

SOCAR deploys PlantPAx to maximize Kalmaz gas storage capacity and help improve efficiency and safety

Inkoel automation solution helps state oil company improve output and reliability

Solutions

A Rockwell Automation PlantPAx Process Automation Solution was installed, which included:

- PlantPAx system based on our Logix suite of controllers
- Dedicated gas & liquid calculation modules
- The whole system is connected over EtherNet/IP
- High-end HMI interface for operators and engineering
- Endress+Hauser integrated instrumentation

Results

- Robust solution in a short installation window
- Cost effective
- Combined solution – process management and flow computing
- PlantPAx system makes real-time information readily available throughout the distributed network
- FactoryTalk Site Edition has a distributed and scalable architecture
- Seamless communications
- System level and process values are transmitted to the process control system with a high degree of accuracy
- Automating data collection has eliminated manual rounds, helping to improve operator efficiency and safety



Background

The State Oil Company of the Azerbaijan Republic (SOCAR) is involved in exploring oil and gas fields, producing, processing, and transporting oil, gas, and gas condensate, marketing petroleum and petrochemical products in domestic and international markets, and supplying natural gas to industry and the public in Azerbaijan.

The Kalmaz underground gas storage, with a total operating capacity of almost 3 billion cubic meters, plays a vital role in supporting the development and stabilization of the gas market in Azerbaijan.

The primary parts of the surface facilities of the Kalmaz underground gas storage comprise two-stage separation of solids and condensate, gas flow measurement at wells, gas compression, pre-heating and pressure control and drying and treatment. Inkoel MMC process automation solution is helping SOCAR maximize the capacity of the Kalmaz underground gas storage facility at Hajigabul, 100km from Baku. As a Main Automation Contractor, Inkoel has supplied the core instrumentation and control system, assisted with the associated scope along with the engineering design and responsibility for ensuring compatibility and interfacing of the automation system with interconnected devices.

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The installation of Rockwell Automation PlantPAX™ Process Automation Solution, with about 1,000 I/O has increased visibility into the process, helping the plant to improve control and run closer to its capacity. Automating data collection has also eliminated manual rounds at the plant, improving operator efficiency and safety.

Solution

The PlantPAX System provides the best available technology for process control, monitoring and gas flow calculation.

Included in the server-client architecture :

- OWS – Operator Work System
- PASS – Process Automation Supervisory Server
- EtherNet/IP network
- Dedicated Gas flow and Calculation algorithm using ISO-5167 measurement standards
- Endress+Hauser overload-resistant pressure and differential pressure and temperature smart transmitters provide data for accurate process control and flow calculations.

The 520 smart measurement devices from Endress+Hauser are the real eyes and the ears of the process at the Kalmaz underground gas storage.

With Ex Interface relay modules the customer gained the right interface solution for the application. Intrinsically safe signal circuits are electrically isolated from the system and the process values are transmitted to the process control system with a high degree of accuracy.

The consistent and intrinsically safe solution for I/O addresses safety regulations for hazardous installation areas. The enhanced control and superior class visualization are all integrated on the PlantPAX system to help increase the operational reliability.



Results

“We got a robust control system within short installation window time,” said Dashgin Iskenderov, General Director Azneft PU (SOCAR). “The SOCAR team was also impressed with the PlantPAX system from Rockwell Automation and combined solution consisting of process management and flow computing.”

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Additional Information

www.rockwellautomation.com

The results mentioned above are specific to Inkoel and SOCAR's use of Rockwell Automation products and services in conjunction with other products. Specific results may vary for other customers.

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