Applied Superconductor Ltd (ASL)

Background

Applied Superconductor Ltd is a specialist developer and producer of high efficiency devices for utility and industry electrical networks employing superconductor technologies.

Superconducting Fault Current Limiters protect high-voltage electricity networks from the damaging effects of faults by blocking current surges which arise when short-circuits occur.

The Superconducting Fault Current Limiter (SFCL) uses superconductivity to block any current overloads or short circuits thus reducing network fault levels to vulnerable parts of the network and avoiding the need to update substation/ network equipment.

Process

Narec attracted Applied Superconductor Ltd to the region and supported them throughout the funding and development of the SFCL process.

One of the first SFCL units was assembled at Narec's site in Blyth, and to ensure the equipment performed correctly Narec carried out a series of thermal tests.

The SFCL high voltage circuit was subjected to 100A for a period of 24 hours. The circuit was fed from a 400V, 3-phase supply connected to a load bank.

Results

The thermal tests verified that the SFCL unit could perform satisfactorily at rated current and therefore could progress the unit to be installed with three Distribution Network Operators; Electricity North West, Scottish Power and CE Electric UK.

Testimonial

Adrian Wilson, Projects Director, said: "The Narec laboratory has been extremely useful during the development and testing of the Superconducting Fault Current Limiter. The testing was handled efficiently and promptly within the specified timescales."

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