71-9218

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TRU Solutions LLC

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February 7, 2005

Mr. Meraj Rahimi, Project Manager
NMSS/SFPO MS/013D13
U.S. Nuclear Regulatory Commission
One White Flint North
15555 Rockville Pike
Rockville, MD 20852-2738

Subject: REPORT PURSUANT TO TITLE 10 CODE OF FEDERAL REGULATIONS 71.95(c)

Dear Mr. Rahimi:

On behalf of the U.S. Department of Energy Carlsbad Field Office (CBFO), this letter is submitted to report a condition pursuant to Title10 Code of Federal Regulations 71.95(c) regarding the use of Transuranic Package Transporter Model II (TRUPACT-II) Number 147. This packaging operates under the U.S. Nuclear Regulatory Commission Certificate of Compliance Number 9218.

(1) A brief abstract describing the major occurrences during the event, including all component or system failures that contributed to the event and significant corrective action taken or planned to prevent recurrence:

Drum Number 0014003 at the Hanford site in Shipment Number RL040063 exceeded the radiation dose rate limit of 200 millirem per hour (mrem/hr) for a TRUPACT-II payload container. The Hanford Transportation Certification Official (TCO) certified the drum as meeting the requirements of the Contact-Handled TRUPACT-II Authorized method for Payload Control (CH TRAMPAC) document. It was discovered that the TCO did not include the contribution of the neutron dose rate when summing the total dose rate. The discrepancy was identified while the shipment was in transit, and the shipment was turned around before it reached the Waste Isolation Pilot Plant (WIPP) site. There were no component or system failures that contributed to the event. The shipper (Hanford) issued a Corrective Action Report against this incident for their non-compliance. The corrective action focuses on the procedure for recording radiation dose rates and training affected personnel to ensure this type of event does not reoccur.

(2) A clear, specific, narrative description of the event that occurred so that knowledgeable readers conversant with the requirements of part 71, but not familiar with the design of the packaging, can understand the complete event. The narrative description must include the following specific information as appropriate for the particular event:

The radiation dose rate requirement for a 55-gallon drum shipped in a TRUPACT-II (identified in the CH-TRAMPAC Document, Revision 1, July 2004) is - the maximum surface dose rate shall be "less than or equal to 200 mrem/hr". Drum Number 0014003 had a measured beta-

P.O. Box 2078 • Carlsbad, New Mexico USA 88221-2078
Phone: (505) 234-7200 • Fax: (505) 234-7083

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gamma dose rate of 200 mrem/hr; this drum also had a measured neutron dose rate that was less than the minimum detectable activity (MDA) - 0.2 mrem/hr. The Hanford TCO evaluated the neutron contribution as 0 mrem/hr. The Hanford Waste Certification Officer (WCO) provided the Hanford data entry personnel with the survey information. As a conservative measure, less than MDA readings are reported at the MDA. The resulting total of 200.2 mrem/hr was entered into the Waste Isolation Pilot Plant Waste Information System (WWIS) database. However, the TCO certified that Drum Number 0014003 was 200 mrem/hr; the drum should have been rejected since the reported dose was 200.2 mrem/hr.

Drum Number 0014003 was assembled into a TRUPACT-II payload. The payload then became part of Shipment Number RL040063 that departed Hanford on December 8, 2004 at approximately 1400 hours. During a WIPP review of the WWIS Shipment Summary Report on December 10, 2004, it was discovered that Drum Number 0014003 in Shipment Number RF040063 potentially exceeded the allowable surface dose rate.

The truck was directed to stop at a pre-designated area for safe parking at Fort Collins, Colorado. As a precautionary measure, Department of Energy officials at WIPP directed the truck to return to the Hanford site.

(2)(i) Status of components or systems that were inoperable at the start of the event and that contributed to the event;

No systems or components associated with any systems were inoperable at the start of the event.

(2)(ii) Dates and approximate times of occurrences;

Date and Time Discovered: December 10, 2004 at 0830 hours Pacific Standard Time.

(2)(iii) The cause of each component or system failure or personnel error, if known;

- Hanford identified a weakness in the waste management procedure to properly evaluate radiological survey data and sum the beta-gamma and neutron dose rates.
- The Hanford TCO did not recognize the significance of the MDA contribution to the total dose rate.
- The Hanford WCO did not recognize that the total value was above 200 mrem/hr.

(2)(iv) The failure mode, mechanism, and effect of each failed component, if known;

There were no failed components.

(2)(v) A list of systems or secondary functions that were also affected for failures of components with multiple functions;

There were no systems or secondary functions affected due to failures of components with multiple functions.

(2)(vi) The method of discovery of each component or system failure or procedural error;

The non-compliance was discovered during a routine review of the Shipment Summary Report by WIPP personnel on December 10, 2004.

(2)(vii) For each human performance-related root cause, a discussion of the cause(s) and circumstances;

See the previous discussions above.

(2)(viii) The manufacturer and model number (or other identification) of each component that failed during the event; and

No components failed during the event.

(2)(ix) For events occurring during use of a packaging, the quantities and chemical and physical form(s) of the package contents.

Radionuclides:

Package Number	Nuclide	Activity (Curies)	Percent
147	AM-241	9.5820000000	2.58
	CS-137	0.0000000000	0.00
	PU-238	4.2289000000	1.14
	PU-239	16.120000000	4.34
	PU-240	7.0680000000	1.90
	PU-241	334.65000000	90.04
	PU-242	0.0023461000	0.00
	UR-90	0.0000000000	0.00
	U-233	0.0000000000	0.00
	U-234	0.0000000000	0.00
	U-238	0.0000000000	0.00
		==========	=======
Totals:		371.6512461000	100.00

Waste Streams:

Package Number	Waste Stream
147	RLMPDT.001 (HETEROGENEOUS DEBRIS)
	RLMPURX.001 (HETEROGENEOUS DEBRIS)
	RLNPDT.002 (DEBRIS WASTES - PLASTICS)
	RLNPURX.001 (HETEROGENEOUS DEBRIS)

Hazardous Waste Codes:

Package Number	Hazardous Waste Number and Description
147	D004 (ARSENIC)
	D005 (BARIUM)
	D006 (CADMIUM)
	D007 (CHROMIUM)
	D008 (LEAD)
	D009 (MERCURY)
	D010 (SELENIUM)
	D011 (SILVER)
	D019 (CARBON TETRACHLORIDE)
	D030 (2,4-DINITROTOLUENE)

(3) An assessment of the safety consequences and implications of the event. This assessment must include the availability of other systems or components that could have performed the same function as the components and systems that failed during the event.

There were no safety consequences as a result of the event. The external surface dose rate of TRUPACT-II Number 147 was 0.5 mrem/hr.

(4) A description of any corrective actions planned as a result of the event, including the means employed to repair any defects, and actions taken to reduce the probability of similar events occurring in the future.

Hanford immediately suspended operations pending investigation and corrective action. Hanford initiated Corrective Action Report TRU-SPO-04CAR-050 as a result of this incident. Their corrective actions include the following:

- Modify the applicable procedure, WMP-400, to provide guidance on source of radiological survey data, on summing of dose rate data for the total contact dose requirement, and to provide a total contact dose screening limit triggering Site Project Manager review. Completion Date: December 14, 2004.

- Train WCO/TCO relative to the incident on the requirements to sum dose rates, checklists, payload container transportation certification document, policy for reporting the MDA - when readings are lower than the established MDA readings, and data reviews contained in procedures WMP-400, Section 7.1.5 and WMP-400 Section 7.1.8. Completion Date: December 13, 2004.

- Review currently approved containers for similar instances: There were no similar events. Completion Date: December 13, 2004.

(5) Reference to any previous similar events involving the same packaging that are known to the licensee or certificate holder.

There have been no similar or known events involving the TRUPACT-II.

(6) The name and telephone number of a person within the licensee's organization who is knowledgeable about the event and can provide additional information.

- Mr. P. C. Gregory, Packaging Manager, (505) 234-7469
- Ms. K. A. Jackson, Transportation Manager (505) 234-7304

(7) The extent of exposure of individuals to radiation or to radioactive materials without identification of individuals by name.

There were no exposures to individuals as a result of the event.

If you have any questions or require additional information regarding this report, please contact me at (505) 234-7469.

Sincerely,

P. C. Gregory, Manager
Packaging
Retrieval, Characterization & Transportation

bdb

cc: M. S. French, DOE-RL
M. A. Italiano, CBFO