



CP:10:01310
UFC:5822.00

Washington TRU Solutions LLC

June 14, 2010

ATTN: Document Control Desk
Director, Spent Fuel Project Office
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: REPORT PURSUANT TO 10 CFR 71.95

Dear Ms. Hardin:

Washington TRU Solutions (WTS) on behalf of the U. S. Department of Energy Carlsbad Field Office (DOE/CBFO), submits this letter to report a condition pursuant to 10 CFR 71.95 regarding the use of Transuranic Package Transporter Model (TRUPACT)-II numbers 131 and 184. This packaging operates under the U.S. Nuclear Regulatory Commission (NRC) Certificate of Compliance (CofC) Number 9218. During a WIPP bound transuranic (TRU) waste shipment originating from the Richland Hanford Site (RL) on April 26, 2010, the conditions in section 8 of CofC 9218 were not followed in their entirety.

Following is a description of the event, reported in accordance with 10 CFR 71.95(c):

(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:

TRU waste shipment #RL100024 originated from the Richland Hanford Site (RL) in Washington State on April 26, 2010 bound for delivery to the Waste Isolation Pilot Plant (WIPP) in New Mexico. The shipment consisted of one tractor-trailer hauling three TRUPACT-II packages, 176, 131, and 184. Each TRUPACT-II package contained one payload assembly. During loading at RL, the payloads certified for TRUPACT-II 131 and 184 were inadvertently loaded into the wrong TRUPACT-II packages. Payload assembly SWB0142 was certified to be loaded into TRUPACT-II 131 but was inadvertently loaded into TRUPACT-II 184. Payload assembly SWB0141 was certified to be loaded into TRUPACT-II 184 but was inadvertently loaded into TRUPACT-II 131. The error went undetected until the payloads were unloaded at the WIPP Site.

There were no major occurrences during the event and no component or system failures that contributed to the event, however, due to loading team personnel failure to follow the applicable payload procedure, the conditions in CofC 9218 were not followed in their entirety and resulted in this shipment traveling from RL to the WIPP in a non-compliant condition.

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The following interim-corrective/preventive actions were implemented to preclude recurrence prior to reinitiating shipments from RL to the WIPP:

- Shipments from RL were suspended
- A representative from the Mobile Loading Team (MLT) was required to be stationed directly on the loading platform during loading activities at RL
- A senior management member of MLT traveled from Carlsbad, NM to the loading site at RL to ensure payloads were being loaded correctly and that the responsible MLT members were stationed on the loading platform during loading activities
- An internal standing order was issued that requires a qualified member of the MLT to verify the correct payload assembly identification number and the shipping package identification number via a signed entry into the operations logbook until the applicable payload operations procedures can be revised to include a more robust verification step
- Refresher training was conducted for MLT members on the requirements of the applicable procedure for verifying each payload assembly is loaded into the specified shipping package
- Shipments RL100026 and RL100027 (which were assembled and approved for shipment) were disassembled to confirm each payload assembly was loaded into the correct shipping package prior to reassembling and released for shipment

(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 NRC Certificate of Compliance number 9218, Revision 20 issued for the TRUPACT-II states in Section 8, "Payload containers within a package shall be selected in accordance with Section 6.0, "Payload Assembly Requirements" of Contact-Handled Transuranic Waste Authorized Method for Payload Control (CH-TRAMPAC), Rev. 3." Section 6.1 of the CH-TRAMPAC states "Once compliance with all transportation parameter requirements is verified and the appropriate PCTCD(s) and/or OPCTCD(s) is completed, the TRUPACT-II or HalfPACT package shall be authorized for shipment by the site Transportation Certification Official by completing and signing the PATCD [Payload Assembly Transportation Certification Document]." Section 6.2.2 of the CH-TRAMPAC states "*Generating and storage sites shall qualify a payload for transport in the TRUPACT-II or HalfPACT by verifying that the payload meets the parameter requirements/limits listed in the PATCD (Table 6.2-5).*" On the Payload Assembly Transportation Certification Document (PATCD), under the "Identification Parameters" section, the second data line requires the TCO to enter the serial number of the "*Packaging OCA Body/Lid*" (essentially, the identification number of the TRUPACT-II package) that the certified payload assembly will be loaded into.

On April 26, 2010, shipment #RL100024 was released for shipment from RL in Washington to the WIPP site in Carlsbad, New Mexico. While processing shipment #RL100024, WIPP site operations personnel discovered that TRUPACT-II number 131 did not contain payload assembly SWB0142 and TRUPACT-II number 184 did not contain payload assembly SWB0141 as documented on their completed and signed PATCDs. Instead, TRUPACT-II number 131 contained payload assembly SWB0141 and TRUPACT-II number 184 contained payload assembly SWB0142.

Both payload assembly SWB0142 and payload assembly SWB0141 were approved for shipment in compliance with all limits described in CofC 9218 and the CH-TRAMPAC. However, the MLT personnel did not comply with the applicable payload procedures that require a payload assembly to be loaded in the TRUPACT-II that is specified on the PATCD. This resulted in a non-compliant condition. Upon completion of the internal review of the occurrence, the payloads were emplaced in the WIPP underground. All other conditions required for the operation and shipment of the package in accordance with the certificate of compliance were adhered to.

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

This criterion is not applicable to the event because there were no components or systems that were inoperable at the start of the event.

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

April 26, 2010; 2000 hours (MST)

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

No components or systems failed. Personnel failure to follow the applicable payload procedures resulted in compliant payload assemblies being loaded into TRUPACT-II shipping packages whose serial numbers did not match the serial numbers specified on the applicable PATCD.

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

This criterion is not applicable to the event because no components failed.

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

This criterion is not applicable to the event because no components failed.

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

The non-compliance was discovered by WIPP site personnel when processing shipment #RL100024 at the WIPP.

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

For shipment #RL100024, the cause of the non-compliance was a failure of the MLT personnel to verify the specified payload assembly was loaded into the specified TRUPACT-II shipping package as required by the applicable payload procedures and the PATCD.

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

Manufacturer and model numbers associated with component failure are not applicable because no components failed.

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

Payload-ID-SWB0141:

Radionuclides:

<u>Nuclide</u>	<u>Activity(ci)</u>	<u>Percent</u>
AM-241	0.267	14.56
AM-243	0.000	0.00
CS-137	0.00000688	0.00
NP-237	0.0000567	0.00
PU-238	0.083	4.53
PU-239	0.349	19.04
PU-240	0.1312	7.16
PU-241	1.003	54.71
PU-242	0.00009486	0.01
SR-90	0.00000625	0.00
U-233	0.000	0.00
U-234	0.000	0.00
U-235	0.000	0.00
U-238	0.000	0.00
Totals:	1.833	100.00

Physical and Chemical Form:

<u>Description</u>	<u>Weight (kg)</u>
Steel Container Materials	580.00
Iron Base Metal Alloys	185.00
Other Metal/Alloys	12.00
Plastics	69.40
Other Inorganic Materials	89.60
Cellulosics	111.30
Rubber	43.00
Total:	1090.30

Payload ID SWB0142:

Radionuclides:

<u>Nuclide</u>	<u>Activity(ci)</u>	<u>Percent</u>
AM-241	0.713	6.65
AM-243	0.000	0.00
CS-137	2.11	19.67
NP-237	0.00004839	0.00
PU-238	0.0833	0.78
PU-239	1.343	12.52
PU-240	0.3097	2.89
PU-241	4.25	39.61
PU-242	0.00001469	0.00
SR-90	1.92	17.90
U-233	0.000	0.00
U-234	0.000	0.00
U-235	0.000	0.00
U-238	0.000	0.00
Totals:	10.730	100.00

Physical and Chemical Form:

Description	Weight (kg)
Steel Container Materials	580.56
Iron Base Metal Alloys	501.40
Plastics	30.50
Other Inorganic Materials	6.00
Cellulosics	20.00
Rubber	13.00
Total:	1151.46

(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 relating to the event. There were no systems or components that failed during the event.

(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.

In addition to the completed corrective actions described at the beginning of this letter, the following are additional corrective actions being taken to prevent recurrence:

- Revise the DOE/CBFO CH Packaging Operations Manual to include a more robust method for verification and signoff that will ensure that the specified payload assembly is loaded into the specified shipping package during the loading process.
- CBFO will review and approve changes to the applicable payload procedures to verify that the increased requirements from the DOE/CBFO CH Packaging Operations Manual for verification of the payload assemblies being loaded have been incorporated prior to the applicable payload procedures being implemented.

There were no defects requiring repair associated with this event.

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

- Reference Letter TP:02:04046 describing an event on 4/1/02
Shipment IN020053 consisted of 12 drums and two dunnage drums. During unloading, the bar-coded ID numbers of the 14 drums did not match the ID numbers reported in WIPP Waste Information System (WWIS) for TRUPACT-II Unit 171. Subsequent review of the PATCD also reflected the incorrect drum ID numbers.
- Reference Letter PK:05:0003 describing an event on 3/17/05
SWB S04573 was mislabeled and incorrectly entered as SWB S04753 in the PCTCD and PATCD.
- Reference Letter PK:07:00026 describing an event on 9/10/07
A drum overpacked in a SWB that was not reflected in the applicable payload documentation and was not fully characterized was shipped to WIPP in TRUPACT-II No. 190, which compromised a portion of Shipment No. IN070356.

- ~~Reference Letter PK:08:00021 describing an event on 8/1/08~~
TRUPACT-II Unit 189, which comprised a portion of Shipment No. LA080037, was shipped with the PCTCD incorrectly completed; drum tagged for nonconformance was inadvertently shipped to WIPP.
- Reference Letter PK:09:01008 describing an event on 2/24/09
HalfPACT Unit 506, was released for shipment to WIPP (Shipment No. SR090018) containing a different Container ID number (SWB) than that recorded on the PCTCD.

(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.

M. W. Percy, Manager, WTS, CCP, Project Certification (575) 234-7394
D.K. Ploetz, Manager, WTS, CCP (575) 234-7125.

(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 (575) 234-7396.

Sincerely,



T. E. Sellmer, Manager
Packaging Integration

SVM:yhs

cc: M. R. Brown, CBFO
A. L. Holland, CBFO
J. C. Rhoades, CBFO

Document Control Desk

June 14, 2010

CP:10:01310

bcc: WTS

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