

Banff National Park, Canada



VITAL LINK

CAT® DEALER SUPPLIES LONG-TERM RENTAL POWER TO NATIONAL PARK

As one of Canada's leading electricity transmission companies, AltaLink is responsible for the maintenance and operation of approximately 13,000 kilometres of transmission lines and 300 substations in the province of Alberta—which make up more than half of Alberta's high-voltage transmission infrastructure and serves more than three million Albertans.

Beginning in 2016, AltaLink began the process to rebuild an aging power transmission line in Banff National Park—Canada's first national park and the flagship of the nation's park system. Banff is part of the Canadian Rocky Mountains, and a popular tourist destination.

Lake Louise and everything west of the town of Banff is fed by only one transmission line. The 69 kilovolt (kV) line serves all of the residents and business west of Banff, including recreation properties along the Bow Valley Parkway, the village of Lake Louise, as well as both the Sunshine Village and Lake Louise ski areas.

The line (551L) was built in the 1960s and many of the structures had reached the end of their useful life—which impacts power reliability—so it was necessary to replace it, said Brent Sandhu, senior project manager with AltaLink, which is headquartered in Calgary.

CUSTOMER PROFILE

AltaLink

Location: Calgary, Alberta, Canada

Application: Temporary 12 MW power station

Cat® Equipment: XQ2000 rental generator sets (6)



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“Danger trees along the right-of-way contacting the line in storm events are the biggest cause of outages in the area,” he said, noting there have been numerous power outages caused by interference on the line in the past 12 to 14 years.

During the summer of 2019, the project entered an important stage involving the replacement of the structures and conductor in the mountainous terrain that did not allow for the construction of a temporary line to keep the lights on for the loads west of Banff while the crews rebuilt the line. This created a unique opportunity for Finning’s power systems rental division.

“It’s really quite important with this being a fairly remote site to maintain a constant supply of fuel.”

BRIAN SAVILAAKSO
Regional Sales Manager
4Refuel



Finning delivers turnkey power plant

While the power line was being rebuilt, the area required an alternate source of power from July 1 until September 30 to provide power to hundreds of customers, including residents, hotels and restaurants in the

Lake Louise area. AltaLink called on Cat® dealer, Finning Canada to supply 10 megawatts (MW) of power at a temporary plant set up just north of the Trans-Canada highway outside of Lake Louise. The installation included six Cat XQ2000 diesel rental power generator



sets, which ran 24/7 and were connected to an AltaLink substation.

The turnkey solution provided by Finning included the engineering and design, as well as operating and maintaining the plant for the duration of the project. To ensure reliability, the generator sets were monitored via remote at Finning's Edmonton headquarters by a team of condition monitoring analysts using Cat Connect Remote Asset Monitoring technology. In order to minimize the sound emanating from the site, shipping containers were positioned around the perimeter.

"AltaLink wanted us to supply power and not have to worry about it so they could concentrate on rebuilding the



power line," said Mike Kuzminski, an industry manager in Finning's rental power division. "It was our responsibility to do the front-end engineering to ensure that we could manage all of the electrical loads. There were a lot of varied loads with the ski hills—large gondola motors starting and stopping within the system that we took into account with our design.

"We needed to provide a power plant that would run 100 percent of the time for a three-month period," Kuzminski added. "So, with the power generation equipment that we provided through Caterpillar, our on-site refuelling system provided by Finning industrial service company 4Refuel, and with operators on-site 24/7, we were really able to bring a complete turnkey solution together to provide AltaLink exactly what they wanted."

Given its size and complexity, the planning phase of the project began two years ago, said Nathan Biederstat, field service supervisor for Finning Canada. The entire rollout and commissioning of the temporary power plant took a month to complete.

"We had multiple contractors at site helping with the rollout of electrical equipment and the installation and placement of our gensets, transformers, and all of our spill containments," Biederstat said. "So it was a combined effort of quite a few groups and a lot of minds that came together."

Maintaining a constant source of diesel fuel was critical for 24/7 operation of the power plant, which consumed 25,000 litres daily. This was handled by Finning's



subsidiary, 4Refuel. Acquired by Finning at the start of 2019, 4Refuel is the largest on-site mobile refuelling company in North America, operating in eight provinces across Canada and in Texas.

"It would be a disaster if the town, the hotels and all the other tourist areas in Lake Louise ran out of power," said Brian Savilaakso, a regional sales director for 4Refuel. "It's extremely important with this being a fairly remote site they could rely on our ability to provide a constant supply of fuel."

Satellite monitors placed on the diesel fuel tanks alert 4Refuel via e-mail or text how much fuel is in a tank at any given time.

"Finning is provided with instant insights on fuel usage so they know exactly how much fuel they use in a day, a week, or a month," Savilaakso says. "And with our Certified Refuelling Professionals providing the service, they can be confident in our ability to maintain appropriate fuel levels for the generators.

"With our monitors on the tank, they don't have to call us out for delivery. We just show up when the tank requires fuel. We brought in 50,000 litres every other day to the site to keep the tanks full."

The Lake Louise project for AltaLink served as a showcase for the Finning Power Systems Rental Group to deliver a complete solution.

"We determine your particular needs," Kuzminski says. "And we can come in and provide a turnkey solution. Our team is built around providing solutions for our customers in a multitude of geographical areas and applications." 

