

From: Lawrence Rossbach
To: Frostie.white@ge.com
Date: 12/29/2006 12:01:56 PM
Subject: Comments on Letter 60 (Ch 12) RAI responses

Attached are our comments on GEs responses to the Chapter 12 RAIs contained in our Letter 60. The responses were submitted in GE letters MFN 06-371, MFN 06-389, MFN 06-437, and MFN 06-477. We are still reviewing the response to RAI 12.3-2 contained in MFN 06-389; we will let you know if we develop any comments on the 12.3-2 response. Also, as mentioned in the attached comments, some of the responses referred to responses that have not been received yet, so those could also result in additional comments. The remainder of the responses in these submittals are acceptable.

Please contact Lauren Quinones (or me if by January 5) if you would like to arrange a telephone conference to discuss these comments.

In addition to the above, we have just received letters MFN 06-499 and MFN 06-537 containing additional responses to RIA Letter 60. We are reviewing those and will let you know if we have any comments on them.

For those questions in RAI Letter 60 for which we haven't yet received a response, we ask that you give priority to answering RAIs 12.2-19 and 12.4-31. The delay in receiving those two responses is adversely impacting our use of contractors and our confirmatory analysis. Please let us know when we can expect to receive these responses.

Thanks, Larry

CC: Amy Cabbage; David.hinds@ge.com; david.piepmeyer@ge.com; George B. (GE Infra Energy) Stramback; jim.kinsey@ge.com; Kathy K. (GE Energy) Sedney; Lauren Quinones; Roger Pedersen

Mail Envelope Properties (45954A04.C17: 20 : 35118)

Subject: Comments on Letter 60 (Ch 12) RAI responses
Creation Date 12/29/2006 12:01:56 PM
From: Lawrence Rossbach
Created By: LWR@nrc.gov

Recipients	Action	Date & Time
ge.com PM david.hinds CC (David.hinds@ge.com) david.piepmeyer CC (david.piepmeyer@ge.com) frostie.white (Frostie.white@ge.com) george.stramback CC (George B. (GE Infra Energy) Stramback) jim.kinsey CC (jim.kinsey@ge.com)	Transferred	12/29/2006 12:02:28
gene.GE.com PM kathy.sedney CC (Kathy K. (GE Energy) Sedney)	Transferred	12/29/2006 12:02:28

nrc.gov
 OWGWPO03.HQGWDO01 Delivered 12/29/2006 12:02:02
 PM
 AEC CC (Amy Cabbage) Opened 12/29/2006 12:12:23
 PM

nrc.gov
 TWGWPO03.HQGWDO01 Delivered 12/29/2006 12:01:57
 PM
 LNQ CC (Lauren Quinones) Opened 1/11/2007 9:57:18
 AM
 RLP1 CC (Roger Pedersen) Opened 12/30/2006 6:36:12
 AM

Post Office	Delivered	Route
		ge.com
		gene.GE.com
OWGWPO03.HQGWDO01	12/29/2006 12:02:02 PM	nrc.gov
TWGWPO03.HQGWDO01	12/29/2006 12:01:57 PM	nrc.gov

Files	Size	Date & Time
MESSAGE	1781	12/29/2006 12:01:56 PM
122906 Comments on Ch12 rai ans.pdf	9722	12/29/2006 9:37:01 AM

Options

Auto Delete: No
Expiration Date: None
Notify Recipients: Yes
Priority: Standard
ReplyRequested: No
Return Notification: None

Concealed Subject: No
Security: Standard

To Be Delivered: Immediate
Status Tracking: Delivered & Opened

NRC staff comments on responses to RAI letter 60
as provided in GE letters MFN 06-371, 389, 437, and 477

Reference Letter MFN 06-371:

1. Comments on response to RAI 12.2-17:

Response adequate but needs to be addressed in DCD.

2. Comments on response to RAI 12.2-18:

Response adequate but needs to be addressed in DCD.

3. Comments on response to RAI 12.4-02:

Response adequate but needs to be addressed in DCD.

4. Comments on response to RAI 12.7-03:

Response indicates that the Radwaste Tunnel is designed to the same standard as the Radwaste building, and that the Radwaste Building is designed to mitigate spills. What design features of these structures prevents leakage from piping and components housed in them from reaching the ground water or environment for the life of the plant? Are these continuous pour, reinforced concrete structures, with no seams or joints? Are there expansion joints at the interfaces between the tunnels and the buildings. If so, how is leakage prevented through them for the life of the plant? Are expansion joints accessible for inspection and maintenance? Do the radwaste tunnels have design features to detect leakage (large acute, or small long term) from the systems into these tunnels? Is there any contaminated piping in the ESBWR design that will be buried in the ground, not routed through one of the radwaste tunnels? Does the Spent Fuel Pool (SFP) have a double liner with a tell-tail leak detection system? The additional information provided does need to be included in the DCD.

Reference Letter MFN 06-389:

5. Comments on response to RAI 12.3-03:

Response states that the startup source is designed to "be removed during the first refueling outage." Where is the source intended to be removed to? If it will be removed to the SFP, is there a holder or specific location designed to store the source for the life of the plant?

6. Comments on response to RAI 12.3-09:

To the extent that radiation protection features for these sources are provided for in the design (shielding, separate source rooms, etc), they need to be addressed in the DCD. To the extent that these design features are to be provided at COL, identifying them as COL action items.

Reference Letter MFN 06-437:

7. Comments on response to RAI 12.4-28:

Response adequate but needs to be addressed in DCD.

8. Comments on response to RAI 12.4-29:

Response indicates monitoring and sampling points in "selected" locations. Identify the locations or identify the intended criteria for selecting the locations.

9. Comments on response to RAI 12.4-30:

Response adequate but compliance with 50.68 in lieu of 70.24 needs to be addressed in the DCD.

Reference Letter MFN 06-477:

10. Comments on response to RAI 12.3-05:

The answer needs several clarifications and justifications.

a) Clarify whether the ESBWR design accounts for Hydrogen and/or Noble Metal injection chemistry. Unclear if the N-16 inventories, and resulting offsite doses, given in the answer are based on 1.85 MBq/g of outlet steam (normal) or the 9.25 MBq/g given for H-2 chemistry. State this in the DCD. Provide all assumptions and input parameters (including the transit/decay times applied to each component, component/source geometry and dimensions) used to calculate the doses given.

b) It is not clear what measurements and which components "guideline" number (2) in the answer refers to.

c) Guideline number (3) needs justification. There should be no liquid phase in the steam line. In addition, the N-16 released from the reactor in the steam is in volatile chemical forms. This would argue that very little would be condensed into the liquid phase in the condenser. Partitioning the N-16 based on relative mass of H₂O would underestimate in the Turbine/upper condenser concentration.

11. Comments on response to RAI 12.4-20:

The answer is incomplete. The response refers, in part, to the answer to RAI 12.2-19 which has not been answered yet.

In addition, the design features incorporated into the ESBWR that prevent access to the unshielded portions of the spent fuel transfer tube, need to be added to the DCD.

12. Comments on response to RAIs 12.4-32&33:

The last sentence of subsection 12.3.6 is still not clear. The post-accident radiation zone maps should be based on the highest expected radiation dose rates under Design Basis Accident conditions, as stated earlier in the subsection. The issues of whether the control room meets GDC 19, and that access to vital areas of the plant during accidents meet NUREG 0737 II.B.2 (50.34(f) (2)(vii)), or that the zone maps support the conclusions, is the subject of RAIs 12.4-31, 32 and 12.3-10. Response to 12.4-32 is incomplete. It refers the answer to RAI answers that have not been submitted.