

Organisation for Economic Co-operation and Development - Nuclear Energy Agency

Workshop on Radiological Characterisation for Decommissioning
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ABSTRACT

The Swedish nuclear industry way to approach higher demands on characterisation prior to clearance

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The Swedish Radiation Safety Authority (SSM) has introduced new regulations for clearance SSMFS 2011:2 “Regulations concerning clearance of material, rooms, buildings and soil from activities with ionizing radiation”. The new regulations came into force January 1, 2012. Compared to the previous regulations these new regulations have a broader scope and have introduced new conditions such as nuclide specific clearance levels.

Clearance is practiced to reduce the amount of radioactive waste generated. Cleared material can be reused, recycled or if these two possibilities are not available, disposed of as conventional waste.

To be able to meet the requirements for clearance the Swedish nuclear industry has jointly developed guidance for clearance in the form of a handbook and a training course covering the competence requirements in the new regulations. The handbook was developed by a team of representatives from the Swedish nuclear license holders managed by Studsvik on behalf of Swedish Nuclear Fuel and Waste Management Company (SKB). The training program was developed in co-operation between Nuclear Safety and training Company (KSU) and Studsvik on behalf of the Swedish nuclear license holders.

A major challenge in the adoption to the new regulations is how to provide robust yet cost effective characterisation data. This is especially difficult for mobile materials and equipment which cannot be fully tracked but also for other materials and areas where the nuclide fingerprint has varied over the years.

To be able to deal with these issues a lot of attention has to be paid to the historical inventory records and traceability in the clearance process. Materials, rooms and buildings have been divided in four categories with different requirements on frequency and requirements of measurements. The categories are named “extremely small risk”, “small risk”, “risk” and “known contamination above clearance levels”.

The two day training course is divided into seven parts: “Introduction/background” “Legal framework”, “characterisation and categorisation”, “the clearance process”, “laboration” (practical work) and group discussions, “measurement methods”, and “documents and quality assurance”. Even though only one block out of seven is named “characterisation and categorisation” this topic is an essential part in all blocks from different perspectives.

Robust characterisation of materials, waste and the facility itself as well as a focus on traceability and record keeping saves a lot of money in all stages of the clearance process but especially the decommissioning phase.

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