

Western Power Distribution to install GridON's FCLi for mitigating excessive fault current from distributed generators



Western Power Distribution has selected GridON's Fault Current Limiting Interrupter (FCLi) to enable cost-effective connection of independent generation and renewable energy sources, by mitigating excessive fault currents from such new generation sources.

The ever increasing penetration of Distributed Generation (DG) has led to rising network fault levels, challenging the fault capacity of existing equipment, and poses challenges to both network operators and Independent Power Producers (IPPs). In order to enable a scalable and long term path for such connections, the fault current contribution from new generators needs to be reduced to near zero. While some generation sources contribute little fault current (e.g. inverter based generation), synchronous ones (such as CHP) contribute significant fault current. Consequently, connection requests by IPPs are often rejected by grid operators due to lack of fault current headroom in their networks. In some cases, connections are made possible through conventional resource-intensive and often disruptive network reinforcement, with substantial cost and delays to the IPPs. This leaves available generation capacity underutilized, thus inhibiting improvements in network capacity and flexibility and energy source diversification.

Western Power Distribution is targeting GridON's newly developed solid-state Fault Current Limiting Interrupter (FCLi) as a cost effective solution for connecting hundreds of new distributed generators into their network. As part of the recently announced contract, the FCLi will be trialed in a 5MW generator connection into WPD's 11kV network. RINA Consulting will be responsible for the site design and data monitoring. A successful trial will facilitate the adoption of the FCLi as a Business-As-Usual solution by Western Power Distribution and other UK network operators.

By controlling excessive fault currents, the FCLi enables fast and cost-effective connection of IPPs, and sale of excess generation capacity to the grid. Return on investment in an FCLi is expected within one year.

GridON's novel electronic FCLi is a series-connected solid-state based device which instantaneously interrupts the AC current upon detection of short circuit conditions. The FCLi limits and interrupts excessive fault infeed from the generator to the grid - before the first current peak. It also limits short circuit currents from the grid down to the generator. Once the short-circuit condition is cleared, the FCLi immediately returns to normal conduction.

Stavros Saouros, Innovation and Low Carbon Networks Engineer at Western Power Distribution (WPD), said: "GridON's first generation 30MVA pre-saturated core FCL is operating successfully at WPD's Birmingham network since early 2015, and was classified business-as-usual product for WPD's network planning. Following our good experience, WPD is looking forward to trialling GridON's second generation power electronics FCLi for mitigating excessive fault current from generator connection, aiming to use this cost-effective solution in hundreds of IPP connection requests in the future."

"We would like to thank WPD for selecting our solution and we look forward to successful delivery and trialing of our FCLi in WPD's network" said Yoram Valent, GridON's CEO and co-founder. "This is a strong testimony by WPD to the quality of our technology and their trust in GridON's ability to deliver once again a commercial, robust Fault Current Limiting Interrupter."

About GridON Ltd

GridON is a leading provider of Fault Current Limiting solutions for increased capacity in electricity networks and for cost-effective connection of distributed generation and renewable energy sources. Short circuit currents in electricity grids are rising with new generation sources added to meshed networks, often exceeding existing switchgear ratings. GridON provides fault mitigation solutions for network operators, independent power producers, and industrial customers.

GridON is offering scalable solutions from medium to very high transmission voltage ratings.

GridON's commercial saturated-core Fault Current Limiters (FCL) have been operating flawlessly in live networks for more than 5 years, proving the reliability and maturity of the product, and are being offered in partnership with Wilson Transformer Company - Australia's leading manufacturer of high-quality transformers.

GridON's solid-state Fault Current Limiting Interrupters (FCLi) are offered for low-to-medium voltage networks. Designed with compact footprint and low price tag, the FCLi is a cost-effective solution for connecting distributed generation sources and for increasing power capacity in industrial plants.

GridON's FCL and FCLi improve grid resilience and reliability and significantly lower capital expenditures and operating costs, while eliminating network upgrades and early retirement of fit-for use equipment.

For further information, please visit www.GridON.com or email sales@GridON.com or call +972.3.711.1183

About Western Power Distribution

Western Power Distribution (WPD) is the electricity Distribution Network Operator (DNO) for the Midlands, South West and South Wales. WPD employs 6,500 staff and it delivers electricity to over 7.8 million customers in the UK over a 55,500 square kilometres service area. WPD's network consists of 221,000 kilometres of overhead lines and underground cables, and 185,000 substations.

WPD recognises that the change from a DNO to a Distribution System Operator (DSO) is essential to driving performance and efficiency from the network and to ensure it can meet the future energy demands of electricity customers. In leading this transition WPD has already published a DSO forward plan which highlights, amongst others, the need for improving the resilience, efficiency and security of the electricity system with fault level management being an integral part of this transition.

For further information, please visit www.westernpower.co.uk or email wpdinnovation@westernpower.co.uk or call General Enquiries on +44(0)800 096 3080