

News Release

J-Power Systems Wins Contract with NEMO LINK for HVDC Subsea Interconnector Cable System between UK and Belgium

- JPS to supply & install world first use HVDC XLPE insulated cable at DC 400 kV
- Transmission capacity of 1,000 MW is enough to supply 500,000 households
- Approx. 140-km cable route between Kent in the UK and Zeebrugge in Belgium

J-Power Systems Corporation (JPS), a subsidiary of Sumitomo Electric Industries, Ltd., has been awarded a contract for a subsea high-voltage direct current (HVDC) interconnector cable system between UK and Belgium. The contract was awarded by NEMO Link Limited, a joint venture between National Grid Interconnector Holdings Limited, a subsidiary company of the UK's National Grid Plc, and the Belgian Elia group. The cable system consists of a 130-km subsea cable route and an 11.5-km land cable route. The cable will be connected to HVDC converter stations in both Kent and Zeebrugge. The overall project value of NEMO LINK will be approximately €500 million.

JPS's responsibility under the contract will be a full EPC including design, manufacturing and installation of a state-of-the-art HVDC XLPE insulated cable system – the first time it will have been used operationally as an HVDC system at DC 400 kV. XLPE is an abbreviation of cross-linked polyethylene. The needs for HVDC XLPE cable are increasing especially in Europe & North America where growing number of offshore wind farms and HVDC interconnection projects are under development. It has significant technical advantages, compared to conventional cable technology as outlined below.

- Higher allowable operating temperature: It will allow NEMO LINK cable to have extra safety margin during cable operation, especially in cases where an unforeseeable situation creates excess current flows in the cable system or excess cable burial depth occurs due to sand wave mobility on the seabed, etc.
- Environmentally friendly feature: XLPE cable does not require any oil as insulation material whereas conventional cable insulation does.

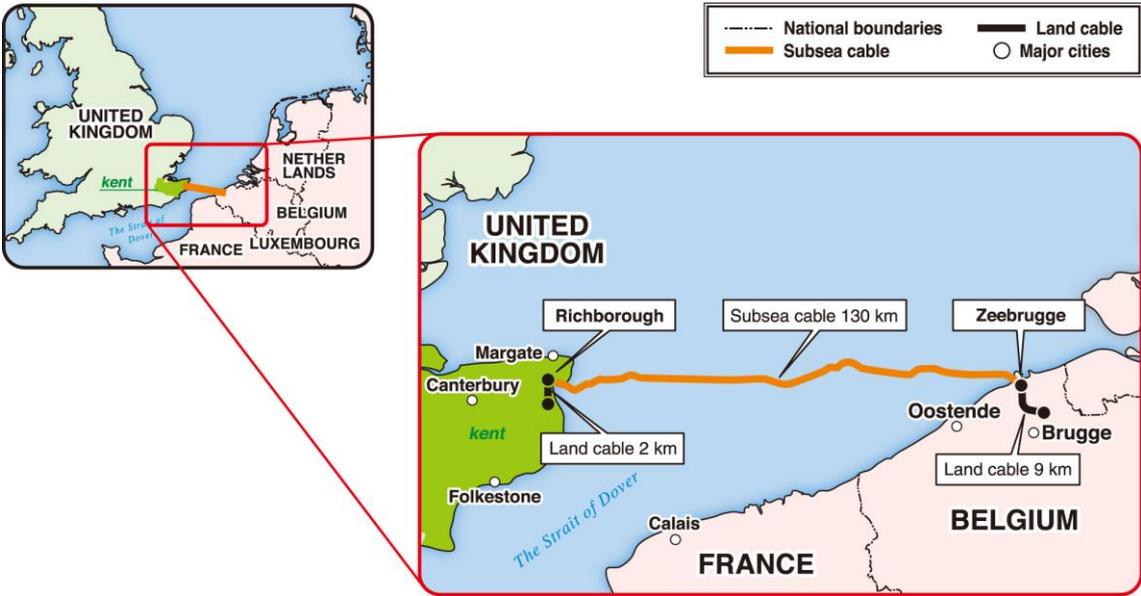
J-Power Systems, as well as its former entities, has developed a unique XLPE material suitable for HVDC application since 1980's and completed long term tests up to DC 500 kV. These tests have also been performed for polarity reversal^{*1} operation that is applicable to LCC converter system at 90°C or higher temperature heating cycles. J-Power Systems has supplied and installed a DC XLPE subsea cable system, utilizing the same XLPE technology, in one of the most important interconnector systems in Japan, and the system is currently under commercial operation. Once the 400-kV DC NEMO Interconnector is energized in early 2019, it will be the system with the highest operational voltage of DC-XLPE cable in the world where it is currently at 320 kV. With this milestone in the cable industry, J-Power Systems once again underlined its technology leadership in this field.

Sadao Fukunaga, president of J-Power Systems Corporation, said "It is a great honor for us to be selected as the cable contractor for the NEMO LINK. This is the first time the state-of-the-art HVDC cable technology of Japan will be adopted in such an important transmission infrastructure in Europe. We would like to strive to complete the construction in-time backed by our long term experiences in similar projects in the world."

▲DC±400kV XLPE cable



▲Construction route of HVDC Subsea Interconnector Cable



About J-Power Systems Corporation
 J-Power Systems Corporation, a subsidiary of Sumitomo Electric Industries, Ltd., is a cable manufacturer based in Japan specialized in high voltage power cables and systems, established in 2001. Sumitomo Electric Industries, Ltd. produces a wide range of products including power cables, automotive parts, and optical fiber/cables and components for electronic devices. Through effective R&D and business diversification, since its establishment in 1897, Sumitomo Electric has become one of the world's leading companies in the wire and cable industry. The company operates in more than 40 countries, employing 240,000 people. Sumitomo Electric reported group net sales of \$25.7*2 billion for the fiscal year ended March 2015. For more information, visit <http://global-sei.com>

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- *1) Polarity reversal: interchange between positive and negative voltages (polarity) applied to a cable depending on the operating conditions of an interconnected DC power line
- *2) Average exchange rate between US\$ and JPY during FY2014 has been applied as conversion rate (JPY109.76/US\$).