CERTIFICATE OF COMPLIANCE
FOR RADIOACTIVE MATERIAL PACKAGES

1. a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE		PAGES
9297	0	71-9297	USA/9297/AF-96	1	OF	6

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 *(Name and Address)*

Westinghouse Electric Company
P.O. Drawer R
Columbia, SC 29250

b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION

Westinghouse Electric Company application dated April 1, 2004, 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 Nos.: Traveller STD and Traveller XL

(2) Description

The Traveller package is designed to transport non-irradiated uranium fuel assemblies or rods with enrichment up to 5.0 weight percent. The package is designed to carry one fuel assembly or one container for loose rods. The package consists of three components: 1) an outerpack, 2) a clamshell, and 3) a fuel assembly or rod container.

The outerpack is a structural component that serves as the primary impact and thermal protection for the fuel assembly or rod container. The outerpack has a long horizontal tubular design consisting of a top and bottom half. At each end of the package are thick limiters consisting of two sections of foam of different densities sandwiched between three layers of sheet metal. The impact limiters are integral parts of the outerpack and reduce damage to the contents during and end, or high-angle drop. The outerpack also provides for lifting, stacking, and tie down during transportation.

The clamshell is a horizontal structural component that serves to protect the contents during routine handling and in the event of an accident. The clamshell consists of an aluminum "v" extrusion, two aluminum door extrusions, and a small access door. Each extruded aluminum door is connected to the "v" extrusion with piano-type hinges (continuous hinges). These doors are held closed with a latching mechanism and quarter-turn bolts. Neutron absorber plates are installed in each leg of the "v" extrusion and in each of the doors. The "v" extrusion and the bottom plate are lined with a cork rubber pad to cushion and protect the contents during normal handling and transport conditions.

5.(a)(2) Description (Continued)

The Traveller package is designed to carry loose rods using either of two types of rod containers: a rod box or rod pipe. The rod box is an ASTM, Type 304 stainless steel container of rectangular cross section with stiffening ribs located approximately every 60 centimeters (cm) (23.6 inches (in.)) along its length. It is secured by fastening a removable top cover to the container body using socket head cap screws. The rod pipe consists of a 12.7 cm (5 in.) or a 15.2 cm (6 in.) standard 304 stainless steel, Schedule 40 pipe. The pipes are secured with a 11.18 millimeters (mm) (0.44 in.) thick flange and Type 304 stainless steel hardware on each end.

There are two models of the Traveller packaging, the Traveller STD and the Traveller XL.

Traveller STD:
- Gross weight: 2,041 kilograms (kg) (4,500 pounds (lbs))
- Outer dimensions
  - Length: 500 cm (197 in.)
  - Width: 68.6 cm (27.1 in.)
  - Height: 100 cm (39.3 in.)

Traveller XL:
- Gross weight: 2,313 kg (5,100 lbs)
- Outer dimensions
  - Length: 574 cm (226.1 in.)
  - Width: 68.6 cm (27.1 in.)
  - Height: 100 cm (39.3 in.)

(3) Drawings

The packagings are fabricated and assembled in accordance with the following Westinghouse Electric Company's Drawing Nos.:

10004E58, Rev. 3 (Sheets 1-8)
10006E58, Rev. 1
10006E59, Rev. 1 (Sheets 1-2)

(b) Contents (Type and Form of Material)

(1) Fuel Assembly

(i) Unirradiated PWR uranium dioxide fuel assemblies with a maximum uranium-235 enrichment of 5.0 weight percent. The parameters of the fuel assemblies that are permitted are as follows:

5.(b)(1) Fuel Assembly (Continued)

Parameters for 14 x 14 Fuel Assemblies

Fuel Assembly Description	14 x 14	14 x 14	14 x 14
Fuel Assembly Type	W-STD	W-OFA	CE-1/CE-2
No. of Fuel Rods per Assembly	179	179	176
No. of Non-Fuel Rods	17	17	20
Nominal Guide Tube Wall Thickness	0.043 cm (0.017 in.)	0.043 cm (0.017 in.)	0.097 cm (0.038 in.)
Nominal Guide Tube Outer Diameter	1.369 cm (0.539 in.)	1.336 cm (0.526 in.)	2.822 cm (1.111 in.)
Nominal Pellet Diameter	0.929 cm (0.366 in.)	0.875 cm (0.344 in.)	0.956/0.966 cm (0.376/0.381 in.)
Nominal Clad Outer Diameter	1.072 cm (0.422 in.)	1.016 cm (0.400 in.)	1.016 cm (0.440 in.)
Nominal Clad Thickness	0.062 cm (0.024 in.)	0.062 cm (0.024 in.)	0.071/0.066 cm (0.028/0.026 in.)
Clad Material	Zirconium alloy	Zirconium alloy	Zirconium alloy
Nominal Assembly Envelope	19.70 cm (7.76 in.)	19.70 cm (7.76 in.)	20.60 cm (8.11 in.)
Nominal Lattice Pitch	1.412 cm (0.556 in.)	1.412 cm (0.556 in.)	1.473 cm (0.580 in.)

Parameters for 15 x 15 Fuel Assemblies

Fuel Assembly Description	15 x 15	15 x 15
Fuel Assembly Type	STD/OFA	B&W
No. of Fuel Rods per Assembly	205	208
No. of Non-Fuel Rods	20	17
Nominal Guide Tube Wall Thickness	0.043/0.043 cm (0.017/0.017 in.)	0.043 cm (0.017 in.)
Nominal Guide Tube Outer Diameter	1.387/1.354 cm (0.546/0.533 in.)	1.354 cm (0.533 in.)
Nominal Pellet Diameter	0.929 cm (0.366 in.)	0.929 cm (0.366 in.)
Nominal Clad Outer Diameter	1.072 cm (0.422 in.)	1.072 cm (0.422 in.)
Nominal Clad Thickness	0.062 cm (0.024 in.)	0.062 cm (0.024 in.)
Clad Material	Zirconium alloy	Zirconium alloy
Nominal Assembly Envelope	21.39 cm (8.42 in.)	21.66 cm (8.53 in.)
Nominal Lattice Pitch	1.430 cm (0.563 in.)	1.443 cm (0.568 in.)

5.(b)(1) Fuel Assembly (Continued)

Parameters for 16 x 16 Fuel Assemblies

Fuel Assembly Description	16 x 16	16 x 16	16 x 16	16 x 16
Fuel Assembly Type	W-STD	CE	NGF	ATOM
No. of Fuel Rods per Assembly	235	236	235	236
No. of Non-Fuel Rods	21	20	21	20
Nominal Guide Tube Wall Thickness	0.046 cm (0.018 in.)	0.102 cm (0.040 in.)	0.041 cm (0.016 in.)	0.057 cm (0.023 in.)
Nominal Guide Tube Outer Diameter	1.196 cm (0.471 in.)	2.489 cm (0.980 in.)	1.204 cm (0.474 in.)	1.354 cm (0.533 in.)
Nominal Pellet Diameter	0.819 cm (0.323 in.)	0.826 cm (0.325 in.)	0.784 cm (0.309 in.)	0.914 cm (0.360 in.)
Nominal Clad Outer Diameter	0.950 cm (0.374 in.)	0.970 cm (0.382 in.)	0.914 cm (0.360 in.)	1.075 cm (0.423 in.)
Nominal Clad Thickness	0.057 cm (0.023 in.)	0.064 cm (0.025 in.)	0.057 cm (0.023 in.)	0.072 cm (0.029 in.)
Clad Material	Zirconium alloy	Zirconium alloy	Zirconium alloy	Zirconium alloy
Nominal Assembly Envelope	19.72 cm (7.76 in.)	20.63 cm (8.12 in.)	19.72 cm (7.76 in.)	22.95 cm (9.03 in.)
Nominal Lattice Pitch	1.232 cm (0.485 in.)	1.285 cm (0.506 in.)	1.232 cm (0.485 in.)	1.430 cm (0.563 in.)

Parameters for 17 x 17 and 18 x 18 Fuel Assemblies

Fuel Assembly Description	17 x 17	17 x 17	18 x 18
Fuel Assembly Type	W-STD/XL	W-OFA	ATOM
No. of Fuel Rods per Assembly	264	264	300
No. Of Non-Fuel Rods	25	25	24
Nominal Guide Tube Wall Thickness	0.041/0.051 cm (0.016 /0.020 in.)	0.041 cm (0.016 in.)	0.065 cm (0.026 in.)
Nominal Guide Tube Outer Diameter	1.204/1.224/1.24 cm (0.474/0.482/0.488 in.)	1.2.04 cm (0.474 in.)	1.240 cm (0.488 in.)
Nominal Pellet Diameter	0.819 cm (0.323 in.)	0.784 cm (0.309 in.)	0.805 cm (0.317 in.)
Nominal Clad Outer Diameter	0.950 cm (0.374 in.)	0.914 cm (0.360 in.)	0.950 cm (0.374 in.)
Nominal Clad Thickness	0.057 cm (0.023 in.)	0.057 cm (0.023 in.)	0.064 cm (0.025 in.)
Clad Material	Zirconium alloy	Zirconium alloy	Zirconium alloy
Nominal Assembly Envelope	21.39 cm (8.42 in.)	21.39 cm (8.42 in.)	22.94 cm (9.03 in.)
Nominal Lattice Pitch	1.260 cm (0.496 in.)	1.260 cm (0.496 in.)	1.270 cm (0.500 in.)

5.(b)(1) Fuel Assembly (Continued)

(ii) For fuel assembly types other than 17x17 OFA, +/- 0.0254 cm (+/- 0.01 in.) variations are permitted in nominal guide tube wall thickness and guide tube outer diameter if analysis demonstrates that the fuel assembly type is bounded by 17x17 OFA.

(iii) Non-fissile base-plate mounted core components and spider-body core components are permitted.

(iv) Neutron sources or other radioactive material are not permitted.

(v) Materials with moderating capability greater than full density water are not permitted.

(vi) There is no restriction on the length of top and bottom annular blankets.

(2) Loose Fuel Rods

Unirradiated uranium dioxide fuel rods with a maximum uranium-235 enrichment of 5.0 weight percent. Fuel rods shall be transported in the Traveller package inside either a rod pipe or rod box as specified in License Drawings 10006E58 or 10006E59, specified in Section 5(a)(3). The fuel rods shall meet the parametric requirements given below:

Parameter	Limit
Maximum Enrichment	5.0 weight percent uranium-235
Pellet diameter	0.508 – 1.524 cm (0.20 – 0.60 in.)
Maximum stack length	Up to rod container length
Cladding	Zirconium alloy
Integral absorber	Permitted. [Types include gadolinia, erbia, and boron]
Wrapping or sleeving	Plastic or other material with moderating capability not greater than full density water
Maximum number of rods per container	Up to rod container capacity

5.(c) Criticality Safety Index

(1) When transporting fuel assemblies: 0.7

(2) When transporting loose rods in a rod container: 0.0

6. In addition to the requirements of Subpart G of 10 CFR Part 71:

   (a) The package must be prepared for shipment and operated in accordance with the Operating Procedures in Chapter 7 of the Traveller License Application, Revision 3.

   (b) Each packaging must be acceptance tested and maintained in accordance with the Acceptance Tests and Maintenance Program in Chapter 8 of the Traveller License Application, Revision 3.

7. The package authorized by this certificate is hereby authorized for use under the general license provisions of 10 CFR §71.17.

8. The package is not authorized by this certificate for air transport.

9. Expiration date: March , 2010.

REFERENCES

Westinghouse Electric Company application dated April 1, 2004.

Supplements dated: October 15 and November 16, 2004, and February 16 and March 4, 2005.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

/RA/

John D. Monninger, Chief
Licensing Section
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Date: March 1, 2005