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Siemens to supply instrumentation & controls system and steam turbine-generators for solar thermal power plant in the U.S.

SPPA-T3000 I&C system to be deployed for the first time in a large solar tower power plant

Siemens Energy has received an order for the supply of an SPPA-T3000 instrumentation & controls (I&C) system and two steam turbine-generators for the Ivanpah solar thermal power plant located in the Mojave desert in California. The purchaser is BrightSource Energy Inc., a developer of utility-scale solar thermal power plants headquartered in Oakland, California. Siemens will supply the SPPA-T3000 for all three units of the Ivanpah project with a combined installed capacity of approximately 400 megawatts (MW). This is the first deployment of the innovative I&C system in a solar tower power plant of this size. For Ivanpah Units 2 and 3 the company will also supply two steam turbines and two generators. The start of commercial operation of the Ivanpah Units 2 and 3 is scheduled for 2013. The plant's capacity will be sufficient to supply approximately 140,000 households with clean power and is expected to reduce annual CO_2 emissions by more than 400,000 tons.

"BrightSource Energy opted for our I&C system because it covers both the steam turbine and the balance of plant. We're pleased that we can extend our long-term success and global track record to now serve the solar thermal market with our SPPA-T3000 I&C," said Karlheinz Springer, CEO Instrumentation, Controls & Electrical at Siemens Energy. Siemens will equip the first 126-MW unit and the 133-MW Units 2 and 3 with its SPPA-T3000 I&C system, which already has a very good track record in fossil-fueled power plants. In addition to the supply of the I&C system, Siemens will also implement the linkup to an asset management system. The customer will receive the I&C controls from a single source with smooth transitions between the turbine I&C and the I&C for the ancillary systems. This will reduce the customer's requirements in terms of personnel training and its operating and maintenance costs.

Siemens AG
Corporate Communications and Government Affairs
Wittelsbacherplatz 2, 80333 Munich
Germany

Reference number: E201101.030e fp

Media Relations: Eva-Maria Baumann
Telephone: +49 9131 18-3700
E-mail: eva-maria.baumann@siemens.com
Siemens AG
Energy Sector
Freyeslebenstr. 1, 91058 Erlangen, Germany

In October 2008, Siemens received an order for the supply of a steam turbine and generator for Ivanpah Unit 1. In addition to Unit 1, Siemens will now also supply two steam turbines each rated at 133 MW and two generators for Ivanpah Units 2 and 3. The SST-900 turbine is ideally suited for deployment in solar thermal power plants. This turbine is known for its fast startup and shutdown capability, and the fact that it can very flexibly track the respective operating conditions of solar thermal power plants. Steam reheat enhances the efficiency of the turbine and thus of the entire power plant.

Solar tower technology enables the bundling of sunlight by sun-tracking mirrors, which is directly reflected onto a receiver at the top of a tower where steam is produced to drive a steam turbine that will ultimately generate electricity. “With our wealth of experience in the optimization of steam turbines for solar thermal power plants, we’ve further expanded our position as the leading provider in the marketplace,” said Markus Tacke, CEO of the Industrial Power Business Unit of Siemens Energy. “Our steam turbine portfolio for solar thermal power encompasses the capacity range from 1.5 MW to more than 250 MW. With more than 50 orders received, Siemens is the market leader in steam turbines for solar thermal power plants.”

Components and solutions for solar thermal power plants 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 ecofriendly technologies. In the same period, our products and solutions enabled customers to reduce their carbon dioxide (CO_2) emissions by 270 million tons, an amount equal to the total annual CO_2 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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