(RPA) PA-LR

From: "lampert" <lampert@adelphia.net>
To: "Ram Subbaratnam" <RXS2@nrc.gov>
Date: 7/17/2006 10:47:22 AM
Subject: Core shroud tie rod upper support cracking- informationr request

July 17, 2006

To Ram Subbaratnam:

Core shroud tie rod upper support cracking:

Please email to us the GE August 21, 2006 and October 9, 2006 when received by the NRC/Pilgrim; and explain how this specifically is being dealt with in the re-licensing review and outcome.

Thank-you,

Mary Lampert

Pilgrim Watch/Duxbury Nuclear Advisory Committee

General Information or Other
Event Number: 42573

Rep Org: GENERAL ELECTRIC COMPANY
Licensee: GENERAL ELECTRIC COMPANY
Region: 1
City: WILMINGTON State: NC
County:
License #:
Agreement: Y
Docket:
NRC Notified By: JASON POST
HQ OPS Officer: MIKE RIPLEY
Notification Date: 05/12/2006

Notification Time: 22:36 [ET]
Event Date: 04/24/2006
Event Time: [EDT]
Last Update Date: 05/12/2006

Emergency Class: NON EMERGENCY
10 CFR Section:
21.21 - UNSPECIFIED PARAGRAPH
Person (Organization):
ANTHONY DIMITRIADIS (R1)
JAMES MOORMAN (R2)
RICHARD SKOKOWSKI (R3)
OMID TABATABAI-EMAIL (NRR)
JACK FOSTER (EMAIL) (NRR)

Event Text

PART 21 NOTIFICATION - BWR CORE SHROUD TIE ROD UPPER SUPPORT CRACKING

"Summary:
GE Energy, Nuclear (GE) has provided core shroud repairs using tie rods to the US BWR plants identified in Attachment 1 [of the Part 21 notification]. Recently it was discovered during an in-vessel visual inspection (IVVI) that tie rod upper supports at Hatch Unit 1 experienced cracking. The apparent root cause is Intergranular Stress Corrosion Cracking (IGSCC) in the Alloy X-750 tie rod upper support material. Alloy X-750 material is susceptible to IGSCC if subjected to sustained, large peak stress conditions. GE opened an internal evaluation to determine if the potential IGSCC in the X-750 tie rod structural components of other BWR shroud repairs designed by GE could be a reportable condition under 10CFR21.

"GE used the criterion provided in the BWR Vessels & Internals Project (BWRVIP-84) for the IGSCC susceptibility assessment of the X-750 components in the tie rod vertical load path. GE has concluded that it is not a reportable condition for the plants that were found to be within or not significantly exceed the BWRVIP-84 criterion. These US plants are identified as 'NR' in Attachment 2 [of the Part 21 notification]. GE determined that two US plants exceed the BWRVIP-84 criterion for the upper supports (in addition to the Hatch Unit 1 as-found condition). GE has not completed the evaluation for these plants to assess if a substantial safety hazard (SSH) exists. These plants have been provided a 60-Day Interim Report Notification under §21.21(a)(2) and are identified as '60-Day' in Attachment 2 [of the Part 21 notification].

"Safety Basis:
Cracking in the tie rod components made of X-750 may render the tie rod ineffective in maintaining core shroud configuration integrity during postulated accident conditions. Loss of core shroud integrity could impact the ability to maintain adequate core cooling for postulated design basis accident conditions. This condition would be reportable under 10 CFR 21 as a substantial safety hazard.

"Corrective Action:
The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action (note, these are actions specifically associated with the identified deviation or failure to comply):
1. A preliminary cause evaluation has been performed. The apparent cause of the cracking is Intergranular Stress Corrosion Cracking (IGSCC). A material sample is being shipped to the GE Vallecitos Nuclear Center for examination to confirm the apparent cause. GE will report the results of the examination by August 21, 2006.
2. The issue has been communicated to the industry through the BWR Owners' Group and the Electric Power Research Institute (EPRI)/BWR Vessel and Internals Project (BWRVIP). The NRC was informed in a NRC management meeting with EPRI and the BWRVIP Executive Oversight Committee at the NRC

offices, Rockville, on March 15, 2006.

3. GE has completed an evaluation of the susceptibility to IGSCC using the BWRVIP-84 criterion. Determination of whether any possible cracking could lead to a substantial safety hazard (i.e., loss of core shroud configuration integrity during a design basis accident condition) depends upon many factors, including the actual extent of cracking in the repair components. Until inspections are completed, the actual extent of cracking is not known. GE is developing a model to predict the postulated extent of tie rod upper support cracking for tie rods with upper supports made of Alloy X-750. For upper supports that exceed the BWRVIP-84 criteria significantly, the model will be used to postulate the extent of cracking. This prediction will be used to determine if a substantial safety hazard could exist. GE will report the results of the evaluation by October 9, 2006.

4. The original design basis stress reports will be reviewed to assess the available margin in the primary membrane + bending stress intensities of the upper supports with respect to ASME code allowable values. Where reasonable margin exists in the original design basis code evaluation (an existing margin of approximately 25 % will be considered as reasonable margin), the existing margin is deemed adequate to offset any engineering assumptions or judgments used in the original analysis. Where the original margin is less than 25%, further review will be performed (including finite element analysis, if necessary) to confirm that the upper support remains qualified. This review will be completed by October 9, 2006."

Affected US Plants per Attachments 1 and 2 of the Part 21 notification: Clinton, Nine Mile Point 1, Pilgrim, Dresden 2 & 3, Quad Cities 1 & 2, Hatch 1 & 2.

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Subject:	Core shroud tie rod upper support cracking- informationr request
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Files	Size	Date & Time
MESSAGE	6071	7/17/2006 10:46:50 AM
TEXT.htm	16558	
Mime.822	1	

Options

Expiration Date:	None
Priority:	Standard
ReplyRequested:	No
Return Notification:	None
Concealed Subject:	No
Security:	Standard

Junk Mail Handling Evaluation Results

Message is eligible for Junk Mail handling
This message was not classified as Junk Mail

Junk Mail settings when this message was delivered

Junk Mail handling disabled by User
Junk Mail handling disabled by Administrator
Junk List is not enabled
Junk Mail using personal address books is not enabled
Block List is not enabled