

## DISPOSAL OF RADIOACTIVE WASTE

The modern world practice in the field of radioactive waste management has a solution for the final phase, which closes the cycle for permanent and reliable isolation of radioactive waste from humans and the environment. This is the so-called

### LONG-TERM STORAGE OR DISPOSAL IN PERMANENT DISPOSAL FACILITIES

In view of this, back in 2005, the Bulgarian Government assigned by its decision SERAW with the construction of a National Disposal Facility for Low- and Intermediate-level Waste (NDF).

The commitment of the state is confirmed to the highest degree by declaring the NDF on Radiana site a national project and project of national importance.

During the entire period of operation of the National Disposal Facility, strict radiation control will be carried out both on the site of the disposal facility and of the environment.

**Bulgaria has a strictly defined policy in the field of radioactive waste management, guided by the position of clear moral responsibility to the future generations.**

In 2004, Bulgaria established a special organization, which is responsible for the safe management and storage of all radioactive waste in the country and this is State Enterprise Radioactive Waste.

**SERAW has all the necessary documents and permits issued by the authorized body for control of nuclear safety in Bulgaria - the Nuclear Regulatory Agency.**

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*There is no country in the modern world that does not generate radioactive waste. They result from many beneficial activities such as electricity generation in nuclear power plants and a number of applications of radioactive isotopes in medicine, industry, agriculture, science and education.*

WITH CARE FOR  
THE FUTURE



STATE ENTERPRISE  
RADIOACTIVE WASTE



# WITH CARE FOR THE FUTURE

The safe management and storage of all radioactive waste in Bulgaria is carried out by the State Enterprise Radioactive Waste (SERAW).

**SERAW** operates several facilities through its specialized divisions, formed on the base of origin of the waste.

## MANAGEMENT OF RADIOACTIVE WASTE FROM NUCLEAR APPLICATIONS

Sources of ionizing radiation are used in about 2,000 different sites of national industry, medicine, agriculture and research institutes.

HOUSEHOLDS

SCIENCE

MEDICINE



INDUSTRY

AGRICULTURE



The disused sources are handed over to the Specialized Division "Permanent Repository for Radioactive Waste - Novi Han". The storage facility is constantly subject of modernization.

## MANAGEMENT OF RADIOACTIVE WASTE FROM NPP OPERATION

The second main stream of radioactive waste in Bulgaria is generated as a result of the operation of the nuclear power plant near the town of Kozloduy.

**KOZLODUY NPP OPERATES THE 1000-MEGAWATT 5 AND 6 UNITS.**



Two other specialized divisions of SERAW operate on the NPP site. In Specialized Division Radioactive Waste - Kozloduy the waste, generated by the operation and maintenance campaigns of the units of the power plant, is being collected, sorted, processed and stored. The division has:



"RAW processing plant" with three technological lines



"Storage facility for conditioned RAW" - a modern ground facility where operations are carried out remotely from a control panel with video equipment.

## DECOMMISSIONING OF SHUTDOWN NUCLEAR POWER UNITS

In 1999, the Bulgarian Government and the European Commission signed a Memorandum of Understanding for a stepwise shutdown of the VVER-440 Units at Kozloduy NPP. At the end of 2002, Units 1 and 2 were shut down, and Units 3 and 4 were shut down at the end of year 2006. By a Council of Ministers' Decision, the management of the closed Units was assigned to SERAW. A **Specialized Division Decommissioning of Units 1 to 4** was established. The Kozloduy NPP Units 1 to 4 Decommissioning Strategy provides for smooth, uniform and continuous use of human and financial resources, as well as waste processing facilities. The first equipment dismantling operation commenced on 22 June 2011 in the Turbine Hall of Units 1 to 4, and the dismantling activities in the conventional island of the decommissioned nuclear facilities ended in 2019. In 2014 and 2016, SERAW obtained licenses for decommissioning of Units 1&2, and 3&4, respectively. The dismantling activities in the nuclear island of the four shutdown Units started. For the purposes of safe decommissioning, a new high-tech infrastructure was built:



Plasma melting facility for RAW



Size Reduction and Decontamination Workshop

**THE DECOMMISSIONING PROCESS IS SCHEDULED TO BE COMPLETED IN 2030.**