

GAZPROM RELIES ON NVENT TO KEEP THE GAS FLOWING

PROJECT DETAILS

Client:	Yamalgazinvest (subsidiary of Gazprom)
Location:	Bovanenkovo, Yamal Peninsula, Russia
Completion Date:	2013
Contract Scope:	Design, Supply, Installation
Applications:	Frost protection of pipes and equipment on 9 compressor stations of new major gas transmission line
Technology:	+50 km of nVent RAYCHEM parallel self-regulating heating cables and nVent RAYCHEM XPI series constant wattage heating cables, +200 km of nVent RAYCHEM STS skineffect tracing system, nVent RAYCHEM NGC-30 multi-circuit control, monitoring and power distribution system for a total of 4050 traced circuits



KEY CHALLENGES

The project called for a complex electric heat-trace design with a wide variety of pipes and equipment to be traced. Against ambient temperatures that can reach -39°C , pipes and vessels for water, sewage and anti-condensate gas had to be protected to maintain temperatures of either $+5^{\circ}\text{C}$ or $+8^{\circ}\text{C}$. Effective solutions were to be created for pipes with diameters from 15 to 400 mm; with lengths that varied from 0.1 m to several kilometres and for vessels both above and below ground.

SOLUTION

nVent engineering centre in St. Petersburg provided the solution based around a range of technologies. Using the company's TraceCalc Pro software, they created a design that combined a variety of self-regulating and polymer-insulated cables to provide tracing for the majority of the system, with self-regulating cables specified for the vessels.

For the longest pipelines, over 200 km of RAYCHEM STS skin-effect systems were specified in multiple circuits of between ten and twenty kilometres spread over the 9 compressor stations. These were designed in conjunction with nVent UK office, which provided specialist expertise.

In total, the system comprises some 4,050 circuits, with between 400 and 500 circuits per compressor station.

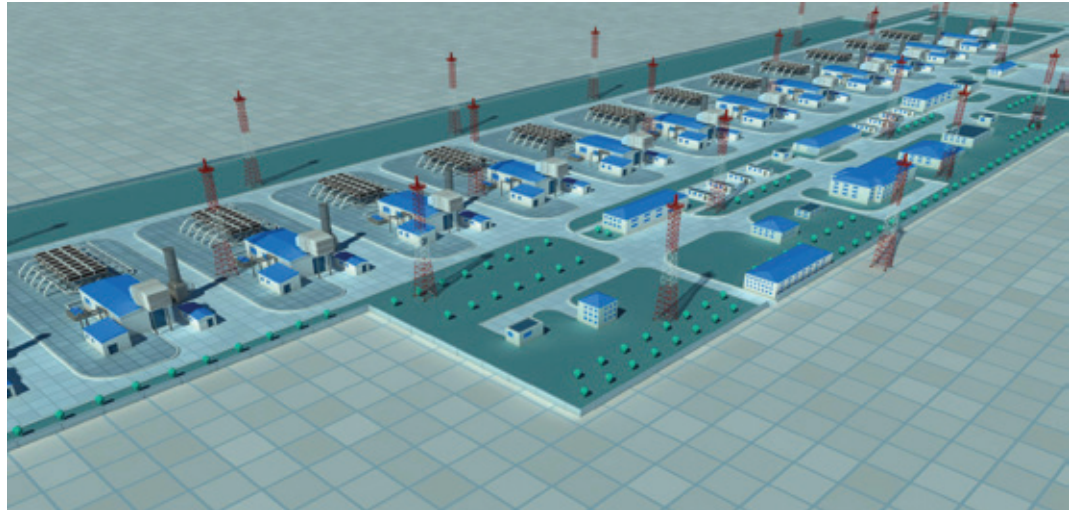


Control and monitoring of the complete heat-tracing system on all the compressor stations is to be provided by RAYCHEM NGC-30 systems, with central control via RAYCHEM user interface terminals and remote configuration and monitoring via RAYCHEM Supervisor software.

Commenting on the successful design, Stroizgazconsulting said: "nVent' broad range of proven technologies has enabled them to provide a robust solution to meet our complex needs". They continued, "Their design expertise has created a system that we're confident will prove highly effective once it is implemented in 2013"

BENEFITS

- Local experience and presence in the Russian market.
- Design expertise of reliable heat-tracing systems for complex applications in harsh environments.
- Wide range of proven EHT technologies.
- Advanced control and monitoring systems guarantee safe, reliable and energy-efficient operation.



Some 250 kilometres of nVent' electric heat trace cabling are to be deployed for frost protection of pipes and equipment on the gas export main line in Russia. The systems will be installed at nine compressor stations along the 1100 km pipeline carrying natural gas from the gas field at Bovanenkovo on the Yamal Peninsula to the Russian gas hub at Ukhta.

The stations are being constructed by contractor Stroizgazconsulting for Yamalgazinvest, which is a subsidiary of Russia's largest company Gazprom.

Gazprom is the largest extractor of natural gas in the world. The Bovanenkovo gas field is the largest gas field on the Yamal Peninsula with estimated reserves of 4.9 tcm. Projected gas production from the Bovanenkovo field is estimated at 115 billion cubic metres per annum to be increased to 140 billion cubic metres in the long term.

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