

Part 61 Rulemaking Initiative
Comments on Additional Direction
07/31/12

TEXAS

Comments from Texas on the initial Part 61 rulemaking in 2009 were incorporated into the comments developed by the Part 61 Working Group. Texas still takes the same position on those comments, as applicable. Texas is providing additional comments on the direction to amend the rulemaking to include the following:

- Allow licensees the flexibility to use ICRP dose methodologies in a site-specific performance assessment for the disposal of all radioactive waste.

Comment: Dose methodologies should be based on the best available science. Effects, if any, on the methodology for calculation of organ doses should be specified in the existing limits in 61.41.

- Use a two-tiered approach that covers the reasonably foreseeable future and a longer period of performance that is not *a priori* and is established to longer timeframes.

Comment: The term “reasonably foreseeable” is too subjective. Suggest use of different terminology to better define future timeframes. This does not necessarily mean specifying period(s) of performance. The use of a two-tiered or multi-tiered approach may be acceptable as long as the states have flexibility in evaluating varying period(s) of performance. This may be driven by the generation origin of depleted uranium (i.e., spent fuel reprocessing or DU waste from enrichment). For compliance with Part 61 requirements Texas currently requires a period of performance for a minimum of 1,000 years or the time at which peak dose occurs. This provides the flexibility to evaluate various timeframes and maintain compatibility even if the NRC chooses to retain the proposed 20,000 year tier for time of compliance.

Longer timeframes of performance must be evaluated carefully with the understanding that regulatory decisions will be made with a greater emphasis on current policy rather than strict dose limits. Timeframes approaching millions of years for evaluating disposal of DU become purely speculative in nature as the uncertainty with future conditions and uncertainty with modeling parameters increases. In this regard, some might consider shallow land burial of DU unacceptable due to the uncertainties associated with major climatic changes, societal changes, and changes in geologic features caused by erosion. This may prompt consideration of a different type of land disposal for DU, possibly greater depth of burial. There is no geology, no climate, and no

engineering design that can be expected to remain static for timeframes approaching a million years or more.

Based on comments previously submitted by the State of Utah on the initial Part 61 rulemaking, the ingrowth of DU progeny occurred at much shorter timeframes than what the NRC had originally determined in their DU disposal analysis. These shorter timeframes may be instructive in reducing speculation and uncertainty, at least to some degree. Texas has not evaluated disposal of DU yet.

- Base the performance period on the site-specific characteristics (waste package, waste form, disposal technology, cover technology and geohydrology).

Comment: The current NRC rules and guidance on evaluating long-term performance do not recommend taking credit for waste form or any engineered features beyond 300-500 years. The site-specific characteristics, geology, hydrogeology, and arid versus humid are presently considered when evaluating long-term performance of a disposal site. Due to the long timeframes for evaluating DU and the uncertainty with how waste form, disposal technologies, and cover technologies will perform over the long term, only studied, tested, and best available technologies should be considered. Disposal unit characteristics and, to a large degree, waste form characteristics cannot be relied upon for longer timeframes. Furthermore, performance periods based on other factors such as geochemistry within the disposal unit must be approached with caution. Taking credit for geochemical interactions, such as pH that retards transport, between the waste and the surrounding environment without sufficient study can make dramatic differences in when the peak dose occurs or if any dose occurs at all. Obviously, the performance period is also driven by the radionuclide inventory.

If the NRC chooses to base the period of performance on waste packaging, waste form, disposal technologies, etc. then demonstrating meeting performance objectives may be burdensome or almost impossible for site development because this will add additional uncertainty in the analysis. Limited credit for engineered features may be appropriate on a case-by-case basis.

- Allow for flexibility for the disposal facilities to establish site-specific waste acceptance criteria based on the results of the site's performance assessment and intruder assessment.

Comment: Although not explicitly stated in Part 61, flexibility for establishing site-specific waste acceptance criteria has been understood by the current operational disposal sites. The performance assessment (PA) guidance document, NUREG-1573, suggests that if performance

objectives cannot be met that limits on inventory be imposed. Texas has taken this approach and will continue to refine the PA to reflect changes in inventory and additional site-specific data over the operational life of the disposal site. Texas has a unique arrangement as compared to the other sited states in that Texas will take ownership of the site and the waste upon closure and license termination. The State of Texas has a vested interest in the waste types, waste forms, and specific criteria for waste disposal to ensure that performance objectives will be met now and in the future. Additionally, the Texas Radiation Control Act statutorily requires the State of Texas to develop waste acceptance criteria.

The waste classification tables, even if modified with this rulemaking, should be retained. Allowing waste acceptance based solely on a PA is problematic. Too much uncertainty and subjectivity in a PA could allow disposal of wastes that fall outside the definition of low-level radioactive waste.

In developing site-specific waste acceptance criteria it is important to seek input from all stakeholders. Licensee waste acceptance plans may not provide the specificity needed by generators to ensure their waste will be accepted without additional processing or re-packaging. A site-specific waste acceptance criteria approach maintains doses As Low As is Reasonably Achievable (ALARA) and provides some certainty to generators that if their waste is packaged in a certain manner and meets all the criteria it will be transported and received ready for disposal.

- Establish a compatibility category for the revised rule that sets up the requirements for site-specific performance assessments, and the development of the site-specific waste acceptance criteria that ensure alignment between the States and Federal government on safety fundamentals, while providing the States with the flexibility.

Comment: It's not clear by this directive what "ensure alignment between the States and Federal government on safety fundamentals" means. The State of Texas is currently in alignment with the federal government as is demonstrated through Agreement State status and IMPEP reviews. Part 61 already allows for site-specific performance assessments. If a new compatibility category is being considered for site-specific waste acceptance criteria, the NRC should allow flexibility through either the "D" or "H&S" compatibility category.