

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



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A new technical guidance on how to establish a NORM inventory

Introduction

In the IAEA Safety Reports Series No. 49 [1] an overview is given of the industrial sectors that are of concern when evaluating the presence of naturally occurring radionuclides in several industrial sectors. In expanded technical documents the NORM related industries [2,3,4] and their issues are described to a certain level of detail. Despite the large body of available literature, IAEA Member States articulated a need for practical support on how to make an inventory describing the nature and magnitude of NORM-related activities in their countries. The industrial landscape can be much more complex than general categories of NORM related sectors indicate. The concentrations of naturally occurring radionuclides can vary substantially dependent on the origin of the ores and the specificity of the local industrial processes. Therefore, there is a need for a guidance document on how to establish a NORM inventory that can be adopted to the country specific circumstances and the local available resources.

Methodology

During the IAEA Environet NORM project, via international collaboration of experts, a new user-friendly guidance document was developed that aims to support member states in the step-by-step construction of a NORM inventory. The starting point of the guidance document is the assumption that no information regarding the presence of naturally occurring radionuclides in the local industry is available at all and that the resources of the inventory builder are limited.

Results & Conclusion

The new guidance contains a 'general methodology flow chart' for the making of a NORM inventory that can be modified to the local situation of the means of the inventory builder. For specific industrial sectors, such as primary oil production and rare earth processing, dedicated approaches are proposed. The new guidance document also contains a dedicated sampling and measurement strategy considering restrictions in the available resources. The inventory building document contains country specific case studies on the approaches that were used for making an inventory for the phosphate industry, rare earth processing, zircon and zirconia industry and the oil and gas industry. The document provides a detailed description on how the different steps in inventory building can be performed and on the available sources of information that can be consulted. In the presentation the new guidance document and its approach is discussed.

Acknowledgement

The construction of the new technical guidance document on establishing a NORM inventory is the work of task group 2 on NORM Inventories of the IAEA Environet NORM project. It is a team effort of several contributors that was also supported by the European NORM Association. All these contributions to the technical document and to the work presented in the current presentation are acknowledged.

References

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