

PUBLIC PARTICIPATION DOCUMENTATION

RADIOACTIVE MATERIAL LICENSE UT2300249
ENERGYSOLUTIONS, LLC

LICENSE AMENDMENT 7
DISPOSAL OF LARGE QUANTITIES OF DEPLETED URANIUM

Prepared by
DIVISION OF RADIATION CONTROL
DEPARTMENT OF ENVIRONMENTAL QUALITY

February 25, 2010

ATTACHMENT A

RESPONSES TO COMMENTS

License Amendment: Condition 35

The Division of Radiation Control provides the following responses to public comments received during the public comment period (November 23, 2009 to December 23, 2009) regarding certain license requirements for receipt and disposal of significant quantities of depleted uranium.

Executive Secretary's Statement

The Executive Secretary's response to some comments on this matter references one purpose of the license condition, which is therefore described here in some detail.

The Utah Radiation Control Board is currently considering comments on a proposed rule that would require approval of a site-specific performance assessment (SSPA) prior to the shallow land disposal of additional depleted uranium (hereinafter the "SSPA Proposed Rule; see Utah Radiation Control Board's Statement of Basis for Administrative Rulemaking Regarding Disposal of Significant Quantities of Depleted Uranium, dated December 1, 2009 for additional information). Because that rule, if adopted, would not be effective immediately, this license condition is intended to address depleted uranium that may be disposed of at the EnergySolutions facility prior to the Board's consideration and final determination about the rule.

This license condition was proposed by the Executive Secretary as a step that could be taken with the consent of the Licensee, EnergySolutions. EnergySolutions has indicated that it is likely to challenge rules and orders that are more restrictive than this license condition, including the SSPA Proposed Rule being considered. This license condition, because it is imposed with the Licensee's consent, is unlikely to be challenged by the Licensee and would therefore not bear the same risk.

The purpose of this license condition is to provide some immediate and undisputed protection during this interim period, against possible disposal of depleted uranium that is inconsistent with the results of an SSPA. Because the consent of the licensee is critical to this purpose, changes that would make the license condition significantly more restrictive, and therefore more likely to be challenged, would not serve the purpose of this license condition.

Commenters seeking more restrictive requirements on the disposal of depleted uranium than are provided in this license condition have been able to participate in the rulemaking process for the SSPA Proposed Rule. This license condition is not intended to supplant that rule, nor foreclose the possibility of further orders by the Executive Secretary.

A second purpose of the rule, to provide additional protection for the entire period before NRC completes its regulatory process, is described in response to Comment No. 7.

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Note that adjustments have been made in the license condition to ensure that conditions established will not conflict with conditions established in any subsequent rule or in the course of the performance assessment process.

Specifically the provision specifying a time period for a performance assessment has been changed to clarify that 10,000 years and 1,000,000 years are both minimum periods for, respectively, a quantitative performance assessment and a qualitative analysis.

The provision specifying depth to cover has also been removed. There is an existing license condition governing depth to cover at [LICENSE CONDITION 35]; this requirement is therefore unnecessary.

Comment 1 (Blaine N. Howard)

I am interested in commenting on the proposed license amendment for depleted uranium.

I am concerned that the activists are worried about the ingrowth of the U-238 daughters without justification.

They probably don't realize just how long it takes for the U-234 to grow in.

I have prepared a little chart to show the ingrowth for the first 10,000 years.

After 1,000 years, the decay products will be at only 0.28% equilibrium.

After 2,000 years, the decay products will be at only 0.56% equilibrium.

After 3,000 years, the decay products will be at only 0.84% equilibrium.

After 4,000 years, the decay products will be at only 1.1% equilibrium.

After 5,000 years, the decay products will be at only 1.4% equilibrium.

After 6,000 years, the decay products will be at only 1.7% equilibrium.

After 7,000 years, the decay products will be at only 1.9% equilibrium.

After 8,000 years, the decay products will be at only 2.2% equilibrium.

After 9,000 years, the decay products will be at only 2.5% equilibrium.

After 10,000 years, the decay products will be at only 2.77% equilibrium.

And so forth.

After 247,000 years the decay products will be at 50% equilibrium.

After 1,000,000 years, the decay products will be at 94% equilibrium.

I want to make some additional comments.

The Utah Division of Radiation Control is proposing a license amendment which will require "Condition 35" to be met.

This condition will require all DU waste with concentrations of DU greater than 5% to be buried at least 10 feet below the top of the cover.

No rationale is given for this requirement but I would think that it is concerned with possible radon emissions from the waste.

Personally, I think that this condition is not warranted.

Proposed "Condition 35" also states: "For purposes of this performance assessment, the compliance period will be 10,000 years". Since, at 10,000 years, the build up would be less than 3% equilibrium, it seems that requiring special conditions for DU waste would be meaningless.

I assume that to have my comments considered officially, I will have to send a letter to the address given in your announcement and will do so soon.

I hope that new conditions are not imposed just to satisfy the concerns of HEAL Utah and others who do not understand very much of the truth about radiation and its effects.

Public comments should only bring concerns forward to be evaluated in the considerations. The decisions should be made by those who have the expertise to properly weigh these concerns.

Even pressures from the governor's office should not force the experts to make unwise decisions.

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I remember, from my experience with the state, that the governor's office once said (in effect) "we want this industry to come to Utah and you are required to come up with the conditions which they will have to meet." This can get to be pretty touchy when politics try to influence decisions contrary to the knowledge of the experts. Good Luck in getting good justifiable conditions in place.

Response

The Executive Secretary agrees with the comment that at 10,000 years the ingrowth of Uranium 238 decay products would be less than 3%. See also Executive Secretary's Initial Response at the beginning of this Comment Response document.

The additional comments express opinions that have been considered by the Executive Secretary.

Comment 2 (Blaine N. Howard)

I wish to comment on the proposed license amendment to the Energy Solutions license. This proposed amendment addresses a perceived problem with the ingrowth of radioactivity in the DU waste. I have analyzed the characteristics of the depleted uranium very carefully and can see no problem which should cause any regulatory concern.

- The radiations coming from the DU waste are either non-penetrating or of very low intensity and cannot represent a problem when compared to other wastes which have been successfully disposed of in the past.*
- The amount of buildup in radioactivity, even over thousands of years, is trivial when compared with the radioactivity of uranium mill tailings.*
- There is no significant amount of radon in the waste and cannot be for thousands of years because of the extremely long half lives concerned.*

The following is my analysis of the perceived problem.

Depleted uranium, DU, is different from natural uranium in the amount of the lighter isotopes which are present. Most of the U-234 and U-235 have been removed making DU less radioactive than natural uranium. The U-234 is a decay product of U-238 and is approximately in equilibrium with the U-238 in natural uranium. However, DU has only about 20% of the original U-234 left.

*Table I
Isotopic Abundance of Natural and Depleted Uranium*

<i>Isotope</i>	<i>Natural Uranium abundance by weight</i>	<i>Depleted Uranium abundance by weight</i>
<i>U-238</i>	<i>99.2760%</i>	<i>99.8%</i>
<i>U-235</i>	<i>0.7196%</i>	<i>0.20%</i>
<i>U-234</i>	<i>0.0055%</i>	<i>0.0011%</i>

The U-238 decay chain continues after U-234 for about a dozen radioactive isotopes, but all those after U-234 have been removed by chemical separation prior to the enrichment process. Thus these isotopes must grow in from the decay of the U-234.

The U-234 (half life 247,000 years) decays into Th-230 (half life 80,000 years) which is the parent of Ra-226 (half life 1,600 years) which decays into Rn-222 (half life 3.8 days).

The decay products of Th-230 produce the radiations which are of interest. Since the Th-230 has the longest half life, the later decay products will grow in equilibrium with the Th-230. The activities of Ra-226, Rn-222, etc. will be in equilibrium with Th-230 and thus have equal activities.

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Table II
Ingrowth of Radioactivity in DU Waste with Time

<i>Elapsed years since separation</i>	<i>U-234 activity as % of U-238</i>	<i>Th-230 activity as % of U-234</i>	<i>Th-230 activity as % of U-238</i>
0	20.00%	0.00%	0.00%
1,000	20.28%	0.86%	0.17%
2,000	20.56%	1.72%	0.35%
3,000	20.84%	2.57%	0.54%
4,000	21.10%	3.41%	0.72%
5,000	21.40%	4.24%	0.91%
10,000	22.80%	8.30%	1.89%

It is important to understand that these decay products of Th-230 which emit the ionizing radiations of concern to health are identical to the radioisotopes in uranium mill tailings. The Vitro uranium mill tailings which were handled very successfully by the Bureau of Radiation Control had an average Ra226 activity of about 500 pCi/gram with a maximum of about 1,000 pCi/gram. A sample of DU waste containing 5% DU after 1,000 years would contain only 28.3 pCi/gram Ra-226.

There are two separate matters to consider. One is the radiations coming directly from the depleted uranium and the other is the radiations coming from radium and its decay products.

First, the radiations coming from the DU and its short lived decay products are 1. alpha which cannot penetrate a sheet of paper, 2. beta which is easily stopped by 1/2 inch of water or plastic, and 3. gamma which is of very low intensity. Even the 1 Mev gamma occurs in only a 0.6% of the decays.

Second, the Th-230 decay products (Ra-226, Rn-222, etc.) are not even present in the fresh DU and are only 0.17% of the activity of the U-238 after 1,000 years of ingrowth. A sample of DU waste containing 5% DU after 1,000 years would contain only about 5% of the average Ra-226 in the Vitro tailings.

Thus, there should be no problems with radiation coming from the DU waste for thousands of years. The concern with the increase in radioactivity with time is not founded on good science and should not be considered as a big problem. In fact, I see no problem. If the standards which were applied to the uranium mill tailings were to be used for the disposal of this waste, I would consider this more than adequate.

Please consider very carefully the facts I have presented in this analysis and don't require radon detectors where there is no radon and don't make a problem when none exists. If you are concerned about appeasing HEAL Utah and other radical anti-nuclear activists, please understand that true science and the advice of experts who understand these problems should outweigh any comments by emotional non-scientific groups.

Response

See response to Mr. Howard's previous comment, Comment No. 1.

Comment 3 (R.J. Hoffman)

I fully endorse Mr. Howard's comments on the disposal of depleted uranium and find no compelling reason for any further regulation related to this class A waste.

Response

The Executive Secretary acknowledges the above comment. See response to Mr. Howard's comments, Comments Nos. 1 and 2.

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Comment 4 (Doug Turner)

Mr. Finerfrock, I agree with Blaine's evaluation. Radiation workers have handled DU with minimal controls for decades with no measurable effect.

Response

The Executive Secretary acknowledges the above comment. See response to Mr. Howard's comments, Comments Nos. 1 and 2.

Comment 5 (Bruce Church)

I am a retired Health Physicist living in Hurricane, Utah and have been fighting the public battle of misinformation on radiation subjects for decades. I highly believe that if the Division of Radiation Control pursues the proposed amendment to the Energy Solutions license you are doing a large disservice to the Utah Public at Large in giving credence to the HEAL Utah message. It only enhances the public paranoia about things nuclear and radioactive and prevents the development of the beneficial uses of nuclear technology. Please act responsible!

Response

This comment expresses an opinion that has been considered by the Executive Secretary.

Comment 6 (Keith Schaiger)

I agree completely with the letter on DU submitted by Blaine Howard. Let's not make the radiation protection community and profession a laughing stock by even suggesting wholly unnecessary disposal requirements. Radon is certainly the least concern for this material. Radium would be the greatest concern if released to water or food sources, but this also is completely unpredictable within the time frame of the radium build-up.

Response

The Executive Secretary acknowledges the above comment. See response to Mr. Howard's comments, Comments Nos. 1 and 2.

Comment 7 (EnergySolutions)

Much of the language in draft License Condition 35 accurately captures commitments EnergySolutions has made relating to depleted uranium disposal. However, Condition 35.A introduces editorial comments that are incorrect and not relevant to compliance of the Clive facility.

For example, Condition 35.A as written alleges that the Nuclear Regulatory Commission (NRC) "...has acknowledged some inadequacies in its past analyses and possibly its current regulatory structure with respect to disposal of substantial quantities of depleted uranium (DU) ...". This statement is not correct. The NRC has not suggested that there are inadequacies in past analyses; nor is the rulemaking that the NRC has undertaken intended to "...determine the conditions under which DU and other unique wastes may be safely disposed." Not only has the NRC explicitly indicated that licensed facilities may continue disposal of DU, they voiced opposition to the idea of a moratorium on DU disposal at the September 2009 meeting

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of the Utah Radiation Control Board. It is inappropriate for DRC to speculate in a Radioactive Material License regarding NRC's intentions regarding a pending rulemaking. The NRC's statements in NRC rulemaking notices speak for themselves.

Condition 35.A as written goes on to state: "EnergySolutions has indicated to the Division that it would prefer not to wait until the completion of the NRC's and DRC's rulemaking processes or until completion of the resulting performance analysis that will likely be required before it begins to dispose of depleted uranium at the Clive facility."

As DRC is well aware, EnergySolutions is not now beginning to dispose of DU. EnergySolutions has legally disposed of depleted uranium at the Clive facility since March 21, 1991, when Amendment 10 to the Radioactive Material License explicitly approved DU as an isotope for disposal. At that time, DU had a concentration limit of 110,000 pCi/g.

In the License renewal signed on October 22, 1998, DU was listed at Condition 6.XX7 with the concentration limit increased to 370,000 pCi/g, based on a revised performance assessment. Amendment 20, approved on November 8, 2004, removed isotope-specific limits from the license since full Class A limits had then been approved at both the Class

A and Mixed Waste cells, negating any need for these limits. Therefore, it is factually inaccurate to state " ...before it begins to dispose of depleted uranium at the Clive facility," since this disposal has been authorized and has occurred for many years. EnergySolutions has voluntarily committed to perform the actions called for in Conditions 35.B through 35.F even though NRC has not yet required, and may not ever require these actions.

The editorial language in Condition 35.A is both inaccurate and inappropriate. Therefore, we propose that Condition 35.A be deleted in its entirety.

EnergySolutions suggests that Condition 35 be revised to read as follows (redline/strikeout against the text provided for public comment): Condition 35. Depleted Uranium:

- A. ~~Background:~~ The U.S. Nuclear Regulatory Commission (NRC) has acknowledged some inadequacies in its past analyses and possibly its current regulatory structure with respect to disposal of substantial quantities of depleted uranium (DU). As a result, it has started a rulemaking process to determine the conditions under which DU and other unique wastes may be safely disposed of in near surface facilities. NRC has stated that new regulatory standards and guidance will be the likely result from that rulemaking process, and that new performance assessments will likely also be required. Rulemaking by the Division of Radiation Control (DRC) would also likely be follow. EnergySolutions has indicated to the Division that it would prefer not to wait until the completion of the NRC's and DRC's rulemaking processes or until completion of the resulting performance analysis that will likely be required before it begins to dispose of depleted uranium at the Clive Facility. The additional license conditions in this condition 35 are therefore required.
- AB. Burial Depth: The Licensee shall place all wastes with DU concentrations greater than 5 percent (by weight) a minimum of 10 feet below the top of the cover.
- BC. Performance assessment: A performance assessment, in general conformance with the approach used by the Nuclear Regulatory Commission (NRC) in SECY-08-0147, shall be submitted for Executive Secretary review and approval no later than December 31, 2010. The performance assessment shall be revised as needed to reflect ongoing guidance and rulemaking from NRC. For purposes of this performance assessment, the compliance period will be 10,000 years. Additional simulations will be performed for a 1,000,000-year time frame for qualitative analysis.
- CD. Revised disposal embankment design: If the performance assessment specified in paragraph ~~35C~~ 35.B indicates that changes to disposal operations and cover design are necessary to ensure compliance with the requirements of 10 CFR Part 61 or Utah Administrative Code R313, EnergySolutions will provide a revised design that does meet those requirements, for all wastes that have been and are reasonably anticipated to be disposed of at the facility within 180 days of Executive Secretary approval of the performance assessment.
- DE. Remediation: If following the ~~completion of NRC's and DRC's regulatory processes~~ review of the performance assessment described in paragraph ~~35A~~ 35.B, the disposal of DU as performed after the date of this license condition would not have met the requirements of ~~those new regulatory and performance standards~~ the approved performance assessment, the facility will undertake remediation to ensure that ~~those new regulatory~~

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~~and performance standards requirements~~ *requirements are met, or if that is not possible, shall ~~removed~~ remove the DU and transport it off-site to a licensed facility.*

***E.F. Surety:** The Licensee shall fund the surety for the remediation, in License Condition ~~35-E~~ 35 D. Within 30-days of the effective date of this license condition, the licensee shall submit for Executive Secretary review and approval, the surety cost estimates for remediation of existing Savannah River DU waste disposal and planned, similar large quantity DU waste disposal.*

Response

The Executive Secretary does not agree that the language in proposed paragraph A is misleading, although he acknowledges that the portion that implicitly suggests that depleted uranium has not been disposed of at EnergySolutions in the past should have been stated instead in terms of the new disposal of significant quantities of depleted uranium.

Specifically, and contrary to EnergySolutions' statements, it is clear that the NRC has acknowledged some inadequacies in its past analysis and is undertaking rulemaking to determine the conditions under which DU and other unique wastes may be safely disposed, as discussed in the "Statement of Basis." Nor did NRC voice "opposition to the idea of a moratorium on DU disposal at the September 2009 meeting of the Utah Radiation Control Board.," although it did make cautionary comments regarding a rule's compatibility with NRC's program. It should be noted that, when formally asked, NRC concluded the rule did not violate NRC compatibility requirements.

Nevertheless, the Executive Secretary agrees that it is appropriate to delete the language in paragraph A. The purpose of the language was to provide background context for the licensing action, context that may become important in the event the remedial provisions of this license condition have to be implemented. At this point, that background context is part of the record and need not be included in the license condition.

EnergySolutions has made suggested changes to proposed Condition 35.E that it has not described or supported in its written comments. Those suggested changes will not be implemented for that reason and because the proposed changes would prevent the license condition from fulfilling one of its purposes. There are two rulemaking processes regarding depleted uranium that may impact EnergySolutions, one being considered by the Radiation Control Board and one that will be completed much later that is being considered by the NRC. The license condition was written to apply to wastes disposed of before the NRC rulemaking process is complete. The change proposed by EnergySolutions would make the license condition apply only to wastes disposed of before the approval of a performance assessment that EnergySolutions has committed to submitting long before NRC's rulemaking process is complete and therefore long before the final conditions for an acceptable performance assessment have been established. This would significantly narrow the scope of the license condition in a manner that the Executive Secretary does not believe is appropriate.

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Comment 8.0 (Christopher Thomas for Healthy Environment Alliance of Utah (HEAL-Utah))

I am writing to convey several concerns about License Condition 35, proposed to be amended into EnergySolutions' Radioactive Materials License. We request that you modify certian conditions, add others, and issue a formal response to our comments.

Comment 8.1

The Burial Depth of 10 feet is grossly inadequate to protect Utah public health and safety and there is no supporting information accompanying this license amendment that supports the assertion that such a dept will be adequate and ensure performance objectives will be met over the long timeframes that DU will be hazardous.

Attachment A to Nuclear Regulatory Commission (NRC) paper SECY08-0147 includes a simulation of hypothetical arid sites with depleted uranium buried at 3 meters (~10 feet). According to that paper, in only 2 percent of simulations did the chronic intruder receive less than the 500 mrem per year dose performance objective at the 1,000 year mark (p. 18). At ten thousand, one hundred thousand, and 1 million years, zero percent of simulations met the performance objectives. Please see Attachment A to these comments.

Effectively, the NRC analysis shows that in a dry environment, it is impossible to keep chronic intruder dose below 500 mrem per year at ten thousand years and longer time periods, even when the waste is buried 10 feet deep. Therefore, the available modeling contradicts the conclusion that burial at 10 feet of depth will meet Utah performance objectives at R313-25-19. Protection of the General Population from Releases of Radioactivity:

Concentrations of radioactive material which may be released to the general environment in ground water, surface water, air, soil, plants or animals shall not result in an annual dose exceeding an equivalent of 0.25 mSv (0.025 rem) to the whole body, 0.75 mSv (0.075 rem) to the thyroid, and 0.25 mSv (0.025 rem) to any other organ of any member of the public.

For purposes of clarity, .025 rem is equivalent to 25 mrem.

Using the NRC conclusion of a near impossibility of maintaining intruder doses below 500 mrem at 1,000 years and over longer timeframes, this license condition also appears to violate R313-25-20. Protection of Individuals from Inadvertent Intrusion, which states:

Design, operation, and closure of the land disposal facility shall ensure protection of any individuals inadvertently intruding into the disposal site and occupying the site or contacting the waste after active institutional controls over the disposal site are removed.

This Utah rule provides that inadvertent intruders be protected from the waste even after institutional controls are removed, and even in the case of direct contact with the waste itself. Institutional controls can only be relied upon for 100 years following site closure. See R313-25-28 (2). As discussed, following the 100-year institutional control period, at 1,000 years and later, depleted uranium will present an active hazard that is unacceptable for direct contact by an inadvertent intruder and that has been modeled in the NRC SECY paper 08-0147 to violate chronic intruder scenarios when disposal depth is 10 feet.

Response

The proposed license condition would have established a minimum depth, as does Condition 35, which already addresses this matter. It is currently anticipated that burial depth for depleted uranium will be established through performance assessment process.

See also the Executive Secretary's Statement at the beginning of this Comment Response Document.

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Comment 8.2 (HEAL-Utah)

Because of the analysis contained in the NRC SECY-08-0147, the only evidence we have presents a near certainty that an inadvertent intruder who occupies the site or contacts the waste at 1,000 years or greater will be exposed to greater than 500 mrem per year. Because of the active and growing hazard posed by DU over the next million years, a series of other rules will be violated without further conditions placed in the license; they are below:

R313-25-22 Stability of the Disposal Site After Closure

The disposal facility shall be sited, designed, used, operated, and closed to achieve long-term stability of the disposal site and to eliminate, to the extent practicable, the need for ongoing active maintenance of the disposal site following closure so that only surveillance, monitoring, or minor custodial care are required.

R313-25-24 Disposal Site Design for Near Surface Land Disposal.

- (1) Site design features shall be directed toward long-term isolation and avoidance of the need for continuing active maintenance after site closure.*
- (2) The disposal site design and operation shall be compatible with the disposal site closure and stabilization plan and lead to disposal site closure that provides reasonable assurance that the performance objectives will be met.*

R313-25-28 Institutional Requirements

Institutional Control. The land owner or custodial agency shall conduct an institutional control program to physically control access to the disposal site following transfer of control of the disposal site from the disposal site operator. The institutional control program shall also include, but not be limited to, conducting an environmental monitoring program at the disposal site, periodic surveillance, minor custodial care, and other equivalents as determined by the Executive Secretary, and administration of funds to cover the costs for these activities. The period of institutional controls will be determined by the Executive Secretary, but institutional controls may not be relied upon for more than 100 years following transfer of control of the disposal site to the owner.

By specifically allowing significant quantities of depleted uranium to be disposed at the EnergySolutions site at a depth of 10 feet, major active maintenance of the site in the future is almost guaranteed. The NRC SECY paper 08-0147 does not contemplate a single scenario where disposal at a depth of 10 feet in an arid environment meets the performance objectives at 10,000 years and beyond. Therefore, by definition, some form of active maintenance will be required in order for the performance objectives to be maintained at these future points in time. Utah's rules were specifically designed to avoid the need for such ongoing maintenance in the future.

In fact, for the EnergySolutions Utah site in particular, there is evidence that the site is unsuitable for long-lived radioactive wastes simply because of its location in the Lake Bonneville Basin.

One recent paper prepared by three earth scientists estimates the probability of the EnergySolutions site being inundated by a future rising lake in the next 100,000 years to be 100%. A small change in precipitation rates over a period of 1,000 years could lead to the Great Salt Lake rising to the elevation of the EnergySolutions site. See Attachment B.

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Another paper prepared by the US Geological Survey looked all across the Western United States for sites that would be suitable for high-level and long-lived nuclear waste disposal in general, and the Clive site was excluded from the final map of suitable sites because it is located in a "saturated zone" known to periodically be inundated by water. See USGS Professional Paper 1370, incorporated here by reference.

Both of these papers demonstrate that future failure of the EnergySolutions site is a predictable outcome. Just as predictable, therefore, will be the need for someone to conduct mitigation, remediation, or removal activities that constitute "active maintenance" in order for performance objectives to be maintained. Therefore, allowing disposal of significant quantities of depleted uranium waste at the site is a clear violation of the above Utah rules.

Furthermore, over the long timeframes that depleted uranium will present an active and growing hazard, events that have a chance occurrence of happening (like tornadoes or rare destructive storm events), now have a virtual certainty of happening simply because the window of hazard is so long. This is simply one more reason that the above Utah rules will be violated in the context of the current license amendment.

Therefore, as a result of the above consequences of depleted uranium disposal at the EnergySolutions site, there should be additional language in proposed license condition 35:
"Because disposal of significant quantities of depleted uranium will likely require active maintenance of the site beyond the 100-year institutional control period in order to ensure protection of the public, EnergySolutions will need to fund the surety in an amount adequate to pay for active maintenance of the EnergySolutions Clive, Utah disposal site in perpetuity."

Response

As re-written, the license condition establishes minimum performance periods. See also the Executive Secretary's Statement at the beginning of this Comment Response Document. The issues that the commenter has raised are appropriately raised through the performance assessment process.

Comment 8.3 (HEAL-Utah)

The performance assessment description in condition 35 C of the proposed license conditions states:

The performance assessment shall be revised as needed to reflect ongoing guidance and rulemaking from NRC. For purposes of this performance assessment, the compliance period will be 10,000 years. Additional simulations will be performed for a 1,000,000-year time frame for qualitative analysis."

The compliance period should at least be extended to the period of peak dose to accurately assess the hazards posed by DU disposal. A 10,000 year period is without support in the record and will not adequately ensure protection of human health and the environment.

Also, the license condition should be amended to require the submission of this performance assessment prior to waste receipt and disposal. Thus condition 35C should read "A Performance Assessment, in general conformance with the approach used by the NRC in SECY -08-0147, shall be submitted for Executive Secretary review and approval before waste acceptance and disposal, and

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no later than December 31, 2010. Allowing the licensee to engage in on-going disposal of DU before appropriate review is complete imposes unnecessary risks on public health and welfare. It also biases the review as it unnecessarily creates a situation where regulators may feel compelled to reach a pre-determined outcome based on the fact that some disposal of DU waste has already taken place.

The additional statement about "additional simulations" being performed for the purposes of a qualitative analysis does not comply with R313-25-23(9) which states:

(10) Areas shall be avoided where surface geologic processes such as mass wasting, erosion, slumping, landsliding, or weathering occur with sufficient such frequency and extent to significantly affect the ability of the disposal site to meet the performance objectives of R313-25, or may preclude defensible modeling and prediction of long-term impacts.

The licensee prefers to do only "quantitative analysis out to one million years. Such "quantitative" analysis will not meet the test of defensible modeling required under R313-25-23(9). If the best that can be hoped for is a qualitative discussion of future scenarios (climate variation, lake inundation, precipitation events, etc.), then this is an admission that "defensible modeling" is not possible to perform for the EnergySolutions Utah for depleted uranium disposal.

Response

See the Executive Secretary's Statement at the beginning of this Comment Response document. It is currently anticipated that the performance period for a performance assessment will be established through rulemaking and/or through the performance assessment process.

Comment 8.4 (HEAL-Utah)

The provisions under R313-25-25, Near Surface Land Disposal Facility Operation and Disposal Site Closure will be violated, the text of the rule is:

(2) Wastes designated as Class C pursuant to R313-15-1008 shall be disposed of so that the top of the waste is a minimum of five meters below the top surface of the cover or shall be disposed of with intruder barriers that are designed to protect against an inadvertent intrusion for at least 500 years.

As the depleted uranium waste product decays, it generates Radium-226. Utah rule R313-15-1008 defines Class A, B, and C limits for Radium-226. Although Radium-226 may not initially be present in the depleted uranium waste stream in such amounts as to surpass Utah state limits for Class A waste, Radium-226 will with certainty be present in such amounts as to exceed Utah state limits for Class A waste in the future. Below is a description of this situation from a paper published by the Oak Ridge National Laboratory in the year 2000 (and please see Attachment C):

"For a waste to be acceptable for disposal at Envirocare, it must be classified as Class A LLW, as defined in Section R313-15-1008 of the Code of the State of Utah [Utah 2000]. A relatively short list of radionuclides is considered to determine whether candidate waste is Class A. The only radionuclide on this list of significance to disposal of DU product forms is the 226Ra decay product of 238U, the Class A limit for which is 10,000 pCi per gram of DU product form.

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"The Ra226 concentration and thus its activity in the DU product, is essentially zero at the time the product would be generated by conversion of DUF6. However, radioactive decay increases the concentration of Ra226 to the Class A limit (10,000 pCi/g DU product) in about 50,000 years, to the Class C limit (100,000 pCi/g)."

EnergySolutions representatives are aware that the waste will exceed Class A limits. In a Salt Lake Tribune article, EnergySolutions admits that depleted uranium will "top the state's Class A hazard limit" in approximately "35,000 years." See Salt Lake Tribune. Is depleted uranium too hot for Utah site? June 10, 2009.

There is no scientific basis for knowingly ignoring the fact that a waste stream becomes more hazardous as a result of the decay of that waste material. Knowing that the waste will become Class C waste in time, all protections for that waste must be taken into account now.

If the DU waste is buried at 10 feet as contemplated in the proposed license amendment, than Utah rule R313-25-25 (2) , which requires deeper disposal of Class C waste (5 meters, or over 16 feet), will be violated, as will the requirement for an intruder barrier designed to protect against intrusion for at least 500 years.

Again, HEAL Utah fails to see the underlying supporting data that 10 feet is an adequate burial depth for significant quantities of DU, given that the DU waste decay products will violate Class A limits and eventually constitute Class C waste and greater.

Response

See the Executive Secretary's Statement at the beginning of this Comment Response document. It is currently anticipated that burial depth for depleted uranium and compliance with other regulatory provisions will be established through rulemaking and/or through the performance assessment process.

Comment 8.5 (HEAL-Utah)

Condition E is a good concept, but it lacks foundation because another disposal site has not yet been identified. This further emphasizes the point that disposal should not take place until the full analysis and rule-making review is complete. While in general we support the idea that DU already disposed of should be either remediated or removed from the landfill if a future PA does not show the site will be suitable for DU disposal, the license condition should preclude disposal until that questions can be definitively answered. The alternative, the license conditions should require EnergySolutions to submit a memorandum of understanding or a signed contract with another disposal site to show that a viable option exists for removing the waste once disposed of, and the other site is willing to accept the waste.

As the condition reads:

Remediation: If following the completion of NRC's and DRC's regulatory processes described in paragraph 35A, the disposal of DU as performed after the date of this license condition would not have met the requirements of those new regulatory and performance standards, the facility will undertake remediation to ensure that those new regulatory and performance standards are met, or if that is not possible, shall removed [sic] the DU and transport it offsite to a licensed facility.

ATTACHMENT A

EnergySolutions may claim that future remediation or removal of DU will not keep radiological exposures to workers "As low as Reasonably Achievable" (ALARA) and could refuse to remediate or remove the waste on those grounds. Please see the discussion of Day 2 of NRC workshops on unique waste streams in Salt Lake City, including depleted uranium, incorporated here by reference.

Response

See the Executive Secretary's Statement at the beginning of this Comment Response document.

Comments 8.6 (HEAL-Utah)

Surety: The Licensee shall fund the surety for the remediation, in Condition 35 E. Within 30-days of the effective date of this license condition, the licensee shall submit for Executive Secretary review and approval, the surety cost estimates for remediation of existing Savannah River DU waste disposal and planned, similar large quantity DU waste disposal.

This language should be clarified to include that the surety must also cover the cost of removal and disposal at another facility, including the costs of removal, any repackaging, transportation and disposal. The remediation plan in Condition 35E discusses the potential removal of DU and transport to an "offsite licensed facility." As mentioned above, there does not appear to be another licensed site that will currently accept significant quantities of depleted uranium.

The surety agreement and funding must also reflect the additional costs for on-going maintenance of the site, essentially into perpetuity. This should include the costs of entirely moving the waste contents since it is almost certain that the site will be inundated by water. The annuity payments from the surety fund must be adequate to account for all costs of maintenance, oversight, and relocation of the waste.

No other licensed facility appears able to accept significant quantities of depleted uranium. A recent press report confirms that the Nevada Test Site cannot currently accept depleted uranium waste:

DOE spokeswoman Lauren Milone says the Nevada Test Site is being excluded from discussions about the waste because the DOE has agreed to conduct a statewide environmental impact statement before accepting any new waste there. See Salt Lake Tribune. DOE: Nevada not an option for Utah-bound depleted uranium December 9, 2009.

A representative from the state of Washington, which hosts the Hanford low-level waste disposal site, said that state would wait until new criteria are developed by the NRC in an ongoing rule-making process:

"We've talked about it in good detail. I think the prudent thing we've decided is we really need to wait until this kind of works through because we could do a performance assessment that may not meet the criteria that the NRC ends up getting, and you'd end up having to do it twice. So I think from our standpoint we wait." See transcript of Day 1 of NRC's Unique waste stream workshop in Salt Lake City.

ATTACHMENT A

For the state of Texas facility – Waste Control Specialists – its license does not currently allow significant quantities of depleted uranium and in order to do so, a performance assessment out to the time of peak dose would be required.

Therefore, since there does not appear to be another licensed facility that will currently accept significant quantities of depleted uranium, the license amendment should be modified to provide additional contingencies, including ensuring there is a licensed off-site facility prior to depleted uranium disposal at EnergySolutions. Barring that, any shipments of depleted uranium should be required to be held in above-grade storage pending the availability of an offsite-licensed facility.

Response

See the Executive Secretary's Statement at the beginning of this Comment Response document. Specific comments about what the surety should be are not within the scope of this proposed license condition, but relate instead to the surety determination itself.

Comment 9 (Charles Judd)

Included with this letter are public comments on the proposed amendment to include a new license condition 35 in EnergySolutions (ES) radioactive material license. The general comment is that it is clear that the currently proposed language in condition 35 does little or no good in protecting Utah and its citizens. It is expected that this would be the case because the language was written by the licensee. Instead of this vague language I have proposed changes to the language that includes provisions to protect the State of Utah. The new language requires that any additional DU waste be held in storage in drums in the class A north cell until it can be proven that the material can be disposed properly. These comments also suggest that a proper surety be established by January 15, 2010 (this is done by increasing the surety by \$30 million) and several other ways to provide better financial protection to the State of Utah. The new language also includes the requirement that several important factors be included in the performance assessment. The following is attached to this letter:

Attachment A - New Language for Condition 35

Attachment B - Comments on Proposed License Condition 35

Attachment C - Maps showing potential DU placement

Attachment D - New Surety Calculations to Include DU

Comment 9.1

License Condition 35 is no more than an attempt by EnergySolutions to act like they are handling the DU in some special manner when in reality they are doing absolutely nothing to better protect the citizens of Utah. The condition says they will put on 10 feet of cover, but they don't say when. EnergySolutions states, "They will put more in the Surety"; but the don't say when. EnergySolutions states, " They will research this issue until they find a good answer", but don't state when. The License Condition as it is proposed should not be approved because it does nothing to help the situation. If the condition is approved as it is now written it will be in conflict with other license conditions.

The answer to all of these questions is that they need to be answered before the waste is disposed of at the site. If the waste needs to be brought now, then it should be stored until all of the

ATTACHMENT A

answers are finalized. A condition should be added that says that the waste must be stored safely onsite in an approved storage facility until the report is completely approved by the State of Utah. This would also give time for the surety to be adjusted properly, time for the design work to be done and many other important items resolved. Storing the waste onsite would cost very little extra money and would be well worth the effort.

Response

See the Executive Secretary's Statement at the beginning of this Comment Response document.

Comment 9.2

When will the 10-foot of cover be put over the waste? It seems that there is not time frame. This means that the requirement is completely useless and is only stated to try to mislead the public. No cover has been placed over waste in the Low Level Cell areas for years.

EnergySolutions has no desire to cover the waste any time soon. In fact they are in a situation where they will soon violate the open Cell requirements of their license. Waste has been sitting in open cell for almost 10-years. Is there any plan to close waste cells or just leave them open to the environment for years? Is the plan just to extend the open cell requirements or is there some real intent to close the cells according to the requirements? A 36 month time requirement needs to be included (sic), which limits how long the DU can be open to the environment after approval is given to dispose of the waste.

Response

The time frame for covering waste is not within the scope of this license amendment.

Comment 9.3

Condition 35 needs to include some type of plan as to how the DU will be placed in an area where there will be 10-feet of cover over the material. When one looks at the options for placement of the DU waste it is very limited. Drawings 08015 c02 and 08016 c02 (Attachment C) show the areas of cell (yellow) that cannot be used for DU. The areas marked with red are potential areas for DU. One problem is that these areas have also been used for waste disposal for the last 15 months. Therefore the area for DU disposal is much smaller than the areas marked. It is hard to tell how much cell space has been used since August of 2008 because ES reporting has been poor. However it is estimated that about 25% of the areas that could have been used for DU placement are now gone. Therefore the drums should be placed in storage in an area of the Class A North cell that does not have other wastes at this time. ES should be required to identify areas of the Class A North cell that are going to be used for DU placement.

Response

Disposal design is not within the scope of this license amendment.

ATTACHMENT A

Comment 9.4

An addition should be added to Condition 35, which clearly states that once the waste is placed in the LARW cell that it cannot be moved to the 11e {2} cell. I personally witnessed dark material being moved from the Class A cell to the 11e {2} cell when I recently visited the site. It seems that ES does not understand that wastes should not be moved from one cell to the other. It is also a concern that management and staff of EnergySolutions did not know that materials were moving from the low level cell to the 11e {2} cell. It raises the question as to if anyone knows where waste is being placed at the site. If wastes are allowed to be moved from one cell to the other, then it is not possible to know if the 10-foot cover requirement is being instituted. If the drums were stored in the Class A North Cell they should also be disposed of in the same are if final approvals were given.

Response

This comment raises a potential enforcement matter that is not within the scope of this license amendment.

Comment 9.5

Based on comments 1-4, Condition 35 B. should read:

Storage and Burial Depth: The Licensee shall place all wastes with DU concentrations greater than 5 percent (by weight) on a pad constructed in the Class A North Cell for storage until final approval for disposal is given by the Division of Radiation Control or until it is determined that the waste must be removed from the site. The DU waste will remain in the drums or shipping containers in which it is shipped. The waste will be stored in a manner that it can be disposed of at the same location and will therefore be disposed of a minimum of 10-feet below the cover. The DU waste cannot be moved to other cells for any reason. The 10-foot cover will be placed over the waste within 36 months of approval of the waste to be disposed of at the site.

Response

See responses to comments 9.1 through 9.4.

Comment 9.6

It is clear from the as-built drawings that the cover system in the original LARW cell is not performing properly. The differential settlement limits have been exceeded in several areas. New settlement data will give us more information on the issues with improper differential settlement. Any studies done on how DU will react over time in the cells at Clive should include current information on the cover performance; i.e. cracking of the radon barrier cover and increased water infiltration into the embankment.

Response

See the Executive Secretary's Statement at the beginning of this Comment Response document. Disposal design is not the scope of this license amendment.

ATTACHMENT A

Comment 9.7

Any studies for DU should also include updated weather and environmental data. In recent models, ES has used old weather data, old design information and old environment data. New weather data, which is from stations closer to the site, should be used. The newest design for the cells should be used in all studies. The use of old data should no longer be tolerated.

Response

Weather data requirements are not the scope of this license amendment.

Comment 9.8

It is clear from the requested amendments for Depleted Uranium (DU) that there are questions about how deep the DU should be disposed. ES is completing a report to determine the best way to dispose of the waste. It only makes sense that if the report shows that the 10-foot depth is not enough and that the waste should be buried 20-feet below the top of the cover, that all DU waste on the site be disposed of in the same manner. It is doubtful that if the report shows that the waste needs to be covered by 20-feet that the State of Utah would allow previous wastes that had been disposed of only 7-feet below the cover be left in the unsafe condition. It is therefore necessary for the State and the public to understand the current location of the 49,000 tons of DU already on site. Can the State please request from ES the location of all DU at the site and then provide the information to the public? It is clear from the license that the State has the right to request this information.

Response

See the Executive Secretary's Statement at the beginning of this Comment Response document. Some of these comments also concern matters that are not within the scope of this license amendment.

Comment 9.9

Based on comments 6 through 8 the following should be added to the end of Condition 35 C: The performance assessment should take into account the current concerns with differential settlement in the cover system at the LARW cell in Clive, Utah. The performance assessment should also include the most current and up to date weather and environmental data available. The performance assessment should also evaluate the performance of DU that arrived at the site before December 2009.

Response

See responses to comments 9.6 through 9.8.

Comment 9.10

It is clear that ES wants to continue to bring in waste and promise to cover it but in reality they have no plans to cover the waste. The cost to cover this DU waste will need to be covered by the

ATTACHMENT A

State of Utah. As it presently stands EnergySolutions does not have the money to pay to cover the waste. The face is clear when one reads the current financial reports of EnergySolutions. On March 28, 2008, Sean McCandless sent a financial report to the State of Utah, which summarized EnergySolutions financial situation. This report is required each year. In that report the company reports the amount of money it has set aside for "Facility and equipment decontamination and decommissioning liabilities" (Page F3). As you follow the amount ES has set aside over the years you will see that the amount has gone from over \$82 million in 2006 down to just over \$62 million in 2009. What is scary is to understand what this \$62 million is suppose to cover. That description is found on page F-10 of the same report. "We are responsible for the costs relating to the final capping, closure, and post-closure monitoring activities of our Clive, Utah landfill. Our final capping and closure activities of our South Carolina landfill and the costs related to the decontamination and decommissioning of our facilities and equipment in Tennessee and certain customer sites which qualifies as asset retirement obligations under SFAS No. 143." One would expect that since the amount set aside had been going down almost 25 percent that they had been capping or covering waste. That has certainly not been the case in Clive, Utah. No low level waste has been covered or capped in that time. Where has the \$20 million dollars gone? Probably to ES bottom line and to their shareholders. Is the \$62 million enough to close all the ES sites? No. In fact in the Divisions report to the Radiation Control Board on March 10, 2009 the Division reported that just to close the ES Clive site it would cost over \$88 million. This clearly indicates that ES does not have funds to close the sites properly. Included in Condition 35 should be an additional statement that requires ES to put aside \$500 for each ton of DU that is brought to the site. This money should be added to the ARO (Asset Retirement Obligation) account held by EnergySolutions. This will help get that account back in line with the costs to close the site.

Response

The comments concern matters that are not within the scope of this license amendment.

Comment 9.11

ES wants the public to believe that it has sufficient funds in its surety to provide Monies to properly handle the DU waste as it arrives at the site. At the present time surety is far short of the amounts needed to properly handle the waste. We know from previous comments that ES does not have the money to cover the waste and the ES surety is also insufficient. First of all, license condition 73 states that, "The License shall at all times maintain a Surety that satisfies the requirements of UAC R313-25-31 in an amount adequate to fund the decommissioning and reclamation of Licensee's grounds, equipment and facilities by and independent contractor." The proposed License Condition 35 violates this condition. It allows the DU to be on site while ES and the State of Utah determine how much surety should be in place to remove the DU from the site. While the State and ES are trying to determine the amount to properly remove the waste from the site, ES should be required to place an additional \$5 million in the surety so that they can be n accordance with License Condition 73.

Response

Specific comments about the amount of the surety that will be required under the license condition are not within the scope of this proposed license condition.

ATTACHMENT A

Comment 9.12

If DU is added to the site as planned it also affects the current surety in a significant way. The requirements mean that more cell space is going to be needed for the 10-foot cover over DU. In other words with DU needing 10-feet of cover there needs to be changes to the premature closure plan. With changes in the premature closure fund there will also need to be changes in the Surety so that License Condition 73 can be fulfilled. It is time for ES to stop cutting corners and begin to fully fund a proper surety. Here is a short list of adjustments that needs to be made before the surety can properly cover the DU waste with 10-feet cover material. Lines items listed are from the November 7, 2007 surety document:

- a. The quantity of cover needed should be changed on Line 1336 because the premature closure plan does not provide enough square footage to close the site. This is because the cover extends beyond the edge of waste in the Class A and CAN cells. It also due to the fact that CWF and other such facilities should not be under the side slopes. More areas is also going to be needed to assure that the DU has the complete 10-feet cover over it before premature closure is completed. The amount of square footage required to properly close the site prematurely would be at least 4,200,000 square feet.*
- b. In lines 1343 and 1351 should be changed to show a unit cost of about \$5.00 per cubic yard, because there is not source for radon barrier within the suggested .5 miles of the site.*
- c. The rock to cover the DU waste should have a unite price of approximately \$15.00 per cubic yard to account for using RS means to calculate the longer haul distance (lines 1360,1366,1375, 1391 and 1398). This \$20 number was discussed with ES personnel and they confirmed that a price similar to that would be realistic.*
- d. Lines 1357 and 1388 should be changed to \$1.10 per cubic yard, which is double the current price from the BLM. This is the practice that has been used by the State of Utah in the past.*
- e. In the pas few years ES has been using 318,000 cubic yard for the amount of cell space needed for site cleanup. This number should be increased by 33% because the last few years data now shows that for every cubic yard of waste disposed it takes up 1.33 cubic yards of cell space. The correct number for cell space for cell cleanup should be 423,000 cubic yards.*
- f. The line item should be added to remove the DU that is at the site if it is determined that the waste is not acceptable at the site. This item should be \$5 million until it is determined that another amount is more accurate.*

Response

Specific comments about the amount of the surety that will be required under the proposed license condition, or that are required by other license conditions, are not within the scope of this proposed license condition.

Comment 9.13

Before Condition 35 can be approved the Surety needs to be in accordance with license condition 73 and monies need to be available in the Surety at all times to close the site. Attachment D is a summary of the adjustments that should be made in the Surety. The mew surety number for the cover construction should go up by approximately \$17 million. If you add on the items from Section 300 then this amount is increased to about \$25 million. In addition there needs to be approximately \$5 million added for removing the material if necessary. If the six items above are properly addressed the Surety amount would be increased by approximately \$30 million. The additional \$30 million should be funded as soon as possible. This is an important issue, especially because we now know the ES does not have sufficient funds set aside to cover the waste at Clive.

ATTACHMENT A

Response

Specific comments about the amount of the surety that will be required under the proposed license condition, or that are required by other license conditions, are not within the scope of this proposed license condition.

Comment 9.14

Before DU waste should be allowed to the site it should be made clear that the State of Utah is receiving 10 percent of the gross revenues from this waste. It needs to be clearly stated that this waste has been volume reduced (i.e. it has been processed) and that it is under a new or modified contract since 2005. In the past ES has classified many wastes as non-processed to lower amounts they pay to the State of Utah. In the past ES has said that wastes were under old agreements and therefore not subject to state fees. If the State of Utah is going to allow wastes that are not yet modeled to be acceptable to the site then the State should at least get the full benefit of the wastes.

Response

The taxes and fees paid by EnergySolutions are outside the scope of this license amendment, and outside of the authority of the Executive Secretary.

Comment 9.15

Based on comments 10-14, condition 35 F, should read:

Surety and Fees: by January 15, 2010 the License shall fund the surety so that the DU waste onsite can be properly stored until the performance assessment is completed. By the same date the Surety shall also be funded to have waste shipped offsite if necessary. It is expected that \$30 million will increase the Surety. The License shall be required the 10% fee to the State of Utah for processed waste as required by State Law 59-24-103.5. This money is not refundable if the waste is required to be removed from the site. The License will also be required to place \$500 for each ton of DU accepted at the site into their ARO (Asset Retirement Account) to help pay for covering the DU when the site is closed.

Response

See responses to Comments Nos. 9.10 through 9.14.

Comment 9.16 (Attachment D)

Response

Specific comments about the amount of the surety that will be required under the proposed license condition, or that are required by other license conditions, are not within the scope of this proposed license condition.



State of Utah

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF RADIATION CONTROL
Dane L. Finerfrock
Director



December 22, 2009

Christopher Thomas
Policy Director, HEAL UTAH
68 S. Main St., Suite 400
Salt Lake City, Utah 84101

Re: Request for Comment Period Extension and for Public Meeting to Accept Oral Comments on License Condition 35, EnergySolutions RML #2300249

Dear Mr. Thomas:

I have reviewed the request for an extension of the public comment period and for a public meeting to accept oral comments. The justification provided is significant public interest and the conflicts due to the holiday season.

As you know, the Utah Radiation Control Board considered proceeding with a license amendment that required approval of a performance assessment before disposing of any depleted uranium. After some consideration, the Board elected to pursue the matter through rulemaking while at the same time pursuing the license amendment that is the subject of your request.

I am denying your request for an extension and for a public meeting because the interest of public health and safety is furthered by getting the protections offered by this license amendment in place quickly, and because there will be ample opportunity to consider other significant restrictions on depleted uranium disposal during the upcoming rulemaking process. That proceeding will include a public meeting. I also note that the process for adopting a license amendment is an adjudicative process (see R313-17-4(1)).

Notwithstanding this denial, I invite your comments on the License Condition at any time. A License Condition may be amended after review by the Executive Secretary of any documentation which identifies substantial reasons for a new amendment.

For the reason stated, I deny the request for a public comment period extension and request for public meeting.

Sincerely,

Dane Finerfrock
Director



State of Utah

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF RADIATION CONTROL
Dane L. Finerfrock
Director

MEMORANDUM

TO: File: Depleted Uranium License Amendment: License Condition 35, Public Participation; Summary of Comments

FROM: John Hultquist *JH*

DATE: January 11, 2009

SUBJECT: Summary of comments received during the Public Comment Period November 23, 2009 through December 23, 2009.

The Division of Radiation Control received comments from eight individuals. One commenter indicated that based on characteristics of DU there is no problem regarding its disposal at the Clive facility. In addition, indicated that the conditions lacked rational regarding the burial depth of 10 feet and that the decisions should be made those who have the expertise to properly weigh the concerns. Three commenter's endorsed this individual's comments regarding disposal of DU.

One commenter requested an extension to the public comment period and also a public hearing. The Division Director denied the request because the interest of public health and safety is furthered by getting the protections and requirements in the license quickly and there will be future opportunity to comment and consider other restrictions during the upcoming rulemaking process. In addition, this commenter provided comments and provided several concerns regarding condition 35, requested that the DRC modify certain conditions, add others, and issue a formal response to their comments. Burial depth, stability of disposal site after closure, institutional requirements, period of performance, site closure, remediation measure, and surety were concerns regarding the proposed license condition.

Another commenter provided specific comments regarding the language in condition 35, and how some of the language is editorial and not relevant to compliance of the Clive facility and provided revisions to condition 35.

Another commenter provided comments the on proposed language, new language for condition 35, and new surety calculations for DU disposal.

One comment was of a general nature regarding misinformation on radiation subjects and that the amendment does a large disservice to the public and enhances public paranoia.