

# DELIVERING THE ESSENTIALS OF RUSSIA'S LARGEST PETROCHEMICAL PROJECT

## PROJECT DETAILS

<b>Client:</b>	Tobolsk-Polymers LLC
<b>Location:</b>	Tobolsk, Siberia, Russia
<b>Completion Date:</b>	2013
<b>Contract Scope:</b>	Engineering design, manufacturing and supply of electric heat-tracing (EHT) system, supply and installation supervision
<b>Applications:</b>	Frost protection and temperature maintenance of pipes and equipment
<b>Technology:</b>	+170 km heat-tracing cables, nVent RAYCHEM BTV; QTVR; XTV and EM2-XR self-regulating heating cables, RAYCHEM VPL high temperature power-limiting heating cables, RAYCHEM MI mineral insulated heating cables, 1690 advanced control systems, RAYCHEM NGC-20-CL-E field-mounted electronic temperature control units, RAYCHEM Supervisor software, RAYCHEM UIT user interface terminals



## KEY CHALLENGES

Tobolsk-Polymers LLC constructs two new plants for the production of polypropylene in Tobolsk, Western Siberia. Both plants within the new complex called for a wide range of heat-tracing applications. With ambient temperatures that can reach lows of -52°C and rise to +40°C, solutions were to be provided for both frost protection and process temperature maintenance within hazardous areas. In addition to process pipework, instrument tubing and vessels, the plants required frost protection to pedestals near safety doors, rain gutters, down-pipes and roof inlets.

## SOLUTION

nVent has provided EHT solutions through a combination of products within its broad range of heat-tracing technologies.

A combination of self-regulating and high-temperature power-limiting cables is being deployed at both plants. The dehydrogenation plant also features RAYCHEM mineral-insulated cabling for use on pipes with high process temperatures.

Control and monitoring is provided by RAYCHEM NGC-20 field-mounted control units. They provide a balance of proportional ambient sensing control (PASC) or line sensing control, depending on the application. Centralised monitoring is provided via RAYCHEM UIT's, in conjunction with RAYCHEM Supervisor software on the polypropylene plant.

Commenting on the polypropylene plant, the construction company Linde Dresden Engineering GmbH said: "For a project of this scale and complexity, it was vital that we had a partner who could meet all of the technical challenges. nVent' broad range of technologies, combined with their experience on major projects, has provided a solution that has met all our needs. Their support during the extensive engineering phase proved invaluable."

## BENEFITS

- Broad range of technologies to meet a wide variety of needs
- Local control and central monitoring systems for maximum safety and userfriendliness
- Capability and experience to handle major projects in the harshest environments
- Experienced Russian nVent team



More than 170 kilometres of nVent' heat-trace cabling and some 1690 advanced control systems are being deployed at two new plants for the production of polypropylene in Tobolsk, Western Siberia. The new plants form part of the largest petrochemical project within the Russian Federation. They are being constructed for Tobolsk-Polymers LLC, a subsidiary of SIBUR Holdings JSC.

One plant is for the production of 500,000 tonnes of polypropylene per year. It is being constructed by Linde Engineering Dresden GmbH.

The second is for the dehydrogenation of propane and the production of 510,000 tonnes of propylene per year. This plant is being constructed by Italian contractor Maire Tecnimont.

The construction of the modern complex for polypropylene production is the largest petrochemical project in the Russian Federation. It is located in Tobolsk's industrial zone on the site of Tobolsk-Neftekhim. The business's main product, polypropylene, is a solid thermoplastic polymer and one of the most widely used plastics.

For more information visit: [www.nnk.sibur.ru/products/basic\\_polymers/tobolsk\\_polymer](http://www.nnk.sibur.ru/products/basic_polymers/tobolsk_polymer)

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