

Electricity North West Questions & Answers

April 2016

Who's who in the electricity industry?

There are many different types of companies and organisations involved in supplying you with electricity:

- **The National Grid** is responsible for operating the most powerful power lines in the UK and transmitting electricity from power stations around the country closer to homes and businesses. The National Grid is a little like the UK's motorway network.
- **Distribution network operators (DNOs)** maintain many of the UK's electricity power lines, cables and equipment up to 132,000 volts. There are 14 licensed DNOs in Britain and each is responsible for a regional distribution area. The 14 DNOs are owned by six different operators. Electricity North West is the DNO for North West England. The DNOs connect the National Grid's network to individual properties and private networks, a little like the UK's 'A' and 'B' roads and local roads.
- **Suppliers** are the final step in the process and send out bills for your electricity consumption. These companies include EON, British Gas, EDF and Npower. A proportion of your bill is passed to DNOs to cover their distribution costs.



What does Electricity North West do?

- Electricity North West manages and maintains the electricity distribution network in North West England.
- The network consists of overhead lines, underground cables, substations, transformers and other equipment.
- We are responsible for connecting homes and businesses to the electricity network, repairing the network when things go wrong and investing to replace worn out or old equipment.
- Electricity North West's network is 99.99% reliable. A property in the North West will typically experience a power cut once every three years and, on average, is without power for about an hour. These figures are averages – some properties will experience problems more often and others will never have problems with their power supply.
- Electricity North West was formerly part of United Utilities and before that we were known as Norweb.



Investing in the North West

Electricity North West owns and operates the network in the North West of England. Any money we invest goes right back into the North West region.

We are responsible for planning for the future and making sure the network can cope with any changes in how electricity is used.

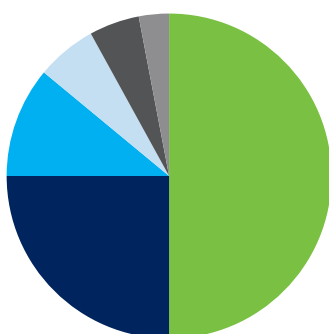
Why have I never heard of Electricity North West?

In many ways, Electricity North West is a 'behind the scenes' company. We don't send you a bill for our services. Instead, your supplier passes on part of what you pay them to us.

2.4 million

We connect 2.4 million households (5 million people) to the National Grid.

How a typical electricity bill is made up



■ Cost of buying electricity	50%
■ Delivering electricity to your home (Electricity North West charge)	25%
■ Government environmental and social schemes	11%
■ Billing, customer service and IT systems	6%
■ VAT	5%
■ Supply business profit	3%

Why do we need the Respond project?

There are a number of issues and challenges facing Electricity North West.

Part of our role as a DNO is to plan for the future. In 2007 the UK government set challenging targets to protect the environment by making significant reductions in carbon emissions and reducing our reliance on fossil fuels like gas and oil. This means that demand for electricity in Great Britain is set to rise significantly.

It's our job to look at smarter ways of meeting the expected increase in electricity demand as we start to reduce our reliance on fossil fuels.

To help meet the unprecedented challenges of a low carbon future, the electricity industry regulator Ofgem has set up the £500 million Low Carbon Networks (LCN) Fund to provide vital backing for a series of innovative projects aimed at developing smarter and more efficient ways of managing electricity networks.

We have been awarded funding from the LCN Fund to launch the Respond project, which will deliver an intelligent approach to managing fault current – the instantaneous surge of energy which occurs under fault conditions.

An increase in demand for electricity will increase the potential fault current on the network, known as fault level. If fault level exceeds the current safety rating of network equipment, we need to replace it, which can be disruptive, lengthy and expensive.

Respond will explore new technical and commercial solutions to resolve the fault current problem without the need to invest in new expensive infrastructure. It will ensure customers continue to get the power they need and give them the flexibility to connect renewable energy sources.



Why are we asking you to be involved?

Respond will deliver a 'Fault Level Assessment Tool' which calculates potential fault current. When the fault level approaches or rises above the fault level rating of network equipment, the Fault Level Assessment Tool will enable one of three innovative techniques designed to manage fault current.

One of the techniques is a commercial solution which provides a unique opportunity for large demand and generation customers to earn rewards by selling a **Fault Current Limiting (FCL)** service to Electricity North West through a managed service agreement.

When a fault occurs, all sources of generation connected to the electricity network contribute to fault current. Using new technology, which will be trialled as part of the Respond project, your motor or generation source can be remotely turned off by Electricity North West for just a few minutes, so that it no longer contributes to the fault current.

This solution will enable some industrial and commercial demand or generation customers to earn financial rewards. It will also benefit all electricity customers in the long term, by reducing network reinforcement costs. Keeping these costs down will ensure that electricity bills for all GB customers remain affordable.

We are now seeking up to five large industrial business customers, with operations in the North West, to trial the FCL service.

Provisional negotiations with suitable customers in Electricity North West's operating area will start in May 2016. Organisations that are able and willing to trial the FCL service will then enter into a managed agreement with Electricity North West for a term of 12 months, between then and the end of the project, in October 2018.



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