

TEXAS OVERVIEW OF FEBRUARY 2014 PART 61 SRM

NRC STAFF REQUIREMENTS MEMORANDUM (SRM)
CONCERNING THE
PART 61 RULEMAKING INITIATIVE

PRESENTED SEPTEMBER 3, 2014
8TH ANNUAL RADWASTE SUMMIT

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2014 PART 61 SRM



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Proposed rule should be revised to include a regulatory compliance period of 1,000 years.

- Regulatory compliance period of 1,000 years is reasonable and provides greater assurance for shorter-lived radionuclides
- The 1,000 year compliance period is consistent with decommissioning standards in 10 CFR Part 20
- Texas regulations currently require analysis for a minimum of 1,000 years or the time at which the peak dose occurs
- Initial Texas PA used a regulatory compliance period of 50,000 years

Require a 10,000 year intruder assessment analysis

- A 10,000 year intruder assessment analysis is reasonable and will capture doses from the majority of longer-lived radionuclides, with the exception of DU
- Clarification either in rule or in guidance on the difference between intruder analysis and protective assurance analysis and the suggested dose limits for each
- Technical guidance should support streamlining of PA development

The site-specific analysis for protection of the general public within the 1,000-year compliance period should set a specific dose limit of 25 mrem/yr

- Well-established and accepted dose limit – If ain't broke don't fix it
- The 25 mrem/yr dose limit is reasonable and consistent with current performance objective in §61.41
- Technical guidance supporting Part 61 revisions should make a clear distinction between analyses for a member of the public and for the inadvertent intruder

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61 SRM

Dose Limit of
25 mrem/yr for
Protection of
the General
Public

Focus on ensuring a thorough review of the draft guidance by the limited community of disposal operations in the U.S.

- Initial draft guidance was fairly comprehensive compared to NUREG-1573
- Allow stakeholders sufficient time to review and provide comments

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61 SRM

Guidance
Supporting Part
61 Revisions

Intruder assessment should be based on intrusion scenarios that are realistic and consistent with expected activities in and around the disposal site at the time of site closure

- This approach is reasonable and helps reduce speculation and uncertainty regarding societal changes when conducting a PA
- However, it is instructional to evaluate a range of probable intrusion scenarios

Protective assurance analysis should be performed for the period from the end of the compliance period through 10,000 years

- Protective assurance analysis is reasonable and will likely capture doses from the longer-lived radionuclides, i.e. ^{14}C , ^{99}Tc , and ^{129}I
- This analysis could be used to evaluate long-term stability of the engineered features and waste forms
- Further distinction should be made between the intruder assessment analysis and the protective assurance analysis

Protective assurance analysis should be performed for the period from the end of the compliance period through 10,000 years (cont.)

- Does the 500 mrem/yr analytical threshold dose apply to both the intruder analysis and the protective assurance analysis?
- Will the 500 mrem/yr dose limit remain in the proposed draft rule?

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

- Qualitative analysis is reasonable and will capture doses from the longer-lived radionuclides, including DU
- Qualitative analysis can take into account societal, climatic, and geologic changes over time
- Provides a risk-informed approach to regulatory decision-making

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 (cont.)

- Current Texas PA evaluated disposal of large quantities of DU for a timeframe of one million years
- Disposal license requires annual updates to the PA in the form of a Performance Assessment Maintenance Plan

Licensing decisions are based on defense in depth (DID) protections

- DID is a reasonable approach, to a degree
- DID protections were, in part or whole, already evaluated during licensing for the current operating disposal facilities
- The proposed rule should allow flexibility to the currently operating disposal sites in evaluating DID
- Making DID requirements retroactive may put sited states in a position of non-conformance with new rules and, our favorite topic, compatibility

Proposed rule should be published with a compatibility category “B” applied to the most significant provisions of the revised rule

- It’s not clear if the Qualitative Analysis is considered a “significant provision”
- Existing disposal sites are in various stages of operation and may not have the ability to go back in time to change inventory limits or waste acceptance criteria
- Could it be as simple as the sited states demonstrating they have met all the dose limits through the PA’s they have conducted previously? Let’s hope so
- The NRC should consider allowing currently sited states the greatest flexibility either through the compatibility category or as part of proposed rule language
- Continue dialogue among all stakeholders



Questions?

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