CONNECT AND PROTECT

nVent RAYCHEM Heat Management Solutions Provide Critical Operational Reliability for Alberta Refinery Set to Capture Hundreds of Thousands Metric Tonnes of CO2 Per Year (NGL)

PROJECT DETAILS

Location:
Northern Alberta Canada (NGL)

Applications:
Pipe Freeze Protection, Process Temperature Maintenance, Instrument Winterization

Contract scope:
Engineering, Product Supply and Instrument Winterization

Technology:
nVent RAYCHEM Self-Regulating (BTV, XTVR, HTV), Mineral Insulated (XMI), Advanced Control and Monitoring

Completion date:
2026

KEY CHALLENGES

A major processing facility in Alberta is building a world-class Carbon Capture and Storage (CCS) facility as part of their Energy Transition strategy. The current Project is designed to capture and store hundreds of thousands of metric tonnes of CO2 per year. If the CCS plant shuts down for any reason, CO2 is vented to the atmosphere defeating the benefits of CCS. The facility's mission critical objective is for the heat management system (HMS) solution to ensure plant operational reliability by managing northern climate freeze protection, process temperature maintenance, as well as optimizing energy efficiency.

SOLUTION

Recognizing the benefits of working directly with a heat management system (HMS) solution provider, and based upon our prior experience in addressing their heat management needs on the previous carbon capture project, the facility owner awarded nVent RAYCHEM a contract to provide the engineering, heat tracing materials and control/monitoring panels.

nVent RAYCHEM engineers designed a heat management solution with our proprietary nVent RAYCHEM TracerLynx 3D HMS software that used heat mapping technology to identify heating loads within the 3D model to facilitate the optimized location of panels. The software also allowed for optimal placement of the EHT power connection kits and components, significantly reducing power distribution material and labor costs. Furthermore, the engineers designed and built the instrument winterization enclosures to protect instruments and ensure operational reliability.

nVent RAYCHEM high temperature self-regulating heating cables with high power retention (HPR) proved ideal for this plant's freeze protection and process maintenance applications. Our advanced nVent RAYCHEM NGC-40 controllers and RAYCHEM Supervisor software, which minimize operational risk, maximize productivity, and communicate with the operation staff, offered the operational reliability to put the owner at ease.

PROJECT FACTS

To meet the mission critical needs of this world-class Carbon Capture facility, our nVent RAYCHEM heat management solution included:

- Engineering design experts providing optimized design and support using TracerLynx 3D HMS Software
- nVent RAYCHEM BTV self-regulating heating cables; plus HTV and XTVR self-regulating heating cables including HPR
- nVent RAYCHEM XMI mineral insulated heating cable
- Instrument winterization
- nVent RAYCHEM NGC-40 control/monitoring skids including power distribution and RAYCHEM Supervisor Software

BENEFITS

We met the customers' mission critical objectives for operational reliability with our optimized designs and proven complete heat trace systems that included HTV and XTVR heating cables with high power retention, and instrument winterization. Our nVent RAYCHEM NGC-40 advanced control & monitoring solution delivers energy savings and full connectivity, minimizing operational risk and maximizing productivity. As leaders in the energy transition, nVent is proud to execute on this mission critical decarbonization requirement that benefits the planet.

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