

# Problems Faced by National Authorities in Improving NORM Regulations

V. Delporte

*National General Directorate for Nuclear Safety and Radiation Protection, Paris, France*

In order to improve radiation protection in NORM industries, regulatory bodies are facing new problems and questions. The aim of this paper is to detail these problems and questions in countries such as France, where there has to date been little feedback or experience.

Even though there is a large consensus among national authorities that radiation protection should be improved in NORM industries, little decision-making data for regulatory bodies can be found. For instance, how many industries are affected, how many people are concerned, and what is the occupational and environmental radiological impact? Moreover, the little data provided is not easily implemented, as only a few modifications to the industrial process can be made that will – in the end – lead to a dramatic change in the radiological impact.

One of the first questions to answer would be how to determine which industries have to be investigated and controlled. In other words, what has to be regulated and what would be the impact of such regulations? Regulating is a classic method of improving protection measures when there is a lack of knowledge for a risk.

The second question would, of course, be how not to over-regulate.

Stakeholder involvement is decisive in identifying NORM industries, collecting NORM data and avoiding over-regulation. The commitment of employers is particularly important but because of the public's perception on radioactivity, NORM industries are reluctant to participate in improving the NORM strategy. Should they participate, they don't want to communicate on the study.

This then leads to the question how to involve NORM industries.

On the one hand, NORM is simply traditionally used, natural raw materials that, in fact, are naturally radioactive. However, radioactivity has become a very sensitive subject that can create dramatic public anxiety.

So how can one make people aware of the risks without creating social fear and product banning?

Added to this, radiation protection is a very technical subject and stakeholders are generally not familiar with it so how can one communicate with these stakeholders without becoming too technical?

NORM industries are generally regulated for “classic” (i.e. chemical or physical) occupational and environmental impact by labour and environmental protection regulatory bodies, whereas the whole NORM subject is a matter for radiation protection departments.

How, then, can one find a common approach between state radiation protection departments and regulatory bodies overseeing NORM industries for non-radiological reasons?

NORM industries are already subject to a lot of regulation so how can homogeneity between radiation protection and industrial hygiene regulation be created? Is it possible to create synergy between the different protection measures?

Radiation protection in NORM industries has to be as precise as radiation protection in nuclear facilities. Accepting higher doses in one area than in the other one would be difficult. How, then, can homogeneity between radiation protection in NORM industries and radiation protection in nuclear facilities be created? Do regulatory bodies have to consider NORM workers as member of the public or as exposed workers? What dose limit should apply?

Radon is often managed in terms of Bq/m<sup>3</sup>. In France, radon is not taken into account when estimating exposures to the public. However, should radon exposures be included in assessing occupational exposure? Is it possible to limit occupational exposure in NORM industries to 1 mSv/y if this were to include radon exposures?

Radiation protection concepts are well defined by international authorities but how should they be applied to NORM industries? Should NORM industries be considered as a practice, intervention or neither? Are exclusion, exemption or clearance levels to be applied?

Though NORM waste is not “radioactive waste” and is simply managed, how does one explain that it contains natural radionuclides and so has to be transported as radioactive goods according to international transport regulation?

Finding answers to all these questions will be difficult, but international cooperation would be a help.