Case Study

John Crane Dry Gas Seals

Natural Gas Pipeline Station Reduces Gas Emissions by Switching to John Crane Dry Gas Seals

Type 28XP was selected to help reduce the emissions over the existing wet seals

BACKGROUND

Industry: Oil and Gas

Site: Natural Gas Pipeline Station

Location: Louisiana, US

End Product: Natural Gas

Customer Need

- The customer is a natural gas pipeline station that carries gas from the Louisiana Gulf Coast to the Midwestern and South-Central areas of the United States
- For compressor stations such as this, emissions are usually vented to the atmosphere, rather than routed to a flare. When using wet seals, emissions can be as high as 100 scfm, resulting in product loss.
- Coupled with high operations and maintenance costs associated with wet seals, the ongoing cost to operate with wet seals reached an unacceptable point for a compressor
- The customer was seeking solutions to reduce methane emissions due to the high leakage rates of wet seals with the transportation and storage of natural gas on the pipeline system

Highlights

- A natural gas pipeline station was searching for ways to lower methane emissions
- John Crane recommended replacing the wet sealing technology utilized by the compressor to dry seal technology
- John Crane installed a Type 28XP which was able to meet the expectations in terms of methane emission reduction and lowered the OPEX costs significantly over the existing wet seals

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Application

- Running up against a scheduled turn-around and year-end budget spending requirements from the customer, the John Crane team was able to meet the customer's required date in nearly half the time frame
- John Crane relied on their reputation for industry-leading sealing solutions and was able to provide a successful solution for this retrofit

Solution

- John Crane replaced the existing wet seals on the compress with a Type 28XP
- The wet seal control console was decommissioned to make way for a new gas conditioning unit and a new dry gas seal control and monitoring console

Results

- Startup and commissioning were successfully completed with no major complications
- Energy efficiency was improved by the replacement of the wet seal with a dry gas seal, resulting in cost savings such as reduced power consumption, less maintenance costs, etc
- With the implementation of the gas seal technology, the mean time before refurbishment (MTBR) went from three to seven years