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Status of Activities on the Project of the Land-Based Small Nuclear Power Plant on the Basis of RITM-200N Reactor Plant

Afrikantov OKBM JSC is a leading designer of marine reactors and has many years of experience in developing and operating marine reactors that successfully operate on in-service nuclear-powered icebreakers. Basing on the Russian nuclear shipbuilding experience a reactor plant with the maximum compact, maneuverable, highly reliable and safe at the level of the modern nuclear energy requirements was successfully developed.

In February of 2020, State Corporation Rosatom decided to construct a first-of-a-kind land-based SNPP with the RITM-200N.

It is designed to generate electricity up to 55 MW. The core refueling interval is at least 6 years. The service life of the permanent equipment is 60 years.

Detailed designs have been developed for the reactor plant, the reactor core and the nuclear fuel handling equipment complex. In April of 2023, a nuclear plant siting license was obtained for the facility: Unit No. 1. It is planned for 2024 to obtain a construction license.

The SNPP will be constructed near Ust-Kuiga village in the Republic of Sakha (Yakutia) under the severe sub-arctic climate conditions. The SNPP site will have a production zone and an additional facility zone.

The small-sized NPP site layout enables a modular approach to simplifying the way of scaling up the electric output in the future.

The RITM-200N design is based on engineering solutions of the RITM-200 reactor plant design that is used for nuclear-powered icebreakers.

The RITM-200N compact size is achieved through placing the primary coolant system main equipment in special slots of the metal-water shield tank, which is a biological shielding element. The SNPP safety is achieved through the inherent safety properties and the balanced use of active and passive safety systems.

SNPP with RITM-200N RP meets all the requirements for power supply to remote settlements and industrial production.

Country OR International Organization

Russian Federation

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