Orion moves to increase power network resiliency

Like many other Christchurch businesses, local power lines company Orion has been severely affected by the continuing earthquakes and aftershocks, however the impacts could have been a lot worse.

The company’s infrastructure and assets have stood up to the earthquakes as well they have because of Orion's commitment to forward planning and risk protection work.

During the mid 1990s Orion was part of an “engineering lifelines” study into how natural disasters would affect Christchurch. The study prompted the company to spend $6 million on seismic protection work and a further $35 million building resilience into the electricity network.

“Without this earthquake strengthening work, it is likely our projected $70m earthquake repair bill would have more than doubled. In terms of hours without power, the impact would have been much worse with weeks and months of continuous power cuts across most of Christchurch. Even so, power cuts have been very disruptive and we are grateful for our customers' patience,” says Orion Chief Executive Officer, Rob Jamieson.

Thanks to Orion’s previous assessment of natural disaster risk, in 2007 the company set up a ‘back up’ power network control room and ‘hot site’ in an above-ground bunker on Armagh Street behind Orion's central city administration buildings.

“This back up meant that when the 22 February 2011 earthquake damaged our Manchester Street administration buildings, we could immediately relocate to the bunker and hot site,” continues Mr Jamieson. “The back up control centre formed the ‘hub’ of our earthquake response, where we coordinated employee and contractor teams and remote control systems to restore power supply.”

To provide further back up after the February earthquake, Orion commissioned a portable computer facility custom-built in Germany to house the sensitive computer systems crucial to operate and control the city’s electricity network. This leading-edge data centre, built to stringent earthquake standards, provides the company with another option to keep the power network running.

“Preparation and planning have been key to our successes over the past 18 months, and we’ve seen how important it is to have options when faced with big events like the continuing earthquakes. One way we need to manage our risk is to diversify the geographical locations from which we can work and operate the network. Until now, our primary and back up control centres have been located at our Manchester/Armagh site within the central city.

“We’ve identified that we need to have around 10 kilometres of distance between our two network control sites, to diversify and manage risk of damage to our sites appropriately.”
To obtain this distance, Orion has secured land at 565 Wairakei Road, Harewood, where the company plans to build a back up site, including temporary space for office-based staff, and locate the portable data centre. The temporary site will meet the stringent building and loading standards needed for an essential lifelines company.

“As well as providing geographical diversity for our operations, this new site will allow us to relocate our staff while our central city site is redeveloped. Our preference is to move back into the CBD, and in the interim we believe the Harewood site is our best option for providing continued, uninterrupted service to our community,” concludes Mr Jamieson.

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