

International Conference on the Safety of Radioactive Waste Management,
Decommissioning, Environmental Protection and Remediation: Ensuring
Safety and Enabling Sustainability



Contribution ID: 228

Type: POSTER

Assessment of the mechanical stability of dams surrounding the uranium mill tailings in France

Uranium mining in France led to the production of more than 50 million tons of mill tailings which are currently disposed in 17 facilities, many of which relying on dams. Given the long-lived nature of the main radionuclides present (mostly radium and uranium), the associated risks will persist over time scales of the order of tens of thousands of years. Since no provision can reasonably be envisaged to guarantee, in the absence of maintenance, the mechanical strength of the dams over a period of more than a few hundred years, the objective is to seek an objective life duration of a thousand years for these facilities.

A methodology was developed by a pluralistic group to clarify the issues involved and to propose an approach to evaluating the long-term mechanical stability of the dams. As such, their resistance shall be assessed considering the facilities' evolution in time, by taking into account normal conditions as well as potential natural hazards (heavy rainfall, earthquakes) and high water levels in the dams induced by a cessation of maintenance of the drainage systems. The risks of liquefaction, internal erosion and external erosion shall also be analyzed. At the end of the evaluations, reinforcement actions can be decided.

Primary authors: DE HOYOS, Amelie (IRSN); PELLEGRINI, Delphine (IRSN); Mrs PALUT-LAURENT, Odile (ASN)

Presenter: DE HOYOS, Amelie (IRSN)

Track Classification: Track 5 - Practical experiences in integrating safety and sustainable development