Dismantling a NORM waste storage facility in the acid phosphate industry

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Abstract

In the early 1990s, a facility in the acid phosphate industry was dismantled, resulting in the production of more than 100 tonnes of NORM waste. No final management solution for these wastes existed. The wastes have been stored in a hermetic and impermeable storage facility located in an industrial area. As the land owner wished to develop industrial activities on the site, the NORM waste owner had to dismantle the installation and manage the primary and secondary wastes resulting from these operations.

Several issues relating to the project will be addressed in this paper:

The existing waste inventory is not sufficient to manage the wastes adequately. A temporary zone for screening and characterization was designed next to the installation in order to open packages and sample and characterize the wastes.

Following waste disposal requirements, a sampling and analytical programme was set up in order to obtain necessary information for adequate waste management.

Radon 222 had built up in the storage facility during the past 25 years due to Ra 226 decay. The installation ventilation was taken into account before the installation aperture.

Worker and public radiation protection has been studied, and for each step: ventilation, aperture, screening and sampling of wastes.

Environmental impacts on groundwater, soil and air have been studied for each step of the project. Protective measures have been taken into account, as well as environmental monitoring before, during and after the project to assess potential impacts.