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ElectroLink

Going underground safely with Hiko Power Engineering

Page 12

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After 86 years supplying the electricity industry with electrical equipment, components and tools, Hiko Power Engineering has become a specialist product development partner for network owners and their contractors.

Working with engineers in electricity distribution businesses and teams in the field, Hiko Power's product development team solves routine and complex problems that arise for network operators on a daily basis, says the company's design and production manager, John Spence.

These solutions are verified during design through testing which includes testing temperature rise under New Zealand conditions.

"This guarantees, for example, that Hiko LV frames can withstand short circuit currents and are capable of running for eight hours as a minimum at maximum load."

Customising LV frames for the unique requirements of network operators has now become a core Hiko Power service.

"We catalogue all the designs of custom and volume products so that future orders are built and factory-tested to the exact same specification and in accordance with over 400 production work instructions."

The team maintains a comprehensive library of all customer specifications and product requirements, technical and testing reports, and is always looking at ways to improve product safety, longevity, ease of installation and maintenance for assets such as underground pillars, underground distribution boxes and LV transformer frames.

Spence says this drive to improve product performance for its network customers is matched by Hiko Power's commitment to the highest standards for its own performance. Hiko Power's integrated management system was recently accredited by Telarc to ISO 9001 Quality management systems, ISO 14001 Environmental management systems and ISO 45001 Occupational health and safety management systems.

Hiko Power Engineering partners with electricity network companies in continuous improvement of power distribution assets

"Distribution network operators and private network owners can be confident in our quality, health and safety, and sustainability commitments as a supply partner."

Broader offer

Hiko Power's general manager, Geoffrey Sullivan, says network owners looking to lower their medium and long-term costs find a willing partner in Hiko with its focus on solving installation and connectivity problems and developing solutions that last longer and perform better.

While the company supplies LV, MV, HV and EHV above and below ground electrical equipment from their Christchurch and Auckland distribution centres, much of the company's development today is in two key areas.

"We are moving to 'bury' network assets and we are also supplying connections for renewable generation."

Sullivan says product innovation and the customisation of network connections is half Hiko Power's business today and the other half is supplying products from world-leading manufacturers of electrical equipment.

"Hiko Power is a full-service designer, manufacturer and component supplier. We supply all the joints, connectors and terminations for above and below ground upgrades and new installations. You can come to us for everything you need to connect conductors and cables, from HV to LV networks and to the consumer.

"Distribution networks are continually surprised to discover how extensive our product portfolio is. What we do not make ourselves we supply through our exclusive international agencies which include NKT, Pfisterer, Mosdorfer, Polaris, Langmatz and EFEN."

He says developers of innovative private networks and renewable generation are also welcoming the innovation, expertise and extensive product offering supplied by Hiko Power.

"The values we apply to our own manufactured solutions are the same values we apply to selecting the high-performing and precision-built products from the agencies we represent. Everything we bring to network owners is designed to give the best value solution over the life of the products and the assets they add value to.

All the designs of products customised for each network are catalogued to ensure future orders are built and factory-tested to the exact same specification

Real value

Sullivan says all the equipment Hiko supplies represents only a small cost of an upgrade project, and this allows network companies to invest in better equipment and components that will ensure the highest level of safety and longevity of upgrades.

"It allows you to invest in, for example, LV frames that are custom designed for the layout and functionality you want. This not only improves efficiency and reduces risk by not having to add to or alter a standard frame, it also allows you to raise the level of worker safety at the time of installation and for crews carrying out maintenance activity over the life of the asset."

The removable U-Pillar fuse gear stand can be lifted above ground for easy inspection and maintenance

"Our mission is to ensure all the connections, joints, components and equipment supplied by Hiko Power mitigate the risk of outages and help eliminate SAIDI and SAIFI penalties.

"Investing in better performing, environmentally sustainable and longer lasting equipment might only add a small amount to the cost of a project, but it will seriously reduce operating expenditure and unplanned outages over the life of a line or circuit.

Sullivan says the same goes for solar farms where simple wiring accessories like cable ties get bought on price rather than performance.

"Instances have arisen where low-cost cable ties that have not been designed for robust outdoor use have had to be replaced after two years due to UV degradation. Hiko Power works with asset owners to specify a reliable cable management system, specifically for solar installations.

He says true life cycle savings come from selecting the best products that will ensure longer lasting solutions and lower operational expenditure over their rated life.

"As a manufacturing and supply partner, Hiko Power is fully focussed on the complete performance, safety and reliability every network owner needs to minimise unscheduled downtime and to de-risk their operations by optimising electrical safety through better design."

Going underground safely

Hiko Power's range of underground assets such as U-Pillar in-ground service connection boxes for branching and looping networks and UDP in-ground distribution boxes are designed to remove the need for above ground street furniture, improve public and asset safety and minimise vandalism.

The cost of traffic management required to repair or replace repeatedly damaged above-ground assets argues strongly in favour of going underground today, says Sullivan.

"The safety of the in-ground U-Pillar is such that even in flood conditions with waves breaking over it, the permanent air pocket created by the U-Pillar bell cover remains tranquil and unaffected, keeping the fuse gear safe."

Greener networks are now achievable with the new Lucy Electric Aegis EcoTec non-SF6 RMU

He says the U-Pillar range ticks all the boxes for electrical safety and compliance.

These advanced Hiko Power solutions have been developed collaboratively with network engineers, installation and maintenance contractors, and are customisable for each network.

New products and services

Hiko Power continues to add new solutions to enhance its end-to end offering. Last year, Hiko became the New Zealand agent for Lucy Electric, says Sullivan.

"We can now provide Lucy ring main units and connect the MV side of the transformer to the network with NKT terminations or Pfisterer elbow bushings. This compliments our customisable frame on the LV side for a complete transformer wrap-around solution.

"We can also now supply a new environmentally sustainable unit, the new Aegis EcoTec non-SF6 RMU which uses synthetic air as the insulating medium. This reduces the global warming potential (GWP) to zero."

NKT cable joints, terminations and connectors for 1 kV to 550 kV applications are also under the spotlight. NKT is establishing an additional product training centre in Melbourne that Kiwi cable jointers are welcome to attend for advanced training. ■

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