

Challenges in Regulating industries processing NORM

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Many industrial activities involving naturally occurring radioactive material (NORM) follow a common cycle with several stages from the extraction of materials to the fabrication and the use of products and by-products, including the generation of discharges, residues and waste. An integrated approach to safety and protection is recommended by the IAEA through GSR Part 3, bearing in mind that the radiation protection system is not necessarily the driving force and development of such an integrated approach requires involvement of combination of expertise as implemented in many Member States.

For the application of the IAEA Safety requirements on industries processing NORM, consideration needs to be given to radiation protection of workers, the public and the environment for a wide range of industrial processes on a global basis. The IAEA has developed safety guides and safety reports, for assisting Member States in implementing relevant IAEA Safety Requirements.

In managing the residues and waste in industries involving NORM, radiation protection of the public and environment need to be addressed. This includes discharge control, reuse and recycle of residues, and the application of the concepts of exemption and clearance, where new guidance is under preparation. Long-term safety of NORM residues is a particular challenge, such as appropriate control of disposal of residues in conventional landfill, decommissioning and remediation of relevant facilities and sites. Various options should be considered, understood, applied, and assessed as to whether radionuclides and other potentially hazardous materials are appropriately isolated from the human environment.

While radiological aspects of industries involving NORM can be characterised in a general way, radiation protection management should be site and practice specific, and it is observed in many Member States. As such, radiation protection addressing public health concerns associated with releases of radionuclides to the environment, the use of excavated ores for preparing building materials, and the safe long-term management of NORM-residues and waste requires tailored and graded approaches, which is the key concept of GSR Part 3, and understanding on consequence management. This requires consultation and engagement with a number of stakeholders.