

STORAGE OF RADIOACTIVE WASTES AS A WAY TO ENSURE RADIATION SAFETY

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Radioactive waste is dangerous to most forms of life and the environment, and is regulated by government agencies in order to protect human health and the environment.

Keywords: radioactive wastes, isotopes, NPP

Radioactive wastes are wastes that contain radioactive material. Radioactive wastes are usually by-products of nuclear power generation and other applications of nuclear fission or nuclear technology, such as research and medicine.

Radioactivity naturally decays over time, so radioactive waste has to be isolated and confined in appropriate disposal facilities for a sufficient period until it no longer poses a threat. The time radioactive waste must be stored for depends on the type of waste and radioactive isotopes. It can range from a few days for very short-lived isotopes to millions of years. Current major approaches to managing radioactive waste have been segregation and storage for short-lived waste, near-surface disposal for low and some intermediate level waste, and deep burial or transmutation for the high-level waste.

In Belarus, solid waste will be collected, sorted, processed, packaged, temporarily stored and removed from the nuclear power plant. At the same time, very low-level, low-level and medium-level waste will be crushed and placed in 200-liter metal barrels, pressed directly in barrels, sealed and, after certification, sent for storage.

Highly active solid waste is intended to be collected in special metal capsules, loaded into protective containers and transported to the storage compartment of solid waste. Storage of drums with solid waste and reinforced concrete irretrievable protective containers with cured liquid waste is planned for nuclear power plants in specially equipped ground-level storage facilities, one for each power unit. Highly active waste will be stored at the plant for the entire life of the plant, and very low-level, low-active and medium-active waste – for ten years of its operation.

Taking into account the expected volumes of radioactive waste generation, there is an objective need to create a burial site to ensure the safe storage of very low active, low active and intermediate level radioactive waste after the NPP is put into operation. The construction of this burial site is expedient to be carried out using a near-surface method of waste localization with the possibility of its expansion to ensure the disposal of waste generated during the decommissioning of the nuclear power plant.

According to the NPP project, the station will operate a radioactive waste management system. For ten years, the waste will be stored in the substation storage, after which they are planned to be moved to the burial site.

BIBLIOGRAPHY

1. Safety of Nuclear Power Plants: Design Series No. SSR-2/1 (Rev. 1), published Saturday, 12 March, 2016.
2. Disposal of Radioactive Waste Series No. SSR-5, published Thursday, 05 May, 2011.
3. The Management System for the Disposal of Radioactive Waste Series No. GS-G-3.4, published Tuesday, 01 July, 2008.

BACTERIOSIS IN THE PATHOLOGY OF WATERFOWL AND THE ROLE OF THEIR DISTRIBUTION IN THE TERRITORY OF THE REPUBLIC OF BELARUS

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The material is about importance of bacteriosis in the pathology of waterfowl, the need to study their infectious diseases due to the widespread development of industrial poultry farming in the Republic of Belarus.

Keywords: bacteriosis, bacteria carrying, pathologies, waterfowl, reservoirs.

There is a large number of rivers and lakes in the territory of the Republic of Belarus. In addition to the aesthetic component, it also has commercial value. Reservoirs give the possibility to achieve such important forms of