

## Generator step-up transformers order for French nuclear power plants

Siemens Transformers, the most innovative supplier of power transformers, received an order for three single-phase step-up transformers (GSU) 405/20-kV 570-MVA from EDF, the largest energy producer worldwide. EDF operates 58 nuclear reactors in France alone, and they produce 73 percent of the country's electricity – which means they require transformers of the highest quality.

EDF has started its most ambitious program yet called "Grand Carénage." The objective is to extend the lifetime of all the nuclear plants in France



beyond their "initially scheduled 40 years" – namely, aiming for up to 50 to 60 years. Tremendous investments will be required to replace the main equipment, including the steam generator, primary pumps, turbines, electrical generators, condensers, SCADA, and power transformers.

To implement this strategic replacement program, EDF looked for the best manufacturers worldwide. It finally chose Siemens Transformers, and the first order was a 570-MVA GSU for the Cattenom power plant in 2009. With this project, Siemens demonstrated to EDF its reliability and capacity to complete the design, manufacturing, transport, and site works in a very competitive period of time. Since then, orders placed by EDF for Siemens transformers have rapidly increased, which has led to a strategic partnership for the delivery of high-quality transformers.

Twelve old transformers in the Paluel nuclear power plant are gradually being replaced, with an order for the last three units placed in December 2016. The delivery is scheduled for 2018.

These single-phase 405/20-kV 570-MVA transformers have proven to be highly reliable. In fact, the model transformer was successfully tested during a short-circuit test. The site

installation of the units was especially outstanding because the older transformers were replaced under difficult conditions. They were installed in a very limited space and tight time frame (during an outage of the nuclear reactor).

After turning to a Siemens solution for reliable transformers, EDF rapidly decided to trust Siemens with more and more orders. "We're especially proud that EDF relies on our first-rate devices with Siemens' cutting-edge design and innovative engineering, as well as our capacity to complete all the site works," says Guillaume Picard, EDF Key Account Manager Siemens France. The partnership between Siemens Transformers and EDF was recently recognized when Siemens received a Quality award from Nuclear Production Division (DPN) in March 2017.

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