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The role of international cooperation on estimation the erosion rate and decreasing uncertainties in radioactive waste management safety assessment

The effect of erosion on the long-term safety of the Anarak, Iran near surface disposal facility was one of the main issues considered during the safety assessment and design process. Therefore, the measurement of the erosion rate considered as one of the common projects with IAEA and Hungarian experts who have worked on the issue of erosion before. The various techniques have been studied for estimating erosion rates, and the necessary techniques were chosen in accordance with site conditions. A rainfall simulator that can be used to develop different scenarios was built and has been used in various tests based on different rainfall intensity, slope and soil structures. This device's establishment and tests have greatly aided in evaluation the rates of erosion and penetration for safety assessment and designing proposed covers for trench. International cooperation in this area led to a decrease uncertainty in erosion rate and an improvement in the accuracy of the data used in the safety assessment. This cooperation helped to gain more confidence regarding the design and long-term safety of waste disposal trench covers, which is a sign of the impact of international cooperation on sustainable development in the long-term management of radioactive waste.

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