

# CEPSA PHENOL AND ACETONE PROJECT

## PROJECT DETAILS

<b>Client:</b>	CEPSA (Compañía Española de Petróleos, S.A.U.)
<b>Location:</b>	CaoJing SCIP, Shanghai
<b>Completion Date:</b>	June, 2014
<b>Contract Scope:</b>	Engineering Design, Material Supply, Installation Supervision and Commissioning for the Electrical Heat-Tracing System
<b>Applications:</b>	Temperature Maintenance and Pipe Freeze Protection for Chemical Pipes and Vessels
<b>Technology:</b>	nVent RAYCHEM Self-Regulating and Mineral Insulated Heat-Tracing Systems, and NGC-30 Control and Monitoring System



## KEY CHALLENGES

The CEPSA Phenol and Acetone Project Team required a Heat Management System provider to implement a more comprehensive solution to meet the strict mix of Process Maintain and Freeze Protection requirements, as well as the extreme exposure temperature conditions at the Shanghai SCIP job site. With a 60 km complex piping route, over 80 km of heat tracing cable and 75 control and power distribution panels were required to create a heat-tracing system that provided tighter control, limiting downtime repairs and providing the ability to withstand high temperature exposure conditions in excess of 600°C.

## SOLUTION

nVent overall solution included the use of NGC-30 controllers that employ a centralized multi-circuit control and monitoring system to configure/control the distributed heat-tracing circuits respective of process maintain or freeze protection requirements. Key data such as temperature, ground-fault current, operating current, and voltage are monitored through panel-mounted touch screens. NGC-30 controllers provide immediate access to key process maintain and freeze protection data. Additionally, field maintenance engineers are able to check the circuit on/off status via a lighted end seal kit above the insulation, or conveniently browse information remotely from a workstation with pre-configured supervisory control and monitoring software.

The bulk of the technology for the CEPESA Phenol and Acetone Project utilized the RAYCHEM Self-Regulating Heat Trace technology. The nVent design team also utilized mineral insulated (MI) heating technology, which met the need for specific exposure temperature conditions and paired well with the NGC-30 control methodology.

## PRODUCTS

To meet the needs of this challenging application, nVent offered a Heat Management System which included:

- Self-Regulating Heating Cables
- Mineral Insulated Heating Cables
- Above-Insulation Connection Kits
- NGC-30 Control and Power Distribution Panels

## BENEFITS

RAYCHEM Self-Regulating Heating Cable technology, paired with the NGC-30 controllers, substantially reduced the energy consumption with accurate power output to minimize the heat loss of the pipes and vessels.

Centralized control and monitoring system provided information on the status of heat-tracing circuits, failure alarms, minimum/maximum values of temperature etc. Better reporting enabled predictive maintenance which reduced the TOC of the plant and improved its performance.

The broad range of PTM technologies afforded CEPESA the opportunity to utilize heat-tracing technology that met the requirements of their high-temp exposure conditions.

With decades of experience in designing, manufacturing and installing heat management systems, PTM was able to provide a comprehensive solution to CEPESA's unique needs. The use of multiple heat tracing technologies, a unique controller platform that allows for better energy utilization, and a more reliable heat-tracing system substantially reduced operations and maintenance requirements.

nVent provides unique solutions for various applications and offers a full suite of optimization strategies customized for a given application resulting in reduced CAPEX/OPEX for the project.

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