

WHAT TYPE OF WASTE IS GENERATED DURING DECOMMISSIONING?

NON RADIOACTIVE: solid non-radioactive waste resulting from the dismantling of plant and equipment and demolition of auxiliary concrete structures. Approximately 80% (approximately 65,000 tonnes) of non-radioactive waste is expected to be reused.

RADIOACTIVE: low- and intermediate level. This waste is processed in the Plasma Melting Facility and in Specialized Division RAW-Kozloduy, where the waste is conditioned for subsequent disposal in the National Disposal Facility for Low and Intermediate level RAW.

WHAT ARE THE DECOMMISSIONING PROGRAMME CHALLENGES?

The Decommissioning Programme of Kozloduy NPP Units with VVER-440 reactors is a major challenge, considering that it is being implemented simultaneously on the four Units. The fact that there are also two more operating Units at the site, as well as plantwide systems remaining in operation, makes Bulgaria the only country performing decommissioning of nuclear power units of similar technical complexity of the activities.



In 2018, a Size Reduction and Decontamination Workshop for decommissioning materials was commissioned.



Plasma Melting Facility for processing of RAW with high volume reduction factor. The project was launched in 2009 and reached operational stage in 2019.

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In 1999, Bulgaria undertook the commitment to close and decommission Units 1 to 4 of Kozloduy NPP. As a result, by the end of 2006, all four Units were shut down. As envisaged in the Decommissioning Strategy, the overall process is to be completed by the year 2030.

SE RAW: DECOMMISSIONING OF NUCLEAR POWER UNITS



STATE ENTERPRISE
RADIOACTIVE WASTE

WHAT DOES DECOMMISSIONING MEAN?

The ultimate goal of the Decommissioning Programme is to release the site of Units 1 to 4 from equipment and all sources of radiation and achieving a "brown field" end state whilst keeping the buildings intact. The whole process generally includes Pre-decommissioning actions – Facility shutdown activities, Removal of historical waste from the site and Preparation of the overall decommissioning infrastructure, as well as Decommissioning actions that include dismantling activities in the Turbine Hall and Controlled Area, collection, storage and transfer for the purpose of conditioning of radioactive waste generated in the process of decommissioning.

The management and dismantling of the entire technical and building infrastructure of the Units is carried out by Specialized Division Decommissioning of Units 1 to 4 with State Enterprise Radioactive Waste (SERAW). The Kozloduy NPP Units 1 to 4 Decommissioning Strategy provides for smooth, uniform and continuous use of human and financial resources, as well as of the infrastructure for management of waste, both radioactive and non radioactive.

WHO BEARS RESPONSIBILITY FOR THE SAFETY OF THE NON-OPERATING NUCLEAR POWER UNITS?

By a Council of Ministers' Decision, the responsibility for implementation of the activities on decommissioning of Units 1, 2, 3, and 4 was assigned to SERAW through licences for the two pairs of 440 megawatt reactors, by which the responsibility of managing the Units as radioactive waste management facilities was delegated.

The licenses issued and the conditions stipulated therein enabled SERAW to proceed with execution of all the preparatory activities for construction of the decommissioning infrastructure as well as to start actual dismantling of the facilities in the conventional island of the Units.

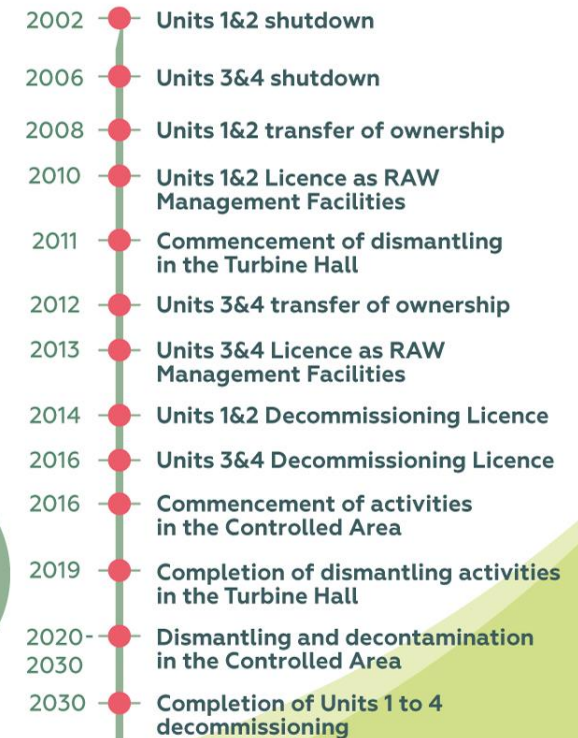
In 2014 and 2016, SERAW obtained **licenses for decommissioning** of Units 1 and 2, 3 and 4, respectively, which laid the groundwork for dismantling activities in the nuclear island of the four shutdown nuclear power reactors.

Decommissioning activities are controlled by:

- The Nuclear Regulatory Agency
- Ministry of Environment and Water
- Ministry of Health
- Ministry of Energy

WHAT ARE THE DECOMMISSIONING STAGES?

The decommissioning process runs simultaneously for the four Units, which share many common systems. The activities are carried out in two main directions: equipment dismantling in the conventional island of the Units (Turbine Hall) and equipment dismantling in Reactor Building (Controlled Area).



ULTIMATE GOAL:

Release the site from all sources of radiation.

