April 22, 2010

MEMORANDUM TO: Doug Weaver, Deputy Director
Licensing and Inspection Directorate
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

FROM: John Goshen, Project Manager **/RA/**
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

SUBJECT: SUMMARY OF APRIL 8, 2010, HOLTEC INTERNATIONAL, INC. PRE-APPLICATION MEETING FOR THE HI-STORM 100 CASK SYSTEM LICENSE AMENDMENT REQUEST NO. 9 (TAC NO. L24427)

PURPOSE:

To provide Holtec International, Inc. (Holtec), the opportunity to discuss its proposed amendment request (LAR) No. 9 to the HI-STORM 100 Cask System.

MEETING SUMMARY:

The meeting took place on April 8, 2010, from 1:00 p.m. to 4:00 p.m., at the NRC's Executive Boulevard Building in Rockville, MD. Attendees included Holtec staff, NRC's Division of Spent Fuel Storage and Transportation (SFST) staff, and one member of the public. The attendance list is enclosed (Enclosure 1). The meeting began with introductions, introductory remarks by SFST staff and Holtec staff, and then moved to Holtec's presentation (Enclosure 2) of LAR No. 9 to the HI-STORM 100 Cask System.

Holtec proposes to provide changes that will remove the restrictions currently in Amendment No. 7 Technical Specifications (TS) placed on the HI-STORM 100U (Underground) subsystem of the HI-STORM 100 Cask System. Holtec intends to make the 100U subsystem available for use by all applicable general licensees. Holtec stated that the upcoming amendment submittal should satisfy SFST staff's concerns arising from the LAR No. 6 application. In that application Holtec had considered the support foundation pad, the top surface pad, and the Vertical Ventilated Module (VVM) interface pad as "proximate structures" that were not fully analyzed submittal because they were not considered a direct part of the HI-STORM 100U subsystem. In the absence of an analysis for these interfacing components, license restrictions for its use were included in the Certificate of Compliance (CoC) No. 1014, Amendment No. 7, TS. The restrictions included the requirement that the support foundation pad must rest on bedrock, or on substrate with a minimum shear wave velocity of 3500 fps, and that no excavation activities associated with the construction of new VVMs could take place within a distance from the radiation protection space (RPS) equal to ten times the planned excavation depth. In its LAR Holtec intends to provide the analysis methodology for the interfacing reinforced concrete structures to evaluate the effects of dead load, live load, seismic load, and long-term settlement.

The application also will include a complete analysis and evaluation of the optional retaining walls located at the RPS boundary, including their effect on the seismic response of the VVM array. In the LAR all ISFSI structures will be made of reinforced concrete, and they are all designated as Important to Safety (ITS) components. Holtec presented the seismic/structural analysis methodology that addressed both the VVM components and Independent Spent Fuel Storage Installation (ISFSI) structures. The design basis seismic model consists of two basic models; a single VVM module and a multi-VVM module of a 5 x 5 - VVM array to characterize the interaction of the ISFSI with the surrounding soil continuum. The control motion surface will be placed at the lesser of four depths. Holtec presented the limiting design parameters for the proposed TS, i.e., that the thickness of the foundation pad should be at least 33 inches, and the thickness of the VVM interface pad should be at least 34 inches, etc. Other design parameters such as soil conditions below the support foundation pad and the earthquake loading are site-specific in nature and are highly dependent on the host site. Therefore, a site-specific analysis would be performed for each HI-STORM 100U subsystem installation using the design basis methodology provided in the final safety analysis report. If at a particular site the effects of seismic loading or long term settlement are unacceptable, then steps must be taken to remediate the soil and/or increase the capacity of the reinforced concrete ISFSI structures to meet the applicable load combinations. A general licensee planning to use the HI-STORM 100U subsystem would have to document in the 10 CFR 72.212 evaluation process that its site is acceptable.

SFST staff, however, expected to see Holtec present a specific design with a bounding range of specific parameters that had been analyzed, so that a general licensee would know if its site fits within that range of acceptability. SFST staff emphasized the 10 CFR 72 general license provision requires that they must approve a design, not a methodology. Holtec initially disagreed with this position, and maintained that if the methodology is approved, is adequately controlled and restrained, then a site-specific analysis via the 10 CFR 72.212 process does meet the 10 CFR 72 general license requirements. Holtec then agreed to accommodate SFST staff's request to analyze a range of potential sites, and submit a fixed design. The size of the ISFSI will be able to vary depending on the user's need, but the analysis will be for a 5 x 5 HI-STORM 100U array. Holtec stated the submittal now will take a little more time than initially expected.

SFST staff noted that they are already reviewing the HI-STORM 100 LAR No. 8, the HI-STORM FW, and HI-STAR 100 LAR No. 8 applications. They expressed concern about being able to provide this LAR the resources it will require considering the other case loads, and also noted previous problems created when attempting to evaluate multiple amendments at the same time. SFST staff suggested that Holtec submit the HI-STORM 100U subsystem as a standalone system separate from the HI-STORM 100 Cask System. Holtec said they would evaluate the implications of doing this.

The member of the public in attendance did not have any questions or comments.

No regulatory decisions were made at the meeting.

If you have any questions or comments, please contact me at (301) 492-3325 or John.goshen@nrc.gov.

Docket No. : 72-1014

TAC No. : L24427

Enclosures:
As stated

If you have any questions or comments, please contact me at (301) 492-3325 or John.goshen@nrc.gov.

Docket No. : 72-1014

TAC No. : L24427

Enclosures:
As stated

DISTRIBUTION:

NRC attendees BWhite T. Morin (Holtec) SFST Reading File

ADAMS Package (Accession) : ML101160200

File Locations
G:\SFST\HI-STORM 100\Amendment 9\Pre Application Meeting\ 04 08_09 Mtg Summary.doc
G:\SFST\HI-STORM 100\Amendment 9\Pre Application Meeting\Holtec LAR 9 presentation.pdf

OFC:	SFST	SFST	SFST
NAME:	JGoshen	WWheatley	EBenner
DATE:	04/22/2010	04/22 /2010	04/ 22 /2010

OFFICIAL RECORD COPY

ENCLOSURE 1

April 8, 2010
ATTENDANCE LIST

Name	Affiliation
Vonna Ordaz	NRC/SFST
Ray Lorson	NRC/SFST
Eric Benner	NRC/SFST
Larry Campbell	NRC/SFST
Gordon Bjorkman	NRC/SFST
Mike Call	NRC/SFST
Jeremy Smith	NRC/SFST
Tim Sippel	NRC/SFST
John Goshen	NRC/SFST
Kris Singh	Holtec
Chuck Bullard	Holtec
Tammy Morin	Holtec
Douglas Paul	Holtec
Anveshan Bommareddi	Holtec
Ahihua Yue	Holtec
John Zhai	Holtec
Venkat Prabhala	Holtec
Randolph Bunt	Southern Co.
Carlyn Greene	Ux Consulting

ENCLOSURE 2

HI-STORM 100 LAR No. 9

HOLTEC PRESENTATION