

## Finland

### **Nuclear regulatory authority**

Radiation and Nuclear Safety Authority (STUK) is an independent governmental organisation for the regulatory control of radiation and nuclear safety in Finland.

The mission of STUK is to protect people, society, the environment and future generations from the harmful effects of radiation. The goal is to keep the radiation exposure of the Finnish population as low as reasonably achievable and the level of radiation safety as high as possible, while preventing radiation and nuclear accidents.

- STUK regulates nuclear power plants, other nuclear facilities, nuclear materials and final disposal of nuclear waste.
- STUK regulates the use of radiation in health care, industry, research and training. STUK grants licenses for the use of radiation.
- For its part, STUK regulates the transport of radioactive substances.
- STUK maintains 24-hour emergency preparedness for nuclear accidents and other radiation hazard occurrences. If a radiation hazard occurs, STUK acts as the expert authority, co-operating with other authorities, organizations and experts.
- STUK monitors the presence of radiation in the environment round the clock.
- STUK monitors the presence of radon at workplaces and prepares regulations and instructions concerning radon at home.

STUK also regulates the radiation safety of sunbeds, power lines, mobile phones and other devices that utilize radiation. The Ministry of Economic Affairs and Employment (MEAE) is responsible for the supreme command and control of nuclear energy matters in Finland. It conducts preparations and administration of the licensing process regarding a nuclear power plant, storage for spent nuclear fuel, a nuclear waste disposal facility or another significant nuclear facility. Licences are granted by the government.

The Ministry of Social Affairs and Health is responsible for the supreme authority and executive direction on the supervision of practices involving exposure to radiation.

## Nuclear activities

Nuclear power plants in Finland:

Plant unit	Start-up	National grid	Nominal electric power (gross/net, MW)	Type/supplier
Loviisa 1	8 Feb 1977	9 May 1977	526/502	PWR/Atomenergoexport
Loviisa 2	4 Nov 1980	5 Jan 1981	526/502	PWR/Atomenergoexport
Olkiluoto 1	2 Sep 1978	10 Oct 1979	910/880	BWR/Asea Atom
Olkiluoto 2	18 Feb 1980	1 Jul 1982	910/880	BWR/Asea Atom
Olkiluoto 3	Operation licence in process		about 1600 (net)	PWR/Areva NP
Hanhikivi 1	Construction license in process		about 1200 (net)	PWR/RAOS Projekt Oy

Fortum Power and Heat Oy owns the Loviisa NPP units 1 and 2 located in Loviisa. Teollisuuden Voima Oyj (TVO) owns the Olkiluoto NPP units 1 and 2 located on Olkiluoto, Eurajoki, as well as the Olkiluoto unit 3 under construction.

Nuclear power company Fennovoima's construction license application for a NPP to be located in Pyhäjoki is under review and assessment by STUK. Finnish Government is estimated to consider the construction licence decision at the earliest in 2018.

The FiR 1 research reactor (TRIGA Mark II, 250 kW, in operation from March 1962 to 2015) was operated by the Technical Research Centre of Finland (VTT). VTT is now preparing for decommissioning of the reactor and has submitted the license application for the decommissioning activities.

## Radioactive waste and spent fuel management

At both current nuclear power plant sites, Olkiluoto and Loviisa there is an operating disposal facility for low and intermediate level waste from the operation of the reactors.

A joint waste management company, Posiva Oy, was established by Fortum Power and Heat Oy and Teollisuuden Voima Oyj to take care of the disposal of spent fuel from the nuclear power plants they operate. Posiva got a construction license for encapsulation plant and disposal facility from the Finnish government in November 2015 and started the construction works to expand the existing underground research facility into a disposal facility in December 2016

Fennovoima submitted an environmental impact assessment programme for a spent fuel disposal to MEAE in June 2016. Fennovoima and Posiva Solutions Oy, Posiva's subsidiary that focuses on supplying services, have signed a cooperation agreement to ensure that the expertise of Posiva is available for final disposal of Fennovoima's spent nuclear fuel. The cooperation has started in 2016. For the low and intermediate level nuclear waste, Fennovoima is planning to construct a disposal facility at the NPP site with concept similar to those in Olkiluoto and Loviisa.

## Uranium production

Multi-metal company Terrafame Ltd. has submitted its application to the Finnish government for a permit to recover uranium, in accordance with the Finnish Nuclear Energy Act. The company announced its intention to apply for the permit on 25 October 2017.

## Main legal instruments

Administrative Procedure Act (434/2003); Act on the Openness of the Government Activities (621/1999); Nuclear Energy Act (990/1987); Nuclear Energy Decree (161/1988); Government Decree on the safety of disposal of nuclear waste (736/2008); Government Decree on Emergency Response Arrangements at Nuclear Power Plants (735/2008); Government Decree on the Security in the Use of Nuclear Energy (734/2008); Government Decree on the Safety of Nuclear Power Plants (733/2008); Nuclear Liability Act (484/1972); Radiation Act (592/1991); Radiation Decree (1512/1991); Act on the Radiation and Nuclear Safety Authority (1069/1983); and Decree on the Radiation and Nuclear Safety Authority of Finland (618/1997).

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