

WM2012 Conference Panel Report

PANEL SESSION 80: Worldwide Regulatory Challenges of Radioactive Legacy Sites

Co-Chairs: Malgorzata K. Sneve, *Norwegian Radiation Protection Authority*
Ray Clark, *US EPA*

Panel Reporter: Graham Smith, *GMS Abingdon Ltd (UK)*

Panelists:

1. Magnus Vesterlind, *International Atomic Energy Agency (IAEA)*
2. Mikhail Kiselev, *Federal Medical Biological Agency of Russia (FMBA)*
3. Stuart Walker, *US Environmental Protection Agency (EPA)*
4. Nataliya Shandala, *Burnysian Federal Medical Biological Centre, Russia (FMBC)*
5. Leo van Velzen, *NRG, (Netherlands)*
6. Malgorzata Sneve, *Norwegian Radiation Protection Authority (NRPA)*

Abnormal situations at legacy sites left from military and civilian nuclear technology development in the 20th century raise many questions about regulation of safety and security, and as well as environmental and human health protection. Panelists provided their perspectives on these issues and comments and questions from the floor were raised and discussed as follows.

Magnus Vesterlind provided information about a new initiative of IAEA, the International Working Forum on regulatory Supervision of Legacy Sites (RSLs). He noted the objective of promote high standards of regulatory supervision for the management of legacy sites, in line with the IAEA Safety Standards and good international practices. This is to be achieved through:

- Collection and collation of information on legacy sites and experience of their supervision.
- Exchange of information on site restoration plans and regulatory supervision in planning.
- The generation of mutual support through presentation and discussion on how regulatory supervision can be made effective and efficient.

Mikhail Kiselev provided information on Russian national and international efforts in nuclear legacy regulation. Dr. Kiselev spoke of recent developments to improve coordination of regulatory supervision of major spent fuel storage and other legacy sites in northwest Russia, including engagement and cooperation with the Norwegian Radiation Protection Authority. He also described the Russian inputs to the RSLs, notably concerning the working group focusing on development of enhanced regulatory requirements and procedures as needed to address the special situations arising at legacy sites.

Stuart Walker addressed the difficult question of how EPA addresses radiation within a chemical framework in the clean-up of Superfund sites. He noted the use of risk rather than dose based standards used by other US authorities concerned with radiation protection and nuclear safety. He provided updated information on a wide range of

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practical assessment tools, e.g. for ecological radiation risk assessment using the biota concentration guide calculator. He also outlined arrangements for communication and sharing information among EPA regions and for engaging with stakeholders.

Nataliya Shandala spoke of Russian experience and regulatory challenges in nuclear and uranium legacy sites, including the current normative basis and need for updating, taking account of other national and international developments. She outlined the working methods and summarized the broad range of outputs, including new requirements and guidance documents, to address the identified challenges. She noted the importance of:

- Understanding the existing exposure situation.
- Developing consistent and practicable criteria for site remediation and return to uncontrolled uses.
- Improving methods of optimization for remediation strategies.
- Introducing procedures to avoid the generation of new nuclear legacies.
- International developments in development of guidance, documentation, supervision, review and assessment, and stakeholder involvement.

Leo van Velzen described radioactivity measuring techniques and how they are relevant to regulatory oversight of radioactive legacy sites. He summarized international guidance on dose based remediation criteria, and a variety of derived and action limits designed to meet those dose criteria. He then went on to speak of radiological characterization of sites and the importance of making measurements which are sufficient to make a decision related to meeting the protection objectives, in particular, that the result of the analyzed collected data should be representative of the radiation and radioactivity levels at the site.

Malgorzata Sneve spoke of communication information in legacy management. She noted technical complexity of legacy management and the many stakeholders involved, including, in many cases, several separate regulatory bodies. She noted the key issues as follows:

Many issues require consideration:

- from more than one perspective, and
- by more than one organisation.

Each organisation must know:

- what its responsibilities are, and
- be able to clearly communicate them to others.

Operation of the interfaces should ensure that:

- all issues are addressed properly,
- without unnecessary duplication, and
- leaving no gaps and no issues unconsidered.

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In discussion and arising from questions from the floor, the following observations were made:

- Vesterlind noted the importance of starting with a clear national policy on legacy management and a corresponding strategy for its implementation. He also noted that the IAEA is able to organize peer reviews, on request from member states.
- Walker noted the advantage to be taken from international cooperation, as an example, the output of IAEA EMRAS experts on assessment of contaminated urban environments.
- Van Velzen agreed with the observation that there is a need for further guidance on treatment of probabilistic aspects of site characterization.
- In response to a question about the number of legacy sites, Shandala noted that information on this was being updated through the RSLs programme.
- Sneve noted the scope for improving regulatory efficiency if the operator only had to respond to a single guidance document issued jointly by relevant regulators, rather than separate documents issued by each one. Joint production would also ensure coherence from different regulatory perspectives. She mentioned a recent example of guidance on waste management at legacy sites in northwest Russia issued jointly by the civilian and military authorities.
- David Shaeffer (Office of Legacy Management, US Department of Energy) noted from his experience of stakeholder engagement that even where information can be readily shared, having multiple ways of inputting information is helpful. Face to face speaking is not convenient for some people in some situations, so be imaginative.
- Vesterlind emphasized the need to reach out to people with real concrete proposals for improving sites
- Sneve concluded by noting that you cannot have concrete proposals for remediation if you don't have a regulatory framework to work within. Recognition of the need for a clear regulatory structure in relation to legacy management is not so obvious in some countries. This is not only important for effective and efficient regulatory supervision, it is also vital to building trust among all concerned.

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