## PANEL SESSION 85: Worldwide Regulatory Challenges of Radioactive Legacy Sites – IAEA International Working Forum

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**Panelists:**

1. **Russel Edge,** *IAEA, Waste Safety (Austria)*
2. **Mikhail Kiselev,** *Federal Medical Biological Agency (Russia)*
3. **David Shafer,** *US DOE, Office of Legacy Management*
4. **Ron Stenson,** *Canadian Nuclear Safety Commission (Canada)*

About 30 people attended this panel session which focused on the progress with the IAEA's International Working Forum on Regulatory Supervision of Legacy Sites (RSLS). The session opened with introductory remarks from Mrs. Sneve, who noted the complex range of issues to be addressed in regulation of legacy sites, and that while RSLS has initially focused on uranium legacies, the scope of RSLS covers all kinds of nuclear legacies.

### Summary of Presentations

**Russel Edge: Two Important IAEA Initiatives on Legacy Sites.** Mr. Edge began his presentation by describing the special challenges associated with legacy sites and the aims and objectives of the RSLS, which has been in operation since 2010.The RSLS aims: to address specific situations at real sites and to support regulatory authorities at those sites; to assist in deriving practical interpretation of generic radiation protection guidance to nuclear legacies; to identify good practice in stakeholder engagement and enhancement of safety culture, and to provide better understanding of the regulatory supervision process. Its activities are supported through 3 working groups, addressing the enhancement of regulatory infrastructure; safety assessment methods; and professional development for regulators. Mr. Edge then described the new Coordination Group for Uranium Legacy Sites (CGULS). CGULS is being set up to support coordination of remediation activities by providing a forum for information exchange and provision of technical advice, and coordinating the actions of members to maximize synergies and avoid duplication of effort. The CGULS geographical focus is central Asia.

**Mikhail Kiselev: RSLS WG1 Enhancing the Regulatory Infrastructure.** Mr. Kiselev introduced the objectives of RSLS WG1 as learning and generalization of the experience of regulators in planning of the legacy management and direct regulatory supervision of the legacy sites, leading to development of recommendations to enhance the regulatory structure. A questionnaire had been developed covering 8 areas of regulatory activities, which had been answered by organisations from 20 national regulatory bodies. Conclusions are being drawn on: the legislative and statutory basis for radiation safety regulation for legacy facilities and sites; the infrastructure and responsibilities of the regulatory body, and the characterization of national programs for legacy site management.

**David Shaeffer: Site Visits to US Uranium Legacy Sites as part of RSLS.** Mr. Shaeffer noted that the reason for setting up of the Office of Legacy Management (OLM) fits with the role of RSLS, and is recognition that not all the legacy problems are solved in the USA. New sources of uranium being developed and the work of RSLS can contribute to the avoidance of creation of new legacies. He noted the OLM's role in long term management of records and implementation of administrative institutional controls (AICs). He then gave an overview of the field visits and workshop in Colorado which gave a very good 'feet on the ground' picture to the participants from 20 countries.

**Ron Stenson: Canada's Legacy Site Regulation and the CLEAN Program:** Mr. Stenson started by providing some basic information about uranium sites and remaining legacies in Canada. A number of legacies had been created and two still remain to be remediated. A Life Cycle approach to mining, underpinned by a regulatory basis, has been adopted, so new legacies not considered likely to occur**.** The National Orphaned and Abandoned Mines Initiative set up in 2001 has produced many publications relevant to RSLS. Government eventually took ownership of legacies by default, but the regulatory body CNSC could not regulate the government operations until the law was changed in 2000. After that date, the CNSC managed the regulation of legacy sites through the Contaminated Lands Evaluation and Assessment Network (CLEAN) program. Even then, some role related issues did not go away, especially when the different agencies had different (albeit reasonably defined) priorities. This reflects the absence of legislation which addresses legacy site issues directly.

**Questions and Answers**

The following was noted, arising from discussion:

The US has seen the evolution of improved regulatory supervision. Tailings sites had been abandoned legally, breaking the licensing chain. This would not happen now. However, the situation with abandoned mines is not yet fully resolved or clarified. There is a need for interim and phased approaches for management, since not all the issues can be resolved in one step. Lack of clean-up standards and complex regulatory systems in some cases are not helpful. However, the issues to be addressed cover many areas leading to complex requirements. The role of safety assessment in helping to resolve some of these issues was noted.

Mining and tailing site legacies are regulated differently from nuclear technology legacy sites. The importance of a national regulatory framework and the capacity to implement it was recognized. International cooperation on multiple fronts can help the development in countries with emerging economies.

Legacy sites often have a gap between operation and remediation, so new exposure situations arise in the interim. This is not limited to developing countries; materials from lots of UMTRICA sites (in the US) were used in housing and other construction. The long term effectiveness AICs is dependent upon many different cultural and societal factors. Well drilling being may not be allowed, for example, but is difficult to enforce. Site re-use with common value makes it less likely to use that future land use will give rise to new exposure.

Concerning how to retain information gained from RSLS activities such as the US field visits and workshop, the IAEA has put all information available on the internet. A TECDOC is in preparation, covering the initial phase of RSLS activities. Further TECDOCs for other legacy sites are anticipated.