

Raychem Heat Management Solutions Provide Critical Operational Reliability for New Steam Methane Reforming (SMR) Hydrogen Plant



Mission Critical Solutions
in Hydrogen

PROJECT DETAILS



Applications:

- Pipe Freeze Protection
- Process Temperature Maintenance
- Instrument Winterization



Location:

McIntosh, Alabama



Contract Scope:

- Engineering and product supply



Technology:

- Raychem Self-Regulating w/ High Power Retention (XTVR)
- Power Limiting (VPL)
- Advanced Control & Monitoring



Date:

2024

KEY CHALLENGES

A leading global producer of industrial gases in Alabama was chosen for the construction of a new Steam Methane Reforming (SMR) Hydrogen plant to support the long-term viability of the chemical industries in the area. As a new stand-alone hydrogen plant, the facility design and construction includes all the infrastructure and utilities required for an industrial project.

The customer's mission critical objectives for the heat management solution include finding the optimal system design that would keep critical process maintain and freeze protection applications running, prevent condensation in large bore piping that transports process gases and nitrogen gas, protect/winterize instruments, and provide an energy efficient control and monitoring solutions that verifies the operational reliability of the heat management system. They also want site services support.

SOLUTION

Chemelex was chosen to support this key project because of our reputation for comprehensive understanding of complete heat management systems, and our established project management relationship in the Gulf Coast area. Raychem engineers analyzed all possible heating technologies and determined that Raychem high temperature self-regulating and power-limiting heating cables proved ideal for both the process temperature maintenance and freeze protection applications. In addition, the Raychem engineers designed and supplied heat traced tubing bundles with both self-regulating and power limiting heat tracing cables to support the large instrument winterization base on the project. We installed our advanced control & monitoring solutions to deliver energy savings, to minimize operational risk and maximize productivity, and to communicate with the operation staff.

PROJECT FACTS

To meet the mission critical needs of this new SMR hydrogen facility, our Raychem heat management solution was provided on schedule and included:

- Engineering design experts providing optimized design and support using TracerLynx 3D HMS Software
- Raychem XTVR and BTV self-regulating heating cables
- Raychem VPL power-limiting heating cables
- Traced tubing bundle for instrument winterization
- Raychem NGC-30 control and monitoring skids including power distribution
- Raychem components and connection kits
- Field Services experts deployed for onsite installation and construction support

BENEFITS

We met the customers' mission critical objective for operational reliability with our turnkey heat management system services – from detailed engineering design and procurement to onsite installation and construction support. Our experts provided the best freeze protection, process maintain and winterization solutions. Additionally, smart control and monitoring provide plant reliability and an opportunity for heat management to be connected and communicate with site-based control systems. The growing customer hydrogen demand in this region includes chemical, aerospace, electronics manufacturing and mobility. Chemelex is ready to meet the most challenging engineering and product requirements.

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