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FACTORS AFFECTING THE COST OF DISPOSAL OF HIGH LEVEL RADIOACTIVE WASTE

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The national legislation and regulatory and technical base in the field of high level radioactive waste (HLW) disposal have a significant impact on the cost of disposal.

The main factors influencing the cost of HLW disposal can be conditionally divided into two categories: technical and socio-political. Given the importance of public influence, socio-political factors play a significant role in the final isolation of radioactive waste (RW).

The technical factors affecting the cost of HLW disposal facility (RWDF) include: the volume of RWDF, waste characteristics, type of containers for HLW disposal, type of structure: near-surface (surface / underground) or deep RWDF, location of RWDF, reversibility of disposal, time of monitoring of RWDS and surrounding environment. The key factor influencing the unit cost of RWDF is its capacity.

The dependence of the cost of disposal of a cubic meter of HLW on the volume of disposal facilities shows a multiple decrease in the specific cost of disposal of RW with an increase in the capacity of the RWDF. This explains the world practice of building large centralized facilities for final isolation of waste.

Thus, for countries that produce small amounts of RW, it may be economically feasible to build multinational PWDRs. Among other characteristics of RW, without the activity and content of long-lived radionuclides, the amount of heat release one of the key factors affecting the cost of final insulation is (for HLW).

Long-term storage of HLW can provide a significant reduction in heat release from packages and, accordingly, their denser placement in RWDF.