HOLTEC INTERNATIONAL

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

July 10, 2007

Dr. Edwin M. Hackett
United States Nuclear Regulatory Commission
Executive Boulevard Building
Mail Code E3 D2M
6003 Executive Boulevard
Rockville, MD 20852

Reference: 1. USNRC Docket No. 71-9325 (HI-STAR 180 Model)
2. USNRC TAC No. L24076

Subject: July 5, 2007 Meeting

Dear Dr. Hackett:

We appreciated the opportunity to explain our position with respect to the outstanding issues that have reportedly stood in the way of the SFST initiating an in-depth review of the HI-STAR 180 SAR. In the following, I synopsize the main points of our presentations to help SFST arrive at a considered position.

1. Metamic-HT: Based on the accumulated creep by the "HT" samples reported in the Rev. 2 of the Metamic test report (submitted on April 10, 2007), the upper bound estimate of the total creep in the basket panels after one year in the horizontal position with a loaded basket is only 0.066%, equivalent to a basket deflection of 0.015 inches. This result, and additional data acquired over the past two months corroborates our position that *creep is not a controlling design* parameter for the "HT" panels. Although the samples have been subjected to months of creep at elevated stress levels, the tests will continue for at least a year: Additional data cannot hurt.

NMSS01

HOLTEC INTERNATIONAL

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

2. The benchmarking of LS-DYNA was carried out on a finite element model that was four times the size of the quarter-scale model. The correspondence between full-size and scale model results are readily deduced from classical Newtonian dynamics, which is why the NRC sanctioned the "rigid cask" quarter-scale model tests ten years ago. SFST's questioning of it puzzles us because the underlying truism (two-way correspondence for such scale model tests) is widely accepted. Even a recent NRC/PNNL paper (Shah et. al) analyzes the performance of the HI-STAR 100 package using LS-DYNA and benchmarked it against Holtec's quarter-scale model test data! We have ourselves verified the validity of the direct correspondence between quarter-scale and full-size cask dynamic performance by simulating drop events on LS-DYNA.

   We regret the "revision I.D." error in the scale model test report. However, we believe that this editorial error would not have stymied the reviewer if he were familiar with the quarter-scale test program (which continues to be used by people from the NRC and the labs in their cask dynamics work).

3. The HI-STAR 180 cask is designed with two lids, each demonstrated to be watertight under §71.73 accident events. The SAR contains all necessary information in this matter to enable the NRC to develop a regulatory position to interpret ISG-19 through the RAI process. The worst case scenario, wherein the NRC does not permit moderator exclusion, will not force us to revise our design. (Please realize that the B-10 areal density in our panels is $\approx$ 0.06 gm/sq.cm., at least three times that of transport casks licensed by others (such as NAC-STC) and roughly twice that in the HI-STAR 100 basket). Criticality control has been engineered to be a non-issue in HI-STAR 180.

HOLTEC INTERNATIONAL

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

In closing, we observed that the staff's questions were focused on the supporting calculation packages, not the SAR document itself, which has been thoroughly remodeled to meet with *all* of the NRC's acceptance review items to the fullest extent in our April 10, 2007 submittal. We respectfully request that SFST allocate the necessary resources to begin a focused review.

Holtec will transmit updated versions of the "HT" report and the benchmarking report to support the staff's review immediately upon request.

Sincerely,

Dr. Stefan Anton
Licensing Manager, Holtec International

Cc: Mr. E.W. Brach, Director, SFST
Mr. Robert Lewis, Acting Deputy Director, SFST
Dr. Gordon Bjorkman, Senior Technical Advisor, SFST
Mr. Stewart Brown, Project Manager, SFST
Dr. K.P. Singh, Holtec International
Dr. Alan I. Soler, Holtec International
Mr. Pierre Monsigny, NOK

Document I.D.: 1553016