



# Improving Pipeline Integrity and Flow Assurance with Better Vendor Transparency

A WellAware Case Study

## Introduction

Energy Transfer's pipelines carry 30% of all natural gas and crude oil in the United States. Given this volume, and the dependence of the nation on the hydrocarbons that ETP transports, maintaining asset integrity and flow assurance is paramount for the company. Preventing corrosion and rust, in particular, is crucial for Energy Transfer, who must ensure safe and effective operations at all times. In implementing an effective asset integrity program, Energy Transfer also wanted to optimize chemical spending used to treat and prevent corrosion and hydrate formation. The business decided to implement WellAware remote monitoring solutions, which ultimately led to better chemical program visibility, lower downtime, and more productive operations overall.

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### **About the Operator:**

Energy Transfer Partners (ETP) is a U.S.-based midstream energy company founded in 1996 with 90,000 miles of pipelines in 38 states. The oil and gas firm focuses on natural gas, liquid natural gas, NGLs, refined products, and crude oil. Today, Energy Transfer invests heavily in its existing infrastructure and new growth projects to maintain its position as a respected industry leader.

## The Challenge: High Spending and Limited Vendor Transparency

Corrosion and rust are detrimental to oil and gas infrastructure. They can cause leaks, environmental contamination, and - worst case - major explosions that take people's lives. As a result, energy companies have to prevent corrosion at any cost. Of course, this is difficult for large operators like Energy Transfer that have tens of thousands of miles of pipeline.

Hydrate formation is another problem that many oil and gas companies face. Hydrates often form in below-freezing temperatures when water molecules bind together in natural gas streams. They can cause significant pipeline blockages and damage compression systems. With over 200 compression stations, Energy Transfer needed a scalable, yet cost-effective way to guard against hydrate formation.

"Moving as much gas as we do, and having as much pipeline as we do, compression is everywhere," says Clint Green, Vice President of Operations at Energy Transfer. "Our biggest expense in this business is labor, and the second is oil for compressors. When compressors don't run efficiently, that increases our oil costs."

Pipeline companies typically rely on specialty chemicals and oilfield chemical service providers to address corrosion, rust, and hydrate formation. While necessary in most cases, this approach can get costly. Energy Transfer was spending more than \$20M annually on specialty chemicals, nearly 10% of the company's overall OPEX budget. Yet, the pipeline operator wasn't getting the level of service it expected for that amount of money.

Energy Transfer continued to struggle with corrosion and compression efficiency issues. The company experienced pipeline downtime, loss of sales, lower revenues, unexpected remediation costs, and safety incidents. On top of that, Energy Transfer wasn't sure whether it was generating an effective ROI on its methanol treatment program. The company used millions of gallons of methanol every year to prevent pipelines from freezing, but overdosage was likely a rampant issue.

"We used to operate on the idea that '2 gallons of methanol is good, but 20 is better,' but that leads to methanol waste, and methanol is expensive," says Green. "So we wanted to have some control over that cost."

In light of these challenges, Energy Transfer determined it needed to minimize chemical injection loss and optimize its methanol injection program. Although Energy Transfer had worked with a chemical services partner for more than 25 years, the company began to explore supplemental solutions to gather more data and improve chemical program transparency.

With the right technology, Energy Transfer believed it could keep its chemical services provider more accountable for outcomes, as well as ensure its IT infrastructure remained safe and secure at all times, especially in light of recent cybersecurity attacks on pipeline operators.



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## The Solution: Remote Surveillance on Treatment Infrastructure

Energy Transfer turned to WellAware to pilot a remote monitoring solution. The operator specifically wanted to track, control, and automate its corrosion and methanol inhibitor injection programs. WellAware offered these capabilities through the Connect platform, which came with robust cybersecurity measures that passed an extended security audit process.

Through WellAware Connect, Energy Transfer implemented tank level monitoring to stay on top of chemical inventories and usage. The tank level monitors identify when tanks are nearly empty, as well as when chemicals are no longer being injected.

WellAware Connect also provided Energy Transfer with a way to monitor and control chemical injection pumps. The monitoring platform enables operators to keep pumps online by notifying when failures occur.

“[With WellAware] we could see what was going on with our pumps and control the injection rates remotely without needing to have a guy out there,” reports Green. “When you have as many miles of pipeline as we do, it’s hard to get to every site.”

In addition, Energy Transfer used WellAware’s Sense platform to monitor pipeline temperatures. The Sense program comes with Class I Division 1 Explosion Proof devices that operate on only two 3.6V lithium batteries. They also integrate wirelessly with the Connect platform. Sense devices take temperature readings every five minutes, alerting when conditions drop below freezing, critical intel for managing methanol injections.

For all installations, Energy Transfer relied on WellAware’s network of licensed, safety-trained Certified Automation Partners. The installation process was fast with zero safety incidents or near misses. Furthermore, WellAware provided Energy Transfer with custom-built chemical performance dashboards that allowed operators to visualize key chemical program performance data and discover issues quickly.

WellAware manages and maintains all of the hardware, connectivity, and software associated with its solutions, saving Energy Transfer time, money, and effort on this asset integrity oversight project.

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## The Results: Increased Accountability and Better Insight Into Real-time Performance

WellAware's Connect platform allowed Energy Transfer to identify numerous issues within a few months. Some were due to poor chemical program management by the third-party service provider. Others were driven by poor communication and a lack of transparency.



One of Energy Transfer's biggest wins was discovering that it suffered from a 25% pump power failure rate. Batteries designed to sustain chemical injection pumps during the night - when solar panels stopped charging - were failing at an alarming rate, resulting in a complete loss of injection. With WellAware, Energy Transfer operators and the chemical service provider now get notified immediately when pumps fail, which is how the company was able to cut power failure occurrences in half in the first quarter after implementing WellAware.

Additionally, Energy Transfer was able to build a stronger relationship with its specialty chemical vendor. Responsibilities and performance benchmarks are much more clear than they were previously because both companies have high-quality injection data.

Green appreciates this new level of visibility: "[The benefit is that] we know how much chemical we actually use, that the invoice we are paying is what we've actually used. We are getting protection in our pipelines and minimizing chemical waste."

After a successful pilot across approximately 20 locations, Energy Transfer is expanding WellAware's remote monitoring platform to several hundred sites. The oil and gas operator has exactly what it needs to scale and optimize its chemical program without adding more complexity to its operations.

***Want to learn more about how WellAware Connect  
can enhance your chemical program?***

Visit our solution page today

**Get Started**



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