

Thermo Fisher Scientific and Vector Pipeline collaborate to accomplish safe and compliant hydrocarbon transport

AutoFLEX Flow Computer:

- Fortunately, innovative instruments are available to measure and control all critical points within a gas pipeline, and to determine the quantity of emissions that can be expected in the event of a blowdown. This offers companies an additional level of control to ensure compliance with regulations in the event of depressurization events and scheduled or unscheduled maintenance.

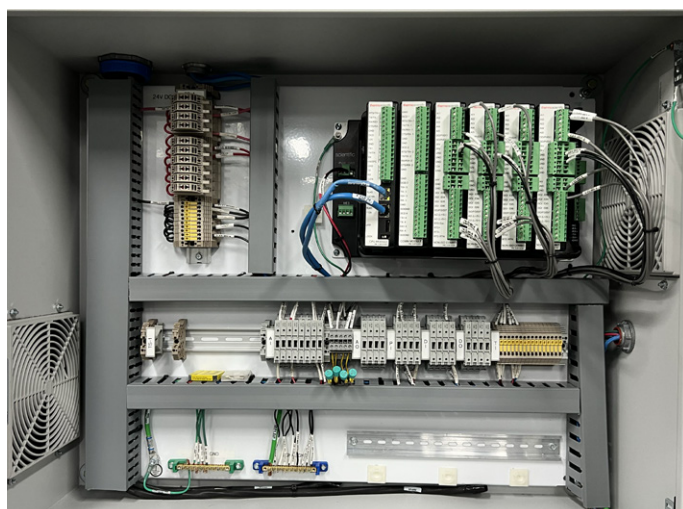
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Establishing safe and effective pipelines

Vector Pipeline – a joint venture between Enbridge Inc. and DT Midstream – is a 348-mile natural gas transmission pipeline in the central United States that transports approximately 1.7 billion cubic feet of natural gas per day. The company is committed to the safe and reliable operation of its pipelines and, alongside the environmental consulting firm GZA, is continually working to fine-tune its operations, improve data capture and reduce greenhouse gas emissions.

To continually meet high environmental and safety standards, Vector Pipeline invests in the latest technology to monitor gas flow, and to quantify any gases or liquids that are lost or unaccounted for along the supply route. Rich Venezia, Instrument and Operations Specialist at Vector Pipeline, explained: “Vector Pipeline has been conducting flow measurements for many years with the help of instruments from Thermo Fisher”.



Chassis version of AutoFLEX-7 seen installed in customer cabinet.

“We were involved in the development of the AutoFLEX Flow Computer – an extension of the Thermo Scientific™ AutoEXEC 32-Run Expandable Gas and Liquid Flow Computer that we had already implemented along our pipeline – and we were responsible for beta testing the first few units. We were able to collaborate with Thermo Fisher to identify and address any issues with the firmware and protocols, and discover the instrument’s wide range of capabilities in the field,” explained Rich.

Real-time hydrocarbon measurement

Flow computers are designed to monitor and control various parameters – such as the pressure, temperature and volume of gas as it moves through a pipeline – to help natural gas providers to maintain the efficiency and safety of their pipeline systems. In addition, the latest generation flow computers from Thermo Fisher also incorporate the latest industry measurement standards and calculations, and offer increased processing speed, enhanced memory capacity, and historical archiving and custom report capabilities.

Vector Pipeline took advantage of these advanced features to not only enhance its standard flow measurement and control, but also to allow environmental data capture.

Real-time emissions monitoring = savings

The powerful flow computers are able to consolidate a range of data points during blowdowns – including emissions levels, compressor start-up times and generator run times – which can easily and efficiently be reported to GZA for analysis.

Adding these measurements onto the existing applications of the devices has saved Vector Pipeline both time and money and, to date, the company has implemented an AutoFLEX Flow Computer at four of its five compressor stations. Rich continued: “In addition to the standard use of the flow computers to measure gas flow, we use the devices to monitor emissions such as nitrogen oxide and carbon monoxide – which are heavily regulated by the EPA – and for tracking the release of methane.

The fast processing speed and improved memory capabilities of AutoFLEX Flow Computers mean measurements can now be conducted automatically in real time, which was not previously possible. This provides us with live emissions information, offering considerably more data and visibility across the pipeline.”

This data is fed into the Thermo Scientific™ AutoCONFIG Software, a user-friendly and completely configurable platform that also allows us to install the instruments quickly and easily in the field, and to customize them to collect the specific data points that we require.

The team at GZA then analyzes this data, providing valuable insights to help us comply with emissions standards, as well as allowing us to organize preventative maintenance procedures in real time, in a way that conforms with environmental regulations and our own budgets and schedules.”

Realizing the full potential of flow computers

Vector Pipeline is committed to meeting high environmental and safety standards, and a part of this effort includes around-the-clock monitoring of all pipelines and facilities. The company has played an essential role in the implementation and testing of AutoFLEX Flow Computers, which allow it to continually track gas flow and remain compliant with emissions regulations. Thermo Fisher is always looking to improve the accuracy, ease of use and configurability of its instruments, working closely with its customers and partners to develop flow computers that continue to modernize data collection and ensure the safety and compliance of natural gas pipelines worldwide.



Thermo Scientific AutoCONFIG built-in software

References

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