

Honeywell Provides Expertise for Plant Expansion and Upgrade at Syncrude



“Honeywell’s past performance and implementation without any incidents at the plant demonstrated its technical and people know-how. Honeywell has managed all the resources of this multi-year project and we expect a continued return on investment.”

Peter Kokaram, UE-1 Process Automation Startup Manager, Syncrude

Benefits

Honeywell provided the expertise and technology to Syncrude for a major project expansion and modernization of its control system at its facility in Fort McMurray, Alberta, Canada.

Syncrude selected Honeywell as the General Automation Contractor to help increase capacity and upgrade its control systems to the Experion® Process Knowledge System (PKS).

The Honeywell control solution improved Syncrude project performance by:

- Successfully implementing the project design and subsequent changes without any incidents or plant shutdowns
- Modernizing the existing automation platform to ensure reliable, continuous operations for the next 15 years
- Providing better trained operators using training tools such as advanced control and simulation software
- Resolving many technical problems in the existing plant and correcting them before units were built
- Investigating a variety of ergonomic factors and human engineering for control room development and design



Syncrude’s Fort McMurray crude oil production facility

Background

Syncrude operates the largest oil sands crude oil production facility in the world. It is the largest single source of crude oil in Canada, producing more than 13 percent of the nation’s petroleum needs and employing more than 4,500 people.

Syncrude completed a \$8.4 billion expansion which will increase annual production capacity from 90 million barrels to 128 million barrels of Syncrude Sweet Premium, a higher grade, lower sulfur crude oil. Known as UE-1, this aggressive expansion project was one of the largest construction projects in the world.

Challenges

As part of the UE-1 expansion, Syncrude needed an automation contractor to help modify its Fort McMurray site. The complex project spans extraction, utilities and upgrading processes.

“Although we knew our facility had to have a technology facelift, we faced a huge hurdle in being able to successfully execute all the projects of this major expansion without having any major business interruptions or causing the plant to shut down,” said Peter Kokaram, UE-1 Process Automation Startup Manager, Syncrude. “The other big hurdle to overcome was managing all the resources and people involved in this multi-year, multi-billion dollar expansion.”

In addition, Syncrude wanted to leverage synergies obtained with consistent ongoing support and maintenance across the facility, leveraging training and similarities of various systems in place.

Solution

Syncrude selected Honeywell as the General Automation Contractor to not only provide technologies but also engineering, project management and procurement services for the process automation scope of the UE-1 project.

To complete the installation, comprehensive integration was required between existing and new technology as well as third-party subsystems and devices. To accomplish this, the project team created a complex network infrastructure that provides reliable transfer of process data over a large geographical area and between different operating units. Also, the existing LCNs were near capacity and needed to be split to accommodate the new equipment required for the expansion. The LCN splits were major accomplishments that were executed live and with no interruptions.

More Information

For more information on Experion and UniSim, visit www.honeywell.com/ps or contact your Honeywell account manager.

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Syncrude is using Experion to operate the plant's utilities and a Honeywell TPS system for the upgrading and extraction process areas. The expansion included new remote instrument enclosures, a HART protocol instrument communication system, and additional engineering and project management services. Honeywell's onsite team helped to manage the expansion, enabling Syncrude to free up its own resources.

“One of our big projects was to create a new and improved control room. We practiced human engineering and looked at a variety of ergonomic factors as part of the design,” said Kokaram.

Syncrude also used Honeywell's training simulators, now called UniSim[®], to help train operators. The simulator helped identify and resolve technical flaws in the plant process and correct design problems saving a tremendous amount of time and money.

Concluded Kokaram, “Honeywell met all our challenges of matching resources to the right jobs, integrating and updating our equipment and expanding our facilities – all with no interruptions. The UE-1 project was a huge success.”

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