

# RWTF

RADIOACTIVE  
WASTE TREATMENT  
AND DISPOSAL  
FACILITY



The site at Püspökszilágy started to operate more than 35 years ago in 1977. Our Company, the Public Limited Company for Radioactive Waste Management (PURAM), from its establishment from 1998 is the operator of this facility. Since this date we have made several improvements with the definite aim to operate it in the most state of art and safest way while providing enough space for the incoming wastes.



Since we have become responsible for the operation of the facility only non-nuclear power plant origin so-called institutional (health care, industry, agriculture, education and research) low and intermediate level wastes are received here from the whole territory of the country. Every working cloth, protecting equipment etc. that were in contact with irradiated material are put into concrete vaults that are sunk in the surface. The overall capacity of the vaults is 5040 m<sup>3</sup>. The sealed radiation sources from measuring instruments are put into wells (vertical steel tubes sunk in the ground).

## WHAT KIND OF WASTE IS NEEDED TO BE DISPOSED?

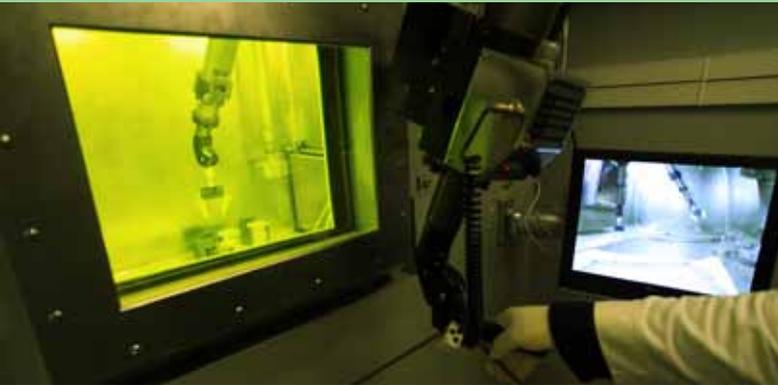




In order to guarantee the long-term safety of the facility only limited wastes with physical, chemical and radiological characters are disposed here. The principle is that the waste packages must meet the requirements elaborated and approved by the authority. The strict control starts at the reception of the wastes. The documentation of waste details are based on local administration in accordance with the legal requirements of the reception. Before the receipt of the wastes we control or complete the information about the waste packages by using visual inspection and radiological measurements. Based on these the delivery note is written and the data from the reception is recorded in the electronic waste administration system too. The transportation in most cases is carried out by Our Company which is complies with the provisions of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). The waste materials are mostly transported in drums and the radiation sources in special tanks shipped in a vehicle with distinguishing sign.



# TRANSPORTATION



We sort the incoming low and intermediate level wastes which are transported in 200 litre drums in a room that is safe regarding radiation protection. The wastes that can be solidified are compacted by a press and the other that cannot be solidified is embedded into grout. The prepared waste packages get a specific identical number that is recorded in an electronic administration system. The used, closed radiation sources are packed into a secondary special, sealed, non-corrosive steel overpack in a robot arm equipped "hot cell cabin. The welded tanks are placed in non-corrosive steel tube wells that are constructed for interim storage. From our partners only solid state of wastes are received.

In some cases – e.g when cleaning takes place – a small amount of liquid waste is produced which we store in closed tanks and solidify with cement afterwards.

The modern radiation protection measuring devices and emission-monitoring installations provide that we immediately able to detect any off-normal event or emission that may occur in the protected area of radioactive treatment. The measured data arrives to the central control room where they are displayed on monitors and are recorded in our archive system. During the treatment of the wastes the filtered air comes through an air cleaner installation which is a high-efficient filtration device with multistages so the possibility of radioactive emission is very low in case of break-down too.



## ENVIRONMENTAL MONITORING

The approved environmental monitoring program aims that the short and long term environmental effects of the treatment and disposal of radioactive wastes should be able to be monitored. It helped to detect the degree of possible changes in the environment so the authorities could define the so called 'benchmark level' in the vicinity of the facility before the commissioning of RWTDF started. The current data can be compared to this benchmark level.

The monitoring of aerosol discharge is carried out with an air-sampler equipment installed in the stack but the possible environmental effect of the disposal vaults and plant building is alarmed by a detector in the prevailing wind direction and a sampling station on the nearest settlement from the facility. Near the concrete vaults where the wastes are disposed we monitor the fallen and collected rainwater before discharge. From this location we examine the radiological properties of the surface water flow for 20 km.

On the territory and in the vicinity of the facility the quality of the ground water is monitored in more than 30 points. Together with the analysis of the soil and vegetation samples we almost have a thousand measurements a year. These data up to now confirm that the facility satisfy the radiation protection and environmental safety requirements. These results were also reconfirmed by the measurements of the supervisory authorities and independent organisations.



## SAFETY ENHANCEMENT

The commissioning of RWTDF started in the 1970's in accordance with the requirements of that age. In order to comply with the present day's requirements PURAM from its establishment continuously improves the technology and enhances the safety. In the last 10 years all the radioactive waste treating installations were renewed, the buildings were reconstructed and the measuring devices were changed to new ones.

The other field of safety enhancement is the review of the safe disposal of the waste packages that were transported here decades earlier which is launched with a comprehensive assessment in 2000. Based on this it was stated that the wastes that were disposed 30-35 years earlier are needed to be resorted, repacked and also compacted. During the compacting process more store capacity will be freed which is important because this facility is necessary for further 40-50 years treating the wastes that are derived from different institutions. One phase of this work finished, so the opening of four concrete vaults ended, but the greater part of the reloading of the so-called „historical” wastes will start in the near future.

# SOCIAL CONTROL

As well as the management of radioactive wastes the information giving to the people and the organising of informative programmes for them requires a special attention from PURAM. This creates the honest confidence between the environment and the Company.

The social acceptance of the activity of PURAM is very high thanks to the continuous dialogue with the local regional associations and the affected population.

In PR relations our cooperating partner is the Isotop Information Association (ITT) with its member-settlements: Kisémedi, Püspökszilágy, Váckisújfalu, Váchartyán and Órbottyán. The ITT helps the people living here to have better understanding of our activity, the operation of RWTDF and the current safety enhancement work by organising programmes and site visits to children and adults. The ITT publishes a regional newspaper titled as 'Hétközlap' and also is the operator of the Visitor Centre.



WITH  
RESPONSIBILITY, SAFETY  
AND GUARANTEES

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