In order to reduce risks caused by liquid carryover, they established a "Three Strike" policy for all gas suppliers.

- **Strike One:** If a mobile LineVu Discovery system detects liquids at a custody transfer point, suppliers receive the results and are given 30 days to rectify the problem.
- **Strike Two:** A second detection within 6 months triggers an additional 30-day remediation period.
- **Strike Three:** On a third occurrence, the supplier is required to permanently install a LineVu system to monitor and manage gas quality continuously.

IMPROVEMENTS

Early results showed that HCDP alone is not a sufficiently reliable method to determine if a gas stream is wet or dry. With LineVu, they expect significant operational and safety improvements. In the short term, lower pigging frequency, reduced compression costs, and lower erosion of valves and regulators are expected. In the long term, there should be fewer compressor trips, less servicing costs and an extension of asset life.

BUSINESS CASE

LineVu delivers significant benefits for both suppliers and Transmission System Operators (TSOs). For suppliers, even a small liquid volume fraction (0.1%) in a 100 MMSCFD export line at 1,000 psi equates to more than 748 gallons/day, boosting NGL revenue by \$5.6M annually. For TSOs, catching liquids early prevents compressor trips (often costing around \$600,000 per occurrence), reduces pigging costs (up to \$35,000 per mile), and extends compressor dry-gas seal life from approximately 1 year to 3+ years.

With simple retrofit hardware, fast installation, and minimal data bandwidth requirements, LineVu provides a low barrier to adoption and a high return on investment, turning invisible risks into visible improvements. Importantly, after validating the effectiveness of LineVu, the Midstream company have standardized the use of LineVu Discovery studies across its transmission network, ensuring consistent monitoring, transparent supplier accountability, and proactive protection of downstream assets.