

**WASTE CONTROL
SPECIALISTS LLC**

June 17, 2011

June 17, 2011 (4:30 pm)

Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
Attn: Rulemakings and Adjudications Staff

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

Subject: Waste Control Specialists LLC Comments on Part 61: Site Specific Analyses for Demonstrating Compliance with Subpart C Performance Objectives Preliminary Proposed Rule Language, Docket ID NRC-2011-0012

Waste Control Specialists LLC ("WCS") is pleased to provide comments on the Nuclear Regulatory Commission's ("NRC") preliminary proposed rule amendments entitled "Site Specific Analyses for Demonstrating Compliance with Subpart C Performance Objectives" as announced in the Federal Register on May 3, 2011 (the "Proposal").¹ WCS participated in the public meeting conducted on May 18, 2011, and is providing these comments as a supplement to those provided at that meeting. The public meeting was very informative and provided needed information to better understand the basis and concepts behind the changes in the Proposal.

This proposed rulemaking is very important to WCS because we have licensed and are currently constructing a Class A, B, and C Low-Level Radioactive Waste ("LLRW") Disposal Facility (the "LLRW Disposal Facility") in West Texas.² WCS' LLRW Disposal Facility is the first disposal facility that was designed, analyzed, and built completely under the framework of the 10 CFR Part 61 regulations. This rulemaking can provide the necessary guidance and requirements to ensure that Part 61 is being implemented uniformly by all Agreement States designated by NRC under Section 274 of the Atomic Energy Act of 1954, as amended.

WCS offers the following general and specific comments on the Proposal, Technical Basis, and Technical Analysis.

General Comments:

Specifying the category of Agreement State compatibility³ for the various sections of the rule is critically important to ensuring that the requirements are uniformly implemented to achieve all of the intended health and safety protections. WCS strongly believes that the Subpart

¹ See 76 Fed. Reg. 24831 (May 3, 2011). The docket for the Proposal also includes a Technical Basis for Proposed Rule to Amend 10 CFR Part 61 to Specify Requirements for the Disposal of Unique Waste Streams, including Large Quantities of Depleted Uranium (NRC Accession No. ML111040419) ("Technical Basis") and the Technical Analysis Supporting Definition of Period of Performance for Low-Level Waste Disposal (NRC Accession No. ML111030586) (the "Technical Analysis"). WCS is also providing comments on these documents.

² See Texas Radioactive Material License No. R04100, Amendment 07 ("WCS's LLRW Disposal Facility License").

³ See NRC's *Policy Statement on Adequacy and Compatibility of Agreement State Programs* at 62 Fed. Reg. 46517, 46522 (September 3, 1997) for compatibility category definitions.

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C changes and the technical analysis requirements (*i.e.*, section 61.13) 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 the Proposed Rule could be unproductive, since all LLRW disposal sites are regulated by Agreement States.

It is not clear why the changes in the Proposal are being proposed in advance of the more comprehensive changes to Part 61 that are ongoing. WCS is aware that the NRC directed the staff to deal with the depleted uranium ("DU") issue in the nearer term. WCS is concerned that the far-reaching policy issues that will apply to all LLRW waste disposal (for example, using total effective dose equivalent and the 20,000 year performance period) as proposed do not effectively address the long-term hazard issue associated with DU and would be better addressed in the longer term rulemaking. This is discussed in more detail in the period of performance comments below.

The Technical Basis indicates that the Proposal is intended to apply to blended waste. Although the proposed changes to Subpart C would appear to apply to all waste streams, the previously issued draft guidance on intruder protection needs to be revised to reflect the requirements of the Proposal.

If detailed guidance will be issued to support this rulemaking, 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. Some measure of Agreement State compatibility needs to be specified for this guidance.

WCS agrees with the change to using total effective dose equivalent. However, NRC needs to find a way of expressing this measure in a way that allows Part 61 to evolve with changing standards. The effective dose equivalent is based on the current Part 20 assumed dosimetry, but this dosimetry is well behind the understanding that is recognized by the international radiation protection standards community.

WCS believes that a Performance Assessment ("PA") maintenance plan should be required. This plan would require periodic updating of the PA to evaluate changes to the source term, updated site characterization data, and rules changes.

Specific Comments:

Period of Performance

WCS strongly supports the performance period of 20,000 years proposed in section 61.41(b). The Proposal requires demonstration through a PA that the peak dose not exceed 25 mrem/yr total effective dose equivalent to any member of the public. The nature of the demonstration needs to be specified. A satisfactory demonstration could mean that only a deterministic PA must have results that satisfy the limit, or it could also allow a probabilistic

analysis, recognizing the uncertainty of the input parameters. If a probabilistic analysis is used, guidance that is strictly compatible, such as the use of a 95% confidence level, needs to be provided to ensure uniform implementation.

The Proposal section 61.13(e)(2) establishes no dose limit or other possible methods to account for peak dose that may be unacceptable after 20,000 years. This allows differing interpretations by Agreement State regulators as to how this will be evaluated and enforced. It also does not adequately and consistently capture the long-term risk from unique waste streams, like DU, that appears to be the intended purpose of this rulemaking. It is recognized that the uncertainty of PA analyses increases as a function of time, but there is precedence in NRC and U.S. Environmental Protection Agency ("EPA") rules on how this uncertainty may be considered. For example, larger dose limits, like 100 mrem/yr, could be used for evaluating peaks that occur after 20,000 years and these longer term peak doses could be used to establish inventory limits. The failure to require a dose limit or other method to account for peak dose after 20,000 years is a critical shortcoming of the Proposal that was intended to evaluate unique waste streams and will lead to non-uniform implementation if not corrected.

Existing language in 10 CFR Part 61.7(a)(2) states that site characteristics should be evaluated for at least a 500-year timeframe. The 500-year timeframe for evaluating site characteristics does not support the proposed 20,000-year performance period. The timeframe for evaluation of site characteristics 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 PA.

Inadvertent Intruder

WCS strongly supports adding a dose limit for inadvertent intruders in section 61.42(a) and the requirement for a site-specific analysis. This will ensure uniform implementation of this performance objective if Compatibility Category A is required for implementation by Agreement States. However, the 500 mrem/yr limit is not supported by any analysis in the Technical Basis or Technical Analysis. It appears that the limit is a carryover from what was used in the original Part 61 Environmental Impact Statement to develop the waste concentration limits. At that time, the dose limit to the public was also 500 mrem/yr. But that dose limit has since been reduced to 100 mrem/yr, and therefore the limit for the inadvertent intruder should also be lowered to 100 mrem/yr. This new limit could be evaluated and enforced by the site-specific analysis for inadvertent intrusion that is required by this Proposal.

The Proposal section 61.7(c)(7) requires that an inadvertent intruder must be assumed to occupy the site after closure and engage in activities that unknowingly result in exposure to radiation. This language should be revised to match section 61.42(a); *i.e.*, Proposal section 61.7(c)(7) should explicitly require the assumption that the inadvertent intruder occupies the site at any time after active institutional controls over the disposal site are removed. Regardless of the location of the site, standard intruder scenarios, as specified in the NRC existing guidance (NUREG/CR-4370, *Update of Part 61 Impacts Analysis Methodology*), needs

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 is proposed to include the entire performance period. As NRC states in the Technical Basis, the 20,000-year performance period is anticipated to capture longer term phenomena like climate change.

In the revised Proposal section 61.7(c)(6), the example for intruder barriers specifies burial below 30 meters. This does not comport with the 5-meter intruder protection burial depth for Class C waste in 10 CFR Part 61.52(a)(2). In addition, it should be specified that only uncontaminated cover thickness, and not disposed waste layers, will qualify in meeting this deeper burial requirement.

Proposal section 61.7(c)(7) states that the intruder barrier requirement to limit the exposure to the inadvertent intruder is for the duration of the compliance period. This longer term performance requirement would appear to exclude most man-made engineered structures from being an effective intrusion barrier. This interpretation is acceptable to WCS.

Comments on Technical Analysis

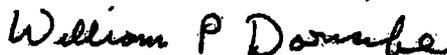
The RESRAD analysis included as an attachment to the Technical Analysis is not realistic in that it assumes no cover and therefore the dose is overwhelmed by the radon source term. Using more realistic assumptions, the ground water pathway may be much more important, especially near and after the 20,000-year performance period.

* * *

WCS agrees that a safe LLRW disposal solution is needed for the protection of public health, the environment, and national security. We believe that these objectives can be met by sound regulations and their uniform implementation, and that it can be demonstrated that disposal of Class B/C LLRW, including sealed sources, can be safe not only in the short term, but for many generations to come. WCS believes that its Disposal Facility in Andrews County, Texas, will meet these objectives.

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 these comments.

Sincerely,



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

WCS Comments
Secretary, U.S. Nuclear Regulatory Commission
June 17, 2011
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cc:

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AUS01:609642.2

Rulemaking Comments

From: Jeff Skov [jskov@VALHI.NET]
Sent: Friday, June 17, 2011 3:57 PM
To: Rulemaking Comments
Cc: Bill Dornsife
Subject: WCS Comments for Docket ID NRC-2011-0012
Attachments: WCS Comments, Docket ID NRC-2011-0012, 6-17-11.pdf

Waste Control Specialists LLC (WCS) is pleased to submit the attached comments for Docket ID NRC-2011-0012 as requested in the U.S. Nuclear Regulatory Commission's Federal Register Notice of May 3, 2011, *Site-Specific Analyses for Demonstrating Compliance with Subpart C Performance Objectives* (76 Fed. Reg. 24831).

A hard-copy is being sent via registered mail this afternoon.

Please contact me if you have questions or desire additional information.

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