NRC FORM 651
(10-2004)
10 CFR 72

U.S. NUCLEAR REGULATORY COMMISSION

CERTIFICATE OF COMPLIANCE FOR SPENT FUEL STORAGE CASKS

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 No.	Amendment No.	Amendment Effective Date	Package Identification No.
1032	TBD	June 12, 2031	72-1032	~~97~~	TBD	USA/72-1032

Issued To: (Name/Address)

Holtec International
Holtec Technology Campus
One Holtec Blvd
Camden, NJ 08104

Safety Analysis Report Title

Holtec International
Final Safety Analysis Report for the
HI-STORM FW MPC Storage System

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

I. Technology

a. Model No.: HI-STORM FW MPC Storage System

The HI-STORM FW MPC Storage System consists of the following components: (1) interchangeable multi-purpose canisters (MPCs), which contain the fuel; (2) a storage overpack (HI-STORM FW), which contains the MPC during storage; and (3) a transfer cask (HI-TRAC VW), which contains the MPC during loading, unloading and transfer operations. The MPC stores up to 44 pressurized water reactor fuel assemblies or up to 89 boiling water reactor fuel assemblies.

The HI-STORM FW MPC Storage System is certified as described in the Final Safety Analysis Report (FSAR) and in the U. S. Nuclear Regulatory Commission's (NRC) Safety Evaluation Report (SER) accompanying the Certificate of Compliance (CoC).

The MPC is the confinement system for the stored fuel. It is a welded, cylindrical canister with a honeycombed fuel basket, a baseplate, a lid, a closure ring, and the canister shell. All MPC components that may come into contact with spent fuel pool water or the ambient environment are made entirely of stainless steel or passivated aluminum/aluminum alloys. The canister shell, baseplate, lid, vent and drain port cover plates, and closure ring are the main confinement boundary components. All confinement boundary components are made entirely of stainless steel. The honeycombed basket provides criticality control.

DESCRIPTION (continued)

There are five types of MPCs: the MPC-37, MPC-89, MPC-32ML, MPC-37P, and MPC-44. The number suffix indicates the maximum number of fuel assemblies permitted to be loaded in the MPC. All MPC models have the same external diameter.

The HI-TRAC VW transfer cask provides shielding and structural protection of the MPC during loading, unloading, and movement of the MPC from the cask loading area to the storage overpack. The transfer cask is a multi-walled (carbon steel/lead/carbon steel) cylindrical vessel with a neutron shield jacket or neutron shield cylinder attached to the exterior and a retractable bottom lid used during transfer operations.

The HI-STORM FW storage overpack provides shielding and structural protection of the MPC during storage. The overpack is a heavy-walled steel and concrete, cylindrical vessel. Its side wall consists of plain (un-reinforced) concrete that is enclosed between inner and outer carbon steel shells. The overpack has air inlets at the bottom and air outlets at the top to allow air to circulate naturally through the cavity to cool the stored MPC. The HI-STORM FW UVH is an alternative unventilated version of the overpack, with a similar design, but no air vents. The inner shell has supports attached to its interior surface to guide the MPC during insertion and removal and provide a means to protect the MPC confinement boundary against impactive or impulsive loadings. A loaded MPC is stored within the HI-STORM FW storage overpack in a vertical orientation. The HI-STORM FW ventilated storage overpack can be arrayed in a free-standing or anchored configuration.

II. Design Features

a. Codes and Standards

The American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), 2007 Edition, is the governing Code for the HI-STORM FW System MPC as clarified in Item i below, except for Code Sections V and IX. The latest effective editions of ASME Code Sections V and IX, including addenda, may be used for activities governed by those sections, provided a written reconciliation of the later edition against the 2007 Edition, including any addenda, is performed by the certificate holder. American Concrete Institute (ACI) 349-85 is the governing Code for plain concrete as clarified in Appendix 1.D of the Final Safety Analysis Report for the HI-STORM 100 Cask System.

i. Alternatives to Codes, Standards, and Criteria

Table 3-1 in Appendix A lists approved alternatives to the ASME Code for the design of the MPCs of the HI-STORM FW Cask System.

ii. Construction/Fabrication Alternatives to Codes, Standards, and Criteria

Proposed alternatives to the ASME Code, Section III, 2007 Edition, including modifications to the alternatives allowed by Item i may be used on a case-specific basis when authorized by the Director of the Office of Nuclear Material Safety and Safeguards or designee. The request for such alternative should demonstrate that:

1. The proposed alternatives would provide an acceptable level of quality and safety, or

2. Compliance with the specified requirements of the ASME Code, Section III, 2007 Edition, would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Requests for alternatives shall be submitted in accordance with 10 CFR 72.4.

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Supplemental Sheet

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TBD

Dated TBD

Attachments:
1. Appendix A
2. Appendix B