

August 1, 2000

Mr. Brian Gutherman, Licensing Manager
Holtec International
555 Lincoln Drive West
Marlton, NJ 08053

SUBJECT: CRITICALITY MONITORING FOR SPENT FUEL STORAGE OPERATIONS

Dear Mr. Gutherman:

On June 14, 1999, Holtec International submitted to the Nuclear Regulatory Commission for review and comment Position Paper DS-219, "Criticality Monitoring Requirements During Dry Storage Implementation." The purpose of this letter is to address Holtec's Position Paper and to provide clarification on criticality monitoring requirements for activities related to the use of dry cask storage systems.

Holtec's Position Paper concludes that the HI-STAR 100/HI-STORM 100 multi-purpose canisters (MPCs), ". . . by virtue of their dual certification (for storage and transportation) fulfill the intent of the exemptions to Part 70.24 which preclude the need for criticality monitoring." The staff disagrees with Holtec's conclusion. Section 70.24 is not intended to require monitoring systems when special nuclear material is being transported when packaged in accordance with requirements of 10 CFR Part 71. However, the MPC by itself is not a Part-71-approved transportation package but, instead, is a component of one (the HI-STAR 100 Cask System). Before the fuel that is loaded in the MPC can be considered to be packaged in accordance with 10 CFR Part 71, the loaded MPC must be in the HI-STAR 100 cask and the entire package must be in the shipping configuration specified in Certificate of Compliance No. 9261.

Notwithstanding, 10 CFR 72.124(c) requires a criticality monitoring system to be maintained in each area where special nuclear material is handled, used, or stored except where the special nuclear material is packaged in its stored configuration. For dry cask storage systems, the spent fuel assemblies are considered to be in their stored configuration when they have been properly placed in the storage cask confinement system and the confinement system has been adequately drained, dried, inerted, and sealed. At this point, no further handling of the individual fuel assemblies takes place, and the contents and all criticality control design features are in a static state and are not purposely modified or disturbed. Thus, per 10 CFR 72.124(c), criticality monitoring would not be required after that point. For those activities where the spent fuel assemblies are not in their stored configuration, criticality monitoring may be required in accordance with the applicable provisions of 10 CFR 50.68, 70.24, or 72.124.

Mr. B. Gutherman

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I trust that this letter clarifies this matter. Please call me at (301) 415-8531 if you have any questions or wish to discuss this further.

Sincerely,
/RA/ original signed by /s/
Marissa Bailey, Sr. Project Manager
Spent Fuel Licensing Section
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Docket Nos. 72-1008, 72-1014
TAC No. L22998

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