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**Installation of the containment prestressing system completed at Akkuyu NPP Unit 1**

*128 steel ropes will ensure the safety and maximum strength of the reactor building*

Installation of the containment prestressing system (CPS) has been completed in the reactor building of the Akkuyu NPP Unit 1 (being built by Rosatom State Corporation in Turkey). This is a part of a sealed structure that creates a reliable protective barrier, which, in its turn, isolates the inner containment of the reactor building from the external environment.

Construction and installation work on the CPS components installation took place from the very beginning of the construction of the reactor building. The installation of support cups and channelizers, acting as void formers, was carried out at the containment construction stage, in which high-strength reinforcing ropes were subsequently mounted and filled with a special cement mortar. Once the structure reached the design strength, the tension of 128 bundles of reinforcing ropes was performed. Of these, 68 are stretched horizontally and 60 are stretched vertically. Hydraulic jacks were used to tighten the steel ropes. The tension force of each beam composed about 1200 tons-forces.

“Construction and installation works on the tension of steel ropes of the containment prestressing system of Power Unit have been completed. The prestressing system increases the safety, stability, and manufacturability of the reactor building and the NPP as a whole. These works are particularly difficult and responsible. They are executed in compliance with all technical requirements. Akkuyu NPP specialists are starting to conduct acceptance tests of all components to determine their strength. In addition, in the near future, the containment prestressing system of Unit 1 will be checked for tightness and density. All Russian modern water-to-water power reactors have a system of internal and external protective hermetic shells,” said Sergei Butckikh, First Deputy CEO of Akkuyu Nuclear JSC, Director of the NPP under construction.

**For reference:**

Akkuyu NPP is the first nuclear power plant being built in the Republic of Türkiye. The Akkuyu NPP project includes four power units equipped with Generation III+ VVER reactors of Russian design. The capacity of each power unit will be 1200 MW. Akkuyu NPP is the first project in the global nuclear industry being implemented according to the Build-Own-Operate model.

The high-tech system provides additional strength to the concrete structures of the reactor building by prestressing bundles of steel ropes. The CPS is an important component of the containment safety system, which is designed for extreme loads and their combinations. The containment can withstand an internal pressure of 5 kg/cm2 and external impact of a shock wave creating a pressure of 30 kPa and a crash of a large aircraft.

Russia continues to maintain a constructive dialog with its foreign colleagues, developing mutually beneficial cooperation with many countries. The implementation of major foreign energy projects also continues. Rosatom and its entities take an active part in this work.