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**Rosatom’s Mechanical Engineers Assembled Reactor Vessel for Unit 1 of El Dabaa NPP (Egypt)**

*The finishing welding continued for 10 days*

**The finishing welding to connect the parts of the VVER-1200 vessel for unit 1 of the El Dabaa NPP has been finished at the Izhora Plant in St. Petersburg (the NPP is being constructed by Rosatom’s Engineering division in Egypt).**

The welding to connect the vessel’s parts took 10 days, with the weld area being continuously heated throughout the process. Mechanical engineers used approximately 2 tons of flux and more than 1.5 tons of specialized wire to complete the job.

After the welding, the reactor vessel will undergo a heat treatment to be followed by a thorough weld quality control including X-ray flaw detection, ultrasonic and penetrant inspections. These measures are crucial to ensure safe operation of the NPP for at least six decades.

**For reference:**

**The Mechanical Engineering division of Rosatom** is the largest power engineering holding in Russia in terms of overall production and revenue. It supplies a complete range of nuclear island and turbine hall equipment for all Russian-designed NPPs. The division also manufactures equipment, develops and supplies integrated solutions for energy, oil and gas, and other industries. It includes, for instance, the Petrozavodskmash plant in Karelia, the major mechanical engineering company in the region devoted to the manufacturing of main circulation pumps, reactor coolant piping assemblies, emergency cooling tanks, etc. Another instance is the Atommash plant in Volgodonsk, which manufactures complex equipment virtually for all nuclear constructions in Russia and abroad. [aem-group.ru](https://aem-group.ru/)

Rosatom’s Mechanical Engineering division is engaged in the continuous production of equipment for the reactor hall of the first NPP in Egypt. Currently, there are products for nuclear steam generating systems of all four units of the future NPP at various stages of production at several facilities. The VVER-1200 vessel intended for unit one of the NPP is scheduled to be delivered to the construction site as early as in 2025.

**The reactor vessel** is an essential component of an NPP. Given the equipment's operation under high temperatures and pressure, special attention is paid to each stage of its production, and strict standards are set for the quality of materials and technologies used. To improve the reliability and efficiency of NPP operations, the companies of the Mechanical Engineering division continuously develop new construction materials and welding techniques to increase radiation resistance and reduce the number of welds, a trouble spot in any design. These efforts have extended the service life of Generation 3+ reactors to 60-80 years. In the future, advanced materials may extend the lifetime of a nuclear reactor up to 100 years.

**Rosatom’s Engineering division** includes the leading nuclear companies. These are Atomstroyexport, Joint-Stock Company (Moscow, Nizhny Novgorod, branches in Russia and abroad), as well as the United Design Institute - Atomenergoproekt JSC (Moscow, St. Petersburg, Nizhny Novgorod branches – design institutes, branches in Russia and abroad) and construction subsidiaries. The Engineering division is at the forefront of the global nuclear industry in terms of the backlog of orders and the number of NPPs it is currently constructing in various countries. The international projects of the Engineering division account for approximately 80% of its revenue. The division runs large NPP construction projects in Russia and abroad, offering a comprehensive range of EPC, EP, EPC(M) services, including project management and design. It is developing Multi-D technologies for operating sophisticated engineering facilities. The division draws upon the expertise of the Russian nuclear sector and cutting-edge technological advancements. [www.ase-ec.ru](http://www.ase-ec.ru/)

**The El Dabaa NPP** is the first nuclear power plant in Egypt. It is being constructed on the Mediterranean coast, approximately 300 kilometers northwest of Cairo in the city of El Dabah, the Matruh Governorate. The plant will comprise four units, each with a capacity of 1,200 megawatts. These units will be equipped with Russian-designed pressurized water reactors of VVER-1200 class, which is an evolutionary third-generation technology that fully meets international safety standards. Each reactor vessel is approximately 13 meters in length and 4.5 meters in diameter, weighing 320 tons. The El Dabbah NPP is being constructed under a series of contracts that entered into force on 11 December 2017. In accordance with the contracts, Russia’s scope does not only includes the NPP construction, but also the supplies of nuclear fuel during the entire service life of the plant. It also includes support for Egyptian partners in training the plant personnel during the operation and maintenance for the initial ten years of the NPP's service life. Furthermore, under a separate contract, the Russian party will construct dedicated storage facilities and supply specialized containers for storing spent nuclear fuel.

Russia is steadily developing its international trade and economic relationships, prioritizing cooperation with friendly nations. Despite external restrictions, the domestic economy has been expanding its export capabilities. Russia exports goods and raw materials and provides services worldwide. The country continues to run its foreign energy projects, and Rosatom and its companies are actively involved in these efforts.