

Natural Gas Pipeline Achieves Environmental and Safety Regulations Using Shafer™ ECAT

RESULTS

- Limit interruptions in operations
- Achieve zero emissions
- Maintain safety and health of operators and the public



APPLICATION

Valve operating system for natural gas pipeline transmission.

CUSTOMER

Midstream energy company transporting crude oil and natural gas to homes and businesses across United States.

CHALLENGE

With the EPA's expanded proposal to reduce emissions of methane from new and existing sources in the oil and gas industry, plus future expectations of stricter EPA regulations, the customer wanted to invest in new emissions-reducing technology that also contributed to the expansion of their carbon capture capacity.

Combined with PHMSA's Final Rule, published in April of 2022, which requires pipeline operators to install rupture mitigation valves, the customer needed a reliable rupture mitigation system without compromising their goal of reducing emissions.

"The ECAT's emissions-free operation maintains conventional control systems and upholds public and environmental safety standards."



The ECAT VOS Power System

SOLUTION

The Shafer™ Emissions Controlled Actuation Technology (ECAT) is suited for environmentally-sensitive applications, as it uses an electro-hydraulic power pack to reinject gas back into the pipeline rather than exhausting gas into the atmosphere. By selecting the ECAT, the customer was able to eliminate over 99% of typical gas-powered actuation emissions. Additionally, as the ECAT accumulates the gas re-injection, the customer can capture and repurpose the carbon dioxide while ensuring decarbonization in their operations.

ECAT is a versatile, compatible power system that can be incorporated with new and existing control systems. To fulfill PHMSA's rupture mitigation requirements, the customer was advised to add an electronic line-break system, which could easily be added to the ECAT. The ECAT + electronic line-break combination meets zero emissions and rupture mitigation standards, mitigating environmental consequences and public safety risks.

RESOURCES

Brochure: Shafer™ ECAT

<https://www.emerson.com/documents/automation/brochure-shafer-emissions-controlled-actuator-technology-ecat-en-2705374.pdf>

Flyer: Shafer™ ECAT

<https://www.emerson.com/documents/automation/brochure-shafer-emissions-controlled-actuator-technology-ecat-flyer-en-2705370.pdf>