

# Radioactive waste management in Belarus

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# Main sources of radioactive waste

- ▶ There are no nuclear power plants in the Republic of Belarus. The first NPP is under construction.
  
- ▶ WASTE ARISING
  - 300 industry companies
  - 40 medical institutions
  - 100 industrial and research laboratories
  - past activity on decommissioning a research reactor and a pilot mobile plant “Pamir-630D”
  - “Chernobyl” waste

# National policy for managing RW

The basic principles:

- ▶ assurance of adequate level of personnel, population and environmental protection from RW impact;
- ▶ expected exposure levels of future generations conditioned by RW disposal shall not exceed permissible levels;
- ▶ RW generation and accumulation shall be kept to the lowest level practicable;
- ▶ radiation accidents prevention and reduction of possible impacts in case of their occurrence

# National plan for managing RW

- ▶ further development of the normative legal base;
- ▶ development of strategy of radioactive waste management;
- ▶ further development of human capacity of the operating organizations;
- ▶ creation of a radioactive waste storage facility for very low-level, low-level and intermediate-level radioactive waste, including operational waste of the NPP;
- ▶ development of new radioactive waste management technologies and improvement of existing ones

# Availability of resources

- ▶ Financial: all the radioactive waste management facilities are under the jurisdiction of state bodies, therefore financial resources to support their safety during their operating lifetime as well as for their decommissioning shall be allocated from the republican budget by requests (applications) of the operating organizations when necessary.
- ▶ Human: For the purpose of personnel training in the area of nuclear energy, the State Program of Training Personnel for Nuclear Energy Industry of the Republic of Belarus for 2008–2020 is being implemented in Belarus.

# Institutional framework

Regulatory body in the area of nuclear and radiation safety assurance

Ministry for Emergency Situations

Department for Nuclear and Radiation Safety (Gosatomnadzor)

Main tasks:

- state supervision and control of nuclear and radiation safety assurance;
- issuing licenses for the activities related radioactive waste;
- take part in development and confirmation of normative legal base;
- inform the public on safety status of radiation facilities, nuclear facilities, nuclear energy industry objects;
- regulate the activity of RW management facilities

# Institutional framework

- ▶ Main operators in Belarus:
  - Specialized enterprise of radioactive waste management “Ekores” performs management of disused sealed radionuclide sources and radioactive waste resulting from industry, science, medicine and other economy branches, as well as their transportation across the Belarus;
  - Republican Specialized Unitary Enterprises “Polesie” (Gomel) and “Radon” (Mogilev) of MES perform disposal of unusable courtyards and buildings, decontamination of territories contaminated as a result of Chernobyl NPP catastrophe, as well as collection, transportation, storage and disposal of the associated radioactive waste.
- ▶ Technical support organization: The Resolution of the Council of Ministers of the Republic of Belarus in 2012 defined the State Scientific Institution “The Joint Institute for Power and Nuclear Research – Sosny” of the National Academy of Sciences of Belarus as an organization providing scientific and technical support to the Ministry for Emergency Situations.



# Management options

All radioactive waste (except “Chernobyl” waste) comes to the UE “Ekores” – the only one enterprise of radioactive waste management in Belarus

Annually UE “Ekores” accepts up to 3 tons of low- and intermediate-level solid waste and up to 3000 sealed sources

Storage facility for sealed radioactive sources



Storage Facility for conditioned RW





# Disposal plan on UE “Ekores”

- ▶ RW which come to UE “Ekores” are only on long-term storage. All RW are transportable. Design life of storage facilities – 20 years.
  
- ▶ We have no disposal plan for RW after ending of a design life – the Government is responsible for the further treatment of RW.

# Problems

- ▶ We do not have yet the state administrative body for radioactive waste management;
- ▶ Development and approval of strategies of radioactive waste management in Belarus ( in particular of processing and conditioning of RW)
- ▶ We need technical support organization in the RW management
- ▶ The staff of RW facilities (operators) need to take part in training courses (the existed State Program of Training Personnel for Nuclear Energy Industry turns only for NPP stuff)

# UE “Ekores” challenges

2 old (historic) RW near-surface storage facilities (operated from 1963 to 1979) – rectangular reservoirs of 225 m<sup>3</sup> each



2 near-surface solid RW storage facilities (built and operated since 1977) – 830 m<sup>3</sup> each

# UE “Ekores” challenges

- ▶ We need to carry out the comprehensive engineering and radiation survey of 4 above old radioactive waste storage facilities – but there is no experts and relative technical support in this area;
- ▶ As the result of survey we would take decision of extraction of RW from the 4 historic storage facilities
- ▶ .... but the next challenge – we have no practice in such activity !!!

More information you can find here:



**THE FIFTH NATIONAL REPORT  
OF THE REPUBLIC OF BELARUS**

**FOR THE JOINT CONVENTION ON THE SAFETY OF SPENT  
FUEL MANAGEMENT AND ON THE SAFETY OF RADIOACTIVE  
WASTE MANAGEMENT**

<http://www.gosatomnadzor.gov.by>

**Thank you  
for your attention!**

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