

TC Energy 2021 NGTL Compression Project Team: Modular Compressor Station Innovation

TC Energy's 2021 NGTL System Expansion Program recently brought three 30MW compressor station unit additions into service, an innovative success story to share! Utilizing an industry-leading concept, the compression project team took TC Energy's traditional onsite compression station design and revised it into a modular design – meaning much of the build could be done offsite at fabrication yards and assembled onsite to reduce construction schedule and add tangible benefits. With over 850,000 exposure hours and from 39 to 41 modules at each of the sites, the modular projects created significant schedule savings of 3-5 months, with a total cost of within 10% of traditional stick builds.

The success of these projects is a result of the teamwork, dedication, and collaborative efforts of all stakeholders involved. Lessons learned were continuously shared between the three projects to leverage resources and deliver a consistent, quality product. Check out some of the project's modular highlights below and the program success story [video](#) on LinkedIn.

Project Highlights



Safety

- Reduced on-site construction decreases the exposure to on-site safety incidents.
- Fabrication in a shop environment limits exposure to events like poor weather.
- Roof modules were built on the ground rather than working in the air from a significant height.



Quality Control

- Most of the fabrication occurred in a controlled setting.
- Operational issues could be identified before commissioning.
- Increase in schedule certainty during construction due to reduced number of associated activities.



Supporting Local Communities

- The offsite modular strategy provided the opportunity to use local fabrication shops that were close to the facility site.
- Over \$50,000 was raised for charitable organizations throughout Alberta. A memorable achievement was with the Didsbury project team and the Westglen School, where a total of \$10,000 was donated and the team had the opportunity to present to the kids with interactive activities about TC Energy.



Innovation

- 3D scanning of the modules prior to them arriving on site was done so quality issues could be addressed early on, rather than addressing concerns onsite.

- Using the 'digital twin' technology, facility construction was safer, reduced project costs, and improved overall design.

