

October 12, 2016

MEMORANDUM TO: Antony H. Hsia, Deputy Director  
Division of Spent Fuel Management, NMSS

FROM: Pierre Saverot, Project Manager **/RA/**  
Spent Fuel Licensing Branch  
Division of Spent Fuel Management, NMSS

SUBJECT: SUMMARY OF SEPTEMBER 27, 2016, MEETING WITH  
HOLTEC INTERNATIONAL, INC.

#### Background

By letter dated August 7, 2015, Holtec International (Holtec) submitted an application for Certificate of Compliance No. 9373, Revision No. 0, for the Model No. HI-STAR 190 package. Staff issued a request for supplemental information letter dated October 1, 2015, and a request for additional information (RAI) letter dated April 8, 2016. Holtec submitted its RAI responses on August 19, 2016, and requested this meeting to clarify their responses to two shielding RAIs. The meeting notice was posted on August 31, 2016. The meeting attendance list is provided as Enclosure No.1.

#### Discussion

Since no member of the public participated to this meeting, the meeting was not officially split into public and proprietary sessions.

Two shielding RAIs were discussed, RAI 5-4 and RAI 5-9. RAI 5-4 requests Holtec to justify the uncertainty of the SAS2H code for evaluating source terms for PWR and BWR fuel up to 68.2 and 65 GWD/MTU, respectively. RAI 5-9 requests Holtec to provide additional information on the axial burnup profile assumed for both PWR and BWR fuel.

To justify the use of SCALE 5.1 for depletion calculations, Holtec explained that it had performed a validation based on measured and calculated isotopic compositions of the spent fuel to evaluate if: (i) the source terms used from SCALE 5.1 are conservative, (ii) there are any trends in the results as a function of burnup, which would thus limit the use of the source terms at high burnups, (iii) any source term uncertainties shall be included. Holtec presented their proprietary justification for using the SAS2H code outside of its range of applicability. The staff found that there was not enough information to justify using this code for high burnup fuel, considering the way the derived uncertainty was being applied and the fact that there is no margin in the evaluated dose rates for the Model No. HI-STAR 190 package. The staff will be requesting additional information for Holtec to justify the design of the package.

To justify the use of the axial burnup profiles, and also consider specific conditions such as low burnups or partial rods, Holtec said it had performed extensive evaluations for both PWR and BWR fuel assemblies and provided them as the RAI 5-9 response in an Appendix to the application. Holtec presented proprietary information on the axial burnup profiles assumed for the shielding analysis. The staff had some questions on the profiles assumed for BWR fuel and said it may have to request additional information, if necessary.

Staff made no regulatory commitments during the meeting.

Docket No. 71-9373  
CAC No. L25046

Enclosure 1: Meeting Attendees  
Enclosure 2: Proprietary Presentation

A. Hsia

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Enclosure 1: Meeting Attendees

Enclosure 2: Proprietary Presentation

Distribution: Attendees

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**Meeting Between Holtec International, Inc. (Holtec) and the  
Nuclear Regulatory Commission  
September 27, 2016  
Meeting Attendees**

**NRC/NMSS/DSFM**

Pierre Saverot

Meraj Rahimi

Veronica Wilson

**HOLTEC**

Stefan Anton

Peter Stefanovic