April 25, 2006

Mr. Norman A. Kent
Manager Transport Licensing and Regulation Compliance
Nuclear Material Supply
Westinghouse Electric Company
P.O. Drawer R
Columbia, South Carolina 29250

SUBJECT: CERTIFICATE OF COMPLIANCE NO. 9297, REV. NO. 1, FOR MODEL NOS. TRAVELLER STD AND TRAVELLER XL (TAC NO. L23957)

Dear Mr. Kent:

As requested by your application dated March 17, 2006, and supplemented by letter dated March 17, 2006, enclosed is Certificate of Compliance (CoC) No. 9297, Revision No. 1, for the Model Nos. Traveller STD and Traveller XL. Changes made to the enclosed certificate are indicated by vertical lines in the margin. The staff's Safety Evaluation Report is also enclosed.

Westinghouse Electric Company is registered as the certificate holder of the package. 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 at (301) 415-7298 or Stewart W. Brown of my staff at (301) 415-8531.

Sincerely,

/RA/

Robert A. Nelson, Chief
Licensing Section
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Docket No. 71-9297

Enclosures: 1. CoC No. 9297, Rev. No 1
2. Safety Evaluation Report

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

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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. 1

## SUMMARY

By application dated March 17, 2006, as supplemented by letter dated April 12, 2006, Westinghouse Electric Company, LLC (Westinghouse or the applicant) submitted a request for amendment to Certificate of compliance (CoC) No. 9297, for the Model Nos. Traveller STD and Traveller XL. The request proposes to revise the weight limit and the associated licensing drawing for the loaded rod pipe for transporting loose fuel rods.

Based on the statements and representations in the application, the staff agrees that the changes do not affect the ability of the package to meet the requirements of 10 CFR Part 71.

## EVALUATION

The Traveller transportation packaging consists of two principal structural components: the outerpack and the clamshell. The outerpack provides impact and thermal protection for the package and the clamshell provides structural support for either a PWR fuel assembly or a rod container for loose fuel rods. The ASTM Type 304 stainless steel rod container was approved for two configurations: a 433.1-centimeter (cm) (170.5-inch (in.)) long rectangular rod box and a 12.7-cm (5-in.) or 15.2-cm (6-in.), Schedule 40 rod pipe of approximately the same length. Table 2.1 of the application summarizes the package weights, including the maximum fuel assembly weight of 748 kilograms (kg) (1,650 pounds (lbs)) for the Traveller STD package. Revision 1 of licensing Drawings 10006E58 and 10006E59, note an estimated weight of 300 kg (660 lbs) for the loaded rod pipe and rod box, respectively.

The applicant in its letter dated April 12, 2006, provided description of and justification for the proposed changes on implementing a rod pipe for transporting loose rods. The changes involve deleting use of the 12.7-cm (5-in.) rod pipe from the licensing drawing and increasing the weight limit of the loaded 15.2-cm (6-in.) rod pipe from 300 kg (660 lbs) to 748 kg (1,650 lbs), consistent with the maximum fuel assembly weight for the Traveller STD packaging. Revision 5 of licensing Drawing 10006E58 depicts the proposed pipe details, including three flanges, one in the middle and one at each end of the pipe, for restraining pipe motion inside the clamshell. As discussed in Section 1.2.1.4, common axial restraint to the fuel assembly, rod box, and rod pipe is provided by an axial arm bolted to the top clamshell shear lip and removable rubber pads of varying thickness are also introduced to accommodate the different fuel designs and rod containers.

Section 2.11.1 of the application examined the load path along the axial assemblage of the outerpack end cap, impact limiter, clamshell, and payload for dissipating the kinetic energy of the clamshell and its payload during an end drop test. By comparing the axial stiffness of a fuel assembly to that of a rod pipe and in recognizing the relatively small amount of energy dissipation due to partial rod buckling in the previous drop tests, the applicant stated that the rod pipe is expected to act in a coupled manner similar to the fuel assembly. As a result, the staff concludes that the structural confinement function of the clamshell with a loaded rod pipe is similar to that with single fuel assemblies. This permits a revised weight limit of 748 kg (1,650 lbs) for the loaded rod pipe. As previously evaluated the criticality analysis demonstrated that there is no limit on the number of rods that may be transported in a rod pipe based on criticality concerns.

**CONCLUSION**

Certificate of Compliance No. 9239 has been amended as follows:

- Condition No. 5(a)(2) of the certificate has been revised to include the following wording, "The rod pipe consists of a 15.2 cm (6 in.) standard 304 stainless steel, Schedule 40 pipe, and standard 304 stainless steel closures at each end. The closure is a 0.635 cm (0.25 in.) thick cover secured with Type 304 stainless steel hardware to a flange fabricated from 0.635 cm (0.25 in.) thick plate."

- Condition No. 5(a)(3) of the certificate has been revised to reflect revision to Drawing 10006E58.

Based on the statements and representations in the application the staff finds that these changes do not affect the ability of the Traveller package to meet the requirements of 10 CFR Part 71.

Issued with Certificate of Compliance No. 9297,
Revision No. 1, on April 25, 2006.