

Shafer™ ECAT Helps Compressor Station Go Green Without Compromising Functionality

RESULTS

- Obtained desired control components with zero emissions
- Reduced project costs
- Minimized risks to equipment, operations, and public safety
- Downtime reduced



APPLICATION

Valve operating system and remote operation of actuator on natural gas compressor station.

CUSTOMER

North American energy company that operates natural gas and oil pipelines and power generation facilities.

CHALLENGE

With the EPA's expansion of emissions regulations for the oil and gas sector in 2022, the customer wanted to stay at the forefront of going green. Expecting strengthened proposals in the future, the customer wanted to experiment with Emerson's zero emissions technology, while minimizing project costs and maintaining the power and performance of existing actuation equipment.

To reduce the risks of interruptions in business, unplanned maintenance, and downtime, the customer also wanted a reliable control system and fail-safe that minimized changes in operation systems.

"The ECAT provides dependability and unchanged actuator performance to pipeline applications where emissions control is desired."



The ECAT VOS Power System

SOLUTION

The Shafer™ Emissions Controlled Actuation Technology (ECAT) system eliminates over 99% of actuation emissions without jeopardizing the function of existing actuators and control systems. The ECAT uses electric power to pump hydraulic fluid into the accumulator, pushing high-pressure gas back into the pipeline rather than out into the atmosphere. With a versatile design system, the ECAT can be retrofitted onto the customer's existing actuators, reducing project costs.

When combined with the Shafer™ Remote Two-Way Electric Control, the ECAT system remains zero emissions with the benefit of fast, dependable on-off operation of the compressor station valves. The ECAT system uses many of the same control components found on typical gas-over-oil systems, which reduces downtime and operator's learning curve. The ECAT system also features fail-safe reserve power, where, in the case of electrical power failure, hydraulic power will be reserved in the accumulator for a certain number of valve strokes; the risks of accidents and equipment damage are mitigated.



The ECAT VOS Power System

RESOURCES

Zero Emissions Valve Actuation

<https://www.emerson.com/en-us/automation/valves-actuators-regulators/hydraulic-actuators/shafer-ecat-emissions-controlled-actuator-technology>

Brochure: Shafer™ ECAT

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