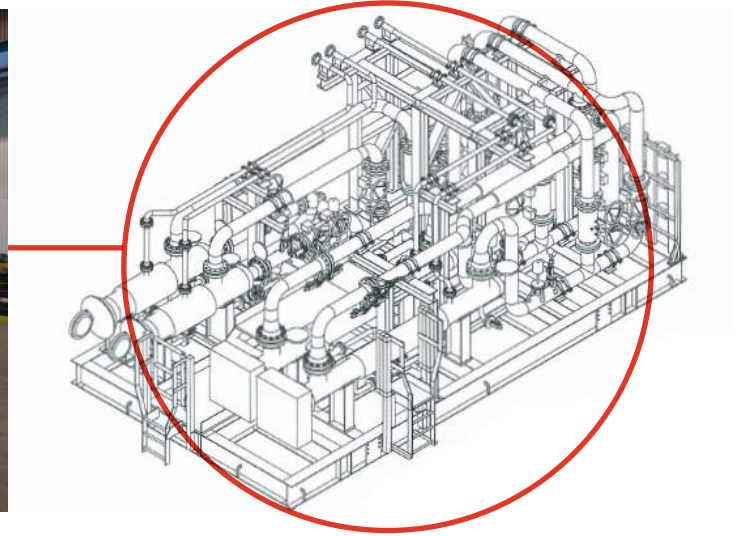


C217 | BP | Shah Deniz 2

Fuel Gas Treatment Package



Project: Shah Deniz 2

Contractor: BP

End User: BP

Product: Fuel Gas Treatment Package

Location: Azerbaijan, Offshore

Year: 2013

Application

This Fuel Gas Treatment package is the tenth such package supplied by OGS for BP's Azerbaijan development. It is to be used on the Shah Deniz Phase 2 gas project and will be installed on the SDB-PR offshore platform in the Azerbaijan sector of the Caspian Sea.

The fuel gas package is designed to deliver 100% of the required fuel gas to the platform's gas turbines.

Description

The system will consist of 2 x identical duplex stainless steel trains each capable of 100% of the duty and maintained in a duty/standby arrangement. The equipment consists of:

- 6" ANSI 300# system inlet connection flange and inlet header, with inlet temperature transmitter.
- 2 x 6" ANSI 300# trains each equipped with inlet isolation DBB ball valves, and orifice flange flow measurement upstream of a 300kW electric heater vessel/bundle. The heater was supplied with all the necessary temperature instruments allowing control via a Thyristor Panel (supplied by others) and meeting safety requirements. Further pressure and temperature instruments were provided in the heater outlet pipework.
- There was further 6" ANSI 300# DBB ball valve isolation before entering a vessel for final filtration before exiting the package. Filter element change out requirements were covered via Differential Pressure transmitters located with pressure connections located at the inlet and outlet of the filter vessels.
- There was then a final 6" ANSI 300# DBB ball valve isolation and outlet temperature transmitter before the outlet header and 6" ANSI 300# system outlet connection flange.
- There was also drain and vent systems within the package, and the complete system was trace heated and insulated.

Signals from the transmitters will be sent via skid-edge junction boxes to a "Safe area" Thyristor Control Panel and PCS (by others).

Challenges

There were several key challenges that had to be overcome during the project implementation. One of the main issues was complying with the strict material sourcing requirements for the Duplex Stainless Steel.

There was a further process challenge in that, although the electric heaters had to be capable of 100% of the duty, they would be operated by running through one heater and then through the second. The intention of this was to prolong the life of the heaters by only using a nominal 50% of their capacity unless there was a heater shutdown requirement.

This requirement meant that OGS had to design and fit a piping system allowing different flow routes within a confined offshore footprint.

The system was designed to maximise the extent of pre-fabrication and testing in the controlled environment of our fabricator's works. Equipment was supplied with supporting structures, with all process instrument and utility connections brought to skid edge junction boxes. The units are designed for simple site hook-up and minimum site erection time and costs.

The equipment was mounted on a skid support base frame which provided the necessary access walkways, steps and hand railing. The final package size was 7.2m long x 4m wide x 3.2m high and the weight was 18.6t.

