

Belarusian NPP licensing

In accordance with the legislation in the Republic of Belarus the siting, construction, operation and decommissioning of a nuclear facility are to be licensed.

In December 2014 State Enterprise “Belarusian NPP” obtained a license for the construction of power units No. 1 and No. 2 of the Belarusian NPP. In October 2017 Gosatomnadzor received a set of documents, ensuring the safe operation of power unit No. 1, including:

- safety assessment report of NPP unit (preliminary version);
- probabilistic safety analysis (PSA) of the first and second levels of the NPP unit;
- quality assurance programs for the commissioning and operation of the NPP unit;
- instructions for mitigation of accidents at the NPP unit;
- beyond design basis accidents management guideline (including severe accidents);
- action plan to protect workers (personnel) in the event of a radiation accident at the NPP;
- programs for NPP commissioning, pre-commissioning works, physical start-up of an NPP unit, energy start-up of an NPP unit, pilot operation of an NPP unit;
- the scheme of radioactive waste (RW) management and other documents.

Based on the results of consideration of the justifying documents, in December 2019 an expert organization the State Scientific Institution “JIPNR-Sosny” of the National Academy of Sciences of Belarus submitted to Gosatomnadzor an expert opinion.

Afterwards, based on the results of the expert opinion and interaction with the expert organization (with the involvement of the Centre for Nuclear and Radiation Safety of the Russian Federation), as well as assessments of compliance of the Belarusian NPP with the licensing requirements and conditions, carried out by Gosatomnadzor, the license was consistently amended in the part of:

- management of fresh nuclear fuel (April 13, 2020);
- conduction of the first fuel loading into the reactor (August 6, 2020);
- implementation of physical experiments at a minimally controlled level (October, 8 2020);
- performing works at the stage of power start-up with the achievement of a power level of 50% of the nominal and management of operational radioactive waste (October 23, 2020).

Carrying out the first fuel loading to the reactor, performing physical experiments at a minimally controlled level at the stage of physical start-up,

and carrying out works at the stage of power start-up were and are being performed within the framework of permitted works on the construction of power unit No. 1.

In accordance with special licensing requirements and the terms of the existing license on the construction, Gosatomnadzor issued separate permits for the start of phase B-1.1 (August 6, 2020), B-1.2 (August 29, 2020) and B-1.3 (September 11, 2020.) of the stage of physical start-up of power unit No. 1 of the Belarusian NPP. These decisions were based on the conclusions of the above mentioned expert opinion, the results of the commissioning work performed and the targeted/unscheduled inspections carried out by Gosatomnadzor, during which the compliance of the systems, equipment and premises readiness with the criteria stipulated by the stage program of the physical start-up of the power unit was assessed.

The next stage will be the amendment of the license regarding the performance of work at the stage of pilot operation of power unit No. 1, during which capacity of the power unit will be sequentially developed from 50% of the nominal to the nominal.

Before issuing a license for the operation of power unit No. 1, the expert organization will supplement the prepared expert opinion with the results of consideration of the reports on physical and power start-ups, pilot operation, final revisions of the Safety Analysis Report and Probabilistic Safety Analysis of the power unit amended based on the results of its commissioning. Gosatomnadzor will conduct a compliance assessment, during which there will be considered an actual readiness of the Belarusian NPP for operation, afterwards public hearings will be conducted.

The operation of a power unit is permitted after the successful completion of the stages of commissioning and obtaining a license issued by the regulatory authority prior to the beginning of the work of the State Commission mandated to check all the issues related to the completed construction of the power unit and its full readiness to operate.

The decision of the State Commission will be based on the conclusions of all supervisory authorities, including on the licences in the field of nuclear and radiation safety.