

Case Study

Rotork electric actuators powered by solar panels help maximise lifespan of wells



Industry: Oil Fields
Client: Leading natural gas producer, USA
Product: IQ3, Site Services

Summary

IQTF actuators were installed at the East Texas section of the Haynesville/Bossier shale gas formation to control the flow and pressure of gas and condensate a mixture of liquid hydrocarbons formed when pressure and temperature decrease because of well drilling.

Overview

The Haynesville/Bossier shale gas formation is in northern Louisiana and East Texas, at a depth of approximately 10,000 feet.

Challenge

The client required actuators to provide modulating duties on wellhead rotary non-rising choke valves at the East Texas section of the Haynesville/Bossier shale gas formation.

Solution

60 actuators were installed to control the flow and pressure of gas and condensate. Rotork's IQTF actuators provide reliable flow control for oil and gas or process operations, capable of achieving accuracy to 0.3% and resolution to 0.1%. A highly accurate absolute position sensor can measure up to 22 output turns independent of electrical power.

Customer Benefits

The remote location of the wells means a DC power supply using a solar system and battery pack powers the IQTF actuators. This solution was specified as a more reliable option than hydraulic or pneumatic actuation as it avoids potential leakages.

Using solar means a renewable power source. Electric actuators use less overall power than a hydraulic system.

Rotork's involvement helps maintain the flow and well pressure to maximise the lifespan of the wells, allowing for continuing efficient operation.



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The lightweight, compact IQTF actuator provides fast and accurate valve control and can perform up to 1,800 starts per hour, an important factor given the need for a tight well flow threshold to avoid over pressure in the main trunkline.

If too much gas is extracted in a short period of time the reservoir can implode or cause ground fractures which water or gas can infiltrate and cause a loss in production.

The involvement of Rotork's Site Services team, which offered final commission and warranty, and Rotork's support during initial testing and calibrating was also key in the customer's decision to choose the company's products.