**Rosatom commissions polar crane at Akkuyu NPP power unit No. 1 (Turkey)**

The first 390-ton overhead polar crane has been commissioned at Akkuyu NPP. It will be used at all lifecycle stages of the Unit No. 1 of the first Turkish nuclear power plant.

Polar crane or, as it is also known, overhead polar crane is one of the crucial mechanisms of the reactor compartment. It belongs to the highest safety class of nuclear power plant equipment and is a complex process engineering structure which comprises several elements: a bridge, a service trolley, an operator cabin with a touch-screen display, and special control cabinets with start-up-and-control hardware. During operation of Akkuyu NPP Power Unit No. 1, the polar crane will be used for load-lifting and displacement operations for refuelling and reactor inspection, nuclear fuel delivery to the operating area of the special refuelling machine which is responsible for loading fuel into the reactor, as well as for transportation of various equipment.

The crane structure allows it to carry out transport operations in any point of the reactor building's central hall - the trolley travels along the 41.5-meter long bridge. The polar crane travels on the circular rail track installed in the upper cylindrical part of the reactor building. The total weight of all crane components is about 500 tons. During commissioning preparation, the main lifting mechanism was subjected to static testing with 487.5-ton dummy load.

Sergei Butckikh, First Deputy Chief Executive Offices of AKKUYU NUCLEAR JSC – Director of the NPP under Construction, commented as follows: “A polar crane, which will be used to carry out transportation-and-process operations to assemble the nuclear reactor, have successfully passed start-up-and-adjustment testing and is completely ready. It is this crane that will be engaged in a multi-stage process of nuclear reactor assembly, and then at physical start-up stages. The crane is a complex process engineering structure that comprises several components, namely a bridge, a service trolley, a control cabin equipped with a touch screen, and special control cabinets which are installed in a separate room outside the sealed area of the reactor compartment. I would like to note that safety is our priority. Only the operators who have completed special training and passed qualification, and have experience and skills in operating cranes of a similar type are authorized to operate the crane”.

**For reference:**

Akkuyu NPP is the first-ever nuclear power plant in the Republic of Turkey.The Akkuyu NPP project includes four power units equipped with Generation III+ VVER reactors of Russian design. The capacity of each NPP 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.

According to the terms and conditions of the Inter-Governmental Agreement between the Russian Federation and the Republic of Turkey, the NPP's first power unit is supposed to be commissioned within 7 years after obtaining all construction authorizations. Given that the construction license for Unit No. 1 was obtained in 2018, the deadline is 2025. At the same time, the project stakeholders are making their best efforts to ensure the readiness for starting start-up and adjustment works at the Unit No. 1 in 2023, a jubilee year for the Republic of Türkiye.