



GE Helps KEPCO Electrify Jeju Island

- *GE's Synchronous Condensers Enhance KEPCO's Cheju-Haenam HVDC Link*
- *KEPCO Improves Reliability and Increases Capacity from the Mainland*

PARIS – August 26, 2014 – Today at CIGRE [GE's Digital Energy](#) announced the supply of two +50/-25 MVAR synchronous condensers to KEPCO, the Korea Electric Power Corporation, that will modernize infrastructure and transport more power on the existing grid network of one of South Korea's most prized islands.

A popular tourist destination that has been called the "Hawaii of South Korea," Jeju Island is home to some 600,000 people and receives more than 10 million visitors a year. With an economy heavily reliant on tourism and physically disconnected from the Korean mainland, providing independent and reliable power is a necessity.

With the successful installation of GE's synchronous condensers, KEPCO was able to retire its existing converted gas turbine synchronous condensers on the Cheju Haeman HVDC link and increase its ability to transmit power across Jeju Island.

"This project optimizes Jeju Island's grid infrastructure and enables us to maintain a safe and secure network for our customers," said Bong Soo Moon, Vice President Grid Planning Department, KEPCO. "The island's economy is dependent on electricity and, working closely with GE, we are able to deliver more power to our customers efficiently and more cost effectively."

GE was responsible for the design and supply of the two new +50/-25 MVAR synchronous condensers that were installed as part of the Cheju-Haenam HVDC refurbishment. The new synchronous condensers have modern control and protection systems and will serve an important part in extending the life of Jeju Island's HVDC installation. The new equipment is expected to bring significant operating cost savings to KEPCO and demonstrates confidence in this time-proven dynamic reactive power device.

The function of a synchronous condenser system in a weak AC grid, and especially one that connects via an HVDC converter terminal, is to improve short circuit strength, provide inertia, and improve reliability. GE's modern synchronous condenser design is based on proven motor based technology from its Peterborough, Canada factory. GE has produced machines for over 200 synchronous condenser applications over the past 8 decades. The KEPCO machines will make use of a one-piece forged armature construction. This design is robust and well suited to a synchronous condenser application.

"The power transmission and distribution industry is increasingly faced with a need to optimize and modernize assets," said Bob Turko, General Manager, GE Digital Energy. "Utilities like KEPCO are investing in grid technology that improves upon existing infrastructure, delivering greater and more reliable power to sustain their growing economies and customer bases."

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