April 11, 2012

Mr. Barry K. Miles
Division of Naval Reactors
U.S. Department of Energy
Washington, DC 20585

SUBJECT: CERTIFICATE OF COMPLIANCE NO. 9793, REV. NO. 15 FOR THE MODEL NO. M-140 PACKAGE

Dear Mr. Miles:

As requested by your application dated October 12, 2011, enclosed is Certificate of Compliance No. 9793, Revision No. 15, for the Model No. M-140 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 U.S. Department of Energy, Division of Naval Reactors, has been registered as a user of the package under the provisions of 49 CFR 173.471. 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.

If you have any questions regarding this certificate, please contact me or Bernard White of my staff at (301) 492-3303.

Sincerely,

/RA/

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

Docket No. 71-9793
TAC No. L24594

Enclosures:
1. Certificate of Compliance No. 9793, Rev. No. 15
2. Safety Evaluation Report

cc w/encls: R. Boyle, Department of Transportation
J. Shuler, Department of Energy

Mr. Barry K. Miles
Division of Naval Reactors
U.S. Department of Energy
Washington, DC 20585

SUBJECT: CERTIFICATE OF COMPLIANCE NO. 9793, REV. NO. 15 FOR THE MODEL NO. M-140 PACKAGE

Dear Mr. Miles:

As requested by your application dated October 12, 2011, enclosed is Certificate of Compliance No. 9793, Revision No. 15, for the Model No. M-140 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 U.S. Department of Energy, Division of Naval Reactors, has been registered as a user of the package under the provisions of 49 CFR 173.471. 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.

If you have any questions regarding this certificate, please contact me or Bernard White of my staff at (301) 492-3303.

Sincerely,

/RA/

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

Docket No. 71-9793
TAC No. L24594

Enclosures: 1. Safety Evaluation Report
2. Certificate of Compliance No. 9793, Rev. No. 15

cc w/encls: R. Boyle, Department of Transportation
J. Shuler, Department of Energy

DISTRIBUTION: B. Benney, D. Tarantino, D. Weaver, M. Waters, SFST r/f
Closes TAC No. L24594
G:\SFST\Bernie White\M-140\9793 R15 LTRSER.docx
G:\SFST\Bernie White\M-140\9793.R15.docx
ADAMS Package No.: ML12102A181

OFC	SFST		SFST		SFST		SFST		SFST	
NAME	BWhite		CBajwa		MSampson		MDeBose		CLipa	
DATE	4/4/12		4/4/12		4/4/12		4/5/12		4/11/12	

C=Without attachment/enclosure E=With attachment/enclosure N=No copy **OFFICIAL RECORD COPY**

SAFETY EVALUATION REPORT
Docket No. 71-9793
Model No. M-140 Package
Certificate of Compliance No. 9793
Revision No. 15

By application dated October 12, 2011, the U.S. Department of Energy, Division of Naval Reactors, requested an amendment to Certificate of Compliance No. 9793 for the Model No. M-140 package. Naval Reactors submitted a revised containment section, added descriptions, in Chapters 1 and 4, of a field change that may be implemented to prepare the package for shipment, and revised frequencies for changing some of the O-rings on the containment boundary.

Changes to the containment section include a revised calculation for releases from the package as an appendix to Chapter 4. The releases from the package were demonstrated to be within the limits of 10 CFR Part 71 for both normal conditions of transport and hypothetical accident conditions.

The applicant also revised a second appendix to Chapter 4 to describe the results of release testing on the M-140 package that was done to support the containment evaluation. The testing included results of powder tests to determine airborne release fractions for the package.

In Chapter 2 of the safety analysis report (SAR), the applicant inserted a brief description of the potential for hydrogen generation in the M-140 package, and how this is mitigated. The procedure ensures that the hydrogen concentration in the package will remain below 5% as recommended in NUREG-1609, "Standard Review Plan for Transportation Packages for Radioactive Material." The applicant added NUREG-1609 to the SAR as a reference.

The applicant submitted a revised containment chapter (Chapter 4) which reflected some format and content changes. The applicant added descriptions, in Chapters 1 and 4, of a "field change" that may be implemented to prepare the package for shipment. The changes involve modifications to two package penetrations. The modifications implemented are within the secondary containment boundary of the package, and therefore do not effect or otherwise alter the containment performance of the package. The changes are, therefore, acceptable.

Chapter 8 of the SAR was modified to revise the frequency for changing the O-rings for the package lid assembly and package body penetrations that are part of the package containment boundary. The revised performance-based approach would allow for changing the O-rings based on their acceptable performance in leakage tests, which are required at least 1 year prior to shipment. For O-rings that cannot be leak tested, a replacement frequency of every 5 years is proposed. The staff finds the proposed frequencies for O-ring replacement are reasonable and will maintain the required containment function of the package.

The staff reviewed the applicant's proposed SAR revisions and calculations and found them acceptable. The staff therefore finds that the package continues to meet the transportation requirements found in 10 CFR Part 71.

The October 12, 2011, application was included in the reference section of the certificate.

CONCLUSIONS

These changes do not affect the ability of the package to meet the requirements of 10 CFR Part 71.

Issued with Certificate of Compliance No. 9793,
Revision No. 15 on April 11, 2012.