Siemens to supply key components for two major HVDC projects in China

Transmission of eco-friendly hydro-based electricity to megacities in the Guangdong region

Siemens Energy is to supply key components for the two high-voltage direct-current transmission projects Nuozhadu-Guangdong and Xiluodu-Guangdong in southern China. Purchaser is China Southern Power Grid Company, Guangzhou. Nuozhadu-Guangdong will have a transmission capacity of 5000 megawatts (MW) at a DC voltage of ± 800 kilovolts (kV) and provide electricity to the megacities in the Guangdong region, Xiluodu-Guangdong an overall capacity of 6400 MW at ± 500 kV. The total order value for Siemens is approximately 250 million euros. Commissioning of the systems is scheduled for 2013.

Large-capacity hydro power plants such as Nuozhadu and Xiluodo in southwest China will generate the eco-friendly CO₂-free electricity for low-loss transmission by the two new HVDC systems to the megacities Guangzhou, Jiangmen, Dongguan and Shenzhen. Alone the Xiluodo hydro power plant will after completion in early 2013 have a total capacity of 12,600 MW and would thus be China’s second largest hydro plant. “With a superlative 800-kV HVDC system, which went on line as the first of its kind in late 2009, we have in China already set new benchmarks in the energy-efficient transmission of large amounts of eco-friendly electrical power over long distances. We’ll also be applying these benchmarks to the two new projects,” said Udo Niehage, CEO of the Power Transmission Division of Siemens Energy.

For the Nuozhadu-Guangdong 800-kV HVDC bipole system Siemens together with its Chinese partners will supply the converter valves with direct light-triggered power thyristors both for the sending station in Puer in the province of Yunnan and for the receiving station in Jiangmen, Guangdong Province. The transmission distance of this project is 1451 kilometers. The order also includes key components for the HVDC system instrumentation and controls, the 800-kV components for the stations’ DC switchgear, and the supply of eight 800-kV converter transformers produced at the company’s manufacturing plant in Nuremberg.
The Xiluodu-Guangdong HVDC project is a double 500-kV bipole system with a transmission capacity of twice 3200 MW. For this project Siemens again together with Chinese partners will supply the converter valves for the sending station in Zhaotong, which is located in the vicinity of the Xiluodu hydro power plant in the Yunnan/Sichuan region, and for the receiving station in Conghua of Guangdong province. The transmission distance of this project is 1286 kilometers. Siemens will also supply important equipment for the system’s DC section.

Siemens already has a proven track record in China as a pioneer in the construction of HVDC systems with a transmission capacity of ± 800 kV. In late December 2009, Siemens and China Southern Power Grid put into operation the first pole of a superlative HVDC system. With a transmission capacity 5000 MW and covering a distance of over 1400 kilometers the Yunnan-Guangdong link was at the time the most powerful HVDC system implemented anywhere in the world with a transmission voltage of ± 800 kV.

Energy-efficient high-voltage direct-current transmission systems (HVDC) are part of Siemens’ Environmental Portfolio. In fiscal 2010, revenue from the Portfolio totaled about EUR28 billion, making Siemens the world’s largest supplier of eco-friendly technologies. In the same period, our products and solutions enabled customers to reduce their carbon dioxide (CO₂) emissions by 270 million tons, an amount equal to the total annual CO₂ emissions of the megacities Hong Kong, London, New York, Tokyo, Delhi and Singapore.

The Siemens Energy Sector is the world’s leading supplier of a complete spectrum of products, services and solutions for the generation, transmission and distribution of power and for the extraction, conversion and transport of oil and gas. In fiscal 2010 (ended September 30), the Energy Sector had revenues of approximately EUR25.5 billion and received new orders totaling more than EUR30.1 billion and posted a profit of more than EUR3.6 billion. On September 30, 2010, the Energy Sector had a work force of more than 88,000. Further information is available at: www.siemens.com/energy.
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Caption:
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