RulemakingComments Resource

From: Ashley Soltysiak <ashley@healutah.org>
Sent: Monday, July 20, 2015 5:36 PM
To: RulemakingComments Resource
Subject: [External_Sender] Comments for ID: NRC-2011-0012-0077
Attachments: HEAL NRC Part 61 Comments 2015.pdf

To Whom It May Concern,

We appreciate the opportunity to provide comments on the 10 CFR Part 61 proposed rule-making. Attached you will find the comments for HEAL Utah, an environmental non-profit based in Salt Lake City, UT. Please contact me if you have any questions regarding this submission.

Kind Regards,
Ashley

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HEAL UTAH POWERING ACTION TO PROTECT UTAH

To: Nuclear Regulatory Commission

From: HEAL Utah

Re: Comments on 10 CFR Part 61 rulemaking on Low-Level Radioactive Waste Disposal (Federal Register Number: 2015-06429, Docket Number: NRC-2011-0012)

Date: July 16, 2015

Thank you for providing the opportunity to comment on the Part 61 Rulemaking for Low-level Radioactive Waste Disposal. We would like to raise several issues that we urge the staff and Commissioners to consider as the NRC moves forward with its ongoing efforts to review and revise the LLRW plans and rulemaking.

Please consider the following comments, to help states most effectively regulate disposal facilities within their borders, to ensure that public health and the environment are protected and to permit the public and NGOs to adequately monitor these activities.

1. Recognize Flaws and Limits of the WAC approach.
Movement towards the Waste Acceptance Criteria (WAC) approach relying upon Performance Assessments (PA) has been guided by the desire to shift policy away from rigid rules and categories towards a flexible system that focuses on detailed technical reviews. These, it can be argued, will more accurately determine if a particular waste can be disposed of safely in a specific way and area.

At first glance, these are worthy goals and a seemingly reasonable strategy. However, in our experience, the emphasis on the WAC and PAs has one clear outcome that needs to be understood and addressed: It makes the process for states to manage LLRW much more cumbersome and increases the difficulty of engaging the public meaningfully in the process.

The advantage of the current LLRW system is that by drawing bright lines and creating distinct categories, it makes it easier for policymakers to institute policies and pass law that reflect their values and policy judgments. So, for example, here in Utah, our State Legislature decided that it was prudent to allow waste that would pose a hazard for a century or so (Class A) but not waste that would remain hazardous for 300-500 years (Classes B and C). Thus our state has had a ban on such waste since 2005.

The robust debate that ensued over this ban, which took place over several years in a range of forums, including the press, allowed for the engagement of a wide range of stakeholders – from representatives of the nuclear waste industry itself, to state legislators, to health specialists, academics, and the general public – to express an opinion and be part of the process. This has resulted in a system that might not be terribly flexible, but is certainly representative of the diversity perspectives held within the state.

Let's contrast that with the WAC process, based upon PAs. Here in Utah, we have an example of this process that has been ongoing with EnergySolutions and their 2011 PA. In this example, the corporation seeks to prove that near surface disposal at the Clive site is appropriate and safe for more than 700,000 tons of long-lived depleted uranium waste.

That PA is comprised not just of thousands of pages of documents, but also includes a complex proprietary computer model. Built into that model – and its thousands of pages of text – are literally hundreds and hundreds of assumptions, some critical, that all lead to the conclusion that the PA produced by EnergySolutions' consultant shows that the DU disposal on site is safe.

The state of Utah has an experienced staff given many years of experience handling LLRW matters and overseeing the Clive site. However, they simply didn't have the staff-power or expertise to unpack everything in the DU PA. Consequently, they hired an outside consultant who spent over a year reviewing the PA, in an expensive process that continues to this day, after the company recently sought a delay.

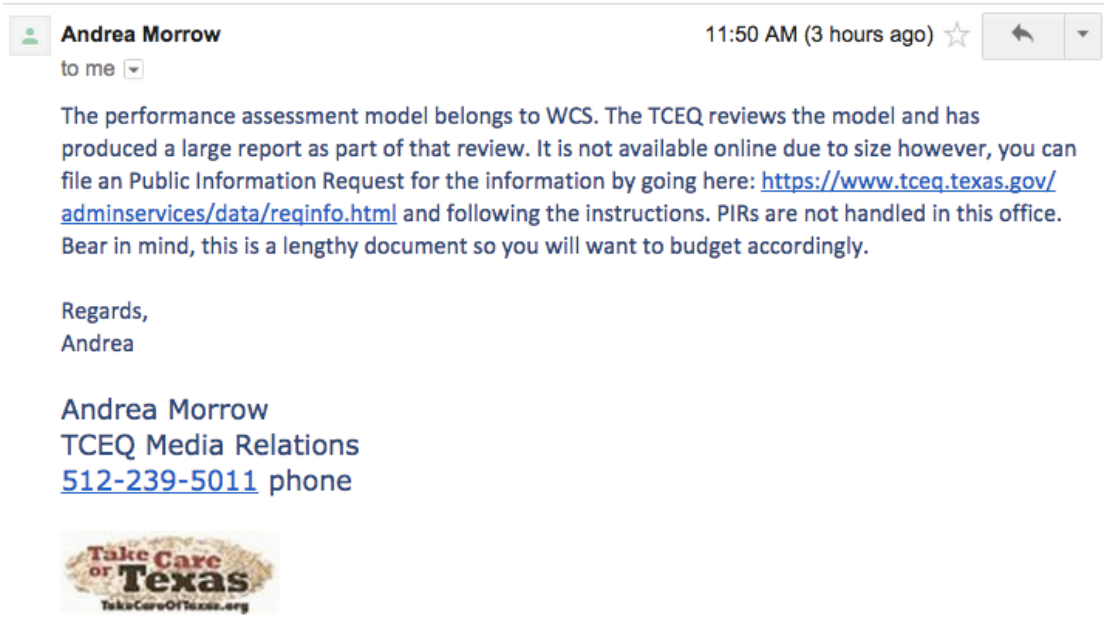
Who else in Utah has had a chance to review the PA? Frankly, our organization doubts that anyone outside of the few involved state employees, the consultants, and those of us at HEAL Utah have been able to even begin to unpack it. And even we — a professional grassroots organization with a decade-plus of experience in nuclear waste regulation and oversight (a unique institution in the United States) – have struggled to review more than a fairly small percentage of the PA. We think that we've raised some of the most important issues, but realistically, there are hundreds of pages of the PA that we don't have the resources and technical expertise necessary to provide meaningful comments.

And, for what its worth, we're very lucky in Utah, since we have a state agency that actually makes it fairly easy for us to review documents like the PA. The documents may be dauntingly long and complex, but at least they are available.

What other commercial facilities in the U.S. are large quantities of DU being considered for disposal? Waste Control Specialists, of Andrews, Texas. The state of Texas in fact has now approved their permit for disposal, despite a lack of transparency and engagement following that company's PA. HEAL tried to find out specifically how their DU would be stored, under what conditions, and what assumptions went into the decision to allow it at the facility and their process has proven to be considerably less transparent.

We emailed the Media Relations representative for the Texas environmental agency,

seeking a link to the WCS Performance Assessment. Here is her response (in a screenshot form):



Andrea Morrow 11:50 AM (3 hours ago)

to me

The performance assessment model belongs to WCS. The TCEQ reviews the model and has produced a large report as part of that review. It is not available online due to size however, you can file an Public Information Request for the information by going here: https://www.tceq.texas.gov/adminservices/data/reqinfo.html and following the instructions. PIRs are not handled in this office. Bear in mind, this is a lengthy document so you will want to budget accordingly.

Regards,
Andrea

Andrea Morrow
TCEQ Media Relations
512-239-5011 phone

And so, not only does Texas not even make its review of the PA available to the public – let alone the PA itself – it makes very clear that even asking to review it will be very expensive.

This disturbing example strikes to the heart of the fundamental problem with building a LLRW decision-making system around WAC and PAs: It serves to make it much more difficult for the public to have any meaningful input into critical nuclear waste decision-making processes. Reading and comprehending thousands of pages of documents and complex computer models – let alone offering comment on those – is far beyond the reach of nearly everyone. And, then, of course, we have states that apparently don't even plan to make those documents available to the public without a hefty sum of money. This situation represents government at its worst – incomprehensible and out of reach for the average citizen.

Allow us to make one more point about the WAC and PA approach: It puts an incredible amount of power and input into the hands of consultants. The waste disposal companies of course, pay the consultants who develop the PAs. There are very few such companies, and very few such consultants. Therefore, it is fundamentally in the interest of the consultant to "game" the PA, by manipulating the thousands of assumptions built into them, and to decide which scenarios are and are not considered, to ensure that the model reaches the conclusion which the consultant is being paid handsomely to reach. To not do so, assuredly, would affect the consultant's ability to win the next big contract.

When state and federal regulators and policymakers make critical LLRW policy judgments, in contrast, they do so based upon what one hopes are less self-interested criteria.

In short, we'd like to see the NRC, as parts of its Strategic Assessment, ensure that its overall shift towards "flexibility," using this new WAC and PA system doesn't make it more difficult for states to make their own LLRW policy decisions – and for the public to have significant input on LLRW license and permitting decisions.

2. Clarify language of the "Hybrid Waste Acceptance Approach"

We support the NRC's apparent intent to allow our state to maintain its ban on higher-level wastes, as established under the current LLRW classification table system. As previously described, the State of Utah currently has a ban on Classes B and C low-level radioactive waste.

However, the language, "to allow licensees… to develop site-specific WAC from the results of the technical analyses or from the requirements of the existing LLRW classification system," [1] seems to imply that the licensee can dictate which approach is applied. This contradicts what we have heard NRC Staff at public hearings attest to, which is that state regulators will have this authority. Therefore, we suggest that the rules be amended to explicitly clarify that the state will indeed have the jurisdiction, as we aim to ensure that the integrity of our state's ban is maintained under the proposed new framework.

3. Classify Depleted Uranium

We continue to believe it critical that the Commission budget staff time as soon as is feasible to determine whether Depleted Uranium is Class A, B, C, or Greater Than Class C waste.

Our understanding is that DU was classified as Class A waste effectively because of a historical slip-up. Since the original Part 61 rules didn't envision significant quantities of DU being disposed of by commercial facilities, regulators chose not to figure out where DU belonged. And, so, like any LLRW that wasn't classified, Class A became DU's default category

But Depleted Uranium is plainly different from its Class A cohorts. Instead of gradually degrading, DU actually increases in hazard for 2.1 million years. It will eventually exceed Class A requirements – which unequivocally violates our state's ban. The following graph, a re-creation of one used by the NRC itself, clearly depicts this differential.

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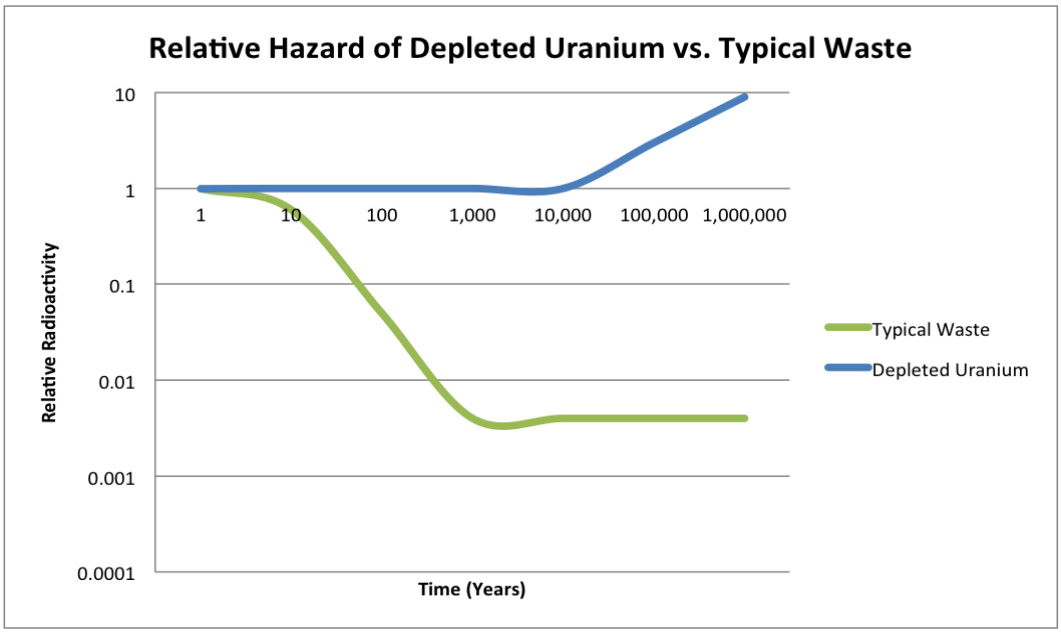
[1] Nuclear Regulatory Commission. *Low-Level Radioactive Waste Disposal; Proposed Rule .* Rockville, MD: Federal Register , 2015, 16100.



And while DU currently meets the requirements for Class A waste, in terms of long-lived radionuclides, according to NRC classification tables,[2] these are not reflective of its peak hazard, which is what LLRW should be classified as to best direct safe disposal efforts

And while the "A, B, C" classifications define current hazard, they also have grown to encompass the length of hazard. For example, in the Federal Register document describing the Part 61 revisions we're commenting upon here, these commonly used time frames are referenced. First, in regard to Class B waste, "wasteforms or containers should be designed to maintain gross physical properties and identity over 300 years, approximately the time required for Class B waste to decay to innocuous levels." In regard to Class C, the document states, "Class C LLRW may require either greater burial depth or an engineered barrier that will prevent inadvertent intrusion for 500 years." [3]

As you can see, these classifications are regularly used to also incorporate the timeframes of hazard duration.

As previously alluded to, length of hazard heavily influenced Utah's decision to ban B and C level wastes. This information was easily accessed, digested, and discussed by numerous stakeholders around the state. However, the average person, who lacks a significant depth of knowledge regarding Depleted Uranium, could easily get the perception that DU has a

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[2] Nuclear Regulatory Commission. "§ 61.55 Waste classification." 10 July 2014. <http://www.nrc.gov/reading-rm/doc-collections/cfr/part061/part061-0055.html>.

[3] Nuclear Regulatory Commission . *Low-Level Radioactive Waste Disposal; Proposed Rule .* Rockville, MD: Federal Register , 2015, 16085.

much shorter hazard length, as implied by its current classification. But, Depleted Uranium is clearly not a traditional Class A waste under the lens of hazard duration.

The difference in duration of hazard between typical Class A waste – which Utah takes now – and Depleted Uranium are so radically different that to lump the latter in with the former seems absurd. We can't fathom a reasonable argument why one would allow waste that does not reach a peak hazard for 2.1 million years to be treated just like waste that loses 90 percent of its hazard in less than 200.

The lack of resolution over how DU should be classified doesn't help states, regulators, or our citizens grapple with its disposal. Depleted Uranium ought to be classified at its potential hazard level – if not at even greater level, due to the sheer duration of hazard – but certainly not as Class A waste.

Prominently in Utah, Governor Gary Herbert has explicitly called upon the NRC to classify depleted uranium. He recently stated, "I expect the Nuclear Regulatory Commission to follow up on that and make their decision," he added, "Until that happens, I'm not comfortable having depleted uranium in Utah."[4] Thus, our state's decision to accept or deny the proposal by EnergySolutions hinges, in part, on this classification. Defaulting classification of unique waste streams to Class A, obfuscates the process and make its difficult for regulators and the public to set boundaries, in accordance to their values.

Given the stated desire of Utah officials to retain the classification system, we would urge the NRC to prioritize the classification of Depleted Uranium. It is, we believe, the most significant "unique waste" out there, and it is a baffling gap in regulation to not incorporate it into a regulatory system that Utah—one of the most important states in the LLRW arena—wishes to preserve.

If depleted uranium is actually disposed of commercially as Class A waste, we believe it may make it much more difficult to place LLRW facilities elsewhere in the country. The nation's current disposal facilities – in Utah, Washington, Texas and South Carolina – exist to safely get rid of low-level radioactive materials, like medical waste or lightly contaminated materials from the nuclear power industry.

When a community signs on to take waste like this though, they aren't being asked to sign a 2.1 million year contact, with a company that might be there to monitor it for a century or two—at best. This will ultimately dis-incentivize communities from allowing new LLRW facilities in their area, despite the obvious need. Allowing a material like DU to be disposed of as class A, will make it more of an eternal commitment and hazard than most communities are willing or prepared to deal with – so they will simply opt out.

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[4] Maffley, Brian. "Governor has a 'hunch' depleted uranium is hotter than the waste EnergySolutions is allowed to take." Salt Lake Tribune. April 16, 2015. http://www.sltrib.com/news/2408870-155/state-grants-energysolutions-request-for-a.

This must be a major consideration, because new low-level waste disposal facilities will be needed by 2050. According to comments by the Northwest Interstate Compact, many nuclear facilities will be decommissioned in the next 20-40 years, but the facilities in Richland, Washington and here in Utah, will only be around until 2056 and 2045, respectively. This means that although the need for this type of facility will continue to grow, support from the public will diminish, given the unique hazard posed by Depleted Uranium. This may make states unlikely to encourage development of commercial disposal sites because of the inconsistent rules and vastly different allowed waste streams than those originally decided through an active public process.

4. Amend the Compliance Period for Long-Lived Waste

We'd like to elaborate on a previously mentioned issue. We do not believe that long lived-waste streams, such as depleted uranium should only be modeled for a compliance period that is "reasonably foreseeable," for the simple reason that concentrated DU does not have a "reasonably foreseeable" hazard life. We believe that "safe disposal" can only be demonstrated if the public will be protected from unacceptable doses over the hazard life of the waste stream under evaluation.

If, as some in the nuclear waste disposal industry complain, such modeling over very long timeframes (10,000 to one million years) leads to unacceptably large uncertainty in the calculation, then that uncertainty should be viewed as evidence that near-surface disposal, with the corresponding likelihood that the stored materials come into contact with human populations, is not acceptable. A compliance period of 1,000 years for Depleted Uranium, a waste that grows more dangerous from hundreds of thousands of years, is difficult to justify.

Additionally, this ruling seems inconsistent with the guidance language "licensees should examine plausible scenarios for site evolution and characteristics in the site stability analysis."[5] Just because it's difficult to project what will happen to this waste over such long time frames doesn't mean that a company that wishes to dispose of it should be relieved of the challenge of doing so.

Similarly, a "qualitative" evaluation – which must conclusively demonstrate irreversible and catastrophic impacts in order for a waste stream, such as concentrated depleted uranium, to be found unacceptable for disposal – places far too large a burden on states, like Utah, that host nuclear waste disposal sites. For long-lived waste streams like concentrated depleted uranium, the compliance period should be a minimum of 10,000 years. Again, it would be better to consider up until the peak activity of the waste stream in question.

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[5] D. Esh, C. Grossman, H. Arlt, C. Barr, P. Yadav. "Guidance for Conducting Technical Analyses for 10 CFR Part 61." 2015. Nuclear Regulatory Commission . Office of Nuclear Material Safety and Safeguards. <http://pbadupws.nrc.gov/docs/ML1505/ML15056A516.pdf>.

5. Overruling Staff Reduces Public Faith in Rulemaking

This final point addresses several red flags that our organization has noted during the evolution of these rules. Commissioners have repeatedly overruled staff in an apparent effort to comply with industry requests.

For example, in 2011 NRC staff members recommended a 20,000-year compliance period to demonstrate the site safety. They state, "20,000 years would better capture, compared to shorter time frames, the in-growth of daughter products (e.g. Ra-226, Rn-222) from long-lived parents that can occur in some waste streams. For example, as shown in Figure 2, the in-growth of Ra-226 from uranium doesn't peak until after one million years with no loss of parent from the system." [6] Additionally, they discuss the benefits of longer-term compliance periods, because of their increased ability to capture changing climate cycles.

To this, EnergySolutions submitted the following comments to the NRC. "EnergySolutions is of the view that while a compliance period of 10,000 years may be workable, a compliance period of 1,000 years is preferable." [7] Conceding that 10,000-year compliance periods had precedent, after expressing outrage over the recommended 20,000 year limit.

Eventually, staff recommendations reduced to a 10,000-year compliance period. "The staff stated that because of the in-growth of progeny from DU, analysis time periods of 1,000 years or less result in significant truncation of estimated risk from disposal of DU, and this is the main reason why they propose a 10,000 year time of compliance for meeting the revised performance objective. " [8]

However, after receiving additional commentary by EnergySolutions, urging a shorter time frame, the commissioners eventually over-ruled staff and lowered the compliance period to 1,000-years.

In the same letter, EnergySolutions proposed a standard of "reasonably foreseeable" scenarios for the intruder assessment, not including the assumption that an intruder would ever inhabit the site. [9] This comment was also implemented into the proposed rule making, verbatim, and in direct opposition to the initial staff recommendations—who had sought to

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[6] "Technical Analysis Supporting Definition of Period of Peiformance for Low-Level waste Disposal ." May 2011. Nuclear Regulatory Commisssion . <http://pbadupws.nrc.gov/docs/ML1110/ML111030586.pdf>.

[7] Magette, Thomas E. "EnergySolutions Letter." 17 June 2011. Nuclear Regulatory Commission. <http://pbadupws.nrc.gov/docs/ML1117/ML11172A181.pdf>.

[8] Letter, Advisory Committee on Reactor Safeguards. "10 CFR PART 61 – REVISIONS TO LOW-LEVEL RADIOACTIVE WASTE DISPOSAL REQUIREMENTS ." 19 Feb 2014. <http://pbadupws.nrc.gov/docs/ML1404/ML14041A152.pdf>.

[9] Magette, Thomas E. "EnergySolutions Letter." 17 June 2011. Nuclear Regulatory Commission. <http://pbadupws.nrc.gov/docs/ML1117/ML11172A181.pdf>.

consider the evolution of the site and consider a much broader array of intruder scenarios. Over-ruling the recommendations of staff, in favor of industry, deteriorates public faith that these rules were made in the genuine interest of their health and safety.

In sum, we appreciate the opportunity to comment on the proposed revisions to 10 CFR Part 61. Allow us to reiterate our central points: We oppose any system that would overturn a ban on hotter waste for which Utahns fought so hard, or force the state to accept waste streams it has deemed unnecessarily risky. Additionally, we urge the NRC to finally classify Depleted Uranium to reflect its true hazard level and duration.

Thank you for your time and consideration. Please feel free to contact us with any questions or clarifications.

Kind Regards,

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