Introduction to SÚRAO

The State is responsible for the safe disposal of all radioactive waste in the Czech Republic. On the basis of the original Atomic Act (Act No. 18/1997 Coll.), the safe operation of radioactive waste repositories and the disposal of radioactive waste are the responsibility of the Czech Radioactive Waste Repository Authority (SÚRAO). SÚRAO has held the administrative status of a state organisational body since 2001.

SÚRAO's main activities

SÚRAO's most important activities consist of ensuring the safe operation of existing low- and medium-level radioactive waste repositories and the preparation of the future Czech deep geological repository for high-level waste and spent nuclear fuel. In addition, SÚRAO is involved in a number of other activities: the monitoring of the impact of its repositories on the environment and the maintaining of records of accepted radioactive waste (RAW) and its producers. Importantly, SÚRAO also coordinates research and development in the field of RAW management, including close scientific and research cooperation and the exchange of information at the international level.

SÚRAO's activities are funded from the so-called nuclear account to which all radioactive waste producers are legally obliged to contribute. The nuclear account is managed by the Ministry of Finance and the funding for SÚRAO's activities is allocated on the basis of its approved budget and plan of activities.

The nuclear power plant operator financial contribution for 2021 is:

CZK 55 per MWh of electricity produced

The 2021 payment by other producers for the disposal of their radioactive waste per 216-litre container is:

34 530 Kč

As at 31 December 2020 the nuclear account contained CZK 31.72 billion

History of RAW management in the Czech Republic

The Czech Republic enjoys one of the longest periods of experience of the use of radioactive materials (radionuclides) in the world. Uranium ore, pitchblende, was discovered in the Jáchymov area as early as in the 18th century and it was in Jáchymov that the Curies subsequently isolated two new elements – polonium and radium. At the beginning of the 20th century, the use of natural radioisotopes in the industry, research and healthcare sectors was already widespread in the Czech Republic. Thus, the need to address the issue of radioactive waste has been recognised for many years.

In 1991, the Institute for the Research, Production and Use of Radioisotopes assumed responsibility for the management of radioactive waste and its final disposal. In 1992, when the country's repositories were privatised, the Institute's legal successor, NYCOM Ltd. (subsequently ARAO), assumed responsibility for such activities. Based on the provisions of the original Atomic Act (Act No. 18/1997 Coll.), the repositories were transferred back to state ownership and their safe operation and the management of radioactive waste were entrusted to the Radioactive Waste Repository Authority (SÚRAO) which, since 2001, has comprised the legal form of a state organisational body.

Radioactive waste

Radioactive waste consists of substances, materials or objects that contain radionuclides in quantities that exceed permitted levels and for which no further use is intended.

From the safety point of view, radioactive waste must be isolated from humans and the environment (biosphere) for as long as it takes for the radioactive substances to be converted to other, stable substances via spontaneous processes.

Radioactive waste is usually classified as very low- and low-, intermediate- and high-level waste according to its level of activity. The largest waste group consists of radioactive waste produced through the generation of nuclear power and consists of various liquids, protective aids and materials that come into contact with radioactive media during the operation of nuclear power plants and will, in the future, include spent nuclear fuel.

The second group consists of so-called institutional waste produced by the health, industry, agriculture and research sectors and consists of, for example, old measuring instruments and radioactive emitters, contaminated work clothing, cloths, paper and syringes etc.

At present, more than 100 organisations produce radioactive waste in the Czech Republic.

Operational repositories

The Czech Republic has been safely operating radioactive waste repositories for over 50 years.

The Czech Republic has three operational repositories for low- and intermediate-level radioactive waste, all of which are managed by SÚRAO. The country's oldest repository Hostim (near the town of Beroun) was closed in the 1960s. In 1997 all the remaining void areas of the Hostim facility were backfilled with a concrete mix and SÚRAO is now responsible only for its regular safety monitoring.

Richard repository (since 1964)

The Richard repository serves for the disposal of low- and intermediate-level institutional waste produced mainly by the research, health, industry and agriculture sectors. The repository, which boasts a history of over half a century, was constructed in the former Richard II limestone mine complex near the town of Litoměřice. Its disposal capacity amounts to around 8,500 m^3. The cost of the operation of the Richard and Bratrství repositories, which are managed jointly, is around CZK 35 million per year. It is expected that the ongoing reconstruction of the underground spaces, involving the creation of five new disposal chambers, will be completed by the middle of 2021.

Bratrství repository (since 1974)

Institutional waste containing only natural radionuclides is disposed of at the Bratrství repository. The repository was constructed in the Bratrství former uranium mine complex near the town of Jáchymov. On average, 10–30 waste packages are disposed of here per year. Since the disposal capacity of this facility is practically exhausted, it is planned that new capacity will be created in the access corridor; however, this must first be authorised by the SÚJB (regulatory authority) and the local mining authority in Sokolov.

Dukovany repository (since 1995)

The Dukovany repository, which is intended for the disposal of low-level waste produced via the generation of nuclear energy, is located within the Dukovany nuclear power plant (NPP) complex. It is the largest and most recently constructed repository of the three such facilities currently under operation in the Czech Republic. The Dukovany repository occupies an area of 1.3 hectares. The total disposal volume is 55,000 m^3 (enough for around 180,000 waste barrels) and it accepts waste from both the Dukovany and Temelín NPPs. The cost of the operation (including repairs and maintenance) of the facility is around CZK 35 million per year.

SÚRAO

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