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Derivation of conditional clearance limits for the disposal of NORM waste from O&G industries in hazardous waste landfills.

The waste streams generated by O&G industries contain activity concentrations of naturally occurring radionuclides above the generic level for clearance of material. Availability of disposal solutions for the waste generated by the E&P operations and from the decommissioning activities would allow for the safe and eventually cost-effective management of such materials. The use of safe and cost-effective solutions for NORM disposal meets various UN Sustainable Development Goals such as water and land use and sustainable cities. The ongoing development of an action plan for NORM streams in accordance with updated regulations in Brazil has provided a step forward towards the sustainable management of NORM waste, as it establishes a more appropriate dose criterion to be met for the clearance of such residues in specific cases without incurring any undue risk of exposure to the public and the environment. A potential solution for the NORM O&G waste is its disposal in industrial landfills, which have requirements already applied to many types of non-radioactive hazardous waste. The aim of this paper is to present a derived activity concentration range for such waste to allow for its safe disposal at an industrial landfill, considering a post-closure safety assessment using RESRAD software.

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