ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT

ON

PROPOSED AMENDMENT TO 10 CFR PART 72

"LIST OF APPROVED SPENT FUEL STORAGE CASKS: HOLTEC INTERNATIONAL HI-STORM 100 CASK SYSTEMS, REVISION 8"

Office of Federal and State Materials and Environmental Management Programs

U.S. Nuclear Regulatory Commission

January 2012

I. THE PROPOSED ACTION

The proposed action is to amend Title 10 of the *Code of Federal Regulations* (10 CFR) 72.214 to revise the HI-STORM 100 System listing within the "List of Approved Spent Fuel Storage Casks" to include Amendment No. 8 to the Certificate of Compliance (CoC) No. 1014. Amendment No. 8 adds a new multipurpose canister (MPC) - 68M to the approved models currently included in CoC No. 1014 with two new boiling water reactor fuel assembly/array classes, and a new pressurized water reactor fuel assembly/class to CoC No. 1014 for loading into the MPC-32. In addition, the amendment changes: 1) Condition 5 of CoC No. 1014 to add "if applicable" after the reference to Section 3.5 of Appendix B, "Cask Transfer Facility (CTF)" to clarify that the CTF is an optional facility; 2) Appendix A, Technical Specifications (TS) 1.1, to modify the CTF definition to clarify that it could be used in lieu of 10 CFR Part 50 controlled structures for cask transfer evolutions; and 3) Table 3-1, MPC Cavity Drying Limits, to include the previously approved, but omitted, table to eliminate inconsistencies between Table 3-1 and TS 3.1.1, Limiting Condition for Operation.

II. THE NEED FOR THE PROPOSED ACTION

This rulemaking is needed to revise a cask system listing within the "List of Approved Spent Fuel Storage Casks" in 10 CFR 72.214. On November 28, 2009, and as supplemented on November 4 and December 14, 2010, and February 25 and July 8, 2011, Holtec International, the holder of CoC No. 1014, submitted an application to the NRC that requested an amendment to CoC No. 1014. Amendment No. 8 adds a new multipurpose canister (MPC) - 68M to the approved models currently included in CoC No. 1014 with two new boiling water reactor fuel assembly/array classes, and a new pressurized water reactor fuel assembly/class to CoC No. 1014 for loading into the MPC-32. In addition, the amendment changes: 1) Condition 5 of CoC No. 1014 to add "if applicable" after the reference to Section 3.5 of Appendix B, "Cask Transfer Facility (CTF)" to clarify that the CTF is an optional facility; 2) Appendix A, Technical Specifications (TS) 1.1, to modify the CTF definition to clarify that it could be used in lieu of 10 CFR Part 50 controlled structures for cask transfer evolutions; and 3) Table 3-1, MPC Cavity Drying Limits, to include the previously approved, but omitted, table to eliminate inconsistencies between Table 3-1 and TS 3.1.1, Limiting Condition for Operation.

The NRC staff performed a detailed safety evaluation of the proposed CoC amendment request and found that an acceptable safety margin is maintained.

III. ENVIRONMENTAL IMPACTS OF PROPOSED ACTION

The potential environmental impact of using the Holtec International HI-STORM 100 System was initially analyzed in the environmental assessment for the final rule to add the Holtec International HI-STORM 100 System to the list of approved spent fuel storage casks in

10 CFR 72.214 (65 FR 25241; May 1, 2000). The environmental assessment for the May 1, 2000, final rule concluded that there would be no significant environmental impact to adding the Holtec International HI-STORM 100 System, and therefore, the NRC issued a finding of no significant impact. The instant environmental assessment, for this Amendment No. 8, tiers on the environmental assessment for the May 8, 2009, final rule. Tiering on past environmental assessments is a standard process under the National Environmental Policy Act.

Holtec International HI-STORM 100 Systems casks are designed to mitigate the effects of design basis accidents that could occur during storage. Design basis accidents account for human-induced events and the most severe natural phenomena reported for the site and surrounding area. Postulated accidents analyzed for an independent spent fuel storage installation, the type of facility at which a holder of a power reactor operating license would store spent fuel in casks in accordance with 10 CFR Part 72, include tornado winds and tornado-generated missiles, a design basis earthquake, a design basis flood, an accidental cask drop, lightning effects, fire, explosions, and other incidents.

Considering the specific design requirements for each accident condition, the design of the cask would prevent loss of containment, shielding, and criticality control. If there is no loss of containment, shielding, or criticality control, the environmental impacts would be insignificant.

The addition of a new multipurpose canister (MPC) - 68M to the approved models presently included in CoC No. 1014 with two new boiling water reactor fuel assembly/array classes, addition of a new pressurized water reactor fuel assembly/class to CoC No. 1014 for loading into the MPC-32, and editorial changes do not authorize or otherwise reflect a significant change in design or fabrication of the cask. There are no significant changes to cask design requirements in the proposed CoC amendment. In addition, any resulting occupational exposure or offsite dose rates from the implementation of Amendment No. 8 would remain well

within the 10 CFR Part 20 limits. Thus, the proposed CoC changes will not result in any radiological or non-radiological environmental impacts that significantly differ from the environmental impacts evaluated in the environmental assessment supporting the May 1, 2000, final rule. There will be no significant change in the types or significant revisions in the amounts of any effluent released, no significant increase in the individual or cumulative radiation exposure, and no significant increase in the potential for or consequences from radiological accidents. Therefore, the NRC staff has determined under the National Environmental Policy Act of 1969, as amended, and the Commission's regulations in Subpart A of 10 CFR 51 that this rule is not a major Federal action significantly affecting the quality of the human environment and therefore, an environmental impact statement is not required.

The NRC staff documented its findings in a safety evaluation report (SER) which is available online in the NRC Library at: http://www.nrc.gov/NRC/ADAMS/index.html. On this website, the public can gain entry into the NRC's Agencywide Documents Access and Management System (ADAMS), which provides text and image files of NRC's public documents. The SER for Amendment No. 8 can be found under ADAMS Package Accession Number ML112160627.

IV. ALTERNATIVE TO THE PROPOSED ACTION

The alternative to this action is to deny approval of Amendment No. 8 and end the proposed rulemaking. Consequently, any Part 72 general licensee that seeks to load spent nuclear fuel into HI-STORM 100 System casks in accordance with the changes described in proposed Amendment No. 8 would have to request an exemption from the requirements of 10 CFR 72.212 and 72.214. Under this alternative, interested licensees would have to prepare,

and the NRC would have to review, a separate exemption request, thereby increasing the administrative burden upon the NRC and the costs to each licensee. Thus, the environmental impacts would be the same or less than the proposed action.

V. ALTERNATIVE USE OF RESOURCES

Approval of Amendment No. 8 to CoC No. 1014 would result in no irreversible commitments of resources.

VI. AGENCIES AND PERSONS CONTACTED

No agencies or persons outside the NRC were contacted in connection with the preparation of this environmental assessment.

VII. FINDING OF NO SIGNIFICANT IMPACT

The environmental impacts of the proposed action have been reviewed under the requirements in 10 CFR Part 51.

Based on the foregoing environmental assessment, the NRC concludes that this rulemaking entitled “List of Approved Spent Fuel Storage Casks: Holtec International HI-STORM 100, Revision 8” will not have a significant effect on the human environment. Therefore, the NRC has determined that an environmental impact statement is not necessary for this rule.

Certain documents related to this rulemaking, including comments received by the NRC, may be examined at the NRC Public Document Room, Room O-1F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.