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**Rosatom started key installation operation of 2024 at Gen IV research reactor MBIR**

*The construction of the multipurpose fast research reactor, MBIR, will help ensure Russia's leadership in the development of innovative nuclear reactor technology for the next half-century.*

**Rosatom has begun to assemble the mechanical equipment of the primary heat removal circuit and fuel handling systems for the research reactor MBIR at the site of the Research Institute of Nuclear Reactors, State Scientific Centre, Joint-Stock Company (RIAR JSC, belongs to Rosatom’s scientific division). This is an important milestone in the construction of Russia's largest multipurpose fast research reactor of the fourth generation. The project is part of the comprehensive program to advance nuclear science, engineering, and technology in Russia.**

Two intermediate heat exchangers, each weighing 38 tons and measuring 9 meters in height and 2.5 meters in diameter, were installed in accordance with the design specifications. The equipment was secured on support rings with a maximum deviation of 1 millimeter per meter from the horizontal. Additionally, drums for fresh and spent fuel, weighing 16 tons each, were positioned in their designated locations.

“The fresh fuel drum is designed to preheat fuel assemblies in an inert gas atmosphere prior to loading them into a reactor core. The spent fuel drum cools spent fuel assemblies unloaded from the reactor in a non-reactive environment. The drums are part of the combined installation equipment, which means that with their installation at the MBIR nuclear research reactor it is possible to pour concrete onto the area of the central hall flooring of approximately 100 square meters, and start to install the equipment at a height of +11.900 meters,” commented **Sergey Kiverov**, Deputy Director for Facilities under Construction at RIAR JSC.

Additionally, the MBIR core basket was demothballed and turned over at the reactor unit. A holding frame with a basket is currently installed at a height of +13.200 meters in the central hall, and the welding of a core containment device, known as a core catcher, is currently underway.

The work on the company’s construction site is progressing as planned in line with the schedule for this large-scale project.

**For reference:**

**Rosatom State Atomic Energy Corporation** is a global technology holding company with a diverse range of assets in the energy, mechanical engineering, and construction sectors. It comprises over 450 companies and organizations, employing approximately 400,000 people. Browse the company's website at [www.rosatom.ru](http://www.rosatom.ru)

**Rosatom’s scientific division** specializes in the innovation development, contributing to the technological leadership of the Russian nuclear industry. The managing company of the division, Rosatom Science, JSC, oversees 13 scientific facilities engaged in research in nuclear physics, plasma physics, laser physics, hydrogen energy, nuclear medicine, novel materials, adaptive optics, gases, hydrodynamics, thermodynamics, radiochemistry, etc. The website address: [www.niirosatom.ru](http://www.niirosatom.ru)

**RIAR JSC**, (Research Institute of Nuclear Reactors, State Scientific Centre, a joint-stock company of Rosatom’s scientific division) is one of the world’s largest research centers. It provides knowledge-intensive high-tech services for a wide range of experimental reactor and post-reactor studies. The center has a unique experimental base that allows it to solve problems in reactor materials science and closed nuclear fuel cycle. It is a leading radioisotopes production facility and a provider of a diverse selection of radioisotope-based products for medical, industrial, and specialized applications.

The construction of the MBIR reactor at the site of RIAR JSC is a significant long-term project for the development of the experimental base of Russia's nuclear industry. It will ensure Russia's leadership in the development of innovative reactor technologies for the next 50 years. The project is part of the comprehensive program “Development of Equipment, Technologies, and Scientific Research in the Nuclear Energy Use in Russia”.

The new reactor is expected to replace the existing BOR-60 research facility and provide the nuclear industry with state-of-the-art research infrastructure for the next half century. Its innovative features will enhance exploration of the technologies of two-component nuclear energy, as well as of closed nuclear fuel cycle, while also accelerating and justifying the development of safe fourth-generation nuclear power plants.

**The MBIR International Research Center is being established based on the MBIR reactor.** The scientific team will consist of Russian and foreign scientists and researchers. The center's activities will be carried out through the MIBR-bases International Research Center consortium. To join the MBIR project new members enter into the consortium agreement that provides a legal basis for the parties’ relationship defining the participants’ rights and obligations regarding the use of the MBIR reactor after it is commissioned. This allows Russian and foreign partners to conduct experiments essential for their national programs aimed at developing nuclear energy for peaceful purposes without having to own the reactor facility which would involve related responsibilities such as ensuring safe operation, monitoring and accounting for nuclear materials. This approach ensures flexible use of the reactor capabilities that meet the needs of the scientific community. At present, negotiations are ongoing with prospective collaborators from the Commonwealth of Independent States and China.

The Russian industry is committed to achieving technological independence and swiftly adopting cutting-edge technologies. The government and major domestic companies are investing in the advancement of the national research, infrastructure, and scientific and technological base. The introduction of cutting-edge technologies and hi-tech equipment allows Rosatom and its affiliates to expand into new market sectors, boosting the competitiveness of the nuclear industry and the Russian industry as a whole.