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**Rosatom Begins Pilot Commercial Production of New Gen Fuel Cladding**

*Chepetsk Mechanical Plant made fuel cladding with chromium coating for accident-tolerant ATF*

Chepetsk Mechanical Plant, Joint-Stock Company (Chepetsk Mechanical Plant, JSC, a company of Rosatom Fuel Division in Glazov, Udmurtia Republic) arranged a pilot floor for commercial production of fuel claddings with chromium coating. This structural material is a possible solution for creating fuel of a new safety generation (ATF – Advanced Technology Fuel). The technology makes it possible to improve the operational reliability of nuclear fuel, which increases the safety and efficiency of nuclear reactors.

In order to assemble innovative fuel claddings, the plant has adopted a unit that applies chromium to convenient claddings of zirconium alloy. This domestically developed unit is one-of-a-kind in the country. The protective coating is sprayed directly onto a long zirconium tube. They also adopted and mastered a modern analytical and research system assessing adhesion, structure and thickness of the chromium coating, which can also be used for examination of the products both that the company manufactures and develops.

For now, the plant has produced a pilot batch of chromium-plated fuel claddings.

"Three combined fuel assemblies with some ATF fuel rods have been in pilot operation in the VVER-1000 reactor at the Rostov NPP since 2021. Each VVER-1000 fuel assembly contains 312 fuel rods. The system for commercial production of chromium-plated fuel elements at Chepetsk Mechanical Plant, JSC, will manufacture several complete ATF fuel assemblies, and their pilot operation in a large reactor will be the next, final step in qualifying Russian ATF fuel and in making a decision on its commercial production," said Alexander Ugryumov, Senior Vice President for Scientific and Technical Activities at TVEL JSC.

"We are aware of the great importance and responsibility associated with the involvement of Chepetsk Mechanical Plant, JSC, in the project for the development of new technologies for nuclear fuel production which is significant for the modern development of nuclear energy. The launch of new high-tech domestic equipment for applying protective coatings to claddings and manufacturing of products with improved safety will ensure the future competitiveness of Russian nuclear fuel on the world market," said Sergey Chineykin, Director General of Chepetsk Mechanical Plant, JSC.