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A Multi-Actor and Multi-Criteria Analysis (MAMCA) application in the decision-making process on radioactive waste management

Expertise in nuclear safety and radiation protection has often been performed by experts, with experts, for experts and decision-makers. Over the years, alternative methods such as Multi-Actor and Multi-Criteria Analysis (MAMCA) have been tested and adopted by the French Institute for Radiological Protection and Nuclear Safety (IRSN) in order to grasp the holistic aspects of such support of the decision-making process, built upon a wider array of views. A pilot project focused on identifying criteria to prioritize radioactive waste management scenarios, considering technical, environmental, social and economic factors in various time ranges that go beyond the traditional risk assessment approaches. It has identified different relevant criteria, such as acceptability, technical feasibility, territorial equity, sustainability, ethics. This project and the coelaboration of a guidebook on MAMCA with a variety of stakeholders (operators, civil society representatives, ministries, regulatory body) set the foundations of broader MAMCA planned in 2023 which aims to co-build a wide range of options for VLL and LLW-LL radioactive waste management (centralized storage, in situ storage, recycling···), compare them through common criteria and allow for an acceptable ranking of sustainable management options. Based on these examples, this communication will focus on the expertise method which integrates the views of various stakeholders, including the civil society, as a beneficial addition to the expertise framework in support to the decision-making process.

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