71-9215

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ATTN: Document Control Desk
Director, Spent Fuel Project Office
Office of Nuclear Material Safeguards and Security
U. S. Nuclear Regulatory Commission
Washington, D. C.

To Whom it May Concern:

As required by 10CFR71, (71.95), Neutron Products, Inc. is submitting this report to describe the condition of nonconforming package components that were identified during an NRC inspection that was completed at our facility in Ranson, WV on November 29, 2012. The requirements in ***71.95, Reports***, and responses are referenced by letter and number as follows:

(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.

The components at issue are the steel angles on the bottom rear of transfer casks for the USA/9215/B(U) Certificate of Compliance shipping package, Neutron Products, Inc. serial numbers TC-4, TC-5, and TC-6.

Purpose of the angles: The angles serve no purpose related to the transportation of radioactive material. They do not provide structure, containment, shielding value or heat transfer. They are not discussed in the SAR. Rather, they are useful to field service personnel as a reference and alignment aid when the cask has been unloaded from the overpack and is being used for field operations.

Defect: The steel angles are the correct length but were not fabricated in accordance with Neutron Products, Inc. drawing 240122, Rev. H. The steel angles are missing the 45 degree corners on each end and are welded the full length of the angle, whereas the drawing specifies a skip weld.

CAPA: Nonconformance Report 2012-003 was initiated on November 28, 2012. The three transfer casks were removed from service and will not be used until repaired or other possible corrective actions have been completed.

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

The package components had no inoperable components or systems when they were used for shipping.

(c) (2) (ii) Date and approximate times of occurrences.

The casks have been used for many shipments between their receipt by Neutron in 1986 and November 28, 2012 when the defect was identified and the packages were taken out of service.

(c) (2) (iii) The cause of each component or system failure, or personal error, if known.

The incorrect steel angles were welded to the three transfer casks during fabrication and were not discovered during receiving inspection. Subsequent inspections during use and maintenance failed to identify the steel angles as incorrect for the transfer casks. A more detailed discussion of potential causes is included in our response to (c)(2)(vii) below.

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

As described above, there has been no failure of any package component or the function of the package as a whole.

(c) (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 of the package that were affected by this nonconformance.

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

The package components were determined to be nonconforming during an NRC inspection on November 28, 2012.

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

The fabrication error was not identified as a package defect by Neutron personnel during the receiving inspection or during subsequent routine inspections. When performing routine inspections of the packages during use and during maintenance activities, Neutron employees have been instructed to direct their primary focus on the condition of the package components

which serve a structural, containment, shielding or heat transfer role, with the intent of attempting to ensure that the package is maintained in a condition consistent with the C of C and the Safety Analysis Report upon which it based.

This approach is somewhat ingrained in the corporate culture of the company. However, this focus has left the program vulnerable to failures to identify nonconformances such as this one involving deficiencies which – when considered in isolation – do not have any bearing on the safety of the package itself, but which are nonconformances nevertheless, and the failure of the program to identify them suggests an overall inattention to detail. To address this, a campaign has been initiated to incorporate additional focus on all details associated with the package components in order to ensure that they are consistent with the approved drawings and the C of C.

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

As noted in (c) (2) (iv), there was no failure of the component. The transfer casks were fabricated by E. J. Codd Company, Model number S/TC MKII, serial numbers TC-4, TC-5 and TC-6.

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

Packages shipped using the transfer casks with the incorrect steel angles contained a maximum of 15,000 curies of special form cobalt-60 sources.

(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 failures of packaging components during the shipments/event. The steel angles on the rear of the transfer casks serve as an orientation indicator for the operational end of the cask. This end of the cask is used by licensed source handlers to transfer sources to and from teletherapy units. The steel angle is also used as a place to shim the cask to facilitate proper alignment when docking with teletherapy unit heads. The steel angles are not designed to contribute to the stability of the cask during use or shipment. The use of these transfer casks with the incorrect steel angles did not compromise the safety of the packages during shipments.

Conforming transfer casks were in service at the same time as the nonconforming transfer casks in question, but casks with the incorrect steel angles were not identified as nonconforming by Neutron personnel at that time.

(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.

Nonconformance 2012-003 has been initiated. All transfer casks have been inspected for the correct steel angle. No other casks were found to have this nonconformance. TC-4, TC-5, and TC-6 were tagged nonconforming on November 28, 2012 and were segregated from conforming packaging components. Corrective action may include repair/rework of the transfer casks or request of NRC approval of revised drawings which would allow the alternate steel angle at the bottom of the casks.

In addition, as discussed in (c)(2)(vii) above, a broadening of the corporate culture to include more thorough attention to detail is being instituted.

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

Additional package nonconformances were identified during the same NRC inspection, which are the subject of additional 71.95 reports, and which have similarities with the issues addressed herein.

(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.

Jerry L. Fogle, QA Manager for Radioactive Transportation – I can be reached at all times from Monday through Thursday between 8 am and 4 pm at 301 349-5001.

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

There was no additional exposure to radiation or radioactive materials received by any individuals as a result of this nonconformance.

We believe that this letter fulfills the requirements of 71.95, Reports. If you require any additional information, please contact me at 304 725-7041 or at neutrontele@frontiernet.net. If I am unavailable at this phone number, I can be reached through our main office at 301 349-5001.

Respectfully submitted,
Neutron Products, Inc.

Jerry L. Fogle, Q. A. Manager
For Radioactive Transportation

Copy via electronic mail to: michele.sampson@nrc.gov