

## Case Study

### WorleyParsons uses Honeywell's Experion Control System in its Oil Sands Mega Project



*"This massive project required extensive planning and management of suppliers, commodities and all types of resources. Honeywell proved a worthy partner as we were able to leverage their technology expertise and experience in handling projects of this nature and make this a success."*

Gordon Staub, Mineable Oil Sands Operations Manager, WorleyParsons

#### Benefits

Huge projects cost huge money and with every small delay costs escalate. Most such projects easily cost over \$1 billion and take over 5 years to execute. With that much money and time at stake, often times these types of projects attract public and political attention reducing tolerance for delays significantly.

Such was the case with a recent mineable oil sands mega project by WorleyParsons, a leader in project management solutions related to oil sands upgrading and extraction.

The seven-year, six billion project required extensive planning and management of everything related to the entire lifecycle of the project, and came with some significant challenges including general project risks, as well as the probability of significant costs and schedule overruns, and expected impact on regional and national resources.

In trying to keep everything in line and track the abundance of suppliers, commodities, engineering and construction resources, WorleyParsons turned to Honeywell and its Experion and Safety Manager system to provide the control system technology behind the project. The oil sands facility had more than 17,000 I/O controlled by the Honeywell systems.

Significant challenges surfaced throughout the years, but with Honeywell's help WorleyParsons was able to complete a successful startup and commissioning.

#### Benefits included:

- Consistent and timely control system hardware delivery
- Time and money saved in designing and testing of robust network for 150 control cabinets due to the expertise of the experienced Honeywell resources
- Custom developed logic templates met unique requirements for oil sands facility
- Availability of detailed and well maintained Source documents for configuration



Honeywell aids Worley Parsons in \$6 billion oil sands project that took seven years in the making.

#### Background

WorleyParsons has the capabilities and technologies to address all challenges – small Brownfield services contracts to Greenfield mega projects. From identifying the opportunity to the operating phase, their services cover the entire asset lifecycle.

Their extensive experience helps provide project solutions with the lowest total lifecycle cost while meeting each customer's specific requirements. It has the track record and systems necessary to pursue and deliver large-scale and complex projects. As resource projects continue to grow in size and complexity, WorleyParsons is one of the few global companies with the resources, technical capabilities, and systems to meet these demands.

Over the last 30 years, WorleyParsons has been directly involved in the design and construction of over 3,000 oil sands upgrading and extraction related projects. The company has been involved through the full lifecycle of project involvement including selection, definition, execution and improvement projects.

WorleyParsons primary oil sand design centres are located in Calgary and Edmonton with over 2,000 personnel with direct oil sands project experience.

## Challenge

At the mineable oil sands facility in Canada, WorleyParsons had to not only keep track of all the commodities on site, but also deal with significant challenges and delays that threatened to derail the project. Delays included getting extensive government permits and stakeholders' approvals, as well as various regulatory changes and updates to design criteria and requirements.

"We had to face our share of challenges in dealing with a project like this," said Gordon Staub, Mineable Oil Sands Operations Manager, WorleyParsons. "One such challenge was the limited regional and local engineering and construction resources and we wanted a consistent partner to work with in order to make the commissioning and start up a success."

## Solution

Worley Parsons moved forward with the project and worked with Honeywell as a dedicated partner providing the control systems solutions.

"Honeywell's expertise helped lower the substantial risks that occur with this level of project and prevent startup delays with their proven control system technology," said Staub.

The oil sands projects statistics that had to be implemented and tracked included:

- 1300 piping and instrumentation drawings
- 17,000 hard wired I/O to DCS and safety system
- 80 mechanical vendor packages with PLCs
- 1,000 motors with DeviceNet interfaces
- 3,000 Foundation Fieldbus devices
- 300 marshalling panels
- 150 control cabinets

Honeywell installed Experion® Process Knowledge System (PKS), with C200 and C300 controllers and Safety Manager, for improved productivity and increased safety. The combined solutions helped WorleyParsons maximize reliability and operability by integrating process safety data, applications, system diagnostics and critical control strategies.

"With this type of project we were dealing with a customer and various demands on our team and communication issues that had to be solved – including reworking the testing plan and location," continued Staub. "However, Honeywell's delivery of the control system met the aggressive timelines and the local Honeywell resources demonstrated their expertise in designing and testing a robust network for 150 control cabinets."

Custom developed logic templates met the owner's unique requirements and specialists were relocated to Calgary to help finalize configuration and assist with factory acceptance testing.

"A smooth commissioning and successful startup was eventually achieved over this multi-year project thanks to Honeywell's help and shared goals of thoroughness in staging testing, onsite testing and the confidence that all the configuration approved at the staging facility functioned as required on site," concluded Staub.

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#### **Honeywell Process Solutions**

Honeywell  
1250 West Sam Houston Parkway South  
Houston, TX 77042

Honeywell House, Arlington Business Park,  
Bracknell, Berkshire, England RG12 1EB UK

Shanghai City Centre, 100 Junyi Road  
Shanghai, China 20051

[www.honeywellprocess.com](http://www.honeywellprocess.com)

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