PMSTPCOL PEmails

From: Joseph, Stacy
Sent: Tuesday, December 22, 2009 9:25 AM
To: 'Tomkins, James'
Cc: STPCOL
Subject: RAI 4166
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Jim,

Attached is are DRAFT RAI questions related to the containment analysis as were discussed during the Dec 3 meeting. Please give me a call to dicuss.

Thank you,

Stacy Joseph
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U. S. Nuclear Regulatory Commission
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Hearing Identifier: SouthTexas34Public_EX
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Mail Envelope Properties (BBC4D3C29CD0E64E9FD6CE1AF26D84D51FA5489563)

Subject: RAI 4166
Sent Date: 12/22/2009 9:24:31 AM
Received Date: 12/22/2009 9:24:33 AM
From: Joseph, Stacy

Created By: Stacy.Joseph@nrc.gov

Recipients:
"STPCOL" <STP.COL@nrc.gov>
Tracking Status: None
"'Tomkins, James'" <jetomkins@STPEGS.COM>
Tracking Status: None

Post Office: HQCLSTR01.nrc.gov

Files	**Size**	**Date & Time**
MESSAGE	402	12/22/2009 9:24:33 AM
RAI 4166.doc	33274	

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Priority: Standard
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Recipients Received: Follow up

Request for Additional Information No. 4166 Revision 3

12/22/2009

South Texas Project Units 3 and 4
South Texas Project Nuclear Operating Co
Docket No. 52-012 and 52-013
SRP Section: 06.02.01.01.C - Rev. 7 Pressure-Suppression Type BWR Containments
Application Section: 6.2

QUESTIONS for Containment and Ventilation Branch 2 (ESBWR/ABWR Projects) (SBCV)

06.02.01.01.C-9

For the short-term Main Steam Line Break (MSLB) accident scenario discussed in WCAP-17058-P:

a. Explain why the GOBLIN calculated total break flow rate is lower than the ABWR DCD break flow rate during the initial time interval of 0 to 3 seconds following the accident (see Figure 6-11 of WCAP-17058-P Rev 0 (June 2009)).

b. Provide the diameter, length, and pressure loss coefficients for each pipe segment in the main steam line. This should include the Main Steam Isolation Valve (loss coefficient and the fully open flow area) and the main steam line nozzles as used in the GOBLIN input deck. In addition, provide any additional pressure losses considered for the main steam line system in the GOBLIN model.

06.02.01.01.C-10

For the long-term Main Steam Line Break (MSLB) accident scenario discussed in WCAP-17058-P:

a. Provide ECCS mass flow rate from the pressure suppression pool after 600 seconds.

b. Explain the absence of containment drywell pressure and temperature oscillations during the 5 to 8 hours when the GOBLIN-calculated break flow is oscillatory in nature. Note that these oscillations occur in a period following the calculated peak containment pressure and temperature.

06.02.01.01.C-11

Provide the results of containment pressure and temperature analysis (WCAP-17058-P) for the long-term Feed Water Line Break (FWLB) simulation. Provide the mass and

energy release rate to containment and the ECCS flow rate from the suppression pool for this scenario.

06.02.01.01.C-12

In order to support GOTHIC applicability for the review of the Toshiba Technical Report "Post LOCA Suppression Pool Swell Analysis for ABWR Containment Design," UTLR-0005-P Rev 0 (September 2009), please perform additional GOTHIC benchmarking calculations for at least one more PSTF air test.

06.02.01.01.C-13

In the pool swell analysis (UTLR-0005-P Rev 0 (September 2009)), the wetwell node size is limited to a specific fixed value. Please provide:

a. basis for the choice of this value,
b. discussion on potential effect of different node sizes on pool swell behavior,
c. basis and/or rational for selection of the maximum bubble size,
d. discussion on potential effect of different bubble size, including the effect of the bubble size that does not coincide with the calculational node size.