

# SCADA Solution for an electricity distribution network in the UK



## The Challenge

There aren't many ways in which to compete in an industry as regulated as electricity distribution, so every opportunity to improve productivity, reduce operating and maintenance costs and increase the reliability of your network should be taken. This is exactly what EDF Energy Networks has done in its ongoing programme of network improvement. It has turned to GE to implement technology enhancements through state-of-the-art SCADA (supervisory control and data acquisition) network management software (ENMAC) from GE Power and an overlay satellite telecommunications network from GE - Satcom.

In a long term project EDF Energy Networks and GE - Satcom have been working together to validate the use of satellite technology for the SCADA application that is used to collect data and control their electricity distribution network. Initially, the network was operated from GE - Satcom's state-of-the-art teleport and network operating centre located in Backnang, Germany. The early rollout was a success and GE - Satcom was called upon to design and build a 7.6m antenna and hub facility at an EDF Energy Networks site in England. Construction was completed on time and the new hub and infrastructure came online at the end of 2007. GE - Satcom continues to maintain a fully redundant back-up system at their teleport in Germany whilst remotely managing the primary hub in the UK.

## The GE - Satcom SCADA Solution

Implementing this network via satellite was essential as it enabled immediate coverage across the South East whilst giving EDF Energy Networks the option to extend the SCADA network to other new regions. The technology deployed utilises a TDMA (Time Division Multiple Access) access scheme which shares the available bandwidth across hundreds of sites, thereby giving a cost-effective solution. This choice of technology is also highly scalable, allowing for growth in both number of sites and bandwidth, should the size of the network or the nature of the application change.

The choice to manage the hub at an EDF Energy Networks site was key to their control requirements and to providing a highly reliable and available network when integrated with the EDF Energy Networks terrestrial back up system over GPRS. Whilst everything can be monitored centrally and close at hand EDF Energy Networks can ensure that their infrastructure remains the most highly available and competitive in the market.

Mark Fiske Operational Telecoms Manager EDF Energy said, "We are committed to the improvement of our infrastructure and the control of our networks is as important as the switching and distribution itself. We chose satellite as a natural medium of transport for reliable control and monitoring of our network and we have not been disappointed from our experience of both the technical solution and in working with GE - Satcom."

Christian Stetter, VP Sales GE - Satcom, said: "The opportunity to work cooperatively with EDF Energy Networks has been both exciting and rewarding for GE Satcom who has taken a fundamental requirement through all stages of implementation to provide a fully functional and highly reliable system that will ensure EDF Energy Networks can continue to maintain and deliver a reliable and flexible electricity supply and distribution network."

EDF Energy is one of the UK's largest energy companies. EDF Energy provides power to a quarter of the UK's population via their electricity distribution networks in London, the South East and the East of England. They supply gas and electricity to over 5 million customers and generate about 5GW of energy from their coal and gas power stations, as well as combined heat and power plants and wind farms. The company is also a key player in national infrastructure projects including management of private electricity networks serving four London airports and the Channel Tunnel Rail Link, the country's first major new railway in 100 years. EDF Energy employ nearly 13,000 people at locations across the UK and are a core part of EDF Group, one of Europe's largest power companies.



GE - Satcom has two teleports, one at its HQ and operational centre in Backnang, Germany, the other in Leuk, Switzerland. It has a full time commercial presence in the Benelux, France, Poland, Switzerland and the UK.

GE - Satcom experts are available to answer your requests and to take your project from idea to operational reality.

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