

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. 71-9261; TAC No. L22085

HI-STAR 100 Transportation CoC 9261

License Amendment Request 9261-1, Supplement 3

References:

1. Holtec Project 5014

2. Holtec Letter to NRC dated November 24,1999, LAR 9261-1

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<sup>3</sup>. 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<sup>3</sup>) for all criticality analyses. The fuel stack density is approximately equal to 98% of the pellet density.



Telephone (856) 797-0900 Fax (856) 797-0909

U. S. Nuclear Regulatory Commission ATTN: Document Control Desk Document ID 5014373 Page 2 of 3

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 SAR, 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.

Stepen Con hon

President and CEO

cc:

Mr. Mark Delligatti, USNRC

Ms. Marissa Bailey, USNRC

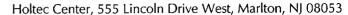
**Document ID: 5014373** 

## **Technical Concurrence:**

Dr. Stefan Anton (Criticality Evaluation)

## **Distribution:**

Recipient	<u>Affiliation</u>
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





Telephone (856) 797-0900 Fax (856) 797-0909

U. S. Nuclear Regulatory Commission ATTN: Document Control Desk Document ID 5014373 Page 3 of 3

## **Distribution (cont'd):**

Mr. Stan Miller Vermont Yankee Nuclear Power Corporation

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

Ms. Kathy Picciott

Mr. John Sanchez

Consolidated Edison Company

Niagara Mohawk Power Corporation

Private Fuel Storage, LLC (SWEC)

Mr. John Donnell Private Fuel Storage, LLC (SWEC)

Dr. Stanley Turner Holtec International, Florida Operations Center