SE Ignalina NPP

INPP Surface repository for low and intermediate level radioactive waste

15 September 2020

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Decommissioning of Ignalina NPP is co-financed by the European Union

Radioactive waste treatment facilities



All new radioactive waste management / storage and final disposal facilities (repositories) have been built or will be built in the Ignalina NPP industrial zone (within a radius of ≈ 1.5 km)



- Easier to obtain permissions
- Less need for new infrastructure
- Lower transportation costs
- Easier ensuring of physical security



Radioactive waste flows





Surface repository for low and intermediate level radioactive waste



Intended use: Surface repository for low and intermediate level radioactive waste consists of 3 modules and is intended for the disposal of short-lived low and intermediate level radioactive waste packages generated during the Ignalina NPP decommissioning. (Volume of 3 modules 100,000 m³)

Actual situation:

- Permission for construction issued in May 2017
- License for construction and operation issued in November 2017
- The first tender 14 March 2019
- The first tender cancelled 7 August 2019
- Repeated tender 28 March 2020
- Tender proposals 30 June 2020 (all over budget)

Further nearest actions:

- Publication of the tender September 2020;
- Submission of tender proposals November 2020;
- Planned signing of the contract March 2021.





Surface repository for low and intermediate level radioactive waste (B35) – concept

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B25 Concept:

 B25 surface repository design concept: French national radioactive waste management company's ANDRA CSA repository is located in the Aube district of France (approximately 200 km from Paris). The repository is operated since 1992 and used for disposal of short-lived low-and intermediate level radioactive waste.

The planned view after closure.







Hydrogeological monitoring boreholes /=





Surface repository module



Surface repositories in France, Spain, Slovakia, Ukraine









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The main functions of the surface repository



- Acceptance of RAW packages and performing of their verification (systematic and non-systemic verification);
- Documentation and record system;
- > Traceability system for the disposal of RAW packages to B25 and movement inside it;
- RAW packages buffer storage before the disposal into the vault;
- Conditioning of RAW packages (F-ANP, KTZ-3.6 containers);
- Temporary storage of unsuitable packages (if any);
- RAW packages disposal into the vaults;
- Emissions / discharges monitoring and control;
- Vaults cement filling system;
- Operation (RAW packages disposal into vaults and cementation);
- Closure of the repository (engineering barriers installation, IC, IIC, IIIC project stage);
- Active institutional supervision 100 years after closure (supervision, implementation of corrective actions (if necessary));
- Passive institutional supervision period (100–300 years after closure) the use of the landfill site for economic activities, road construction, etc. is prohibited.



The project related to B25, IBM – Engineering Barrier Model

Main tasks:

- Scientific programme development;
- IBM designing;
- > IBM implementing.
- to approve the required to be achieved value of the water filtration coefficient for the Repository engineering barrier main waterproofing layer (clay) – 10⁻⁹ m/s;
- to approve the Repository engineering barrier installation technology;
- to verify the long-term characteristics of the Repository engineering barrier (implementation of the engineering barrier monitoring programme for at least 120 years);
- to develop methodologies for laying and compaction of clay layers, which will be used during the installation of B25 engineering barriers.







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SE Ignalina Nuclear Power Plant

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