CHALLENGES ON WASTE MANAGEMENT AT DECOMMISSIONING BY ENRESA: NEW SOLUTIONS, STRATEGIES AND INNOVATION

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Enresa's expertise and challenges in nuclear decommissioning: Enresa, the Spanish state-owned company responsible for the decommissioning of nuclear and radiological facilities and radioactive waste management, is undertaking its third NPP dismantling project and its first with a BWR reactor. Previous successful projects include the decommissioning of Vandellós I, phase 2 (1998-2003), José Cabrera (2010, now in its final phase), and the experimental fission reactor at CIEMAT (since 2006).
Radioactive waste management and optimization: As part of the progressive closure of Spain's nuclear fleet outlined in Enresa's 7th General Waste Management Plan, the limited capacity of the El Cabril repository presents significant challenges. The demand for handling waste from both operational NPPs and ongoing decommissioning projects necessitates innovative strategies to minimize waste volume, optimize processes, and ensure safety, leveraging past experience and continuous improvement.
Innovations in the Garoña NPP Decommissioning Plan: This work focuses on the strategies and solutions proposed for the safe and efficient management of radioactive waste from the Garoña NPP decommissioning. Key areas include waste treatment and classification, advanced spectrometry for material clearance, automation using robots and drones, and digitalization of waste management processes, all aimed at innovation, quality, and technical excellence.
Advanced Automation and Accelerated Processes : The use of advanced platforms, such as drones and rovers equipped with high-efficiency detectors, is essential for automating surface clearance and soil release measurements, given the extensive number of measurements required. Additionally, the implementation of new material release chambers designed to accelerate the clearance process is crucial to optimize the significant workload anticipated in future operations.

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