

GridON's Fault Current Limiter successfully suppresses multiple network faults during first year in service



GridON's breakthrough fault current limiter (FCL), which suppresses the damaging currents resulting from electricity network faults, has successfully completed its first year of operational service on UK Power Networks' primary substation at Newhaven, East Sussex, proving both reliable operation and extremely effective performance in limiting several network fault events.

By suppressing the damaging currents which result from electricity network faults, the FCL overcomes operational constraints on the network without the need for network upgrades, which can potentially cost millions of dollars.

- During its first year of operation, the FCL experienced several network fault events, during which it reduced the fault currents by up to 46%, performing exactly as specified and designed
- It instantly suppressed the current to the required level during the entire fault duration (more than 750 milliseconds in all cases) and, very importantly, recovered to normal operation immediately upon fault isolation and clearance
- It also demonstrated perfect reliability throughout the entire year, under both normal and fault conditions

Further to the testing carried out at a certified, third party laboratory in 2013, during which the device was subjected to more than 50 fault tests, these network faults in service at Newhaven not only demonstrated that the FCL performed excellently but also proved that the network itself and all its protection systems behaved as expected, further reinforcing confidence in the product and its deployment in the network.

GridON's first installed FCL was developed and manufactured, together with Wilson Transformer Company, under a project commissioned by the Energy Technologies Institute (ETI).

Since the UK Power Networks installation, GridON has sold a fault current limiter to Western Power Distribution for a primary substation in Birmingham, UK, and is receiving sustained interest in potential unit sales from both distribution and transmission network operators around the world.

“GridON is extremely pleased with the performance of its fault current limiter during multiple fault events at UK Power Networks,” said Yoram Valent, Co-Founder and Chief Executive of GridON. “Following the excellent experience with our FCL in live operation for over a year, we are confident with its maturity for widespread implementation.”

“We are really pleased that GridON’s FCL has performed exactly as we expected it to,” said Martin Wilcox, Head of Future Networks at UK Power Networks. “Following the pre-trial testing we were confident that the FCL would handle network faults as predicted and are pleased to be able to confirm this is the case. We look forward to continuing to assess its performance on our network.”

Nick Eraut, ETI Project Manager - Energy Storage & Distribution, said: “These very positive results from the first year of operation provide real evidence of the advantages of GridON’s FCLs and justify genuine confidence for them to be deployed now as part of business-as-usual activities. The successful development of innovations such as this FCL will help to minimise the costs of future network upgrading and help to ensure that the UK has an affordable and adaptable energy infrastructure.”

Andrew Ellis, Head of Electrical Power Engineering at E.ON Technologies, which is providing technical consultancy services to the project, said: “The excellent performance of GridON’s fault current limiter in reducing fault currents during the recent fault events in a real network demonstrated that this new technology is fully ready for wider implementation in distribution networks”.

About GridON Ltd

With the ever-increasing demand for electricity, distribution and transmission operators are seeking cost-effective and reliable means to connect additional generation and distributed renewable energy sources. Fault currents, caused by short circuits in electrical grids, are creeping up with the increase in electricity demand on meshed networks, and often exceed network protection capabilities.

GridON provides operators and grid planners with a very robust and efficient fault current limiter (FCL), which enables network meshing and connection of additional power generation sources. GridON is offering FCLs across the full range of distribution and transmission voltages which significantly cut capital expenditures, while extending the useful life of existing network assets.

GridON's FCL is based on combining industry-standard, proven transformer technology with its unique and proprietary concept of electro-magnetic flux alteration on a saturated iron core. The self-triggered system responds instantaneously to faults, suppresses fault current for its entire duration, and recovers immediately following fault clearance – being always ready for consecutive faults events.

GridON was awarded the Global Cleantech 100 and the UK Energy Innovation in 2013, and received the prestigious ACES Smart Grid and GE ecomagination Powering the Grid awards in 2012.

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

About The Energy Technologies Institute

- The Energy Technologies Institute (ETI) is a public-private partnership between global energy and engineering companies – BP, Caterpillar, EDF, E.ON, Rolls-Royce and Shell – and the UK Government.
- Public sector representation is through the Department for Business, Innovation and Skills, with funding channeled through the Technology Strategy Board and the Engineering and Physical Sciences Research Council. The Department of Energy and Climate Change are observers on the Board.
- The ETI brings together engineering projects that accelerate the development of affordable, secure and sustainable technologies that help the UK address its long term emissions reductions targets as well as delivering nearer term benefits.

For further information, please call Andy Cameron-Smith, Deputy Director, Stakeholder Relations & Head of Communications, at the ETI on 01509 202020.

About UK Power Networks

UK Power Networks distributes more than a quarter of the UK's electricity through its networks of substations, underground cables and overhead lines making sure the lights stay on across London, the South East and the East of England.

The company's 5,200 employees are dedicated to delivering a safe, secure electricity supply to 8.1 million homes and businesses regardless of who they pay their energy bills to.

The industry regulator Ofgem sets an allowed revenue to distribution companies so that they can maintain safe and reliable electricity supplies.

UK Power Networks invests more than £500 million in its electricity networks every year and is also undertaking trials to ensure that electricity networks support the transition to a low carbon future. It also maintains and upgrades power equipment, and moves and connects new electricity cables.

If customers are unfortunate enough to be affected by a power cut or have another issue with the electricity supply to their property, they should contact UK Power Networks.

www.ukpowernetworks.co.uk

About E.ON

E.ON is one of the UK's leading power and gas companies - generating electricity, retailing power and gas, developing gas storage and undertaking gas and oil exploration and production. It is part of the E.ON group, one of the world's largest investor-owned power and gas companies. E.ON employs around 12,000 people in the UK and more than 79,000 worldwide.

In the UK, E.ON supplies power and gas to around five million domestic, small and medium-sized enterprise and industrial customers - meaning the company has to buy approximately 122.7 billion kWh of power and gas each year to meet their needs. E.ON also offers innovative energy services and technologies tailored to meet its customers' needs, and is helping customers become energy fit by encouraging them to insulate their homes, moderate their energy usage and even generate their own power.

About Wilson Transformer Company

Australia's leading manufacturer of power and distribution transformers, Wilson Transformer Company provides transformer engineering and service solutions to power utility and industrial customers. Products also include quad-boosters and fault current limiters. From design, manufacture and test, to installation, maintenance and refurbishment, Wilson Transformer Company has been providing high-quality transformers and service since 1933.

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