Contribution ID: **27** Type: **Poster**

Brazilian regulatory framework for NORM in mining and milling facilities

This work aims to summarize the Brazilian regulatory framework for NORM facilities, within the National Nuclear Energy Commission (CNEN) scope. In Brazil, mining and milling facilities are subject of regulatory control from environmental regulatory agency and from National Mining Agency. Beyond environmental and mining control, facilities that process NORM, must also be licensed or authorized by CNEN, that distinguishes two distinct types of NORM facilities: nuclear and conventional mining and milling. Mining and milling of nuclear minerals (uranium or thorium) are considered a nuclear practice and are submitted to a nuclear licensing process, according to CNEN-NE-1.13- Licensing of mines and beneficiation plants of uranium and/or thorium ores. In the other hand, those that handle ores and minerals that occur associated with radionuclides from the uranium and thorium chains are located in the group facilities ruled by CNEN-NN-4.01- Standard - Guidelines for safety and radiological protection for mining and milling facilities.

For conventional mining and milling facilities, that process ore and raw material that occur associated to NORM - such as production of tin, rare earths, niobium, titanium, phosphate, copper and mineral coal-, CNEN follows the IAEA recommendations for graded approach. Facilities, are classified into three categories, based on the total largest activity concentration of any material (raw material, product, by-product, waste) which may be found in the production process. Facilities which do not handle material with more than 10 Bq/g, and that annual effective dose to which workers may be subject does not exceed 1 mSv; and annual dose to the critical group or the representative individual does not exceed 0.3 mSv, are exempted from the regulation. The facilities that does not meet the requirements for exemption are classified into three categories:

I - Category I: facilities with total activity concentration of the uranium and / or thorium natural series radionuclides of more than 500 Bq/g;

II - Category II: facilities with total activity concentration of the uranium and / or thorium natural series radionuclides between 500 Bq/g and 100 Bq/g; and

III - Category III: facilities with total activity concentration of the uranium and / or thorium natural series radionuclides less than 100 Bq/g and exceeding 10 Bq/g.

It is important to point out that according to the category in which the facility is classified, it must have to comply with specific levels of requirements that may even reach those required in the nuclear licensing of uranium mining and milling facilities.

Primary authors: BORGES, Flávia Luiza Soares (CNEN); SANTOS, Neyliane Frassinetti Gonçalves dos (CNEN); SCISLEWSKI, Alexandro Rocha (CNEN)

Presenter: BORGES, Flávia Luiza Soares (CNEN)

Session Classification: Session I - NORM National Policies and Strategies

Track Classification: NORM Policy, Strategy and Regulations