



Sealing solutions for maximum efficiency

REPORT FROM OIL SANDS PROJECT IN ALBERTA, CANADA

Norwegian Statoil invests in the production of heavy crude oil from Canadian oil sands. To make this project profitable, the operator must deal with safety issues and extreme labor costs.

When specifying Roxtec cable seals, Statoil chose the right solution at the right place and time. The seals were quickly installed around multiple cables to protect crucial equipment.

“With Roxtec, we got better sealing and most likely lower labor costs,” says Kolja de Regt, Senior Electrical Engineer of KDR Consulting Ltd and owner’s representative for the project.



Roxtec seals in the floor of the control center.



Allen Gibson, Roxtec, and Tristan Gullickson, Integral Energy Services.

Designers' choice for best value

The Athabasca oil sands in northeastern Alberta make the total oil reserves of Canada the second largest in the world after Saudi Arabia's. Global oil companies are rushing to separate oil from sand – trying to handle the expensive field labor in the booming area.

The Statoil Leismer project uses the extraction technology SAGD, steam assisted gravity drainage, to obtain the crude oil. In short, you drill two parallel horizontal wells into the deep reservoir. You inject steam in the upper well to heat the sand and reduce the oil's viscosity. The oil drains into the lower collecting well and you pump it out.

Quick and safe

A billion dollar project in a cost-intensive remote area allows no risk-taking. It requires everything from pre-fabricated buildings to reliable fire rated and water-proof cable seals. Roxtec seals are used to secure power cables going up through the floor into the motor control centers (MCC) in the main Statoil plant as well as in the four production well pads.

"Instead of drilling 50-70 individual holes in each MCC on site, we were able to seal all cables in a

few openings" says Kolja de Regt. "Saving time in the field is what counts."

Ready for any cable

Kolja de Regt has been using Roxtec penetration seals in his electrical engineering specifications for years. He recognizes the advantage of Multidiameter™, the Roxtec solution for adaptability to cables of different sizes:

"As engineers, we do not have any information about the cable sizes used in the field."

He introduced the Roxtec sealing system to Philip Jajarmi, Senior Electrical Engineer of WorleyParsons, who liked what he saw and forwarded it to the installers in the project:

"The seals for the junction boxes were very well received by the contractors on site."

Snow, water and dirt must be kept out of the MCC.



Save time and money

General foreman Tristan Gullickson of Integral Energy Services discovered Roxtec seals for the first time. He says the training provided by Roxtec for his electrical installers was beneficial and that installation work got quicker and quicker after practice.

He is satisfied with the kit supplied solutions for sealing of the MCC control cabinets as well as with the compact Roxtec CF 32 seals that are used in hundreds of junction boxes all over the plant.

“It is easy to work with Roxtec. It would have taken a lot of time to drill all those holes and then seal all the cables one by one with glands. Now we saved both time and space.”

All cables in order

The cable density in the MCC cabinets is overwhelming. But thanks to the area efficient seals from Roxtec, all cables are neatly managed – and there is still some room left! A reliable sealing solution for the control system cabinets is essential, since the control equipment is sensitive to humidity, dust, electro-magnetic interference, and explosions.

Easy expansion

Production will go on and expand for at least 20 years. The built-in spare capacity of the Roxtec

seals is therefore useful, allowing designers and contractors to open up seals and add cables and new equipment whenever there is need for upgrades. The seals can be used around existing cables in energized MCC's and allow for pre-terminated cables.

“ It is easy to work with Roxtec



Kolja de Regt, Senior Electrical Engineer of KDR Consulting Ltd.

BENEFITS

- Certified protection
- Quick installation
- Adaptable kits
- Easy to upgrade
- Built-in spare capacity



Facts

Project type	Construction of onshore oil sands production unit for extraction of heavy crude oil	Roxtec oil and gas references Agip ENI, BP, Chevron, Conoco-Phillips, CNOOC, ExxonMobil, Fluor, Foster Wheeler, Technomare, Shell, Statoil, Daewoo Heavy Industries, Samsung Heavy Industries, Hyundai Heavy Industries, Keppel Fels, Kvaerner, Raffels Shipyard, SINOPEC, CNPC.
Involved companies	Statoil – owner KDR Consulting Ltd – design and engineering, owner representative for the Statoil Leismer project WorleyParsons – engineering, procurement and construction support IMV Construction Management – construction manager Integral Energy Services – electrical installations	
Applications	Cable entries in motor control centers (MCC), control cabinets and junction boxes	
Requirements	Gas-tight Dust tight Fire-proof Watertight Explosion-proof	
Roxtec products	Roxtec G frames Roxtec compression wedges Roxtec CF 32 frames Roxtec adaptable sealing modules	
Reasons for choosing Roxtec	High demands for fire protection Very quick and easy to install Area efficient cable management Practical built-in spare capacity Flexible for changes and upgrades Multidiameter™ by Roxtec – adapts to cables of different sizes through sealing modules with removable layers	