

Main regulatory requirements to elaborate a specific regulation for disposal of bulk NORM waste in oil and gas: Brazilian case

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Introduction



Oil and gas industries are the largest producer of NORM waste and the tendency of the world is increase due to the decommissioning of petroleum platforms.

In Brazil – maximum activity concentration of Ra-226 in NORM waste:



Sludge: 413.4 Bq/g



Scale: 3500 Bq/g

Brazilian legislation still does not allow for bulk waste disposal and do not exist a repository to these wastes.

Objective

To present the main regulatory requirements to support the Brazilian regulatory body in the elaboration of specific regulation and then authorize the operation of a repository for bulk NORM waste generated by the oil industries.

Methodology

The methodology was composed two parts: the first one was the bibliographic research of documents of 12 countries (Malaysia, Nigeria, Scotland, Gales, Spain, Australia, Korean, Norway, Northern Ireland, England, Canada and different states of United States of America) that have a regulation to NORM and permit final disposal of bulk NORM waste; the second part was the critical analysis to select the main regulatory requirements to elaborate the Brazilian Regulation.

Results

Five main specific regulatory requirements were selected and presented in the roadmap tool.

To specify the volume reduction method used before disposal

Reduction of NORM waste volume

Risk Assessment of the disposal method

To demonstrate that the selected disposal method does not cause risk to the public

Characterization and inventory of the NORM waste

To determine the chemical compounds and activity concentration levels and to identify the types and the amount of NORM waste produced

To postulate only one clearance level to any quantity of wastes – 1 Bq/g of Ra-226 and Ra-228

Single clearance limit to Ra-226 and Ra-228

Specific classification to NORM waste

As the NORM waste can be different levels of concentration activity, specific classification could be to define the levels

Conclusion

These specific requirements could be used as a basis to elaborate the regulation by the Brazilian Regulatory Body.