



CASE STUDY

Planning for Success: 2019 Oil Sands Facility Turnaround

Strong communication from planning through execution resulted in seamlessly executed Nitrogen Services for the 2019 turnaround of an oil sands facility. For this reason, the project was completed at **27% under-budget**, with **ZERO** safety incidents and **ZERO** A&D infractions.

Highlights:

- > Multiple Nitrogen services were provided simultaneously and executed seamlessly
- > Project completed 27% under-budget
- > Met all client objectives, on time, with zero safety incidents in over 1,860 man-hours spent on site

One of our clients in the Fort McMurray area conducted a turnaround in the spring of 2019. The process required nitrogen services to complete the following services:

- > Reactor Accelerated Cooldown
- > Nitrogen Support for Catalyst Change Out
- > Vessel Purge Outs
- > Furnace Pigging Support
- > Single Point Nitrogen Header Injection

In order to provide our client with the best possible service, our job started long before the first m3 of nitrogen began pumping.

Job Pre-Planning and Procedure Development

Our involvement with the Turnaround began two months prior to execution. Specifically, FourQuest Energy’s engineering department worked closely with our client’s engineering and Turnaround Execution team. During which we scheduled walk-downs, ran process simulations and developed detailed engineering procedures.



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Expedited Turnaround Execution

We pumped nearly 520,000 m3 of nitrogen ranging in temperature from -20°C to 30°C, and flowrates from 30 m3/min to 300 m3/min into the facility. At the peak, FourQuest Energy had four pumpers and fourteen personnel on-site. Everything worked together in parallel on the various services to meet our client's schedule.

FourQuest Energy works to understand your processes in order to anticipate problems before they happen. Because we consistently monitored our pressure, we caught a decrease in pressure of the plant nitrogen header before the client operations notified us. We responded immediately to the change by increasing our nitrogen flowrate to maintain pressure throughout the unplanned usage.

This job was completed on time and 27% under budget.

Proven Safety and Performance Track Records

This job was completed with **zero safety incidents within the 1,860 plus man-hours. In addition, there were zero violations of our client's Alcohol and Drug (A&D) Policy.** Providing a stand-by nitrogen pumper as part of our contingency plan would eliminate any unanticipated downtime. During execution, there was one instance where the standby pumper was brought into operation. For this reason, there was no interruption in nitrogen service.

Detailed planning encompasses many aspects such as:

1. Volume and Flowrate calculations
2. Laydown and Equipment Staging
3. Quality & Safety
4. Execution Contingencies

The success of this project stems from early stage client collaboration before executing. Because of the early planning, the turnaround had an effective execution.



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