

---

May 22, 2013

## New smart technology enables more distributed generation

UK Power Networks is trialling a new telecommunications platform as part the Second Tier Low Carbon Network Fund (LCNF) innovation project **Flexible Plug and Play (FPP)**.

The platform has been designed and installed in collaboration with project partners Vodafone (previously Cable & Wireless Worldwide) and Silver Spring Networks.

The aim of the project is to enable cheaper and faster integration of distributed generation connections, such as wind and solar farms, on to the electricity distribution network by trialling innovative commercial arrangements and technical solutions, like the new telecommunications platform.

The new internet-like, high-speed telecommunications platform is an Internet Protocol-based platform that combines a Wide Area Network with a Wireless Radio Frequency Mesh Network. The new platform will run alongside UK Power Networks' existing telecommunications platforms and will be trialled specifically within the project's trial area, which is about 700sqkm between Peterborough, March and Wisbech in Cambridgeshire.

The platform was selected for the trial as it has attractive characteristics. It can be deployed in short timescales as the radio frequency mesh's connectivity and geographical coverage can easily be extended by adding additional radio frequency nodes at desired locations throughout the network. In addition, due to its multiple node connections, the platform can easily 'self-heal' should a node loose connection. This is similar to the internet itself.

On March 1, Flexible Plug and Play issued new 'interruptible' commercial contracts to six distribution developers wanting to connect their generation projects in the FPP trial area. These flexible connections will be delivered by an Active Network Management system which will control and maximise the generation export output whilst ensuring that the network remains within its operational limits. The new telecommunications platform will facilitate the data traffic for the Active Network Management and the other technical solutions that will deliver the benefits of Flexible Plug and Play – a faster and cheaper connection of distributed generation.

A key component to the Internet Protocol-based telecommunications platform is its ability to support the open standard data protocol, IEC 61850. By using this protocol, and UK Power Networks setting the universal requirement for any smart device or application involved in the Flexible Plug and Play trial needs to be compliant to IEC 61850. This will test the interoperability of



smart devices and smart applications from multiple vendors on to the distribution network on a common platform.

The telecommunications platform was built and installed over the winter period and went live in spring.

Martin Wilcox, head of future networks at UK Power Networks, said: “We are proud to be leading a project with our partners that is the first to install a telecommunications platform like this in the UK. This platform will trial a radio frequency mesh solution at primary and grid substation level.”

Knowledge gained from the project will be shared with distribution network operators in Britain which are faced with the challenge of high concentrations of distributed generation. This will demonstrate how the deployment of a smart grid solution can result in the more economic connection of distributed generation.

For more information on the project, please visit [www.flexibleplugandplay.co.uk](http://www.flexibleplugandplay.co.uk)

## **Ends**

**For more information, contact James Barber in the UK Power Networks media team on 0845 302 7290.**

### **Notes to Editors:**

UK Power Networks distributes power to a third of Britain’s population through its electricity networks serving London, the South East and the East of England. The company was named Utility of the Year 2012 and also won the Team of the Year award in the prestigious Utility Industry Achievement Awards.

The company’s 5,000 employees are dedicated to delivering a safe, secure electricity supply to about eight million homes and businesses via its networks of substations, overhead lines and underground cables.

UK Power Networks distributed the electricity at many venues for last year’s international sporting events.

This year we are investing £360million in our electricity networks and around £1.8billion in the five years to 2015. We are also undertaking trials to ensure our electricity networks support the transition to a low carbon future.

Customers pay their bills to supply companies but UK Power Networks delivers the power across our three areas. The industry regulator Ofgem sets an allowed revenue to distribution companies so that they can maintain safe and reliable electricity supplies. 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](http://www.ukpowernetworks.co.uk)