

SUCCESS IN SINGAPORE

IGA: Provider of Natural Gas Applications and Total Solutions

Following the successful installation of the 1st Nitrogen Metering & Regulating Station for National Oxygen Pte. Ltd. (NOX) at the DuPont Singapore premises in 2001, IGA delivered and installed a 2nd more complicated station at the GlaxoSmithKline (GSK) Pharmaceutical Factory in Singapore at the end of 2003.

This station receives high purity nitrogen gas (99.99%) from the NOX plant via an underground pipeline at between 15 and 20 barg, regulates it and feeds it to the factory at a stable pressure of 8 barg. The station is designed with a flow capacity of 1,500 scmh and is equipped with gas filtering, pressure regulating, flow metering, gas analyzing, self monitoring and control as well as on-line



Fig. 2: View of metering and regulation station

remote data transmission functions. The nitrogen gas entering the station is first filtered by the high-grade filter, then the pressure is stepped down by the high-performance Axial Flow Valve and metered by the mass flow meter. At the outlet of the station, gas samples are tapped from

Fig. 3: Equipped with measuring and monitoring instruments



Fig. 1: Control cabinet

the main line and directed to 4 analyzers – oxygen analyzer, moisture analyzer, hydrocarbon analyzer, CO / CO₂ analyzer - for analysis. If any of the analyzed values exceeds the respective preset values (in ppm), the flow computer will issue a command to shut down the emergency shut-down valve located at the station outlet. As it is a critical station, all parameters including inlet pressure, outlet pressure, flow rate, flow volumes, isolation valve status, oxygen level, total hydrocarbon level, CO level, CO₂ level, moisture level are transmitted in real time back to the NOX Operation Center via a dedicated telephone line using Modbus protocol for 24-hour monitoring. In addition to this, a subset of these signals is duplicated and sent to GSK's Operation Center.

The complete project was a successful collaboration between the IGA Holland office and the ELSTER-AMCO Singapore office. The design and procurement of station components was done through the Dutch office and the project execution including station assembly, testing, installation and commission was carried out by the Singapore office. This is another good example for collaboration within the ELSTER-AMCO Group to the benefit of our customers.

K.C. TAN, ELSTER-AMCO SINGAPORE

kctan@elster-amco.com.sg