NRC FORM 699
(9-2003)

U.S. NUCLEAR REGULATORY COMMISSION

CONVERSATION RECORD

DATE: 03/31/2010

TIME: 8:30am

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU	TELEPHONE NO.
Mark Whittaker, Mirza Baig	803-758-1846

ORGANIZATION: EnergySolutions

SUBJECT: Structural, thermal and containment RAIs on the 3-60B package application

TYPE OF CONVERSATION
- ☐ VISIT
- ☐ CONFERENCE
- ☑ TELEPHONE
  - ☐ INCOMING
  - ☑ OUTGOING

SUMMARY *(Continue on Page 2)*

NRC participants: Ata Istar, Neil Day, Jimmy Chang, Pierre Saverot

The objective of the call regarding structural issues was to try to reconcile differences on the foam properties used in the application for the Model No. 3-60B package from those derived by the staff using the "General Plastics" on-line design guide.
Staff had performed independent calculations to determine the LAST-A-FOAM FR-3700 static and dynamic properties per the guidance provided by General Plastics Manufacturing Corporation. Results obtained by staff were notably different from the data provided by the applicant and the staff was not able to replicate the data presented in ES Reports ST-557 and ST-551. It should also be noted that such differences in the foam properties may adversely change the stress calculations.

Prior to the call, the applicant had provided a document titled "Foam Properties Reconciliation" which concludes that the static properties for the corresponding foam density was justified for the LS-DYNA drop analyses. The applicant stated that the dynamic effects are not applicable due to the size of the package and its impact limiters.

Staff discussed with the applicant the stress/strain curve for the foam and misunderstandings still exist. In particular, staff disputed the applicant's rationale for using static stress-strain properties and stated that, if dynamic properties were really not applicable, the approach by the manufacturer, General Plastics, would be "wrong" while, at the same time, staff agrees with the manufacturer's approach.

The applicant also informed the staff that General Plastics had withdrawn alll references to ASTM methods due to the fact that they made improvements to the procedures (deviating considerably from ASTM methods) to give a more accurate understanding of the material behavior in a dynamic crush situation. Staff requested the applicant to provide the June 1997 version of the design guide for that foam material and any additional correspondence with the manufacturer to "help its cause"because the argument on how dynamic properties shall be calculated has to come from the manufacturer.

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ACTION REQUIRED

NAME OF PERSON DOCUMENTING CONVERSATION	SIGNATURE	DATE
Pierre Saverot		04/05/2010

ACTION TAKEN

TITLE OF PERSON TAKING ACTION	SIGNATURE OF PERSON TAKING ACTION	DATE

CONVERSATION RECORD (Continued)

SUMMARY *(Continue on Page 3)*

Staff stated that any material is subject to dynamic conditions and that, at this time, this long-standing issue can be resolved only through a second round of RAIs.

Regarding thermal and containment issues, staff said that it is globally satisfied with 15 responses (out of 20) on containment RAIs and with 6 out of 7 responses on thermal issues. Staff said that the response to RAI 3-3, i.e., maximum normal operating pressure, was not fully satisfactory and that the applicant shall provide equations and related parameter values. After discussions, staff accepted the response on the fire shield temperature. Staff also said that (i) it needs calculations packages TH-22 and TH-23 to complete the thermal review, and (ii) it must be certain that melting and auto-ignition will not occur under NCT and HAC.

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