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Yokogawa provides remote Operation/Monitoring system solution for Japanâ??s largest Wind Farm

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Achieving system-wide optimization of offshore wind turbines and onshore facilities

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Yokogawa Electric Corporation announces that its subsidiary Yokogawa Solution Service Corporation has completed the design, supply, and commissioning of a remote operation and monitoring system based on the OpreXâ?¢ Collaborative Information Server for the offshore wind turbines and onshore facilities at the Ishikari Bay New Port Offshore Wind Farm. The company has also contracted to provide maintenance services at this wind farm, which is operated by JERA Co., Inc. and the Green Power Investment Corporation and owned through Green Power Ishikari GK, a special-purpose corporation.

The Ishikari Bay New Port Offshore Wind Farm is the first wind farm in Japan to use large-scale 8,000kW wind turbines, and as of the start of commercial operations on January 1, 2024, it is the largest commercial wind farm in Japan. The remote operation and monitoring system supplied by Yokogawa includes a video system for the monitoring of all the offshore and onshore wind power generating facilities at this wind farm. On an ongoing basis, the company will also provide maintenance services for these systems.

At the core of this remote operation and monitoring system is Yokogawaâ??s Collaborative Information Server, a solution that offers centralized management of data from the offshore wind turbines, the transformer substationâ??s large-scale storage batteries, and cameras installed on the wind turbines and storage batteries, and in the turbine maintenance yard. This video monitoring system utilizes the Edge Gateway AG 10 (for indoor) solution provided by Yokogawa subsidiary amnimo Inc.

Wind is a renewable energy source, and the amount of electricity produced varies depending on weather conditions. Taking into account information on power demand provided by the transmission system operator, this remote operation and monitoring system provides the data required to control the amount of power that will be stored by the storage battery system.

Yokogawa is firmly focused on developing the system of systems (SoS) concept, whereby systems work together as a whole while maintaining operational and management independence to achieve, in an emergent way, goals that cannot be achieved independently. While there are many types of equipment and system configurations at wind farms, Yokogawa possesses the operational technology (OT) know-how needed to interpret data from sensors and other devices and thereby identify how the equipment and systems should be linked to achieve optimization at the individual and collective levels. By leveraging this know-how to provide solutions that cover everything from operation to overall system maintenance, Yokogawa will contribute to the realization of a decarbonized society.