

Technical Meeting on Advanced Technology Fuels: Progress on their Design, Manufacturing, Experimentation, Irradiation, and Case Studies for their Industrialization, Safety Evaluation, and Future Prospects

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Current status of development and qualification of advanced technology fuel (ATF) in Russia

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Global trends in the development of nuclear power plants are related to the increased electricity generation, improved efficiency, and the environmental attractiveness of nuclear power generation, and are aimed at:

- ensuring the reliability and safety of nuclear power plants, including the development and introduction of new fuel modifications;
- improving the economic efficiency of the fuel cycle at all stages, including the transition to a closed nuclear fuel cycle and minimising radioactive waste for disposal;
- increasing the duration of fuel cycles (up to 24 months).

The fuel company TVEL JSC, part of the Rosatom State Corporation, develops and manufactures nuclear fuel and its components for power and research reactors, Atomflot reactors, and Floating thermal nuclear power plant. Historically, TVEL has produced nuclear fuel for reactors developed in the Soviet Union and Russia. Currently, TVEL also produces and supplies fuel and fuel components for power and research reactors developed in other countries. More than 70 power reactors and 30 research reactors in thirteen countries operate on TVEL fuel. Thus, TVEL is one of the leading global suppliers of nuclear fuel.

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