

# **10 CFR Part 61 Proposed Rule Panel Discussion**

**June 25, 2015**

**Charles Maguire, Director, Radioactive  
Materials Division**

**Texas Commission on Environmental  
Quality**





# The Proposed Rule will include a regulatory compliance period of 1,000 years

- Texas supports a minimum 1,000-year regulatory compliance period
- Texas regulations currently require a minimum period of 1,000 years after closure or the period at which the peak dose occurs, whichever is longer, as the period of analysis for conducting a performance assessment (PA)
- Texas has not used the term “*compliance period*” in its regulations – instead we have said “*period of analysis*”
- Texas would like to maintain these current requirements
- We acknowledge that a compliance period of 1,000 years is consistent with decommissioning standards

The Proposed Rule will require a site-specific analysis for protection of the general public within the 1,000-year compliance period with a specific dose limit of 25 mrem/yr.

- Texas supports the requirement for a site-specific analysis and specific dose limit of 25 mrem/yr within the 1,000-year compliance period
- Texas used a period of analysis of 50,000 years and a specific dose limit of 25 mrem/yr in evaluating the original Waste Control Specialists (WCS) application due to the proposed inventory of Carbon-14
- A site-specific analysis is critical given that waste acceptance may be determined by analysis of long-lived radionuclides like Depleted Uranium (DU) or Greater than Class C (GTCC)
- A site-specific analysis was required as part of the application review process for issuing the license to WCS and will continue through the annual PA updates required by the license

The Proposed Rule would require protective assurance analysis and intruder assessment analysis for the end of the compliance period through 10,000 years, built upon the same assumptions contained in compliance period. There is also the stated goal in the proposed rule of keeping doses below a 500 mrem/yr analytical threshold.

- Texas supports the requirement for a 10,000-year protective assurance analysis and intruder assessment analysis with the dose limit not to exceed a 500 mrem/yr
- Texas used a 500 mrem/yr dose limit in evaluating the intruder assessment analysis in the original WCS license application
- The WCS license requires annual PA updates which will include intruder assessment analyses

**The Proposed Rule will require a qualitative analysis covering a performance period of 10,000 years or more after site closure to evaluate the ability of the disposal system to mitigate long-term risks associated with the disposal of long-lived low-level radioactive waste**

- **Texas supports the requirement for qualitative analysis for periods greater than 10,000 years**
- **The updated technical analyses performed by WCS were evaluated for different periods up to 1,000,000 years. This was to evaluate the proposed disposal of large volumes of DU**
- **The annual WCS PA updates have included a qualitative analysis**

**The Proposed Rule will include a clear statement that licensing decisions are based on defense in depth (DID) protections, such as siting, waste forms and radionuclide content, engineered features, natural geologic features of the disposal site, and using performance assessment goals and insights, as well as scientific judgment.**

- **Texas supports basing licensing decisions on DID considerations - this combination of DID and PA should be identified as the “safety case” for licensing**
- **DID warrants a site-specific analysis to account not only for natural features, but also how engineered features contributing to the safety case compliment the natural features**
- **DID at WCS included, but was not limited to:**
  - Depth of burial; Placement of waste in reinforced concrete canisters; Disposal units lined with concrete; Drainage layer in the cover; Cover, floor, and sidewalls includes one foot of concrete among the 10 other layers; NRC Branch Technical Position on Concentration Averaging; Low precipitation rate; Subsurface is compacted clay; Site location; Waste Form; Waste Acceptance Criteria**



The Proposed Rule would be a matter of compatibility between the NRC and the Agreement States, which would ensure consistency between the Agreement State requirements and the NRC requirements.

- Texas supports the changes to the compatibility categories with one request for your consideration:
  - Texas would like to maintain the flexibility to require a compliance period of 1,000 years after closure or the period at which peak dose occurs, whichever is longer
  - Texas would change “period of analysis to compliance period” in its rules
  - A compatibility requirement of “C” as opposed to the currently proposed “B” would therefore allow Texas to ensure a long-term human health and environmental protection level that has served us well in building and maintaining community support for the disposal site

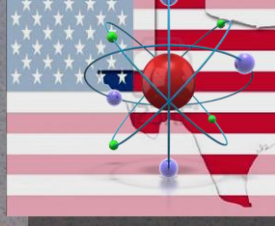
NRC, Proposed Part 61 Revisions

State of Texas Analysis

			Peak Dose
Performance Assurance Compliance	Performance Period	Minimize to extent reasonable achievable	Minimize to extent reasonable achievable
	Protective Assurance Period	Minimize to 500 mrem/yr target or other	Minimize to 500 mrem/yr target or other
	Compliance Period	25 mrem/yr dose limit, ALARA	500 mrem/yr dose limit
		10,000 Years	
		1,000 Years	
		Site Closure	
	Protection of general population (10 CFR 61.41)	Protection of inadvertent intruder (10 CFR 61.42)	
Period of Analysis			
	25 mrem/yr dose limit, ALARA	500 mrem/yr dose limit	
	Protection of general population (30 TAC 336.709, 30 TAC 336.724)	Protection of inadvertent intruder*	1,000 Years
			Site Closure

\*While the intruder analysis and 500 mrem annual limit are not current regulatory requirements, the analysis was performed per NRC guidance.





**Thank you for the opportunity to  
present this information**

**I look forward to your questions.**

