

PUBLIC PARTICIPATION SUMMARY (PPS)
DOCUMENTATION

RADIOACTIVE MATERIAL LICENSE UT2300249
VARIANCE REQUEST TO RECEIVE AND DISPOSE OF CERTAIN
CLASS A SEALED SOURCES

VARIANCE REQUEST TO LICENSE CONDITION 16.A

The proposed variance to License Condition 16.A. would allow certain Class A sealed sources to be received for a period of one year and disposed in the Containerized Waste Facility (CWF) part of the Licensee's Clive facility. The variance will have a term of one year (365 days) from the date the first shipment is received under this variance. In addition, the Licensee will track and report the total number, volume, and activity of sources received and the serial numbers or other unique identification number of each source disposed under this variance. This report will be due no later than 3 months after the variance expiration date.

The public comment period to receive written comments was from February 10, 2012 and March 13, 2012. The Division of Radiation Control (DRC) did not hold a public hearing on variance to License Condition 16.A. The DRC received six comments from two different sources. Below are the comments (italicized) along with the DRC response(s) to the comment.

Comments from Ms. Abigail Cuthbertson, Office of Global Threat Reduction (NA-21) National Nuclear Security Administration, U.S. Department of Energy submitted on February 17, 2012.

I was reading through [the draft variance] and wondering if one sentence might be rephrased a bit. Towards the end of the letter there are two additional conditions with language that reads:

"The DRC has evaluated EnergySolutions request and has determined to grant the variance to License Condition 16A with the following additional conditions:

- 1. The sealed source or sources shall be encased within the disposal containers with grout or concrete; and*
- 2. Only sealed sources from the GTRI's OSRP are authorized for disposal under this variance."*

My concern is with Condition #2. I do not want people to confuse the sources going to Clive with sources that DOE/GTRI owns. It is not our plan to take title to these sources -

only to provide grant funding to the Conference of Radiation Control Program Directors for their Source Collection and Threat Reduction Program...

Perhaps it could be revised to say something like: "Only sealed sources recovered as part of a round-up coordinated by the Conference of Radiation Control Program Directors (CRCPD) "Source Collection and Threat Reduction" or "SCATR" Program are authorized for disposal under this variance."?

DRC Response #1: The DRC agrees with the commenter. The proposed wording for second additional condition is a more accurate statement than the draft version of the approval letter. Therefore, the second additional comment has been changed with the proposed language.

Comments from Mr. Daniel Shrum, Senior Vice President, Regulatory Affairs, EnergySolutions LLC. submitted on March 13, 2012.

In a letter dated August 2, 2011 (CD 11-0216), EnergySolutions requested a variance to Radioactive Material License (RML) #UT23 00249, Condition 16.A. The purpose of the variance request is to seek temporary relief from this condition, which prohibits disposal of sealed sources at the Clive facility. Letters dated August 24, 2011 and November 7, 2011 clarified and enhanced the request. On February 10, 2012, the Division of Radiation Control (DRC) published a draft approval letter and statement of basis for public comment. EnergySolutions appreciates the opportunity to comment and offers comments on the following conditions of the draft approval for your consideration.

Page 1 of draft approval, second bullet: *This text contemplates limiting the half-life of isotopes in the sources to be disposed under the variance to 30 years or less. The limit is not repeated in the conditions of approval on the following pages, and so its applicability is not entirely clear. EnergySolutions proposes that this condition be deleted.*

Limiting the half-life of isotopes in sources to be disposed under this variance to 30 years or less would result in the exclusion of a number of the sources contemplated for disposal. Thus, the variance would be of constrained utility to the Global Threat Reduction Initiative (GTRI). Of particular note, Cs-137, with a half-life slightly greater than 30 years (i.e., 30.17 years), would be excluded. No basis for this limit is given either within the draft approval or the draft Statement of Basis. There does not appear to be a safety basis for the limit, since the approved performance assessment for the facility shows that groundwater (although not potable and thus not a valid dose pathway) is protected to a drinking water standard for at least 500 years following closure.

DRC Response #2:

It was the intent of the DRC to include Cs-137 that has a half-life of 30.07 (16th edition, Nuclides and Isotopes, Chart of the Nuclides, 2002). However, 30 years was chosen so that this variance request will comply with Utah Administrative Code (UAC) R313-25-8(1)(b). Therefore, the limit will be adjusted to the half-life of Cs-137.

Page 1 of draft approval, third bullet: *This text contemplates limiting the total activity in the sources to be disposed to a maximum of 708,678 curies. The limit is not repeated in the conditions of approval on the following pages, and so its applicability is not entirely clear; To the extent that this is intended to be an additional condition on the variance approval, EnergySolutions agrees to comply with this limit.*

DRC Response #3:

The curie limit of 708,678 curies and the half-life limit set at the half-life of Cs-137 will be repeated in the DRC additional comments to clarify the requirements.

Condition 3: *EnergySolutions has committed that each source, taken individually, will be classified as Class A. As you are aware, the 1995 NRC Branch Technical Position on Concentration Averaging and Encapsulation (1995 BTP) addresses classification of encapsulated sources and includes an allowance for taking credit for the encapsulating media in determining waste class. Since each source, taken individually and with no credit for encapsulating media, will be Class A, this reference is not needed, since the 1995 BTP would not apply in this case. Furthermore, since the BTP is included in our license at Condition 1 6.L.i, EnergySolutions already is constrained by the provisions of this guidance. Therefore, reference to the 1995 BTP is redundant and may be eliminated.*

DRC Response #4:

While referencing the 1995 BTP is redundant,, it is preferred to retain the reference as part of the variance approval to underscore its importance as a fundamental component of the waste management cycle. Additionally the DRC references the 1995 BTP and any other guidance document to clarify to anyone who has interest in this matter (not just EnergySolutions) which guidance document shall be used to comply with this variance approval. No changes will be made to the variance request approval letter.

Condition 3: *Reference to the August 2011 NRC Branch Technical Position on Concentration Averaging and Encapsulation (2011 draft BTP) is not appropriate, since this draft document has not yet been approved by NRC for use in waste management decisions. Furthermore, in a public meeting at the Waste Management '12 conference on February 29, 2012, NRC staff indicated that the 2011 draft BTP is currently under revision in response to stakeholder comments. NRC staff also indicated that the updated BTP is scheduled for approval by the end of 2012; i.e., during the term of this variance. The nature of any revisions to the 2011 draft BTP remains to be seen.*

Referencing the 2011 draft BTP in this approval invites confusion once a final updated BTP is approved, should guidance in the draft and final documents conflict. Again, considering that NRC has stated that there will certainly be substantive revisions to the 2011 draft BTP, the situation of contradictions between the two documents is essentially guaranteed. Therefore, the reference should be removed.

If DRC desires to include a specific item from the 2011 draft BTP, that item should be addressed individually, rather than including the entire 2011 draft BTP into the scope of the variance approval.

DRC Response #5:

The reference to the 2011 Draft BTP was removed.

Additional Condition 2: *This condition limits the scope of the variance to sealed sources from GTRI's Offsite Source Recovery Project (OSRP). This limitation may cause otherwise acceptable sources to remain "orphaned" if they are not listed within the GTRI registry. As discussed in our August 2, 2011 letter, a similar "roundup" of disused and unwanted sealed sources performed in 2008 resulted in a significant number of sources needing disposal beyond those listed on the registry at the time. Since DRC has already limited total curies acceptable under the variance, the constraint to GTRI OSRP sources restricts the scope of the variance while providing no discernible safety benefit. As there is no health and safety benefit to this limitation, we propose that it be deleted.*

DRC Response #6:

As stated on the first page fourth paragraph of the August 2, 2011 (CD11-0216) letter "A variance to the prohibition at Condition 16.A is requested in support of the U.S. Department of Energy (DOE) National Nuclear Security Administration (NNS A) Global Threat Reduction Initiative (GTRI)." Therefore the DRC is only allowing sources that are collected through that program to be disposed at the EnergySolutions Clive facility under this variance request. See response to comment #1 above. The wording for condition #2 will read as follows: "Only sealed sources recovered as part of a round-up coordinated by the Conference of Radiation Control Program Directors (CRCPD) "Source Collection and Threat Reduction" or "SCATR" Program are authorized for disposal under this variance. EnergySolutions did not include in the variance request any other sealed sources from other programs or generators. If EnergySolutions wishes to receive sealed sources from other programs or generators for disposal at the Clive facility, then EnergySolutions must request to amend Radioactive Materials License (RML) UT2300249 to allow the disposal of Class A sealed sources.

Summary of Changes

The variance request approval letter will have two changes based off of the comments received during the public comment period. Those changes are:

1. On page one second bullet is shall read “The half-lives of the isotopes in the sources to be disposed is equal to the half-life of Cs-137 or less.”;
2. The first commitment was rewritten to clarify that each individual source disposed under the variance shall meet Class A LLRW limits as defined in UAC R313-15-1009 (10 CFR 61);
3. The reference to the August 2011 Draft Branch Technical Position Paper on Concentration Averaging and Encapsulation, Rev. 1 (2011 Draft BTP) was removed from the third commitment;
4. In the additional conditions on the second page, Condition 2 shall read “Only sealed sources recovered as part of a round-up coordinated by the Conference of Radiation Control Program Directors (CRCPD) "Source Collection and Threat Reduction" or "SCATR" Program are authorized for disposal under this variance.”;
5. In the additional conditions on the second page, Condition 3 was added to clarify that the half-lives of the isotopes in the sources to be disposed are equal to the half-life of Cs-137 or less; an
6. In the additional conditions on the second page, Condition 4 was added to clarify that the total number of Curies shall be limited to 708,678 Curies which is equivalent to 1% of the calculated total source term limit of the Class A North Embankment.

Attachment A to this PPS is the revised variance approval letter based on comments received and evaluated by the DRC.

ATTACHMENT A

Final Version of Variance Approval Letter with redline/strikeout



State of Utah

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF RADIATION CONTROL
Rusty Lundberg
Director

April 5, 2012

Daniel Shrum,
Vice President, Regulatory Affairs
EnergySolutions, LLC.
423 West 300 South, Suite 200
Salt Lake City, Utah 84101

RE: Radioactive Materials License (RML) UT 2300249: EnergySolutions' Variance Request to License Condition 16A which Prohibits the Disposal of Sealed Sources at the Clive, Utah Facility

Dear Mr. Shrum:

On August 2, 2011, EnergySolutions submitted to the Division of Radiation Control (DRC) variance request (CD11-0216) to RML UT 2300249. Currently, License Condition 16A prohibits disposal of sealed sources at the Clive facility. In a meeting on August 18, 2011, EnergySolutions presented their request to DRC staff. EnergySolutions made this request in support of the U.S. Department of Energy (DOE) National Nuclear Security Administration (NNSA) Global Threat Reduction Initiative (GTRI). The GTRI's Off-Site Source Recovery Program (OSRP) recovers and disposes certain unused sealed sources from civilian sites. The GTRI's OSRP has requested that certain sealed sources be authorized for disposal at EnergySolutions' Clive, Utah facility.

The Executive Secretary's letter dated October 13, 2011 requested additional information from the licensee. EnergySolutions was asked to provide information demonstrating that the requested variance complies with all requirements stated in Utah Administrative Code (UAC) R313-25-8(1). The licensee's letter dated November 7, 2011 (CD11-0304) provided information to address each individual requirement in UAC R313-25-8(1).

DRC staff evaluated EnergySolutions response and the DRC has the following comments:

- UAC R313-25-8(1)(a)- The DRC agrees that sealed sources were considered by the Nuclear Regulatory Commission (NRC) when developing radioactive waste classification criteria in 10 CFR 61 and therefore is not a unique waste stream. This variance request complies with this requirement;
- UAC R313-25-8(1)(b)- The half-lives of the isotopes in the sources to be disposed is equal to the half-life of Cs-137 or less. Therefore the dose limits will not be reached. This variance request complies with this requirement;
- UAC R313-25-8(1)(c)- To comply with this requirement the DRC will allow 1% of the

calculated total source term limit (which equals 708,678 curies) of the Class A North Embankment CWF Cell which will ensure compliance with this requirement; and

- UAC R313-25-8(1)(d)- Sealed sources were considered by the NRC in developing 10 CFR-61. Additionally, sealed sources have been evaluated in the NRC's Branch Technical Position paper on Concentration Averaging and Encapsulation (BTP). Therefore, the form of the waste (i.e. sealed sources verses bulk waste) does not constitute an unanalyzed condition. This variance request complies with this requirement.

In the variance request EnergySolutions proposed the commitments below. The DRC concurs with the following commitments as amended:

1. Each individual source shall not exceed Class A LLRW limits as defined in UAC R313-15-1009 (10 CFR 61). The package disposed under the variance will also not exceed Class A LLRW limits as defined in UAC R313-15-1009 (10 CFR 61).
2. EnergySolutions will not seek NRC approval to import foreign sources and will only manage and dispose of domestic sources.
3. Shipments shall be certified in accordance with the EnergySolutions' Waste Characterization Plan Exhibit 2. Sources shall be packaged in accordance with the 1995 NRC Branch Technical Position paper on encapsulation (1995 BTP), ~~and the August 2011 Draft Branch Technical Position Paper on Concentration Averaging and Encapsulation, Rev. 1 (2011 Draft BTP).~~ If conflict exists between the 1995 BTP and the 2011 Draft BTP, the licensee must follow the statement which is most restrictive.
4. Sources will be disposed in the CWF in accordance with the most currently approved Construction Quality Assurance/Quality Control Manual requirements for CWF disposal and other applicable CWF criteria for disposal.
5. EnergySolutions will review and approve each shipment before it is transported from the generator's or processor's facility.
6. DRC will be notified at least 7 calendar days prior to scheduled receipt of the first shipment under this variance.
7. The variance will have a term of one year (365 days) from the date the first shipment is received under this variance.
8. EnergySolutions will track and report the total number, volume, and activity of sources received and the serial numbers or other unique identification number of each source disposed under this variance. This report will be due no later than 3 months after the variance expiration date.

The DRC has evaluated EnergySolutions request and has determined to grant the variance to License Condition 16A with the following additional conditions:

1. The sealed source or sources shall be encased within the disposal containers with grout or concrete; and
2. Only sealed sources recovered as part of a round-up coordinated by the Conference of Radiation Control Program Directors (CRCPD) "Source Collection and Threat Reduction" or "SCATR" Program are authorized for disposal under this variance.
3. The half-lives of the isotopes in the sources to be disposed are equal to the half-life of Cs-137 or less.

4. The total number of Curies shall be limited to 708,678 Curies which is equivalent to 1% of the calculated total source term limit of the Class A North Embankment.

Based on the above commitments and conditions, the Executive Secretary grants a variance to License Condition 16A. This variance shall be for one year (365 days) starting from the receipt of the first shipment at the Clive facility, and as long as the commitments and additional conditions outlined above are followed. If any commitment or condition is not followed, this variance shall be suspended or terminated. For disposal of sealed sources beyond this 12 month variance, EnergySolutions shall have to obtain approval through a license amendment of RML UT2300249. If you have any questions please contact John Hultquist or Ryan Johnson at (801) 536-4250.

UTAH RADIATION CONTROL BOARD

Rusty Lundberg, Executive Secretary

RL/RJ:rj

Cc. Sean McCandless