NRC FORM 699
(05-2012)

U.S. NUCLEAR REGULATORY COMMISSION

CONVERSATION RECORD

DATE: May 22, 2012

TIME: 11 : 00 ☑ AM ☐ PM

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU	TELEPHONE NO.
Carlos Martinez	(925) 862-4481

E-MAIL ADDRESS: Carlos1.Martinez@GE.com

ORGANIZATION: GE-Hitachi Nuclear Energy, Vallecitos Nuclear Center

SUBJECT: GE-2000 package

TYPE OF CONVERSATION
- ☐ IN-PERSON
- ☐ E-MAIL
- ☑ TELEPHONE
- ☑ INCOMING
- ☐ OUTGOING

SUMMARY

GE Participants:

Mark Varno – GEH VP, Advanced Products; Earl Saito – Manager, GEH Special Projects; Brad Bloomquist – GEH PM GE14i; Bryce MacDonald - Manager, GEH Logistics; Tony McFadden - Manager, Vallecitos Nuclear Center (VNC); Don Krause - Manager, VNC Regulatory Compliance; Mike Schrag – Manager, VNC Facilities (& Cask Operations); Carlos Martinez – VNC PM, Isotope Products

NRC Staff: Meraj Rahimi, Veronica Wilson, Rob Temps, Michael Waters, Bernie White, Zhian Li, Pierre Saverot.

Staff requested this conference call to discuss the recent events at Clinton and Hope Creek which led staff to "look back" at (i) the design of the package, in particular the adequacy of shielding, (ii) a potentially inadequate design control, and (iii) the Certificate of Compliance of the Model No. 2000 package. Two Model Nos. 2000 packages are currently in use, with a 3rd one being operated by ORNL, to transport various forms of radioactive materials, including source material, Type B waste, LLW, and fuel from research reactors. GE explained that it understood the need for clarification; GE said that doses received by GE staff at Clinton were in fact "very near from the original projections, but the numbers were not rolled in the site ALARA plan." The event at Hope Creek involved a failure of the carrier basket. GEH explained that the cause of the failure can be attributed to the geometry of the basket. Staff also questioned the use of the lead liner: the event report from Clinton indicated that the lid was not used and has never been used on the model No. 2000 package.

Continue on Page 2

ACTION REQUIRED

Review and evaluate the design, the SAR and CoC of the package by August 2012.

NAME OF PERSON DOCUMENTING CONVERSATION	SIGNATURE	DATE
Pierre Saverot	Pierre Saverot	06/12/2012

ACTION TAKEN

TITLE OF PERSON TAKING ACTION	SIGNATURE OF PERSON TAKING ACTION	DATE

SUMMARY:

GE also said that the dose at the upper end of the package was due to a streaming effect in that portion of the cask where no lead is present. Responding to staff's questions, GE said that they did not calculate streaming because it was not anticipated to be an issue.

GE explained that the liner was originally designed for the Model No. 1600, not the Model No. 2000, and that one cannot close the lid when the liner is used. Staff then asked why the lid is shown on the drawings of the Model No. 2000 package if it cannot be used; GE responded that the lid was "optional", but was not sure if this was communicated to NRC.

Staff told GE it was concerned by the shielding capability of the package since GE did not anticipate potential streaming issues, and that is is likely that the evaluation made some time ago by staff was either not "tight" enough nor "thorough" enough. GE explained that it does not really understand what the "deficiency" may be because their shielding analysis is adequate and consistent with the approved SAR.

Staff asked if an analysis was made to show that materials will not shift during transport. GE responded that (i) package operations are conducted in compliance with the CoC, (ii) the Hope creek event was not related to shipping (the plug, designed to hold 1/2 lb of material, broke when a thimble was put in) but GE did say that the design could "have been more robust." Staff also asked if GE procedures allow release of a component, such as a basket being designed but not formally approved. GE said that it did not notify Hope Creek of a different basket, that the basket design had been used at Clinton with thimbles inserted in a tube while, at Hope Creek, thimbles had been eliminated to allow the material to stay at a lower position in the package. GE also said that, in both cases, the sources were below 600 W, thus with components not part of the certified drawings.

Staff noted that, at Clinton, shielding was added to the top of the package as an ALARA measure to allow work around the package and stated that it appears that neither staff nor GE has any specific information for materials up to 600 W, as well as the related streaming effects. Staff also said that it has currently no confidence that the package has been adequately analyzed before GE puts material into the package. GE responded that it did analyses on what is planned to be shipped (around 100 W) and will be performing analyses for future shipments above 100 W. GE also indicated that they have plans for (i) an ATR shipment, (ii) Hope creek segmented rods, and (iii) transport of SNM within the INL site in the August time-frame.

Staff concluded this conference call by saying that (i) more information on the shielding analyses will be required, (ii) GE, as CoC holder, or utilities as shippers, need to know what are the doses likely to be before the loading of the contents, and (iii) a bounding analysis needs to be done for a range of sources up to 600 W. Staff told GE that it will review and evaluate the current SAR and CoC, and either set up a new conference call to better understand the situation or formally request in writing additional information.

Continue on Page 3