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June 29, 2006

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 10 CFR 71.95

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 10 CFR 71.95 regarding TRUPACT-II, Unit Number 127. 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:*

The event that constituted a non-compliance with the conditions of the TRUPACT-II Certificate of Compliance was the use of TRUPACT-II Unit Number 127 with the stenciled words "LOCKED" and "UNLOCKED" reversed from the locations shown on the TRUPACT-II Packaging Safety Analysis Report Drawing 2077-500SNP, Sheet 4 of 11, View AV-AV. The stenciling error did not cause a major occurrence and there were no component or system failures that contributed to the event.

An investigation revealed the following:

- The words "LOCKED" and "UNLOCKED" were reversed during the most recent annual maintenance that was performed between December 27, 2005 and January 11, 2006.
- The stenciling error was identified and reported on May 3, 2006.
- TRUPACT-II 127 was used for 11 shipments before the stenciling error was identified.
- All 11 shipments with the stenciling error were safe because the lock ring was properly engaged in the closed position and lock bolts were installed prior to each shipment.  
Note: It is not possible to install the lock bolts unless the lock ring is in the locked position.
- All other conditions of the Certificate of Compliance were met.

Corrective actions described below have been taken to correct the stenciling error and to prevent recurrence.

*(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 closure mechanism on the TRUPACT-II packaging is similar to a breech-lock on a gun. A rotating lock ring on the lid engages lugs on the lid with mating lugs on the body when the lid is locked and disengages the lugs when the lid is unlocked. A series of lock ring bolts are installed through the outer containment assembly thermal shield and safety wired to ensure the lock ring is securely locked prior to the shipment being released to the carrier. Since the lugs are hidden from view, a set of alignment marks aid the operator when replacing or removing the lid. As a training aid, the words "LOCKED" and "UNLOCKED" are stenciled next to the appropriate alignment marks in accordance with the locations shown on the TRUPACT-II Packaging Safety Analysis Report Drawing 2077-500SNP, Sheet 4 of 11, View AV-AV. These design drawings are referenced in the TRUPACT-II Certificate of Compliance.

As part of the TRUPACT-II annual maintenance, all markings on the outer shell are inspected for wear and legibility. Markings are re-stenciled as needed. During the last annual maintenance the words "LOCKED" and "UNLOCKED" were inadvertently reversed during re-stenciling. On May 3, 2006 the stenciling error was identified by Hanford Site personnel and communicated to this office by email received at 16:45 Mountain Daylight Time. On May 4, 2006, Shipment Number RL060015 (containing TRUPACT-II 127) departed Hanford at 12:28 Pacific Daylight Time. Sometime during the afternoon of May 4, 2006 (after the departure of Shipment Number RL060015) the TRUPACT-II Maintenance Engineer issued a Nonconforming Condition Report against TRUPACT-II 127. Shipment Number RL060015 arrived at WIPP on May 6, 2006 and TRUPACT-II 127 was immediately tagged "Out of Service" by WIPP Quality Assurance personnel.

TRUPACT-II 127 was used for 11 shipments before the stenciling error was identified. All 11 shipments with the stenciling error were safe because the lock ring was properly engaged in the closed position and lock bolts were installed prior to each shipment. All other conditions of the Certificate of Compliance were met.

*(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 because the stenciling error did not cause the TRUPACT-II to be inoperable.

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

The stenciling error was reported on May 3, 2006 at approximately 16:45 Mountain Daylight Time.

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

No components or systems failed. The stenciling error was the result of inattention to detail during annual maintenance.

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

This criterion is not applicable 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 because there were no failures of components with multiple functions.

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

The stenciling error was discovered during routine loading operations by Hanford Site personnel.

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

The root cause of the non-conformance was inattention to detail during annual maintenance. Subsequent inspections failed to identify the stenciling error. A contributing cause is the fact that both the maintenance mechanics and the waste handling operators rely on positive stops when the lock ring is rotated to either the "LOCKED" or "UNLOCKED" positions rather than the stenciled words.

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

- Manufacturer: Engineered Products Division, Carlsbad, New Mexico
- Model: TRUPACT-II
- Identification Number: 127
- Certificate of Compliance Number: 9218

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

This criterion is not applicable because the stenciling error occurred during annual maintenance.

*(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 related to the stenciling error because the OCA lock ring was in the locked position and the OCA lock bolts were correctly installed during all shipments. The implication that maintenance personnel may not be paying attention to detail is being addressed by Engineered Products Division through a series of training seminars to reinforce the necessity of compliance with the conditions shown on the packaging design drawings.

*(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.*

The following corrective actions were taken to prevent recurrence:

- The incorrect wording, "LOCKED" and "UNLOCKED," on TRUPACT-II Unit 127 was removed and the words were re-stenciled as shown on the design drawings.
- The entire TRUPACT-II fleet was visually examined to verify that the words "LOCKED" and "UNLOCKED" were positioned as shown on the design drawings. No other occurrences of the words being reversed were found.
- An illustration of the correct location of the words "LOCKED" and "UNLOCKED" was incorporated into the annual maintenance instructions shop traveler.
- A Quality Assurance witness and signoff was added to the annual maintenance instructions shop traveler to verify that all TRUPACT-II stencils are correctly marked.
- A revised Washington TRU Solutions LLC check list is being developed to aid inspections prior to returning TRUPACT-II's (and other packagings) to service after annual maintenance.

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

There are no similar or known events involving the same packaging.

*(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.*

Joe M. Willis, TRUPACT-II Maintenance Engineer, (505) 234-7419.

*(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) 234-7463.

Sincerely,



P. C. Gregory, Packaging Manager

bdb

cc: M. R. Brown, CBFO  
A. Holland, CBFO  
M. A. Italiano, CBFO