

Status of Russian development on HTGR

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Abstract

The activity on HTGR in Russia began at the end of the 1960-s. The interest for such type of reactors was arisen due to their ability to obtain high helium temperature at the core outlet. It gives the possibility to use these reactors for high-efficiency electricity generation and process heat in the industry.

A number of 50-1000 MW (t) HTGR designs has been developed. The modular concept, which fully uses all advantages of fuel particles and reactor design specific features providing high safety level, gave an impulse to this technology development. High safety level allows arranging modular reactors in immediate proximity to the consumer.

The modern design of GT-MHR modular helium reactor uses high-efficiency closed gas-turbine cycle. This simple system is free from huge steam-turbine cycle systems and is able to provide low-cost electricity generation.

The activity on GT-MHR Project is stipulated in the "Strategy of Russian Nuclear Power Development in the First Half of the XXI Century".