Q.Sonic ultrasonic meters to replace orifice plates

Gasum Oy and Gazprom Export place their trust in Elster-Instromet technology

Gasum Oy, the Finnish natural gas company, has upgraded its most important gas import station at the Russian border with Elster-Instromet equipment.

Gasum Oy imports all natural gas to Finland from Russia. The measurement and compressor station Imatra is situated in the eastern part of Finland. Two pipelines (DN 1000 and DN 800) deliver the Russian gas to Finland. As this is the only fiscal measurement facility at the border, a representative of Gazprom Export has a permanent office in the measurement station to witness and approve all the measurement activities.

The Russian company Gazprom Export traditionally uses orifice plates for fiscal measurement. In 2005 however, Gasum purchased a 16" Elster-Instromet Q.Sonic-5S ultrasonic meter that was installed in the orifice metering station. After an extensive testing period, both Gasum and Gazprom Export were convinced that replacing the orifice meters by Elster-Instromet ultrasonic meters was the way forward.

To protect the metering equipment from the harsh Finnish climate, the equipment is installed in a building.

EnCal 3000 in a redundant setup installed in an air-conditioned analyser room

In February 2006, Gasum started a revamp project where the two existing orifice metering stations were converted into modern, state-of-the-art ultrasonic metering installations. Elster-Instromet was selected to supply three 16" and three 20" Q.Sonic-5S ultrasonic meters, two EnCal 3000 gas chromatographs and a complete, redundant metering supervisory system including flow computers.

The two existing metering stations were replaced in two phases. In the first phase, Gasum built a completely new metering station with 3 DN 500 (20") metering

streams, each equipped with an Elster-Instromet Q.Sonic-5S ultrasonic meter. Following assignment of the contract, the project engineering team cooperated closely with Gasum and their engineering consultant, Neste Jacobs, to define all the details required to build the metering installation.

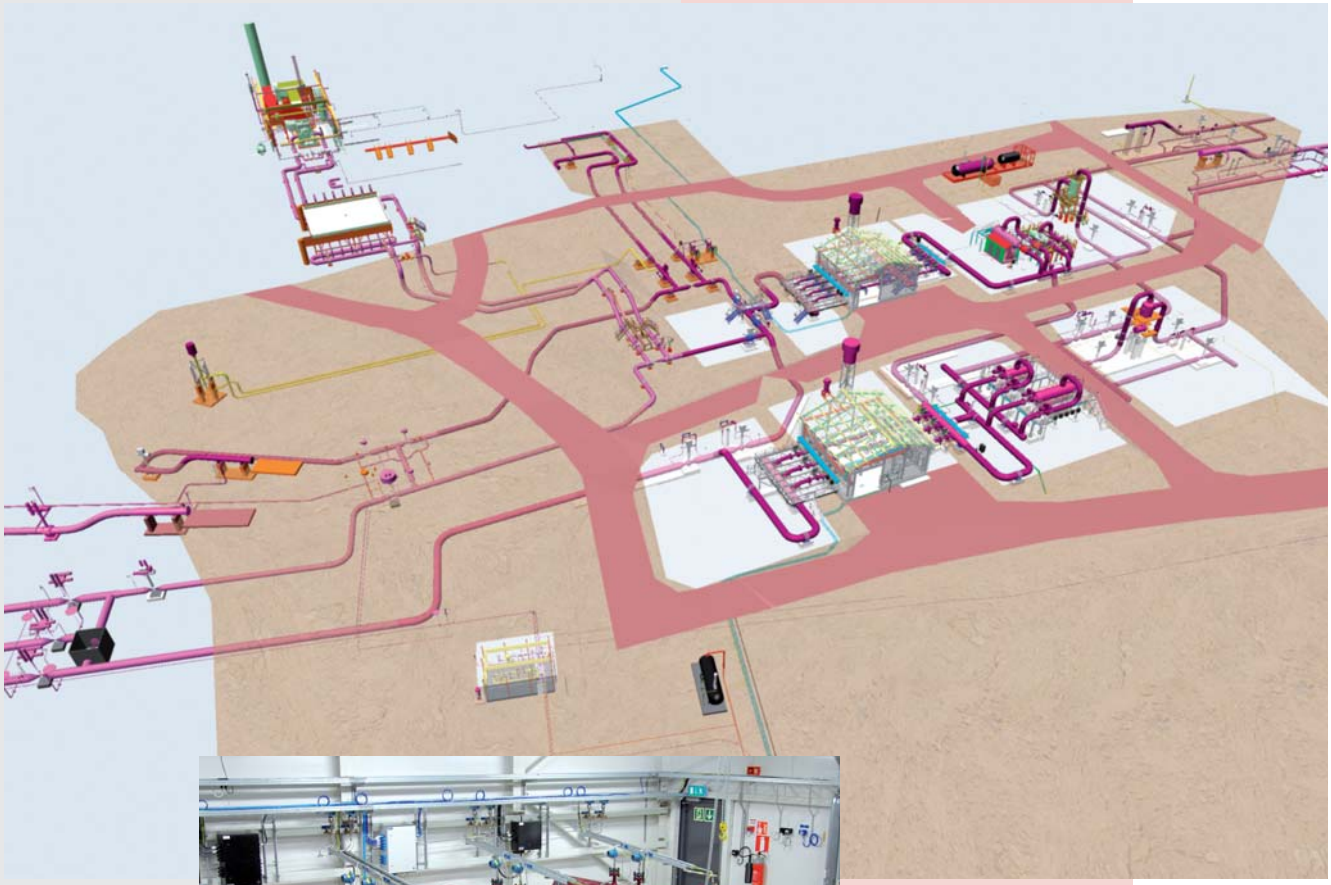
The custom designed supervisory system had to fulfil a number of special requirements. The demand for very high availability in metering led to the decision to have two flow computers per metering stream. Since Finland and Russia have defined different base conditions for volume calculations, the system was designed to use both methods. Special reporting in Finnish and Russian language was included. A special interface to the already existing SCADA system provided the necessary information transfer from this new metering station to keep the complete Finnish network in control.

In September 2008, all the equipment was ready, factory tested and shipped to Finland. Elster-Instromet commissioning engineers worked closely with Gasum and Neste Jacobs engineers to get the system successfully commissioned. On 23 October 2008, the gas was rerouted and the first gas flowed through the new ultrasonic based metering system.

After this first phase was completed, there was still work to be done. Gasum continued its activities and proceeded to replace the orifices with four 16" Q.Sonic-5S ultrasonic meters. On 25 November 2008, the second and final metering station was mechanically completed and ready for commissioning. Since the metering computer system and gas chromatographs were already working, connecting the final four metering streams to the system was completed in ample time.

Both systems have now been in operation since November without any interruptions. With the new metering system in place, Gasum is very pleased with its accuracy and operability, resulting in improved network control.

This project has both demonstrated Elster-Instromet's capabilities as a component supplier and as a knowledgeable and reliable partner for supplying a complete high quality Integrated Metering Solution. Please contact your local sales office to find out how Elster-Instromet can help you with your metering needs.



16" metering lines with Q.Sonic-5S meters

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