

New Build Field Report



CUSTOMER UPDATE ON NEW BUILD PROJECTS & ACTIVITIES

05 OCTOBER 2011



OL3 Project Status



General view of Olkiluoto 3 construction site, Finland - September 2011

» Primary Circuit: A Major Step Reached in the OL3 Project



Introduction of the last RCP, Olkiluoto 3, Finland

On August 10, a major milestone on the OL3 Reactor Circuit System (RCS) installation was achieved with the introduction of the last Reactor Coolant Pump (RCP) on loop 4.

All 4 loops of the primary circuit are now completed: the Reactor Pressure Vessel (RPV), the main coolant lines and surge line, the steam generators, the pressurizer and the RCPs are all in place.

» Reactor Pressure Vessel Internals Installation

Two major operations of the Reactor Pressure Vessel (RPV) internals installation were achieved in June: the core barrel lifting into the RPV and the heavy reflector introduction.

This heavy lifting had been conducted with high precision, due to very narrow gaps between the three components involved.

The heavy reflector is a new component of the EPR™ reactor that did not exist in former nuclear power plants. It is designed to partially reflect neutrons inside the core to increase fuel efficiency and protect the vessel during its 60-year operational life.



Lower Internal Introduction in the RPV

Core Catcher: Melt Plug Transportation System Ready for Functional Tests

The melt plug transportation system is part of the core melt stabilization system, located within the core catcher.

The transport system consists of a remote-controlled and operated cart as well as a railing and shunting system. Using the electrically operated system mounted on the transport cart,

the melt plug can be mechanically locked and unlocked from its position in the steel frame.

During plant outages, the system can be used to remove the melt plug at the bottom of the pit and allow access to the reactor pit for ultrasonic examination of the RPV from the outside.

1,000 kms Cable Pulled

On August 29, an important milestone was reached with 1,000 kms cable laying that represents more than 70% of cables to be laid on the project. With this milestone, all power cables of electrical systems in the four divisions of Safeguard Buildings have been completed.



Cables pulled at Olkiloto 3, Finland



FA3 Project Status



Flammanville 3 construction site - September 2011 - ©EDF

Hydrostatic Test of the First FA3 Steam Generator Secondary Circuit



First FA3 steam generator during its secondary circuit hydrotest

Less than three weeks after the hydrostatic test conducted on the primary circuit of the first FA3 Steam Generator (SG), the hydrostatic test of the secondary circuit took place successfully on August 23 in Chalon St Marcel plant. The overall test lasted more than 4 hours including pressure increase and decrease.

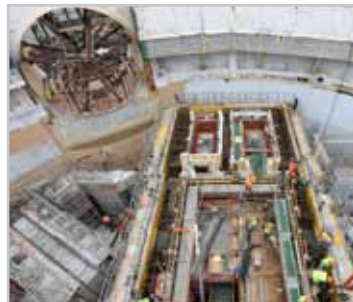
The successful results confirm that the steam generator is fully compliant with the requirements and mark the last major step of the steam generator manufacturing.

» Introduction of SIS Accumulators in the Reactor Building

The four Safety Injection System (SIS) accumulators have been introduced in the reactor building at the end of June 2011, during a complex handling operation that required the use of two different cranes including a heavyweight mobile crane specially brought in for the occasion.

The 44-tons and 10m high accumulators had first to be upended and then lifted inside the reactor building to their final location in the annular space.

The four SIS Accumulators belong to the Safety Injection System. With a design pressure of 55 bar, they are installed in the reactor building and are used during accidental conditions. In the event of a large primary breach, they will prevent fuel uncovering and limit the clad temperature increase. Pressurized to 47 bar, the accumulator can inject an important borated water volume in the primary loop in few seconds.



Taishan Project Status

China



General View of Taishan Units 1 & 2 construction site - September 2011

» Reactor Pressure Vessel Unit 1 Hydrotests completed

On August 2, Reactor Pressure Vessel (RPV) Unit 1 hydrotests have been successfully completed in MHI premises, Kobe - Japan. This is a key milestone reached by the Taishan Project with the target of RPV Unit 1 delivery early October 2011.

» Unit 1 Polar Crane Delivered on Site



Polar crane delivery on site, Taishan (China)

Unit 1 polar crane was successfully delivered on site end of July. This marked a major milestone for the Taishan Project preceding the upcoming dome lifting. The polar crane will also enable installation of heavy components, including the Reactor Pressure Vessel (RPV) that will be delivered on site by end of the year.

» June 2011 Project Status

The site construction is progressing placing reactor building as a priority for finishing internal structures but also focusing on fuel building to ensure RPV introduction before end December 2011.






EPR™ reactor construction site, Taishan Unit 1, China - Summer 2011



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Project Profiles

Name	Olkiluoto 3 (OL3) Finland 	Flamanville 3 (FA3) France 	Taishan 1 & 2 (TSN 1&2) China 
Customer	Teollisuuden Voima Oyj (TVO)	Electricite de France (EDF)	China Guangdong Nuclear Power Holding Corp. Ltd. (CGNPC), represented by the Taishan Nuclear Power Company (TSNPC)
Scope of work	1 EPR™ unit (AREVA - Siemens Consortium)	1 EPR™ Nuclear Steam Supply System (NSSS) (AREVA)	Design & procurement for 2 EPR™ units (AREVA)
Net electric output	1,600 MWe	1,630 MWe	1,660 MWe per unit
First concrete	October 2005	December 2007	End 2009
Nuclear Operations (Starting after reactor fuel loading)	End 2012	Project Lead EDF - "The first KWh produced by the EPR will be sold by EDF in 2016" - EDF Press Release, July 20, 2011	Unit 1 - 2013