

NRC FORM 618 (8-2000) 10 CFR 71		U.S. NUCLEAR REGULATORY COMMISSION			
DRAFT - CERTIFICATE OF COMPLIANCE FOR RADIOACTIVE MATERIAL PACKAGES					
1. a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE	PAGES
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2. PREAMBLE

Field Code Changed

- 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>)
AREVA Federal Services LLC
505 South 336 th Street, Suite 400
Federal Way, WA 98003 | b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION
AREVA Federal Services LLC
application dated June 30, 2007, as supplemented. |
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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.: TRUPACT-III Package
- (2) Description

A package used to transport transuranic waste contained in a Standard Large Box 2 (SLB2) primarily by highway trucks. The packaging body is a rectangular box with an external width of 2,500 mm (98.4 inches), external height of 2,650 mm (104.3 inches), and an external length of 4,288 mm (168.8 inches). The internal cavity dimensions are 1,840 mm (72.4 inches) wide, 2,000 mm (78.7 inches) tall, and 2,790 mm (109.8 inches) long.

The TRUPACT-III packaging is comprised of the containment structural assembly (CSA) made from 8-mm inner and outer stainless steel plates with 4-mm thick V-shaped stiffeners in between. A debris shield receptacle is located all around the open end of the CSA inner cavity. The receptacle is a 26-mm x 38-mm cross section bar with a 15-mm wide by 20-mm deep groove cut along its length. The 109 - 120-mm polyurethane foam, 10-mm thick puncture resistant stainless steel plate, 60-mm balsa wood layer, and the 6-mm stainless steel skin form the integral energy-absorbing overpack structure. A 409-mm deep octagonal recess in the bottom end with 6-mm thick stainless steel plate, a 60-mm thick balsa wood layer, a 15-mm or 16-mm thick puncture-resistant stainless steel plate, and a 120-mm thick foam layer protect the bottom end of the packaging during drops or punctures.

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A rectangular closure lid made from 4-mm thick V-shaped stiffeners sandwiched between an inner and an outer 12-mm thick stainless steel plate is attached to the packaging body

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5.(a) Packaging (continued)

by 44 socket head cap screws and contains two elastomer O-ring face seals. A sampling/vent port with elastomer O-ring seals is recessed into the closure lid. The inner stainless steel plates of the closure lid and the body along with the inner elastomer O-ring seal, the sampling/vent port insert, and the sampling/vent port inner elastomer O-ring seal form the single containment boundary.

An overpack cover is designed to protect the closure lid. The outer face of the overpack cover contains an octagonal recess 393 mm deep. The cover structure consists of a 6-mm thick stainless steel cover sheet plate encasing a 60-mm thick layer of balsa wood, a 15-mm or 16-mm thick puncture resistant stainless steel plate, a 120-mm thick layer of polyurethane foam, and a 6-mm thick inner stainless steel cover plate. The edges of the overpack cover consist of an inner 6-mm stainless steel plate, a 42-mm thick layer of calcium silicate insulation, a 15-mm or 16-mm thick puncture-resistant stainless steel plate, a 380-mm thickness of 0.48 kg/dm³ polyurethane foam, a 6-mm thick puncture-resistant stainless steel plate, a 140-mm thick layer of 0.16 kg/dm³ polyurethane foam, and an 8-mm thick external stainless steel plate.

The approximate dimensions and weights of the package are as follows:

Overall package outside dimensions	
Width	2,500 mm (98.4 inches)
Length	4,288 mm (168.8 inches)
Height	2,650 mm (104.3 inches)
Maximum content weight	5,210 kg (11,486 lbs)
Maximum package weight (Including contents)	25,000 kg (55,116 lbs)

(3) Drawings

The packaging is constructed in accordance with AREVA Federal Services LLC, Drawing No. 51199-SAR, Rev. 14, sheets 1 through 21.

(b) Contents

(1) Type and form of material

Dewatered, solid or solidified transuranic contaminated materials and wastes, any particle size, large objects, and bulky objects are directly loaded into an SLB2 to be placed in a TRUPACT-III packaging, in accordance with TRUPACT-III TRAMPAC, Revision 2.

(2) Maximum quantity of material per package

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The TRUPACT-III packaging is designed to transport contact-handled transuranic (CH-TRU) waste and other authorized payloads that do not exceed $10^5 A_2$ quantities. No more than

5.(b) Contents (continued)

325 grams of Pu-239 fissile gram equivalent (FGE) is generally allowed per TRUPACT-III package. Per the TRUPACT-III TRAMPAC, Revision 2, the FGE limit per TRUPACT-III package may be increased if the payload is documented to contain Pu-240. A TRUPACT-III payload shall not contain greater than 1 percent by weight beryllium and/or beryllium oxide nor machine compacted waste. Only one SLB2 may be loaded in a TRUPACT-III package at a time.

(3) Maximum decay heat per package not to exceed 80 watts.

5.(c) Criticality Safety Index (CSI):

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6. The package is for transport of the CH-TRU materials and other authorized payloads that are limited in form to solid or solidified material. Materials must be restricted to prohibit explosives, corrosives, nonradioactive pyrophorics, and pressurized containers. Within a payload container, radioactive pyrophorics must not exceed 1 percent by weight, and residual liquid volumes greater than 1 percent are prohibited.
7. Limits for physical, nuclear, chemical, and gas generation properties shall be as defined in the TRUPACT-III TRAMPAC, Revision 2.
8. Hydrogen must be limited to a molar quantity that would be no more than 5% by the volume of the innermost layer of confinement during transport.
9. Each payload shipping container must be assigned to a shipping category in accordance with TRUPACT-III TRAMPAC, Revision 2, Section 5.0.
10. The gas generated in the payload and released into the cavity shall be controlled to maintain the pressure within the containment vessel below the acceptable Maximum Normal Operating Pressure of 25 psig.
11. Venting and aspiration are required to the TRUPACT-III containers stored in an unvented condition prior to transport, to ensure equilibration of gases that may have accumulated in the closed container in accordance with TRUPACT-III TRAMPAC, Revision 2, Section 5.3.
12. In addition to the requirements of Subpart G of 10 CFR Part 71:
 - (a) Each package shall be operated and prepared for shipment in accordance with Chapter 7 of the application, as supplemented.

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(b) Each package shall be acceptance tested and maintained in accordance with Chapter 8 of the application, as supplemented.

13. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR 71.17.
14. Transport by air of fissile material is not authorized.
15. Expiration date: June 30, 2015.

REFERENCES

AREVA Federal Services LLC application dated June 30, 2007, as amended January 26, 2010, May 28, 2010, April 28, 2011, October 17, 2011, December 23, 2011, January 6 and 24, 2012, February 9 and 17, 2012, March 13, and 20, 2012, April 23 and 30, 2012, June 6, 2012.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Michael D. Waters, Chief
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Date: