



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

February 29, 2012

Dr. Sean O'Kelly
Chief, Reactor Operations and Engineering
National Institute of Standards and Technology
100 Bureau Drive
Gaithersburg, MD 20899

SUBJECT: REVISION OF CERTIFICATE OF COMPLIANCE NO. 9246 FOR THE MODEL
NO. ST PACKAGE

Dear Dr. O'Kelly:

Dear Dr. O'Kelly:

As requested by your application dated October 17, 2011, enclosed is Certificate of Compliance (CoC) No. 9246, Revision No. 8, for the Model No. ST package. Changes made to the enclosed certificate are indicated by vertical lines in the margin. The staff's Safety Evaluation Report is also enclosed.

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. The registered users of the package under the general license provisions of 10 CFR 71.17 or 49 CFR 173.471 will receive a copy of the CoC.

If you have any questions regarding this certificate, please contact me or Kim Hardin of my staff at (301) 492-3339.

Sincerely,

Christine A. Lipa, Acting Chief
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Docket No. 71-9246
TAC No. L24596

Enclosures: 1. Certificate of Compliance
2. Safety Evaluation Report

cc w/encls: 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
9246	8	71-9246	USA/9246/AF	1 OF	2

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

- | | |
|---|---|
| a. ISSUED TO <i>(Name and Address)</i>
National Institute of Standards and
Technology
Gaithersburg, MD 20899 | b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION
National Institute of Standards and Technology
application dated October 17, 2011. |
|---|---|

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.: ST
- (2) Description

A closed steel pipe for the transport of an unirradiated research reactor fuel element. The pipe is a 5-1/2-inch OD carbon steel pipe, approximately 71 inches in length, with a closed bottom end and flanged top end. The top end is closed by a cover plate, which is 1/4-inch thick, and 6-1/2 inches in diameter, and a gasket. The cover plate is secured to the pipe flange by 8 cap screws. A wooden nozzle support, bottom support, and top support position the fuel element within the pipe. The package weighs approximately 75 pounds, including the fuel element.

(3) Drawing

The packaging is constructed and assembled in accordance with National Institute of Standards and Technology Drawing No. D-04-048, Sheet 1, Rev. 4, and Sheet 2, Rev. 4.

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5. (b) Contents

(1) Type and form of material

Unirradiated NBSR fuel element composed of enriched uranium and aluminum.

(2) Maximum quantity of material per package

One fuel element containing not more than 360 grams U-235. The total quantity of radioactive material within a package may not exceed a Type A quantity.

(c) Criticality Safety Index 50.0

6. In addition to the requirements of Subpart G of 10 CFR Part 71, the package shall be prepared for shipment, operated, and maintained by written procedures prepared to meet the requirements and make the determinations specified in Chapter 7 of the package application. Additionally, the acceptance tests and maintenance program shall comply with Chapter 8 of the application.
7. Transport by air is not authorized.
8. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR 71.17.
9. Revision No. 7 of this certificate may be used until February 28, 2013.
10. Expiration date: January 31, 2017.

REFERENCES

National Institute of Standards and Technology application dated October 17, 2011.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION



Christine A. Lipa, Acting Chief
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Date: February 29, 2012



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

SAFETY EVALUATION REPORT

Docket No. 71-9246
Model No. ST Package
Certificate of Compliance No. 9246
Revision No. 8

SUMMARY

By letter dated October 17, 2011, National Institute of Standards and Technology (NIST) requested a revision to Certificate of Compliance (CoC) No. 9246 for the Model No. ST package. Several CoC changes were requested. All original analyses for the currently approved package are still valid and were reformatted as prescribed by Regulatory Guide 7.9. The safety analysis report (SAR) was consolidated as consistent with 10 CFR 71.38(c).

EVALUATION

By letter dated October 17, 2011, National Institute of Standards and Technology (NIST) requested a revision to Certificate of Compliance (CoC) No. 9246 for the Model No. ST package. A consolidated SAR was provided to support the request. The staff reviewed the current CoC and SAR in their entirety and updated the CoC and its references to ensure that the new consolidated SAR is referenced properly and has been properly docketed as an official agency record. Staff determined that the documentation was available and complete.

A structural review of the CoC changes was performed to ensure that wording changes to the supports to position the fuel element within the package do not affect the ability of the package to continue to meet 10 CFR Part 71.

Based on the information provided in the application and verified by the staff review of the documentation, the staff concluded that the request for revision of Certificate of Compliance No. 71-9246 for the Model No. ST package continues to meet the requirements of 10 CFR Part 71.

CONDITIONS

The revision number was changed to Revision No. 8.

Condition No. 3 was changed to reflect the new consolidated application date of October 17, 2011.

Condition No. 5(a)(2) was modified to add the words "bottom support" and change the word "assembly" to "element" for clarification.

Condition No. 6 was modified to consider changes to the package operations in Chapter 7 of the SAR. These changes are consistent with ISG-20, "Transportation Package Design Changes Authorized Under 10 CFR Part 71 Without Prior NRC Approval."

Condition No. 9 was modified to allow the previous revision (7) of the certificate to be used for a period of approximately one year.

The references were updated to reflect the consolidated application dated October 17, 2011 and the supplements were deleted.

CONCLUSION

CoC No. 9246 has been revised as specified above. Based on the statements and representations in the application, and with the conditions listed above, the staff agrees that this authorization does not affect the ability of the package to meet the requirements of 10 CFR Part 71.

Issued with Certificate of Compliance No. 9246, Revision No. 8,
on February 29, 2012.