



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

April 14, 2010

Mr. Jayant Bondre  
Vice President, Engineering  
Transnuclear, Inc.  
7135 Minstrel Way Suite 300  
Columbia, MD 21045

SUBJECT: MODEL NO. TN-RAM RENEWAL

Dear Mr. Bondre:

Please find enclosed Certificate of Compliance (CoC) No. 9233, Revision No. 10, for the Model No. TN-RAM package. This certificate supersedes, in its entirety, Certificate of Compliance No. 9233, Revision No. 9, dated February 23, 2009. The changes made to the enclosed CoC are indicated by vertical lines in the margin.

The approval constitutes authority to use the package for shipment of radioactive material and for the package to be shipped in accordance with the provisions of 49 CFR 173.471. Those on the attached list have been registered as users of the package under the general license provisions of 10 CFR 71.17 or 49 CFR 173.471. Registered Users may request by letter to remove their names from the Registered Users List.

If you have any questions regarding this certificate, please contact me or Chris Staab of my staff at (301) 492-3321.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric J. Benner".

Eric J. Benner, Chief  
Licensing Branch  
Division of Spent Fuel Storage and Transportation  
Office of Nuclear Material Safety  
and Safeguards

Docket No. 71-9233  
TAC No. L24429

Enclosures: 1. Certificate of Compliance  
No 9233, Rev. No. 10  
2. Safety Evaluation Report  
3. Registered Users List

cc w/encls. 1& 2: R. Boyle, Department of Transportation  
J. Shuler, Department of Energy  
Registered Users

**CERTIFICATE OF COMPLIANCE  
FOR RADIOACTIVE MATERIAL PACKAGES**

a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE	PAGES
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2. PREAMBLE

- a. This certificate is issued to certify that the package (packaging and contents) described in Item 5 below meets the applicable safety standards set forth in Title 10, Code of Federal Regulations, Part 71, "Packaging and Transportation of Radioactive Material."
- b. This certificate does not relieve the consignor from compliance with any requirement of the regulations of the U.S. Department of Transportation or other applicable regulatory agencies, including the government of any country through or into which the package will be transported.

3. THIS CERTIFICATE IS ISSUED ON THE BASIS OF A SAFETY ANALYSIS REPORT OF THE PACKAGE DESIGN OR APPLICATION

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|---|---|
| a. ISSUED TO ( <i>Name and Address</i> )<br>Transnuclear, Inc<br>7135 Minstrel Way, Suite 300<br>Columbia, MD 21045 | b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION<br>Transnuclear, Inc. application<br>dated March 8, 2005, as supplemented. |
|---|---|

4. CONDITIONS

This certificate is conditional upon fulfilling the requirements of 10 CFR Part 71, as applicable, and the conditions specified below.

5.

(a) Packaging

- (1) Model No.: TN-RAM
- (2) Description

The package is a steel encased lead shielded cask with wood impact limiters attached at both ends. The cask is a right circular cylinder. The overall dimensions of the packaging are approximately 178 inches long and 92 inches diameter with the impact limiters installed. The cask body is approximately 129 inches long with an outer diameter of 51 inches. The cask cavity has a length of approximately 111 inches and an inside diameter of 35 inches. The cask body is made of a 0.75-inch stainless steel inner shell, a 5.88-inch thick lead annulus, a 1.5-inch thick stainless steel outer shell, a 0.5-inch thick inner bottom plate and a 2.5-inch thick outside bottom plate. The lead shielding is approximately 6 inches thick in the bottom end of the cask. The outer shell of the cask body is covered with a stainless steel thermal shield. The closure lid consists of a 2.5-inch thick outer stainless steel plate and a 0.5-inch thick inner stainless steel plate separated by approximately 6 inches of lead shielding. An optional lid, with the lead shielding in the form of a separate shielding disk, can also be used. The lid is secured by sixteen 1.5-inch diameter closure bolts. Two concentric silicone O-rings are installed in grooves on the underside of the lid. The cask is equipped with a sealed leak test port between the O-rings, a vent port in the closure lid and a sealed drain port in the bottom of the cask. Each impact limiter is attached to the cask by eight 1.75-inch diameter bolts. The cask is equipped with 6 trunnions, four at the top and two at the bottom. The gross weight of the package is approximately 80,000 pounds, including maximum contents of 9,500 pounds.

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5.(a) Packaging (continued)

(3) Drawings

The packaging is constructed in accordance with Transnuclear, Inc. Drawing Nos. 990-701, Rev. 8; 990-702, Rev. 7; 990-703, Rev. 9; 990-704, Rev. 5; 990-705, Rev. 6; 990-706, Rev. 4; 990-707, Rev. 4; 990-708, Rev. 7; 990-709, Rev. 2; and 990-710, Rev. 1.

(b) Contents

(1) Type and Form of Material

Dry irradiated and contaminated non-fuel-bearing solid materials contained within a secondary container.

(2) Maximum quantity of material per package

Greater than Type A quantities of radioactive material which may include fissile material provided that the fissile material does not exceed the mass limits of 10 CFR 71.15. The contents may not exceed 1,272 times an A<sub>2</sub> quantity. The decay heat of the contents may not exceed 300 watts. The maximum gross weight of the contents, secondary container, and shoring is limited to 9,500 pounds.

6. As appropriate, shoring must be used in the secondary container sufficient to prevent significant movement of the contents under accident conditions.
7. Both the inner cask cavity and the secondary container must be free of water when the package is delivered to a carrier for transport.
8. In addition to the requirements of Subpart G of 10 CFR Part 71:
  - (a) Prior to each shipment, the lid seals must be inspected. The seals must be replaced with new seals if inspection shows any defects or every 12 months, whichever occurs first;
  - (b) The package shall be prepared for shipment and operated in accordance with the Operating Procedures of Section 7.0 of the application; and
  - (c) The package must meet the Acceptance Tests and Maintenance Program of Section 8.0 of the application.
9. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR 71.17.
10. Expiration date: April 30, 2015.

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REFERENCES

Transnuclear, Inc., application dated March 8, 2005.

Supplements dated: May 4, 2007; October 19, 2007; September 30, 2008; February 16, 2009 and March 15, 2010.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION



Eric J. Benner, Chief  
Licensing Branch  
Division of Spent Fuel Storage and Transportation  
Office of Nuclear Material Safety  
and Safeguards

Date: April 14, 2010



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION REPORT  
Docket No. 71-9233  
Model No. TN-RAM Package  
Certificate of Compliance No. 9233  
Revision No. 10

The certificate has been renewed for a five-year term which expires on April 30, 2015. There have been no changes to the packaging design or contents.

### **SUMMARY**

By application dated March 15, 2010, Transnuclear Inc., requested renewal of Certificate of Compliance No. 9233, for the Model No. TN-RAM package. Transnuclear Inc., did not request any changes to the package design or authorized contents. The certificate has been renewed for a five year term.

### **EVALUATION**

By application dated March 15, 2010, Transnuclear Inc., requested renewal of Certificate of Compliance No. 9233, for the Model No. TN-RAM package. Transnuclear Inc., did not request any changes to the package design or authorized contents. The staff reviewed the documents referenced in the certificate and determined that the documentation was available and complete.

Condition No. 10 was changed to reflect the new expiration date.

### **CONCLUSION**

The certificate has been renewed for a five year term that expires on April 30, 2010. This change does not affect the ability of the package to meet the requirements of 10 CFR Part 71.

Issued with Certificate of Compliance No. 9233, Revision No. 10 on April 14, 2010.