HOLTEC
INTERNATIONAL

Holtec Center, 555 Lincoln Drive West, Marlton, NJ 08053
Telephone (856) 797-0900
Fax (856) 797-0909

BY FAX AND OVERNIGHT MAIL

February 28, 2000

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: USNRC Docket No. 72-1008; TAC No. L22019
HI-STAR 100 Storage CoC 1008
License Amendment Request 1008-1, Supplement 3

References: 1. Holtec Project 5014
2. Holtec Letter to NRC dated November 24,1999, LAR 1008-1

Dear Sir:

As committed during our telephone conversation last Friday, we are pleased to provide clarifying information regarding the uranium mass limits for the fuel authorized for loading into the HI-STAR 100 spent fuel storage system.

The criticality analyses are not affected by the maximum allowed design uranium masses shown in the Certificate of Compliance (CoC), or by the proposed changes to these masses. The uranium mass limits in the CoC are determined from the shielding analysis, and are specified as bounding values for groups of fuel classes (e.g. all B&W 15x15). The criticality analyses are based on an independent bounding assumption of a fuel stack density of 96.0% of the theoretical fuel density of 10.96 g/cm^3. The fuel stack density is approximately equal to 98% of the pellet density. Therefore, while the pellet density of some fuels might be slightly greater than 96% of theoretical, the actual stack density will be less. For some fuel classes, this density assumption results in a uranium mass for the criticality analyses which is below the value shown in the CoC. However, this only indicates the conservatism of the shielding analysis for these classes. The criticality analyses are still valid and bounding for all classes, due to the density assumption stated above, which is valid for current and future fuel assemblies.

For the HI-STORM 100 System, the following clarification was added to the TSAR criticality chapter in Revision 6 (fourth bullet on TSAR page 6.1-5) in relation to the conservative nature of the fuel density assumption:

"The fuel stack density is conservatively assumed to be 96% of theoretical (10.522 g/cm^3) for all criticality analyses. The fuel stack density is approximately equal to 98% of the pellet density.

HOLTEC INTERNATIONAL

Holtec Center, 555 Lincoln Drive West, Marlton, NJ 08053
Telephone (856) 797-0900
Fax (856) 797-0909

Therefore, while the pellet density of some fuels might be slightly greater than 96% of theoretical, the actual stack density will be less."

We propose to add the same text to the HI-STAR TSAR, page 6.1-4, as part of the revision to that document to be submitted after the amendment is approved.

If you have any questions or require additional information, please contact us.

Sincerely,

Brian Gutherman, P.E.
Licensing Manager

Approval:

K.P. Singh, Ph.D, P.E.
President and CEO

cc: Mr. Mark Delligatti, USNRC
Ms. Marissa Bailey, USNRC

Document ID: 5014374

Technical Concurrence:

Dr. Stefan Anton (Criticality Evaluation)

Distribution:

Recipient	Affiliation
Mr. David Bland	Southern Nuclear Operating Company
Mr. Ken Phy	New York Power Authority
Mr. J. Nathan Leech	Commonwealth Edison
Dr. Max DeLong	Private Fuel Storage
Mr. Stan Miller	Vermont Yankee Nuclear Power Corporation

HOLTEC
INTERNATIONAL

Holtec Center, 555 Lincoln Drive West, Marlton, NJ 08053
Telephone (856) 797-0900
Fax (856) 797-0909

Distribution (cont'd):

Mr. David Larkin	Energy Northwest
Mr. Bruce Patton	Pacific Gas & Electric – Diablo Canyon
Mr. Mark Smith	Pacific Gas & Electric – Humboldt Bay
Mr. Rodney Pickard	American Electric Power
Mr. Eric Meils	Wisconsin Electric Power Company
Mr. Paul Plante	Maine Yankee Atomic Power Company
Mr. Jeff Ellis	Southern California Edison
Mr. Darrell Williams	Entergy Operations – Arkansas Nuclear One
Mr. Joe Andrescavage	GPUN – Oyster Creek Nuclear Power Station
Mr. Ron Bowker	IES Utilities
Mr. William Swantz	Nebraska Public Power District
Mr. Chris Kudla	Entergy Operations – Millstone Unit 1 Decommissioning
Mr. Keith Waldrop	Duke Power Company
Mr. Matt Eyre	PECO Energy
Mr. Al Gould	Florida Power & Light
Dr. Seymour Raffety	Dairyland Power
Mr. John Sanchez	Consolidated Edison Company
Ms. Kathy Picciott	Niagara Mohawk Power Corporation
Mr. John Donnell	Private Fuel Storage, LLC (SWEC)
Dr. Stanley Turner	Holtec International, Florida Operations Center