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UK Smart Grids move closer to reality with successful trial of Dynamic Voltage Control by Hitachi and Western Power Distribution
Second phase of UK Smart Grid initiative gets go-ahead for 2013

London, UK, February 13th, 2013 - Hitachi Europe Ltd., a wholly owned subsidiary of Hitachi, Ltd. (TSE:6501) today announced its Smart Cities Energy Group, in partnership with Western Power Distribution (WPD), is to expand trials of its smart grid technology in South West England and South Wales. The series of field tests will enable the simpler and cheaper integration of renewable sources of electricity into local distribution networks and is being led by WPD under the UK energy regulator's Low Carbon Networks Fund (LCNF).

The three year project integrates for the first time in Europe Hitachi's advanced power electronics and control systems, which reduce voltage fluctuations on distribution lines where renewable energy sources such as wind turbines or Solar PV are connected.

During the first phase of the project one D-STATCOM (Static Synchronous Compensator for Distribution Networks) successfully reduced voltage fluctuation on long rural feeders connected to a wind farm on an 11kV distribution network. This summer, three more D-STATCOMs will be added to the trial. The new sites will combine small to medium scale wind farms and domestic properties with solar PV systems to test Hitachi's smart grid solution in more complex scenarios.

The new tests will focus primarily on the interdependence of the D-STATCOM devices and their control capabilities using Hitachi's Voltage and Reactive Power Control System (D-VQC). The D-VQC enables optimised control of multiple devices in the same network to ensure they work in harmony. Whilst not included in this project, Hitachi also manufactures batteries able to store excess

energy from high levels of renewables generation during times of low power consumption.

The D-STATCOM uses advanced IGBT (insulated gate bipolar transistor) technology to provide continuous reactive power to the network, allowing it to compensate for the voltage rise and flicker caused by the intermittency inherent in renewable energy generation.

Kiyoshi Yamamoto, Managing Director of Hitachi Europe Ltd. said: “Hitachi is delighted at the continuing success of the smart grid trials with Western Power Distribution, made possible thanks to the support of Ofgem. This project combines Hitachi’s smart grid capabilities of advanced ICT and control systems technologies with Western Power Distribution’s network experience. The result is a solution that will allow renewables to be connected to district electricity networks in a cost-effective way, bringing benefits for network operators and the environment. This collaboration is testament to the commitment we share with our partners to innovate solutions which both enhance society, and are environmentally beneficial.”

Roger Hey, Future Networks Manager at Western Power Distribution, added: “Seeking innovative solutions to improve the efficiency of the electricity network and supporting a greener future is key to all Distribution Network Operators (DNOs) such as us. The expansion of the project to incorporate more complex scenarios is made possible by the hard work of WPD and Hitachi, and we look forward to implementing this solution into our networks further.”

Andres Larriera, Head of Smart Cities Energy group, Hitachi Europe Ltd. added: “This is a project where we can leverage Hitachi global learning in smart grids to help WPD achieve their low carbon network goals by enabling the integration of more renewables in their distribution lines. This collaboration will accelerate the development of Hitachi customised solutions that can be integrated into a DNO’s existing infrastructure and we are pleased to be teaming up with WPD to deliver business value to their smart grid initiative.”

Hitachi’s D-STATCOM was initially developed in Japan as part of research to integrate solar PV power into distribution networks. Used alongside the D-VQC system, Distribution Network Operators (DNOs) will potentially have a more cost-effective and flexible alternative to network reinforcement. Local electricity grids have to be reinforced in some situations to accept the power from new

renewable sources of electricity. This can be an additional cost and barrier to the introduction of renewable sources of electricity.

Hitachi expects the demand for dynamic voltage control systems in Europe to grow as more renewables are connected to distribution networks. The move towards more renewables is underpinned by Feed-in Tariffs and the increasing commercial viability of smart grid technologies for DNOs and their customers.

About Hitachi Europe Ltd.

Hitachi Europe Ltd., headquartered in Maidenhead, UK, a subsidiary of Hitachi, Ltd., and its subsidiary companies offer a broad range of information & telecommunication systems; power and industrial system; rail system; digital media and consumer products; industrial components and equipment; air conditioning and refrigeration systems; manufacturing systems; and procurement and sourcing with operations throughout 12 countries across Europe, the Middle East and Africa. And Hitachi Europe also has three Research and Development laboratories and a design centre. For more information, visit <http://www.hitachi.eu>. For more information on other Hitachi Group companies in Europe, please visit <http://www.hitachi.eu/>

About Western Power Distribution

Western Power Distribution is the electricity distribution network operator for the Midlands, South Wales and the South West. The company delivers electricity to more than 7.7 million customers over a 55,300 sq kms service area. The network consists of 216,000 kms of overhead lines and underground cables, and 184,000 substations. For more information about Western Power Distribution's LCNF projects, please visit www.westernpowerinnovation.co.uk

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