

Welcome to our quarterly newsletter...

FlexDGrid is a £17 million project, which will revolutionise the power network in Birmingham using ground-breaking solutions to accommodate additional low carbon generation across the city.

Since our last newsletter, we have held a number of dissemination events, and fulfilled a further three 'successful delivery reward criteria' (SDRCs) linked to the Low Carbon Networks Fund project direction requirements. Within this newsletter you will find links to the presentations and reports we have produced.

Our biggest news relates to our tender awards (see below) and this enables us to move now into the next exciting phase of the project. We wish you all seasons greetings and hope you enjoy the newsletter!

Tender Awards

We are pleased to announce that we have now selected the manufacturers for the fault level monitors (Method Beta) and the fault level mitigation technologies to be installed in the selected Substations in Birmingham (Method Gamma).

The final outcome of the fault level mitigation technology tender resulted in the successful appointment of three manufacturers offering three different solutions:

- Power Electronic Active Fault De-Coupler by Alstom (to be installed in two substations);
- Pre-Saturated Core Inductive Fault Current Limiter by GridON (to be installed in one substation); and
- Resistive Superconducting Fault Current Limiter by Nexans (to be installed in two substations).

Discussions are currently on-going with these manufacturers to finalise the detailed design and contracts and in the New Year we are entering the construction phase of the project.

See our SDRC-6 report for more information about the progress, including learning to date of Methods Alpha and Beta and the proposed methodology for Method Gamma.



Recent Events...

LCNF Conference

13-14 November 2013 @ Hilton Brighton Metropole

This annual event was co-hosted by the ENA and UKPN. WPD presented at various workshops and discussions sharing learning from FlexDGrid and other Future Networks Projects.

DNO Workshop on the Implementation of Enhanced Fault Level Assessment Processes

23 October 2013 @ IET Birmingham

This workshop enabled DNOs to meet and share knowledge along with fault level modelling best practice. The findings from the initial modelling phase of FlexDGrid were disseminated.

Fault Level Mitigation Technologies DNO Workshop

4 September 2013 @ IET Birmingham

This workshop gave DNOs the opportunity to discuss and feedback on the proposal for Method Gamma and meet with other DNOs to share learning about Fault Level Mitigation Technologies.

Enhanced Fault Level Assessment (EFLA) processes - Update

In our last newsletter we reported that we had developed a new EFLA process (Method Alpha) that was ready to trial. Since then work has continued to refine and test this process with endorsement from WPD planning and design engineers.

Two additional DNO workshops have taken place to discuss the development and implementation of EFLA processes, giving other DNOs the opportunity to provide feedback on the processes.

Our progress and learning to date are reported in our [SDRC-4 report](#), submitted to Ofgem in November.

Highlights from this report include:

- ◆ Our analysis shows that Method Alpha could result in up to a 30-month reduction in customers' connection times, Method Beta could result in up to a 24-month reduction in customers' connection times and Method Gamma could result in up to a 12-month reduction in customers' connection times when compared to typical fault level related network reinforcement timescales (24 - 36 months).
- ◆ Open source fault level mitigation technology models have been developed in Microsoft Excel and the functional specification of the models has been published as part of SDRC-4. Based on the technologies selected for the trials, FlexDGrid will now collaborate with manufacturers to develop technology-specific models.
- ◆ The enhancements resulting from Method Alpha could lead to a 10% - 15% reduction in fault contribution from generation and hence release 10% - 15% additional capacity.



Image: Proposed site for Fault Level monitoring

- ◆ Over the past six months we have been modelling and studying the real-time changes in network fault levels in the FlexDGrid trial area.
- ◆ By taking into account variations in network fault levels (from Summer 2012 to Summer 2013), we have found that capacities of 4.6 MW to 19.7 MW could be released for customers' connections at the various FlexDGrid substation sites.
- ◆ Connecting up to 19.7 MW of generation per site could power approximately 10,000 homes in Birmingham, saving 23.6 ktCO₂/year.

For more information on any of these stories please visit our webpage:

<http://www.westernpowerinnovation.co.uk/Projects/FlexDGrid.aspx>