

**Title: NORM management in the Netherlands**  
**By Jeroen Welbergen and Leo van Velzen**

**Abstract**

The Netherlands has a long history of dealing with NORM, starting at the end of the seventies and beginning of the eighties of the last century. Due to this early involvement the industry, regulator(s) and radiation protection (Dutch Health Physics Society) has overcome in major challenges that are inevitable linked to NORM e.g. relative low specific radioactivity and large quantities and volumes in comparison with artificial waste, and the reuse / disposal of NORM.

The procedures for working with NORM in the industry as well as the regulations have been gradually developed on gained experiences and best practices. These procedures and regulations can be considered as one of the matures and well established worldwide.

This gradually approach including lessons learned are described and dealt in this paper. It is evident that systems has to be altered to fit future (sustainable) insights, regulations, etc. Therefore in this paper additional information is presented about:

- Historical and existing amounts of regulated NORM materials as well an assessment of future amounts;
- The occurrence of NORM materials to deal with;
- Regulatory classification and registration of NORM practices;
- Radiation protection measurements at the workshop;
- NORM predisposal management;
- Available disposal options for the different NORM materials;
- Challenges still facing like the upcoming new BSS and the exposure of the public to radon and thoron in houses.