From: Guzman, Richard
To: "Darling, Theresa H"
Subject: FW: Request for Conference Call - Mechanical & Civil Engineering Review
Date: Tuesday, April 05, 2011 3:01:00 PM
Attachments: ML101120658.pdf

Theresa,

Sorry for my previous fragmented email message. Below is my cleaned-up version. Thanks.

As we had previously discussed, the subject technical staff requests to discuss two areas for clarification to support the completion of their review. See attached NMPNS response dated April 16, 2010 – RAI Response Nos. EMCB-15 (pg 15) and EMCB-16 (pg 17). Please let me know when your folks would be available to support a conference call.

Response to EMCB-15

NMPNS provided two tables: (1) 1st table "EPU Affected Systems Inside Containment and Associated Values," and (2) 2nd table is for "EPU Affected Systems Outside Containment and Associated Values."

NRC Staff notes that the 1st table shows values for 102% EPU power and the second for 100% EPU power.

Clarifying Question: Are the EPU affected piping systems inside containment designed for 102% EPU power conditions and the piping systems outside containment designed for 100% EPU power conditions? The staff asked for OLTP and EPU flow, temperature and pressure data in RAI 15 so that it can use the RAI 15 response in conjunction with RAI-16 response data. RAI-16 deals with scaling factors due to increases in flow, temperature and pressure.

Response to EMCB-16

NMPNS stated, "The scaling factors are a percent increase over CLTP stresses and fatigue CUFs. The scaling factors were derived from the CLTP to EPU values. The scaling factors were derived based on section 4.8 of Licensing Topical Report NEDC-32523P-A."

EMCB-16 requested the licensee to (1) Verify that these factors are the results of scaling OLTP to EPU values and not CLTP to EPU values, as this is not clear from the PUSAR presentation, and (2) show how these scaling factors were derived.

Clarifying Question

The staff requests NMPNS to consider the following for discussion:

a) Because PUSAR Tables 2.2-3 show Tables 2.2-2 scaling factors multiplied by "Original Max Calc Stresses" to produce EPU stresses, the 1st part of the RAI requested to verify that the [Tables 2.2-2 scaling] factors are the results of scaling OLTP to EPU [pressure, temperature, and flow] values and not CLTP to EPU values as this is not clear from the PUSAR presentation [i.e. Tables 2.2-2…original max calc stresses]. The licensee's response that "the scaling factors are a percent increase over CLTP stresses and fatigue CUFs" is not clearly understood, as scaling factors are a percentage of the EPU increases in flow, temperature and pressure over either the OLTP or the CLTP values. The staff notes that the licensee did answer the 2nd part of the RAI that "The scaling factors were derived from the CLTP to EPU values." The staff requests additional clarification from the licensee confirming whether this creates an issue if scaling factors derived from the CLTP to EPU values were used to scale OLTP stresses for EPU.

b) In the 2nd part of the RAI, the staff asked the licensee to "show how these scaling factors were derived." The licensee's response was that "The scaling factors were derived based on section 4.8 of Licensing Topical Report NEDC-32523P-A." The staff did not ask for the basis of the derivation of the scaling factors, but rather to show how these factors were derived. For instance, for main steam and feedwater, the licensee is using a percent increase of 5.1 as a scaling factor for flow. The licensee in its response did not address how the 5.1 scaling factor was derived. The staff notes that, after reviewing the licensee's response to staff's RAI-EMCB-1 and from tables and heat balance figures contained in the PUSAR, as mentioned above, the EPU main steam and feedwater flow increases by 23.6% from OLTP and 17.6% from CLTP. Similarly, the staff also notes that the earlier (1995) NMP2 SPU increased the main steam and feedwater flow by 5.1% from OLTP. The staff requests clarification as to how the 5.1 scaling factor was derived, as described above.

Rich Guzman

Sr. Project Manager

NRR/DORL

US NRC

301-415-1030

Richard.Guzman@nrc.gov