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OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

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

Louisiana Energy Services, LLC
NRC Docket 70-3103

Subject: Louisiana Energy Services, LLC, URENCO USA, Submittal of Comments on the November 2012 Preliminary Rule Language [NRC-2011-0012]

Reference:
(1.) Letter from Gregory OD Smith, Chief Operating Officer, (NEF-09-00209-NRC) to Chief, Rulemaking and Directives Branch, dated November 2, 2009 and entitled "Submittal of Comments on Proposed Rulemaking"
(2.) November 2012 Preliminary Rule Language for Proposed Revisions to Low-Level Waste Disposal Requirements, (10 CFR61) [NRC-2011-0012].
(3.) Regulatory Analysis for Proposed Revisions to Low-Level Waste Disposal Requirements (10CFR part 61), dated November 29, 2012, and released December 3, 2012.
(4.) 77 Fed. Reg. 72,997 (Friday, December 7, 2012), "Low Level Waste Disposal-Regulatory basis and Preliminary Rule Language, Second Request for Comment."

Louisiana Energy Services, LLC, (LES), dba URENCO USA (UUSA) appreciates the opportunity to provide comments (see Enclosure) on the Nuclear Regulatory Commission's potential rulemaking "November 2012 Preliminary Rule Language for Proposed Revisions to Low-Level Waste Disposal Requirements" (10 CFR Part 61) [Docket NRC-2011-0012].

Should there be any questions concerning this correspondence, please contact Timothy Knowles, UUSA Licensing and Performance Assessment Manager, at 575.394.6212.

Sincerely,

Jay Laughlin
Chief Nuclear Officer and Head of Technical Services

Enclosure: URENCO USA Comments on Potential Rulemaking

SECY-067

DS-10

ENCLOSURE

URENCO USA Comments on Potential Rulemaking "November 2012 Preliminary Rule Language for Proposed Revisions to Low-Level Waste Disposal Requirements" (10 CFR Part 61) [Docket NRC-2011-0012]

UUSA General Comment: In a site specific performance assessment (PA), UUSA supports the use of updated ICRP methodologies, and the flexibility provided for inclusion of updates most likely without regulation changes.

§61.2 Definitions
Compliance Period: Compliance period is the time during which compliance with the objectives specified in 61.41, 61.42, and 61.44 must be demonstrated. This period ends 10,000 years after closure of the disposal facility.

UUSA Comments: There appears to be inconsistency with precedents from DOE and EPA associated with near surface disposal regarding the NRC proposed rule making. Establishment of a compliance period of 10,000 years after closure seems out of sync and in a two step approach, 1,000 years would be better served on the issue. Longer term calculations in the second phase beyond 1,000 years could be considered.

Long-lived waste: Long-lived waste means (1) waste where more than 10% of the initial radioactivity remains after 10,000 years (e.g. long-lived parent), (2) waste where the peak activity from progeny occurs after 10,000 years (e.g. long-lived parent...short-lived progeny), or (3) waste where ten percent of the peak activity within 10,000 years (e.g. short lived-parent...long-lived progeny).

UUSA Comments: This definition and the significance of identifying a waste stream as long-lived waste is not clear, nor is the need to include it in the regulation. Any implication that may be demonstrated with long-lived waste and shallow or near surface burial, needs to be better defined before a definition such as this is given. UUSA recommends removing this definition.

Performance Assessment: Performance assessment is an analysis that (1) identifies the features, events, and processes that might affect the disposal system: (2) examines the effects of these features, events, and processes on the performance of the disposal system; and (3) estimates the annual dose to any member of the public caused by all significant features, events, and processes.

UUSA Comments: UUSA questions why the NRC chooses to develop their own definition or approach on performance assessment, especially when it has resulted in some departure from other established protocols by cognizant advisory groups and agencies. Case in point here is National Council on Radiation Protection & Measurements (NCRP) Report 152, which, like most documents from the NCRP, is widely accepted in the area of performance assessment. UUSA recommends the NRC re-evaluate its position before any final rule would be issued.

§61.7 Concepts
(a)(2): "...in choosing a disposal site, site characteristics should be considered in terms of the indefinite future, take into account the radiological characteristics of the waste, and be evaluated for at least a 500 year time frame."

UUSA Comment: In accordance with 61.7(e)(3) intruder barriers are to be designed for a maximum of 500 years. Therefore, it is unclear why the disposal site characteristics are evaluated for 500 years when the compliance period is set at 10,000 years. UUSA asks that the NRC clarify its technical position.

(c)(4): "the intruder assessment must assume that an inadvertent intruder occupies the disposal site after closure and engages in activities that unknowingly expose the intruder to radiation from the waste."

UUSA Comment: If the intruder barrier is robust and does its intended job as specified, why must the assessment assume an inadvertent intruder will engage "in activities that unknowingly expose him/her to harmful radiation from the buried waste?" In NUREG-1573, "A Performance Assessment Methodology for Low-Level Radioactive Waste Disposal Facilities" (NRC,2000), the staff acknowledged that applicants and licensees are not expected to perform intruder dose analyses because the waste classification and segregation requirements found in 10 CFR 61.13(b) (not being proposed for change) were developed to protect an inadvertent intruder. The statement in 61.7 (c)(4) is contradictory to NUREG-1573. As provided also in "Regulatory Analysis For Proposed Revisions to Low-Level Waste Disposal Requirements", (10 CFR Part 61, November 29, 2012, Section 4.1), "Site Specific Performance Assessment and Other Considerations," raises the question as to why the related analysis in NUREG-1573 doesn't provide sufficient basis such that the assumption being required is really not necessary. UUSA asks that the NRC clarify its technical justification for this assumption. It should be noted too, that under CERCLA, both the EPA and DOE assume no intruder ever enters the site, and in the case of DOE Facilities, DOE assumes it will control the site forever. Within the EPA, this is also true for hazardous waste under the Resource Conservation and Recovery Act (RCRA). This is inconsistent with the NRC's justification for assuming loss of site control after the institutional period, and failure to acknowledge practices that have been researched and implemented by other government regulatory agencies.

(c)(5): Waste with significant concentrations and quantities of long lived radionuclides may require special processing, design, or site conditions for disposal. Demonstrating protection of the general population from releases of radioactivity and inadvertent intruders for the disposal of this waste requires an assessment of long-term impacts. Performance period analyses are used to evaluate the suitability of this waste for disposal on a case-by-case basis. In general, for disposal facilities with limited quantities of long-lived waste, performance period analyses are not necessary to demonstrate protection of the general population from releases of radioactivity and protection of inadvertent intruders. However, there may be site-specific conditions that require licensees to assess disposal facilities beyond the compliance period even when long-lived waste is limited. These conditions should be evaluated on a case-by-case basis to determine whether analysis beyond the compliance period would be required.

UUSA Comment: The State of Utah Bureau of Radiation Control (UBRC) has performed analysis regarding "peak dose" in long-lived waste and has found it to be very complicated. Long-lived waste in 61.2 "Definitions," has a 3 part test in the

specific definition to include: 1) minimum T1/2 (> 3,000 years), 2) long-lived parents with short-lived progeny, and 3) short-lived parents with long lived progeny. UUSA agrees with the URCB recommendation that "limited quantities" must be defined somewhere in the rule and exemption from PA analysis should not be guaranteed de facto.

UUSA General Comment (global): UUSA proposes that the NRC replace the word "occupy" with "enter" in the definition of inadvertent intruder and elsewhere throughout the preliminary language. An intruder might engage in a number of activities, but it seems inappropriate to dwell on use of the term "occupy" thus describing actions of a person, as it implies that person is residing on the property or "nesting." With use of the term "enter," it is clear that an intruder assessment requires that a person assume that an intruder has physically entered the property.

(e)(4): "Enhanced controls or limitations could include....more robust intruder barriers such as burial below 30 meters..... These enhanced controls or limitations could mitigate the uncertainty associated with the evolutionary effects of the natural environment and the disposal facility performance over the compliance period."

UUSA Comment: The proposed rulemaking generally relies on extreme intruder protection criteria. However, as stated in (e)(4) above, the simple approach of just burying waste containers deeper, i.e. below 30 meters, to provide more intruder protection and attenuation of any radiation fields seems a viable solution. Thus it seems as if the NRC has not followed guidelines as stated in 61.7 (e)(4). UUSA asks that the NRC clarify its technical justification.

§61.41 Protection of the general population from releases of radioactivity:
(b)
"Reasonable effort should be made to maintain releases of radioactivity from a disposal facility to the general environment As Low As Reasonably Achievable (ALARA) at any time during the Period of Performance (POP)." Compliance with the paragraph must be demonstrated through analyses that meet the requirements specified in 61.13(e).

UUSA Comment: There appears to be a contradiction in the use of "general population" in the title when the text uses the phrase "any member of the public." Conceptually these are two different terms. In use of the term "any member of the public," it has to be interpreted to be focusing on the most vulnerable members such as children where rapidly dividing cells are more susceptible to ionizing radiation exposure. The proper way to do a population risk assessment is to consider who the receptors are, what activities they would be performing, and what typical exposures they would encounter. The current approach here does not appear to follow a standard methodology or practice.

§61.42 Protection of inadvertent intruders
(b): "reasonable effort should be made to maintain exposures to any inadvertent intruder ALARA at any time during the POP."

LES Comment: The introduction of ALARA concepts here, with primary focus on the second tier or second period of compliance, is confusing. UUSA finds this requirement for ALARA analysis not fully transparent and subject to different interpretations. Public meetings to date may have not focused enough on this issue

and most likely need to be implemented before integration into the final rule. The application of the ALARA protocol to exposure to an inadvertent intruder during the performance period, opens many stakeholder questions. UUSA believes all stakeholders probably need a better understanding of the ALARA concept here as it pertains to 10 CFR Part 61. UUSA recommends that, during future public meetings, the ALARA principle be clearly defined and discussed for the stakeholders.

Regulatory Comments

UUSA has reviewed the preliminary rule language and the associated documents and has comments in two areas: (1) drafting of regulatory language and (2) development of guidance that supports regulatory requirements.

Concerning the first matter, certain language proposed in the preliminary rulemaking does not appear to fully take into consideration recognized tenets of sound regulatory drafting. NRC's *Principles of Good Regulation*, in the section entitled *Clarity*, states that "Regulations should be coherent, logical, and practical. There should be a clear nexus between regulations and agency goals and objectives whether explicitly or implicitly stated. Agency positions should be readily understood and easily applied." Further, the Federal Government's *Federal Plain Language Guidelines* (Rev. 1, May 2011), state in Section III.a: "Words matter. They are the most basic building blocks of written and spoken communication. Choose your words carefully – be precise and concise."

In this context, UUSA believes that while a number of the preliminary rule language changes proposed are consistent with the above-captioned principles and guidelines, there are nevertheless several proposed changes that are not. For example:

- Section 61.7(b), *Performance objectives*, proposes a new sentence: "Achieving these objectives depends upon many factors including the design of the land disposal facility, operational procedures, characteristics of the environment surrounding the land disposal facility, and the radioactive waste acceptable for disposal." The listing of these factors, for what should only be performance objectives, may create confusion with the technical analysis factors in Section 61.7(c).
- The discussion of stability in Section 61.7(e)(1) seems more like language that should be in the Statement of Considerations (SOCs) or in guidance, as opposed to regulatory language and, thus, could raise interpretation issues down the road when applicants/licensees seek to implement the final rule.
- A proposed sentence in Section 61.7(e)(4), in particular, where it uses "could mitigate," seems more like language that should be in guidance or SOCs as opposed to the regulation itself. There are a number of proposed provisions that use such language.

UUSA recommends that prior to publication of the proposed rulemaking, the preliminary language be thoroughly weighed against the above-caption principles and guidelines.

Concerning the second matter, NRC, in its Regulatory Analysis, indicates that it plans to provide guidance related to the rule changes sometime in 2013. The timing of this plan is very important in order to ensure that sufficient time is allowed for comment on the guidance itself – in particular, because as pointed out in Section 8 of the

Regulatory Analysis, some topics are "not well covered in the existing LLW disposal guidance."

UUSA believes that there are a number of terms proposed in the preliminary language that, if not formally defined in the rulemaking, clearly should be explained more sufficiently in any guidance provided in tandem with the rulemaking. Among these, for example, are the following:

- §61.13(a)(1), (3), & (4) - "technical basis"
- §61.13(b)(1) - "normal activities"
- §61.13(b)(3) - "account for uncertainties and variabilities"
- §61.41(b) - "reasonable effort"
- §61.7(c)(1) - "over the long term"
- §61.7(c)(4) - "must assume"

Much of the language in 10 CFR 61 is not "transparent", and in many cases adds little to the improvement of the regulation. The examples given above are just a sampling of terms found throughout the proposal, suggesting that further in depth review and evaluation should be done.