

CERTIFICATE OF COMPLIANCE FOR SPENT FUEL STORAGE CASKS

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The U.S. Nuclear Regulatory Commission is issuing this Certificate of Compliance pursuant to Title 10 of the Code of Federal Regulations, Part 72, "Licensing Requirements for Independent Storage of Spent Nuclear Fuel and High-Level Radioactive Waste" (10 CFR Part 72). This certificate is issued in accordance with 10 CFR 72.238, certifying that the storage design and contents described below meet the applicable safety standards set forth in 10 CFR Part 72, Subpart L, and on the basis of the Final Safety Analysis Report (FSAR) of the cask design. This certificate is conditional upon fulfilling the requirements of 10 CFR Part 72, as applicable, and the conditions specified below.

Certificate No.	Effective Date	Expiration Date	Docket Number	Amendment No.	Amendment Date	Package Identification No.
1014	05/31/00	06/01/20	72-1014	0		USA/72-1014

Issued To: (Name/Address)

Holtec International
Holtec Center
555 Lincoln Drive West
Marlton, NJ 08053

Safety Analysis Report Title

Holtec International Inc., Final Safety Analysis Report for the HI-STORM 100 Cask System
Docket No. 72-1014

CONDITIONS

This certificate is conditioned upon fulfilling the requirements of 10 CFR Part 72, as applicable, the attached Appendix A (Technical Specifications) and Appendix B (Approved Contents and Design Features), and the conditions specified below:

1. CASK

a. Model No.: HI-STORM 100 Cask System

The HI-STORM 100 Cask System (the cask) consists of the following components: (1) interchangeable multi-purpose canisters (MPCs), which contain the fuel; (2) a storage overpack (HI-STORM 100), which contains the MPC during storage; and (3) a transfer cask (HI-TRAC), which contains the MPC during loading, unloading and transfer operations. The cask stores up to 24 pressurized water reactor (PWR) fuel assemblies or 68 boiling water reactor (BWR) fuel assemblies.

b. Description

The HI-STORM 100 Cask System is certified as described in the Topical Safety Analysis Report (TSAR) and in NRC's Safety Evaluation Report (SER) accompanying the Certificate of Compliance. The cask comprises three discrete components: the MPCs, the HI-TRAC transfer cask, and the HI-STORM 100 storage overpack.

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Docket No. _____ Official Ex. No. 135
In the matter of PPS
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Other _____ WITHDRAWN _____
DATE 6-25-02 Witness _____
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ADMINISTRATIVE CONTROLS AND PROGRAMS

5.5 Cask Transport Evaluation Program (continued)

- b. For site-specific transport conditions which are not bounded by the surface characteristics in Section 3.4.6 of Appendix B to Certificate of Compliance No. 1014, the program may evaluate the site-specific conditions to ensure that the impact loading due to design basis drop events does not exceed 45 g. This alternative analysis shall be commensurate with the drop analyses described in the Topical Safety Analysis Report for the HI-STORM 100 Cask System. The program shall ensure that these alternative analyses are documented and controlled.
- c. The TRANSFER CASK and MPC, when loaded with spent fuel, may be lifted to those heights necessary to perform cask handling operations, including MPC transfer, provided the lifts are made with structures and components designed in accordance with the criteria specified in Section 3.5 of Appendix B to Certificate of Compliance No. 1014, as applicable.

Table 5-1

TRANSFER CASK and OVERPACK Lifting Requirements

ITEM	ORIENTATION	LIFTING HEIGHT LIMIT (In.)
TRANSFER CASK	Horizontal	42 (Note 1)
TRANSFER CASK	Vertical	None Established (Note 2)
OVERPACK	Horizontal	Not Permitted
OVERPACK	Vertical	11

Notes: 1. To be measured from the lowest point on the TRANSFER CASK (i.e., the bottom edge of the transfer lid).

1.01 See Technical Specification 5.5c.

DESIGN FEATURES (continued)

3.4 Site-Specific Parameters and Analyses

Site-specific parameters and analyses that will require verification by the system user are, as a minimum, as follows:

- 1.01 The temperature of 80° F is the maximum average yearly temperature.
2. The allowed temperature extremes, averaged over a 3-day period, shall be greater than -40° F and less than 125° F.
3. The resultant horizontal acceleration (vectorial sum of two horizontal ZPA's at a three-dimensional seismic site), G_H , and vertical acceleration, G_V , expressed as fractions of 'g', shall satisfy the following inequality:

$$G_H + \mu G_V \leq \mu$$

where μ is the Coulomb friction coefficient for the HI-STORM 100/ISFSI pad interface. Unless demonstrated by appropriate testing that a higher value of μ is appropriate for a specific ISFSI, the value of μ used shall be 0.53. Representative values of G_H and G_V combinations for $\mu = 0.53$ are provided in Table 3-2.

Table 3-2

Representative DBE Acceleration Values to Prevent HI-STORM 100 Sliding ($\mu = 0.53$)

Equivalent Vectorial Sum of Two Horizontal ZPA's (G_H in g's)	Corresponding Vertical ZPA (G_V in g's)
0.445	0.160
0.424	0.200
0.397	0.250

(continued)