

# International Conference on the Management of Naturally Occurring Radioactive Materials (NORM) in Industry

VIRTUAL EVENT

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## Analysis of Indonesian policy on management of NORM waste and residue and the implementation problems

Naturally occurring radioactive materials (NORM) waste and residue have become a serious concern to the government of Indonesia due to the huge amount of mining waste in Bangka Island from the tin mining in the past. There are also some mining and refining industries that have the possibility to generate residues containing NORM. The Nuclear Energy Regulatory Agency or BAPETEN enacted a regulation on intervention on Technologically Enhanced Naturally occurring radioactive materials (TENORM) exposure and on the safety of storing TENORM. The current regulation uses the amount of materials (minimum two tons of materials) and contamination level (1 Bq/cm<sup>2</sup>) or the concentration, which is 1 Bq/gr for uranium and thorium series radionuclides, as the limit to do an intervention to ensure the safety of public and workers. However, this regulation cannot be implemented effectively. While the Indonesian government tries to change the intervention limit based on the permissible dose rate received by workers and the public around the location of NORM, the implementation issue of NORM's regulation is more about the overlapping regulation. Analysis of the regulations related to NORM waste and residue management is conducted to find the reason behind the implementation problems and the possible solution to solve the issues. The conflict between regulations and authorities such as BAPETEN, the Ministry of Environment and Forestry, the Ministry of Energy and Mineral Sources and the local governments, cause difficulties for a company to use or to store NORM residue. Moreover, the huge amount of NORM that comes from activities in the past and the national geographical location of Indonesia as an archipelagic country also give more challenges to control the NORM. The effective coordination among authorities and clear requirements are the keys success to control NORM waste and residue in Indonesia. The contribution of BAPETEN as the nuclear regulatory body to the nuclear energy application in Indonesia is necessary to establish coordination, commitment, and understanding among authorities on the importance to control TENORM.

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