

## WM2017 Conference Panel Report

### **PANEL SESSION 61: Key US NRC Regulatory Topics in Low-Level Radioactive Waste Management**

**Co-Chairs:** John Tappert, *US NRC*  
Joseph Weisman, *US Ecology*

**Panel Reporter:** Rateb (Boby) Abu Eid, *US NRC*

#### **Panelists:**

**Gregory Suber**, *Chief of the Low-Level Waste Branch, US NRC*

**Lisa Edwards**, *LLW & Radiation Management Sr. Program Manager, EPRI*

**Charles Maguire**, *Director Radioactive Materials Division, Texas Commission on Environmental Quality*

**Daniel Shrum**, *Senior Vice President, Regulatory Affairs, Energy Solutions*

Session #61 was organized to address Nuclear Regulatory Commission key topics and development pertaining to low level radioactive waste management. The Session was well attended, by approximately 65 participants from different sectors of the public, industry, government, consultants and stakeholders. The main theme was the NRC proposed rule on low-level radioactive waste disposal -10 CFR 61 (80 FR 16081) and its implementation aspects. John Tappert and Joseph Weisman opened the panel session *by* introducing panelists and stating purpose of the session.

#### **Summary of Presentations**

**Gregory Suber** presented update and status of the rulemaking indicating that the final rule was submitted to the Commission in SECY-16-0106 on September 15, 2016. He outlined the major changes in the rule including the analysis timeframe, the defense-in-depth, compatibility, and inadvertent intruder scenarios. He indicated that staff will revise NUREG-2175 based on Commission direction on the final rule. He indicated that the final rule would be effective one year after its publication.

**Lisa Edward** emphasized that EPRI's research indicates that the hazard represented by commercial NPP waste is well enveloped by the 1,000 year compliance period. She concluded that the 1000-year compliance period is adequate to assess risk posed by waste generated from commercial NPPs. She added that the 10,000-year compliance period should be protective for significant inventory of longer-lived radionuclides. She pointed out that the classification Table limits in current 10 CFR Part 61 are outdated and NRC staff should either update or delete such limits. She presented a Table of derived waste classes limits based on new ICRP dose conversion factors showing that some limits increase, some decrease, but current limits focus on wrong nuclides. She emphasized that the concept of "very low-level waste" or "low-activity waste" should be addressed in more detail.

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In this context she presented data from EPRI Report 1024844 indicating that there could be a cumulative of \$6 Billion cost gap over the next few decades through consideration of VLLW classification category, under US LLW waste classification scheme, and consideration of an alternate low-cost disposal path (e.g.; such as RCRA VLLW disposal path) other than the current typical waste disposal option under 10 CFR Part 61.

**Charles Maguire** commended the NRC and its staff for developing the 10 CFR 61 rule and the draft technical support document. He indicated that the State of Texas did not wait for the rule to be issued, rather it licensed the WCS facility based on its risk-informed assessment and decision-making approach which is consistent with the current rule' approach and methodology. He emphasized the great attributes of the WCS site that enhanced decisions through own modeling and risk analysis to support TCEQ regulatory framework. He emphasized that Texas TCEQ would support 1000- year compliance and would go further in its analysis for 10000, peak dose, or even two million years; thus meeting requirements for public safety, protection of potential intruder, as well as protection of the environment.

**Daniel Shrum** also commended the NRC for the extensive work on 10 CFR Part 61 rule development. However; he expressed his concerns regarding the site-stability provisions in the draft rule to demonstrate performance compliance for a 10,000 - year's period and the large uncertainties. He also indicated of ambiguities regarding the extent specific analysis needed to demonstrate compliance with site stability requirement within this timeframe. Further, he expressed concerns regarding the grandfathering provision and the potential unintended consequence. He emphasized that the compatibility of category B is complicated.

### Questions and Answer & Conclusions

A great deal of discussion and comments were made regarding the 10,000 year performance period. The specific analysis required to demonstrate site stability within such time frame and the associated uncertainties needed further clarification. In addition, several questions were raised about the status of 10 CFR Part 61 rule and the anticipated time for Commission action. G. Suber responded that the analysis will be clarified in the final technical basis document and per Commission direction. He added that he could not answer the question about the timeframe for Commission action and need to wait when staff receive direction from the Commission. He noted the changes Part 61 rule have been matured as changes in management and Commission direction with multiple Staff Requirements Memoranda from the Commission. One commenter remarked that the draft 10 CFR Part 61 rule is excessive in its details. Another commenter mentioned that the rule misapplied the "defense-in-depth" concept. A few commenters expressed their views of the need to include provisions for disposal of low-activity waste.

A key question was raised to **Lisa Edward** regarding the basis for estimates of \$6 Billion cost gap over the next few decades through consideration of VLLW classification category under US LLW waste classification scheme and considering an alternate disposal option than the current typical facilities under 10 CFR part 61.

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The questions pertain to the definition of VLLW and the cut-off concentration limit to estimate the volume of such waste category. A speculation of such cut-off limit was mentioned as possibly related to IAEA waste classification scheme under GSG-1.

In summary, Session 61 was well organized, comprehensive, and covered several aspects and issues related to “USNRC 10CFR Part 61 Site-Specific Performance Assessment Rulemaking,” as well as communications and harmonization among State authorities, stakeholders, and the public. The panel members’ presentations and discussion showed good illustrations of potential future actions and recommendations from different perspectives to demonstrate compliance using site-specific analysis to ensure public health safety and environmental protection.