

Proposal for a new working group under EMRAS II

Considering the important work performed under EMRAS I and the proposed work under EMRAS II to develop environmental models, NRPA would like to suggest an additional working group. The proposed title is:

“Reference approaches to modelling for management and remediation at NORM and legacy sites”¹

Goal: to establish a forum for regulators and researchers/modellers where models for environmental impact and risk assessment, including remediation measures, could be tested for regulatory purposes

Objective: testing assessment models’ suitability for demonstrating compliance with IAEA safety requirements as an input to IAEA regulatory programmes

Scope: the scope is limited to the remediation of legacy sites, such as obsolete nuclear research sites and sites made obsolete by the ending of the cold war (e.g. uranium mining, sites of temporary fuel storage).

Participants: regulators and their technical support organisations, as well as model developers

Group leader: Head of section Astrid Liland, NRPA

Background:

Remedial operations at legacy sites are aimed at putting the sites into adequate regulatory conditions. The radiological situation at the sites will change due to such operations and it is important to assess the impacts on workers, the public and the environment. Models are necessary to assess the changes and the final condition of the site after remediation. Such models are developed by researchers and the output is used by authorities to support correct regulatory decisions concerning remediation operations.

Through the regulatory support projects that NRPA has with Russia and Central Asian countries concerning legacy sites, it is clear that there is a wish for a closer link between regulators and researchers on this topic. This was also one of the conclusions from the Workshop “Application of Radioecology to Regulation of Nuclear Legacy Management”

¹ *Original Title (as submitted before the EMRAS II meeting in Vienna, January 2009)= “Use of assessment tools to meet IAEA basic safety standards and related requirements, as applied to nuclear legacy sites”*

arranged in Bergen, Norway, in June 2008 attended by USA, Russia, France, UK, Belgium, Uzbekistan, Norway and the IAEA.

A forum for testing assessment models in real regulatory situations should therefore be set up. The final aim is that future environmental impact and risk assessments models related to remediation of legacy sites are suitable for regulatory purposes and in compliance with IAEA guidance and recommendations.

Why in EMRAS II?

EMRAS is an important forum for modellers in radiation safety. A substantial effort is put down by the participants to establish sound models for environmental impact and risk assessment. These models should also be appropriate for use under real regulatory situations. A cooperation between model developers and regulators would therefore be advantageous within the EMRAS II framework with an obvious link to IAEA's development of international guidance and recommendations.

Provisional tasks:

- compare assessment methods for different areas (see below) - to allow for sharing of technical experience
- testing their fitness for purpose to address IAEA safety requirements, and by implication, their suitability for compliance demonstration
- provide information on the nature of waste and site characterisation data necessary to support the assessments
- provide feedback into IAEA regulatory programmes.

Provisional assessment areas:

- operational releases (models to help decide how much can be released)
- contaminated land management (changes in radioecological conditions, optimisation, how much residual activity is safe)
- waste disposal on site (how much can be disposed according to facility design, near surface facilities, VLLW etc.)
- consequences of potential incidents that can be anticipated during remedial operations.

Case studies:

Nuclear legacy sites in Russia and/or Central Asian countries could be used as case studies as well as legacy sites in other countries (USA, UK, etc)

The NRPA would like to offer input and experience from the situation at Russian sites in collaboration with Russian colleagues.

Development of WG programme:

The first step would be to establish a group of interested participants from various countries. Secondly, the potential assessment models to test as well as suitable case study sites must be identified.

The group should develop a joint action plan based on the national requirements and capabilities.

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