

**From:** Johnson, Andrew  
**Sent:** Thursday, September 10, 2009 1:23 PM  
**To:** Freeman, Stanley  
**Subject:** September 2, 2009 Conference Call Minutes

**FROM:** Andrew B. Johnson  
Steam Generator Tube Integrity and  
Chemical Engineering Branch  
Division of Component Integrity  
Office of Nuclear Reactor Regulation

**SUBJECT:** SUMMARY OF THE SEPTEMBER 2, 2009 PHONE CALL WITH  
INDUSTRY TO ISSUES RELATED TO ECCENTRICITY OF THE  
STEAM GENERATOR TUBE-TO-TUBESHEET JOINTS IN THE  
FINITE ELEMENT MODEL USED FOR THE TECHNICAL BASIS OF  
THE PERMANENT ALTERNATE REPAIR CRITERIA LICENSE  
AMENDMENT REQUEST.

The staff held a conference call with various licensees (see list below), and Westinghouse, on September 2, 2009. The purpose of the call was to inform the industry that the responses from several licensees, provided in late August, to requests for additional information (RAI) did not adequately address the staff's questions regarding the modeling of eccentricity in the steam generator tube-to-tubesheet joints. The staff informed industry that an additional RAI would be forthcoming to delineate the staff's concerns. As a result, the staff informed industry that the license amendment requests (LARs) for permanent alternate repair criteria (PARC) would not be approved for the fall 2009 refueling outages. The staff also indicated that the eccentricity issue was the only outstanding issue in the PARC LARs.

The staff and industry agreed that one-time amendments were a feasible course of action for affected plants with fall 2009 outages. Specifically, a qualitative argument could be made regarding the considerable margin between the actual degradation of the in-service plants and the assumed degradation in the PARC technical analysis. The staff and industry discussed various points that could be used to support the qualitative argument, such as: recent inspections have shown that almost all the crack-like indications have been located near the very bottom of the tubes, which is significantly below the H\* distance that the PARC analysis assumes all tubes to be severed. The tubes found with crack-like indications represent only a small percentage of the total number of inservice tubes and, based on operating experience, are expected to continue to be a relatively small percentage of inservice tubes over the next inspection interval, whereas the PARC technical analysis assumes that all tubes in the SG are severed at the H\* distance. For plants that may not have recent inspection data to reference, previous inspection results could be combined with more recent fleet-wide experience, for plants with thermally treated alloy 600 tubing, which may be deemed relevant based on comparative time in service (in terms of effective full power months) and operating temperature, to support a conclusion that the extent of cracking is expected to be a small percentage of the inservice tubes. With regard to leakage, almost all the crack-like indications found to date have been in the bottom one-half inch of the tubes and since the bottom one inch of the tubes are hard roll expanded into the tubesheet; leakage should not be an issue.

The staff indicated that plants with open PARC LARs could submit supplemental information modifying the PARC LARs into one-time amendment LARs, and the staff would issue the forthcoming RAI against the currently open PARC LARs TACs. If the eccentricity issue is resolved in the future, plants can submit new PARC LARs (with the RAI response on the eccentricity issue) and reference the already docketed technical basis information.

Licensees participating in the call, Plant and Docket Numbers:

1. Wolf Creek Nuclear Operating Corporation, 50-482
2. Southern Nuclear Operating Company - Vogtle, 50-424, 50-425
3. Exelon Generation Company - Byron 2, 50-455/Braidwood 2, 50-457
4. Luminant Generation Company - Comanche Peak 2, 50-446
5. NextEra Energy - Seabrook, 50-443
6. Virginia Electric and Power Company - Surry, 50-280, 50-281
7. Florida Power and Light Company - Turkey Point 3 &4, 50-250, 50-251
8. Duke Energy - Catawba 2, 50-414

regards,

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Materials Engineer  
NRR/DCI/CSGB  
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301-415-1475

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### **E-mail Properties**

Mail Envelope Properties (CEEA97CC21430049B821E684512F6E5ECA808D15FA)

Subject: September 2, 2009 Conference Call Minutes  
Sent Date: 9/10/2009 1:22:49 PM  
Received Date: 9/10/2009 1:22:49 PM  
From: Johnson, Andrew

Created By: Andrew.Johnson@nrc.gov

Recipients:  
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Tracking Status: None

Post Office:  
HQCLSTR01.nrc.gov

Files	Size	Date & Time
MESSAGE	18691	9/10/2009

Options

Expiration Date:

Priority: olImportanceNormal

ReplyRequested: False

Return Notification: False

Sensitivity: olNormal

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