

## EUROPIPE I AND EUROPIPE II METROLOGICALLY CONNECTED

*Major project with Q.Sonic*

Downstream Cross Over – that's the name behind one of the most important German station set-ups in the field of gas distribution, the Gas-Port-Stations in Emden (formerly Statoil and ConocoPhillips), which supply Germany with gas from Norway. By means of a connection pipeline (downstream cross over), the gas from the Europipe I/II (EMS) pipelines and the Norpipe (NGT) pipeline is transported between the two stations. Every day, between 50 and 70 million Nm<sup>3</sup> of gas is fed from these stations into the grids operated by E.ON Ruhrgas, BEB and Gasunie (NL).

As general contractor it was Elster-Instromet's task to establish the link between the EMS and NGT stations from a metrological point of view in order to feed the downstream grid. The turnkey project included the engineering, manufacturing and delivery of the metering components as well as the overall project management. The on-site partner for the construction of the station was Bohlen & Doyen. The project management and the manufacture of the pipes was left in the capable hands of Elster-Instromet N.V. in Essen (Belgium) – the systems solution provider in the group. At this Belgian site we are able to plan and manufacture complete metering and regulating stations to meet a wide range of requirements.



Safety and availability were top priority when designing the station. As a result, a completely redundant system was also incorporated into the design, i.e. two separate metering paths were constructed, each with a Q.Sonic-4 ultrasonic meter (DN 600/ANSI 600). In this context we used the new hard and software belonging to the Series IV Electronics with the Coded Multiple Burst process, which ensures an additional level of security with regard to availability. Both meters can be switched in series for test purposes. Volume correction is carried out by two gas-net F1 flow computers using the AGA-8 compressibility calculation. Each flow computer has a separate data logger and offers the possibility to exchange data via either a DSfG or a Modbus interface. Since the station was already using process gas chromatographs from Marquis, Elster-Instromet incorporated two further identical types of device. Gas quality data is exchanged via the digital interface for gas metering devices (DSfG) Bus system, which is also available for other tasks. The main advantage of using a DSfG interface is that the design is standardised, no matter from which manufacturer. This

particular interface is normally only used in German-speaking countries.

All of the station data is fed into the governing Elster-Instromet Supervisory System (ISS). These systems are designed in accordance with customer specifications. The ISS provides a quick and complete overview of the entire metering data. The system also monitors error limits, ensures the availability of special interfaces, stores metering data and data protocols as well as customer requirements. However, perhaps the most important feature of the system is the diagnostic possibilities it offers. Once the system has been cleared, the user is able to carry out remote diagnoses, which can also be done by Elster-Instromet, of course. This makes it possible to give the customer a quick and cost-effective initial assessment of the metering technology and helps to save costs and time for service

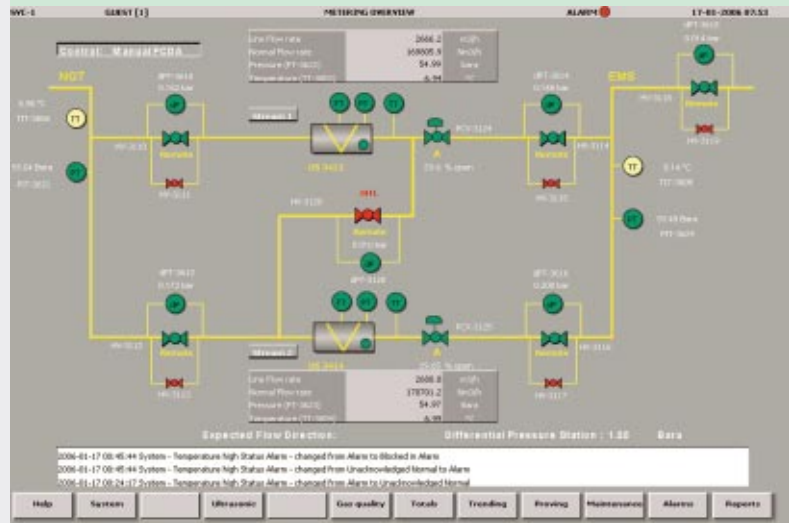
and correct metering errors. The ISS System also includes the possibility to record a variety of parameters enabling the user to intervene, if necessary, before any special event might occur.

The station went into actual operation on schedule in September, 2005 and has been operating error-free ever since. Uwe Dannehl, who is responsible for the GasPort metering systems in operation in Germany, took part in the Ultrasonic User Meetings in February, 2006 in Frankfurt and, in the course of this meeting, gave a presentation giving an initial overview of the state of the project.

The fact that Elster-Instromet was responsible for implementing the entire project helped to release the customer's engineering capacities for other projects and reduced the number of overlapping interfaces.



Gas Port Station Emden, Germany



On-screen overview of ISS, Elster-Instromet supervisory system



Q.Sonic-4 ultrasonic meter and gas-net F1 flow computer

technicians on site. One of the biggest challenges was incorporating the signals into the main ABB control system. To do this, it was necessary to use a Programmable Logic Control (PLC) system., which acts as a 'converter'.

An important component of the contract was the training of the Gas Port employees. The training courses were held directly on site and were run by our specialists. With the help of the software tools, the employees are able to quickly detect

The whole project was completed smoothly and quickly and, with only one contact partner, Elster-Instromet went a long way to avoid any loss through potential 'friction'.

No doubt other benefits stemming from this constellation will become apparent in the future when it comes to service and maintenance.

As a station-builder and systems supplier Elster-Instromet is capable of supplying individual components as well as complete solutions and, of course, implementing these systems in compliance with customer requirements – all from under one roof.

This is only one example of many different projects we have supervised and completed. Which project would you like us to run for you?

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