Low Carbon Network Fund Project Progress Report

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Lincolnshire Low Carbon Hub

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1. Executive summary

1.1. Project Background

The Low Carbon Hub for East Lincolnshire has been designed to test a variety of new and innovative techniques for integrating significant amounts of low carbon generation on to electricity networks, in an effort to avoid the costs that would normally be associated with more conventional methods. The project has received £3m of funding from Ofgem's Low Carbon Network Fund.

In this project, Western Power Distribution is seeking to explore how the existing electricity network can developed ahead of need and thus deliver low carbon electricity to customers at a significantly reduced cost in comparison to conventional reinforcement.

Lincolnshire, being on the east coast, regularly experiences windy conditions, making it particularly attractive for businesses seeking to build onshore and offshore wind farms. Western Power Distribution receives a high volume of enquiries from developers which makes the location ideal for this project.

1.2. Project Progress Highlights

During the second reporting period (June 2011 – December 2011) the Low Carbon Hub project has progressed with all key milestones remaining on target. The following is a summary of the key activities completed during the reporting period.

1.2.1. Overhead Line Wayleave Activity

One of the key elements of the Low Carbon Hub is the rebuilding of existing overhead lines, with an additional new circuit to be built to create and active ring. The rebuild activity was planned as part of the routine asset replacement programme and is being upgraded further to support this development with the application of larger conductors and optical fibre communications. Wayleave Officers have been in negotiations with land owners and the majority of permissions for the overhead line rebuilds have been agreed in principle. However, there has been local opposition to the creation of a 4.5km section of new build 33kV overhead line. We are continuing to work with landowners to resolve these issues and ensure the delivery of the most cost effective solution for the project.

1.2.2. Project Design

A number of detailed substation layouts have been designed that are required to create an active ring network. This includes the installation of new circuit breakers, along with current and voltage transformers to support the deployment of unit protection schemes. The final designs will be signed off following the acquisition of wayleave agreements leading to the final proposed network layout. All substation designs have been scoped and outline costs identified. Alternative network layouts have also been modelled with further work required to ascertain associated costs.

1.2.3. Procurement of the FACTS (Stat-Com)

A notification has been posted on the ENA Low Carbon Networks Fund Portal, to invite interested parties to tender for provision of the FACTS device. A prequalification questionnaire is to be issued shortly to narrow down potential suppliers.

1.2.4. Knowledge Dissemination

Early learning from the project was shared at the ENA LCNF conference in Gateshead in July. We have also presented the project at a number of other events including September's ACI Smart Grid: Vision, Strategy Implementation conference in London.

Further work has been done on our external website, to ensure that elements relating to our future networks programme can be easily found. For further details please see www.westernpowerinnovation.co.uk.