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THE TEXAS SOLUTION

Cindy Bladey, Chief, Rules,
Announcements, and Directives Branch (RADB),
Office of Administration, Mail Stop: TWB-05-B01M,
U.S. Nuclear Regulatory Commission,
Washington, DC 20555-0001.

7/11/2012
77FR 40817
(13)

- References:
- (1) Texas Radioactive Material License N0. R04100, Amendment 17
 - (2) Federal Register Notice, "Low-Level Radioactive Waste Regulatory Management Issues", FR Vol.77, No.133, Wednesday, July 11, 2012, pp.40817-40820
 - (3) Commission Action Memorandum (Revisions to Part 61, COMWD-11-0002/COMGA-11-0002, published on November 3, 2011
 - (4) Commission Action Memorandum (COMWDM-11-0002/COMGEA-11-002), Staff Requirements – Revision to 10 CFR Part 61, published on January 19, 2012

Subject: WCS Comments on Part 61 Update, Docket ID NRC-2011-0012

Dear Ms. Bladey:

Waste Control Specialists LLC (WCS) is pleased to provide comments on activities related to a risk-informed, performance based comprehensive revision to Title 10 of the Code of Federal Regulations, Part 61 (10 CFR Part 61) as requested in References 3 and 4. WCS participated in all public meetings conducted on this issue and issued substantive comments for the record at that time. These comments are in addition to and supplement those provided at those meetings.

This rulemaking is very important to WCS in that we are currently operating a Low-Level Radioactive Waste (LLRW) disposal facility in West Texas and accepting Class A, B, and C LLRW. This is the first disposal facility that was designed, analyzed, constructed, and operated completely under the framework of 10 CFR Part 61 regulations. It is hoped that this rulemaking can provide the necessary guidance and requirements to insure that Part 61 is being uniformly implemented by the Agreement State regulators.

Comments on issues in Reference 4:

Flexibility to use updated International Commission on Radiological Protection (ICRP) dose methodologies in site specific Performance Assessments (PAs).

Corporate
5430 LBJ Freeway, Ste. 1700
Three Lincoln Centre
Dallas, TX 75240
Ph. 972-715-9800
Fx. 972-448-1419

Facility
P.O. Box 1129
Andrews, TX 79714
Ph. 888-789-2783
Fx. 505-394-3427

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E-RFDS = ADM-03
Add = D. Lowman (dbl1)

WCS supports the use of updated ICRP methodologies in site specific PA's. This issue should be addressed in a way that provides flexibility for inclusion of future updates without the need to change regulations or guidance.

Two tiered approach for period of performance and the reasonably foreseeable future.

WCS supports a period of performance (compliance) of 10,000 years. This is a reasonable compromise between 20,000 years and other existing or proposed much lower standards. This time frame has also been codified by the State of Utah for significant quantities of concentrated depleted uranium (R313-25-8(5)(a)). This time period provides a reasonable safety objective that will adequately capture the impacts of radionuclides that are important in the reasonably foreseeable future and should be limited to the dose standard of 25 millirems/yr (0.25 mSv/y).

For a well designed and sited facility, such as the WCS site located in Andrews County, Texas, the methodology for the second tier (after the period of performance) is much more important and may be the only impact for the ground water pathway. When conducting a PA it is important to note that the waste class is only based on the concentration of the controlling radionuclides. In the various exposure scenarios that are considered in the PA, concentration is only important for the worker, accident, and intruder scenarios. The intruder scenario is the only one that uses a decayed source term, and impacts should be evaluated for the only the period of performance. For the scenarios involving the air and groundwater pathways only the total inventory is important and both use a decayed source term. The air pathway peak dose typically occurs during the period of performance, except for radon in the DU waste stream. So the major pathway of concern for the second tier is the groundwater pathway. Because of this, WCS believes that the tier two analyses should primarily be used to establish inventory limits for long lived mobile radionuclides.

The groundwater pathway is a function of many parameters, some of which are dependent on changes in other parameters. Since the uncertainty of all these parameters increases as a function of time, impacts that occur beyond the period of performance need to be discounted for purposes of establishing inventory limits. There is precedence in regulations established by the U.S. Nuclear Regulatory Commission (NRC) and the U.S. Environmental Protection Agency (EPA) regarding how this discounting may be considered. For example, larger dose limits, like 100 millirems/yr (1 mSv/y) could be used for evaluating peaks that occur after the period of performance and these longer term peak doses could be used to establish inventory limits. Any methodology selected for the tier two analyses must be fairly specific and not just characterized as a qualitative analysis. A compatible standard is needed so that this requirement is uniformly implemented by Agreement State regulators.

Flexibility should be provided, regarding the use of a deterministic or probabilistic analysis needed for demonstrating compliance with any future regulations. If a probabilistic analysis is used, compatible acceptance standards need to be provided in either in regulatory guidance and/or in rulemaking to ensure uniform implementation by the licensed community.

Existing language in 10 CFR Part 61.7(a)(2) states that site characteristics should be evaluated for at least a 500-year time frame. WCS believes that the time frame for evaluation of site

characteristics in this section should be at least as long as the period of performance. Otherwise the performance period is meaningless, since projected changes to site characteristics are critical to a realistic performance assessment. A 500-year timeframe for evaluating site characteristics would not even support lower proposed performance periods, such as 1,000 years, such as is currently required for decommissioning of nuclear facilities as specified in the License Termination Rule (i.e., 10 CFR 20, Subpart E).

Flexibility for disposal facilities to establish site specific waste acceptance criteria

Flexibility to establish site specific waste acceptance criteria using site specific performance assessment should be restricted to special cases like evaluation of unique waste streams. This could simply be done by adding more specificity to Section 61.58 and requiring compatibility by Agreement States.

Using site-specific performance assessment for the purpose of establishing new classification limits would not be practical or feasible under the existing legislative and regulatory framework. This is due to the fact that the Low Level Waste Policy Act Amendment of 1980, as amended in 1985 (LLRWPA) provides a date certain specification for the waste classification in 10 CFR Part 61.55 to delineate the responsibilities of States and those belonging to the Federal government for Greater Than Class C LLRW (GTCC). Furthermore, most states have also adopted this definition in state law. It is considered highly unlikely that a state would allow a disposal site operator to change these limits based on a site-specific performance assessment that would allow acceptance of waste not defined by the law as state responsibility or those that mandated to the Federal government. This is the same reason that changing the 10 CFR Part 61.55 waste classification tables for any reason would be extremely difficult to implement.

Agreement State compatibility

Specifying the category of Agreement State compatibility for the various sections any 10 CFR Part 61 changes is critically important to insuring that the requirements are uniformly implemented to satisfy all of the intended health and safety implications. WCS strongly believes, at a very minimum, that any 10 CFR 61, Subpart C changes and the technical analysis (section 61.13) sections that support these changes should be Category A compatibility. In the initial Part 61 rule, Subpart C was the equivalent of Category A compatibility and this should be maintained. If strict compatibility is not required then the development of this rule could be a non-productive effort, since all LLRW sites are regulated by Agreement States.

Other issues:

WCS strongly supports adding a 500 millirems/yr (5 mSv/y) dose limit for inadvertent intruders in 10 CFR Part 61.42(a) and the requirement for a site specific analysis. This addition will ensure uniform implementation of this performance objective if Compatibility Class A is required for implementation by Agreement States. Regardless of the location of the site, standard intruder scenarios, such as specified in the NRC existing guidance (NUREG/CR-4370, Update of Part 61 Impacts Analysis), need to be assumed for all sites. For example, it would be difficult to justify that a homesteader would not intrude upon the site with other than a probability of one,

especially since this analysis should cover the entire performance period. At the very least, a drilling scenario should be required to be performed at all sites, since this scenario provides additional assurance that any future intruder would be protected for this more probable exploration scenario. As part of this scenario, NRC needs to provide additional guidance on the impact of intruder barriers on when the driller may be successful in terms of breaching these barriers. This would address the question as to when this scenario would be assumed to occur.

The NRC needs to immediately address the important issue of current over reporting of mobile radionuclides on the NRC manifests. These radionuclides include Cl-36 (which is not a class driver and hence sometimes not reported on the manifest), I-129, Tc-99, and C-14. Of these, I-129 is probably the most abused. There are two issues related to this problem: (1) consistency in reporting of the Minimum Detectable Concentration (MDC) and (2) providing a methodology to estimate real values that are below the MDC.

On the first issue, WCS has data which shows that the MDCs for I-129 can vary by about five-orders-of-magnitude and some generators are not bracketing the values as MDC on the manifest. An immediate solution to needed to remedy this issue could be requiring a lower, achievable MDC that is uniformly required for all licensees, and which is implemented through regulatory guidance and by the NRC inspection program waste audits at nuclear power plants and other material licensed facilities. The NRC guidance on manifesting instructions also needs to be changed to clarify this issue.

The second issue may be more difficult to address. The NRC and the industry need to develop a methodology that can provide more realistic concentrations for these radionuclides that is easy to use and cost effective. For example failed fuel data along with gap activity could be used as a bounding value for those radionuclides that are fission products. Again WCS has data that reports I-129 MDC that approach 2% of the core inventory, which would require about 100% cladding failure. For non-fission products like Cl-36, bounding calculations could be used based on the estimated concentrations of these activation radionuclides in the reactor coolant.

WCS believes that reducing the over conservative levels of radiological measurements being reported on the NRC Manifest would significantly conserve the disposal capacities of existing disposal facilities. These actions are especially needed given the difficulties in siting/opening new waste disposal facilities as envisioned under the LLRWPA.

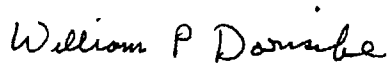
This rulemaking needs to address and provide a final determination on issue of disposal of Depleted Uranium (DU). It is our understanding that DU disposal may be addressed in the rulemaking by requiring a site-specific performance assessment. However, there is still the open Commission directive to determine the proper classification for DU. Conceptually, this approach is counter to the directive set forth by the Commission and does not provide closure regarding the proper classification of DU based on its impacts to public health and the environment. In short, how can a site-specific performance assessment approve disposal of DU if its classification could change in the future from Class A to Class B/C or perhaps even to GTCC.

If detailed guidance will be issued to support this rulemaking, WCS believes that this guidance should be made available for public comment prior to finalization of the rule so that it will be clear how the regulatory process will be conducted and harmonized under a consistent national framework. Some measure of Agreement State compatibility needs to be specified for this guidance.

WCS believes that a Performance Assessment Management Plan should be required as part of this rulemaking. This plan would require periodic updating of the PA to evaluate changes to the source term and updated site characterization data.

WCS requests that a copy of all correspondence regarding this matter be submitted directly to my attention by fax (717-540-5102) or email (bdornsife@valhi.net). Thank you for your consideration of this submission.

Sincerely,

A handwritten signature in cursive script that reads "William P Dornsife".

William P. Dornsife, PE
Executive Vice President, Licensing and Regulatory Affairs

cc:

Larry Camper (NRC)
Gregory Suber (NRC)
Rodney Baltzer (WCS)
J. Scott Kirk, CHP (WCS)