

### **Siemens to implement Primary Frequency Control Technology for NTPC Dadri steam power plant**

- **First implementation of condensate throttling for frequency control in India at National Capital Power Station at Dadri**

Siemens Limited commissioned India's first condensate throttling-based Primary Frequency Control Solution at National Capital Power Station (NCPS), NTPC Dadri (Stage 2, Unit 6). Condensate throttling, based on Siemens' SPPA-P3000 Frequency Control Solution, is used for immediate generation of additional power for frequency control.

Given the government's commendable progress on electrifying India by programs such as 'Power for all' by 2022, India is witnessing unprecedented increase in renewable energy being fed to the grid. Due to the intermittent nature of renewable energy sources, the coal-fired power plants, which constitute around 59% of India's installed generation capacity, are required to be highly flexible to balance the power grids.

"Flexible operation of the coal-fired power plants is critical for renewable energy integration into the grid. Condensate throttling is one of the most advanced and efficient methods which can be used to rapidly activate stored energy enough for unit load support for a few minutes. This project further demonstrates Siemens' commitment to partner with the Government of India in its vision of delivering 24/7 power for all," said Prashant Jain, Head, Power Generation Services, Siemens Limited.

The principle of condensate throttling is that the turbine control system opens the governor valves to utilize the reserve steam storage capacity of the boiler. When additional power is needed, the condensate flow is reduced, usually by throttling of the condensate control valve. In the current regime of renewable energy integration into the power grid, this technology provides flexibility to the thermal power plant unit.

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Reference number: CC/PR/21/PS 09 2017

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