

Lithuania

Nuclear regulatory authority

The State Nuclear Power Safety Inspectorate (VATESI) regulates nuclear and radiation safety as well as security at nuclear power and radioactive waste management facilities; transportation safety and security of nuclear and nuclear fuel cycle materials; safety and security of activities involving sources of ionizing radiation in the area of nuclear energy; and non-proliferation issues concerning nuclear weapons.

Nuclear activities

Lithuania has one nuclear power plant, Ignalina Nuclear Power Plant with two RBMK-1500 units which are both closed. Unit-1 was finally shutdown in 2004 and Unit-2 in 2009. Unit-1 reactor is defueled and Unit-2 reactor is in defueling process. Ignalina NPP has plans to defuel Unit-2 reactor in the late spring of 2018, and both units' spent fuel pools until 2022. Decontamination and dismantling activities of no more needed equipment are in progress. The Maišiagalas Radon-type waste storage facility was closed in 1989. This storage was designed for institutional waste disposal with the volume about 200 m³. The post closure surveillance license was issued in 2006. Periodic safety review of this facility was performed in 2016.

In the vicinity of Ignalina NPP there are two dry type spent nuclear fuel storage facilities and a cemented radioactive waste storage facility. The following nuclear facilities are under construction or commissioning stages: facilities for treatment and storage of solid radioactive waste (under commissioning); a very-low-level radioactive waste repository (under construction); and a low and intermediate radioactive waste repository (under construction).

Radioactive waste and spent fuel management

In accordance with the Radioactive Waste Management Strategy approved by the Government in 2008, Ignalina NPP is responsible for the implementation of a new classification system of radioactive waste, and has to install equipment for conditioning of radioactive waste, storage facilities of radioactive waste as well as the repositories of short-lived radioactive waste.

- **Operating two dry type spent nuclear fuel storage facilities: the first facility** contains 98 CONSTOR RBMK-1500 type and 20 CASTOR RBMK containers. This facility is fully loaded; **the second facility** was put in operation on 4 May 2017 and will

contain about 190 CONSTOR RBMK-1500/2 type containers.

- **Operating storage facility for cemented liquid waste.** On 10 March 2006 VATESI issued a license to Ignalina NPP for operation of storage facility for storage of cemented spent ion-exchange resins, filter aid (perlite) and part of evaporator concentrate with solid particle sediments.
- **Solid radioactive waste retrieval facilities (project B2)** these facilities are dedicated for retrieval of the Ignalina NPP operational waste from the old storage facilities (buildings 155, 155/1, 157, 157/1) and characterization of very low-level radioactive waste. For retrieval facilities from 155 and 155/1 buildings the operational license was issued in June 2017 and hot trials of this facility have started. For retrieval facilities from 157 and 157/1 buildings, the hot trials started in October 2017. About 27 000 m³ of waste have to be retrieved from mentioned buildings and most will be sent to new solid radioactive waste management and storage facilities (project B3/4).
- **Solid radioactive waste management and storage facilities (project B3/4)**
- On 27 August 2009, VATESI issued a license for the construction of new solid radioactive waste management and storage facilities. About 128 000 m³ of solid radioactive operational and decommissioning waste will be managed in new solid radioactive waste management facilities. The planned capacity of the storage facility for short-lived radioactive waste is about 2500 m³ and for long-lived radioactive waste is about 2000 m³. These storage facilities could be extended if necessary. The operational license was issued in October 2017 and hot trials of facilities have started.
- **Very low-level radioactive waste storage facility (project B19-1)** - On 18 March 2010 VATESI issued a license to construct a very low level radioactive waste storage facility. This facility started the commercial operation in 2013. The load capacity of this buffer storage is 4000 m³. Radioactive waste will be transferred into very low-level radioactive waste repository approximately every 2 years.
- **Very low-level radioactive waste disposal facility (project B19-2)** - On 23 December 2015 VATESI issued a license to construct and operate a very low level radioactive waste disposal facility. Capacity of very low level radioactive waste disposal will be 60 000 m³. Planned start of operation is in 2018.
- **Low and intermediate level short-lived radioactive waste disposal facility (project B25)** - On 22 November 2017 VATESI issued a license to construct and operate a low and intermediate level short-lived radioactive waste disposal facility. Capacity of low and intermediate level radioactive waste disposal facility will be 100 000 m³. Planned start of operation is in 2021.

Main legal instruments

The key legal documents associated with the use of nuclear energy for peaceful purposes are the Law on Nuclear Energy, Law on Nuclear Safety, Law on Radioactive Waste Management and the Law on Radiation Safety. Based on the mentioned Laws, the Government and responsible institutions of the Republic of Lithuania develop secondary legislation, with VATESI being responsible for establishing nuclear and radiation (at nuclear and radioactive waste management facilities) safety, nuclear materials accounting and control as well as physical security regulations.

For more details see VATESI website: www.vatesi.lt.

Last updated on 30 January 2018

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