June 29, 2010

Mr. Peter J. Vescovi
Licensing, Compliance and Package Technology
Westinghouse Electric Company, LLC
Nuclear Fuel Supply Chain Management
5801 Bluff Road
Columbia, SC 29209

SUBJECT: CERTIFICATE OF COMPLIANCE NO. 9297, REVISION NO. 4, FOR MODEL NO. TRAVELLER STD AND TRAVELLER XL PACKAGES

Dear Mr. Vescovi:

As requested by your application dated April 30, 2010, enclosed is Certificate of Compliance No. 9297, Revision No. 4, for the Model No. Traveller STD and Traveller XL packages. Changes made to the enclosed certificate are indicated by vertical lines in the margin. The staff's Safety Evaluation Report is also enclosed.

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. 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. 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 Soly I. Soto of my staff at (301) 492-3268.

Sincerely,

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

Docket No. 71-9297
TAC No. L24443

Enclosures:
1. Certificate of Compliance No. 9297, Rev. No. 4
2. Safety Evaluation Report
3. Registered Users List

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

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SAFETY EVALUATION REPORT

Docket No. 71-9297
Model Nos. Traveller STD and Traveller XL
Certificate of Compliance No. 9297
Revision No. 4

SUMMARY

By application dated April 30, 2010, Westinghouse Electric Company, LLC (Westinghouse or the applicant) requested an amendment to Centificate of Compliance (CoC) No. 9297 for the Model Nos.Traveller STD and Traveller XL packages. Westinghouse requested the addition of two 16 x 16 fuel assemblies, CE16VA and CE16NGF, to the list of approved contents and the extension of the use of CoC No. 9297, Rev. 3, until June 30, 2012.

NRC staff evaluated the Model Nos. Traveller STD and Traveller XL packages and documented the security assessment review separately, as it contains sensitive information that cannot be made publicly available. The security assessment should be reviewed prior to approval of any amendment to this application.

NRC staff reviewed the application using the guidance in NUREG-1609, "Standard Review Plan for Transportation Packages for Radioactive Materials." Based on the statements and representation in the application, and the conditions listed below, the staff agrees that these changes do not affect the ability of the packages to meet the requirements of 10 CFR Part 71.

EVALUATION

By application dated April 30, 2010, Westinghouse requested an amendment to CoC No. 9297, to add CE16VA and CE16NGF fuel assemblies to the approved content and to extend the use of CoC No. 9297, Rev. 3, until June 30, 2012. The applicant justified that the difference in fuel rod dimensions between the CE16NVA and CE16VA (0.0005 in) was not considered significant enough to change the basis for demonstration of maximum reactivity in the application. Also, the CE16NGF fuel rod dimensions were the same as the 17X17OFA fuel rod dimension, however the lattice arrangement differs significantly. Both the CE16VA and CE16NGF were evaluated as unique fuel types.

The approved contents in 5.(b)(1)(i) Parameters for 16 x 16 Fuel Assemblies, includes four Fuel Assembly Type for the 16 x 16 fuel assembly description. The fuel assembly types are W-STD, CE, NGF, and ATOM. The CE fuel assembly type evaluated in the application is the CE16NVA. In addition to the CE16NVA, there is a CE16VA fuel assembly that has slightly larger nominal fuel pellet outside diameter. The CE16NFG was a new fuel product that was under development at the time the application was submitted in 2004. Neither the CE16VA nor CE16NGF were evaluated in the application and as such were not approved contents for the Traveller package. The applicant performed a comparison of the fuel assembly k_{eff} values to determine the most reactive contents based on the fuel confinement envelope. A range of fuel envelope dimensions were evaluated to evaluate the sensitivity of k_{eff} to the fuel envelope confinement system dimension. The evaluation showed that the CE16VA and CE16NGF fuel

assemblies did not change the conclusion to use the 17X17OFA fuel assembly as the reference contents for the package evaluation.

The staff performed confirmatory analyses of the Traveller package using the CSAS26 sequence of the SCALE code system with the KENO VI three-dimensional Monte Carlo criticality transport program and continuous energy ENDF/B-VII cross sections. Using assumptions similar to the applicant under hypothetical accident conditions, the staff's confirmatory calculations resulted in a maximum k_{eff} similar to what was reported in the application. The staff's analyses therefore confirm that the Traveller package will meet the criticality safety requirements of 10 CFR Part 71.

Based on NRC staff verification of adequate system modeling by the licensee, the analyses supporting the content modification were considered acceptable. Thus, the proposed contents modification does not affect the ability of the package to meet the requirements of 10 CFR Part 71.

CONDITIONS

The CoC includes the following condition(s) of approval:

Condition No. 5.(b)(1)(i) was revised to add the CE16VA and CE16NGF fuel assemblies to the list of 16 x 16 fuel assemblies parameters approved contents. The 16 x 16 CE Fuel Assembly was revised to CE16NVA, but no parameters were changed.

Condition No. 9 was revised to authorize the use of the previous revision of the CoC until June 30, 2012.

CONCLUSION

Based on review of the statements and representations in the application, as supplemented, the staff concludes that the design has been adequately described and evaluated and that the Model Nos. Traveller STD and Traveller XL packages meet the requirements of 10 CFR Part 71.

Issued with Certificate of Compliance No. 9297, Revision No. 4,
on June 29, 2010.