

- Fully integrated solution
- Fully redundant system to minimise risk of hardware failure
- Operator training and handover
- Reduced design and delivery timescales
- Minimised system downtime



EKB Eztel Gas Storage Facility Natural Gas Compression & Transmission Control & Safety System

Our client EKB, which is a joint venture made up of oil and gas giants BP, Statoil, Ørsted and Gazprom Germania, operates the Eztel Natural Gas storage facility in North Germany, which imports natural gas from the Bunde Eztel Pipeline (BEP) and/or Norddeutsche Erdgastransversale Pipeline (NETRA). The imported gas must then be compressed and cooled before being injected into one or more of six underground caverns formed in salt strata.

ITI supplied the automated control and safety systems to control three new compressors at Eztel and ensure that the gas is compressed, stored and delivered safely and securely.



The Compressors

The three new compressors increase the pressure of the imported gas from the transmission system pipeline for injection into the caverns. The stored gas can then be regularly exported to BEP and / or NETRA on demand of the customer. Exported gas must be heated (to prevent the formation of hydrates), reduced to pipeline pressure and then dried.

A range of automatic modes were required to route and blend the gas between pipelines and caverns, run the compression and dehydration system, and deliver gas within the boundaries of a strict nomination specification for quantity and timing of gas delivery, metered to fiscal standards using bi-directional ultrasonic flow meters.

The Solution

ITI designed and commissioned a control system to automate the plant, integrate all third party packages, and provide compressor control, access control, CCTV, emergency shutdown (ESD), and fire and gas protection systems.

ITI delivered a fully integrated control system built on the GE PAC8000 process control platform and GE SafetyNet controllers for the ESD system. For response speed, a redundant GE RX3i controller was used for the compressor control system and anti-surge control. An Autronica Fire and Gas protection system provided monitoring and protection of all site areas and control buildings, whilst a GE CCTV and access control solution provided seamless integration of site monitoring and security to the operator desk. The system was delivered to the client's specified timescales and budget, with ITI providing full commissioning services and maintaining a site presence until the system was handed over to the end users. This included full operator training and handover of knowledge to local control engineers who would support the system moving forward.



System Availability

The customer required a control system that was fully integrated, affordable, flexible, and easy to maintain. Due to the penalties associated with failure to meet nominated gas deliveries, system availability was an important consideration and fully redundant hardware was selected to address this and minimise any system downtime due to hardware failure.

ITI's extensive experience in design of process control and safety systems reduced design and delivery timescales offering the customer an efficient path from concept to commission.

Our team of multi-disciplined engineers were dedicated to the project throughout the development and installation of the system, ensuring consistent delivery of knowledge and a familiar point of contact for the project team, operators and third party vendors.

Cost and Time Efficiencies

By offering design, supply and commission of the complete control and safety system, ITI was able to offer design efficiency and therefore a reduction in cost and time when compared to sourcing each system from independent suppliers. Increased confidence in system compatibility was gained from integrated in-house testing of all components and commission costs were reduced since the system was proven as an integrated solution prior to site installation.



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