**SIEMENS** 

Press

Mumbai, April 6, 2016

Siemens partners with NTPC to boost power

generation in south India

Dispatch of largest-ever 'Made in India' single-phase Generator

**Transformer** 

Siemens Limited started dispatch of the largest-ever 'Made in India' single-phase Genera-

tor Step-Up (GSU) Transformer of rating 315 MVA, 23.5kV / 420kV for installation at

NTPC's Kudgi Super Thermal Power Station in Bijapur, Karnataka. This transformer is an

essential component of the Power Station, which once operational will boost the high-

capacity power generation for the southern states of Karnataka, Andhra Pradesh, Tamil

Nadu and Kerala. NTPC has ordered 10 units of these GSU transformers on Siemens.

Normally the generated voltage is in the range of 11 kV to 24 kV which is not efficient to

transmit the power through the transmission line. Generator transformer is a special pur-

pose transformer used for stepping up generator voltage to high voltage (400 kV - 765

kV) for efficient transmission of generated power to load centers located at long dis-

tances.

Dr. Harald Griem, Executive Vice President and Head of Energy Management, Siemens

Limited, said, "Siemens Limited has manufactured and successfully tested the first single-

phase 315 MVA, 420kV Generator Transformer at its Kalwa factory. The Generator

Transformer also successfully underwent short circuit withstand testing in the first attempt,

at KEMA Laboratories in The Netherlands, which was also a first for the test lab, in terms

of current capacity."

With this milestone, Siemens has once again demonstrated its indigenous manufacturing

and technology capabilities to meet the growing demands of the Indian power sector.

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**About Generator step-up transformers** 

Generator step-up transformers (GSU) are the critical link between the generating power

station and the transmission network, often operated day and night at full load. They are

built to withstand extreme thermal loading without ageing prematurely. Being a most criti-

cal component of power system, reliability of such transformers is highly important. GSUs

are provided with oil-air unit coolers resulting in compact overall dimensions of generating

station.

They are also designed with low flux densities to withstand over voltages due to sudden

load rejection conditions. Special design considerations are required for high current, low

voltage in terms of windings & terminations to avoid hot spots in conducting and structural

parts in its vicinity.

It functions as a two way transformer where it receives the power from the grid and feeds

the plant station loads during plant start-up or on generator trip. In normal case it transfers

the generated power from the generator to grid power supply as mentioned above.

It also isolates the generator with grid power in large power plants to safe guard the gen-

erator during grid transients.

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Siemens Limited focuses on the areas of electrification, automation and digitalization. It is one of the leading

producers of technologies for combined cycle turbines for power generation; power transmission and distribu-

tion solutions; infrastructure solutions for Smart Cities and transportation; automation and software solutions

for industry, and also supplier of healthcare equipments. Siemens Ltd. has 22 factories located across India

and a nation-wide sales and service network. Siemens Limited, in which Siemens AG holds 75% of the capital, is the flagship listed company of Siemens AG in India. As of September 30, 2015, Siemens Limited had

Revenue of INR 106,728 million and 10,168 employees.

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