



Update on NRC Low-Level Waste Program – Major Activities

- **Large Scale blending of LLRW-Issued Guidance to Agreement States in March 2011**
- **Storage of LLRW-Issued Regulatory Information Summary (RIS 2011-09) in August 2011**
- **Volume Reduction Policy Statement-Published Revised Policy Statement in May 2012**
- **Branch Technical Position (BTP) on Concentration Averaging - Final Revised BTP expected by December 2013**
- **10 CFR Part 61 Limited Rulemaking - Final Revised Rule expected in 2015 or early 2016**
- **Revisions to Uniform LLRW Manifest Guidance in NUREG/BR0402 - Final Guidance Publication date TBD**



10 CFR Part 61 – Licensing Requirements for Land Disposal of LLRW

- **Performance objectives (Subpart C) assure safe disposal of LLRW:**
 - **Protection of general public**
 - **Protection of inadvertent intruder**
 - **Protection of individuals during operations**
 - **Stability after site closure**
- **Demonstrate performance via technical analysis and waste classification**



Comparison of Proposed 10 CFR Part 61 to the Current Part 61

	<u>Current</u>	<u>Proposed</u>
Protection of General Population (61.41)	<ul style="list-style-type: none">- Pathway analysis- Undefined period of performance- 25 mrem annual WB dose limit- ALARA concept	<ul style="list-style-type: none">- Performance assessment that estimates peak annual dose at 10,000 years following closure of disposal facility- 25 mrem annual dose limit- ALARA concept



Comparison of Proposed 10 CFR Part 61 to the Current Part 61 (Cont.)

	<u>Current</u>	<u>Proposed</u>
Protection of Inadvertent Intruder (61.42)	<ul style="list-style-type: none">- Comply with 10 CFR 61.55 LLRW classification and segregation requirements- Provide adequate barriers to inadvertent intrusion- Undefined period of performance- No annual dose limit	<ul style="list-style-type: none">- Comply with waste acceptance criteria- Provide adequate barriers to inadvertent intrusion- Intruder assessment that estimates peak annual dose that occurs within 10,000 years following closure of disposal facility- 500 mrem annual dose limit



Comparison of Proposed 10 CFR Part 61 to the Current Part 61 (Cont.)

	<u>Current</u>	<u>Proposed</u>
Technical Analysis long-term (61.13)	- None	<ul style="list-style-type: none">- Analyses for 10,000 or more years following closure of disposal facility- Analyses only apply for disposal sites containing 'long-lived' radionuclides exceeding concentration in the new Table A of Part 61.13 (e), or if needed due to site specific conditions- Analyses that demonstrate how the facility has been designed to limit long-term releases.



Potential Revisions to NRC Uniform Manifest Guidance NUREG/BR-0204

- **NUREG/BR-0204 (April 1995)**
 - **Guidance on how to complete NRC Uniform LLRW Manifest – Forms 540, 541, and 542**
- **10 CFR Part 61 rulemaking process**
 - **Certification statement that waste is acceptable for disposal**
 - **Concerns about over-reporting of Difficult-to-Measure (DTM) or “Phantom 4” isotopes: H-3, C-14, Tc-99 and I-129 (reported as less than LLD with LLD in parenthesis)**
 - **Stakeholder recommendation to revise/update NUREG/BR-0204 and minimum detection reporting requirement**
 - **No health and safety issue with the current NUREG**



Potential Consequences

- **Overestimation of activity inflates site inventory**
- **Could result in premature closure of disposal sites for exceeding DTM inventory limits**



Phantom 4 Isotopes (Key Groundwater Dose Drivers)

- **10 CFR Part 61 Final EIS identified four radionuclides based on mobility, solubility and radiological half-life**

<u>Isotope</u>	<u>Half-life (years)</u>	<u>Principal Source</u>
H-3	12.35	Fission
C-14	5730	N-14(n,p)
Tc-99	2.1E5	Fission
I-129	1.17E7	Fission



Guidance Update

- **Public comment and information gathering**
 - **Phoenix, AZ-3/1/2013 (WM conference)**
 - **Rockville, MD-3/3/2013 (NRC Conference)**
 - **Public webinar to discuss revisions-6/26/2013**
- **Draft revised guidance for comments-TBD**
- **Conduct public meeting to discuss revisions-TBD**
- **Publish final document-TBD**