

June 18, 2002

MEMORANDUM TO: James W. Clifford, Chief, Section 2  
Project Directorate 1  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

FROM: Christopher Gratton, Sr. Project Manager, Section 2 */RA/*  
Project Directorate 1  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

SUBJECT: LIMERICK GENERATING STATION (LGS), UNITS 1 AND 2, FAX  
TRANSMISSION, ISSUES TO BE DISCUSSED IN AN UPCOMING  
CONFERENCE CALL

The attached information was faxed on June 14, 2002, to Mr. David Helker of Exelon Generation Company, LLC (the licensee). This information was transmitted to facilitate an upcoming conference call regarding a channel bowing condition identified during the most recent refueling outage for Limerick Generating Station, Unit 1. This memorandum and the attached questions do not convey or represent a Nuclear Regulatory Commission staff position regarding the channel bowing issue.

Docket Nos. 50-352 and 50-353

Attachment: Conference Call Topics, Channel Bowing Issue

CONTACT: Christopher Gratton, NRR  
(301) 415-1055

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Conference Call Topics  
Channel Bowing Issue  
Limerick Generating Station Unit 1

**Questions for Limerick staff:**

Is Limerick 1 currently implementing the BWOOG Recommended Channel Bow Monitoring Plan? Was it during this required test that the bowing in the affected channels was noted? Or, were these tests "control rod drive friction tests" being conducted because the guidelines for core management fuel shuffling practices were exceeded for the affected cells?

Was the channel bow in cell 54-31 actually measured after being estimated? If so, what was the extent, how was it measured, and what is the error margin.

Limerick 1 tech specs show a limiting condition for operation of 3.49 seconds maximum for full control rod insertion. In addition, test criteria established by BWROG in 1998 stated that scram time shall not increase more than 25% from the baseline values for the particular cell. What is the baseline value for each of the cells with affected scram time?

**Questions for GE representatives:**

An exception to the core management guidelines is mentioned in SIL 320: "In the event that [the guidelines] cannot be followed, control rod drive friction tests should be performed, prior to beginning a new operating cycle, on those control rods in fuel cells which exceed the guidelines. However, such testing may not guarantee full cycle operation without increased friction, depending on how far the guidelines are exceeded." When the Exelon account manager at GNF told Exelon that the operation of these affected cells reflected an "unfavorable operating history," did this imply that the safety analysis specifications were not followed when the core was designed for Cycle 9 operation, or that the safety analysis specifications for application of flux gradients and channel orientation were being followed, but the scram time effect was an unexpected and unfortunate surprise?

What changes to the GE SIL-320 will be made? Will GE submit copies of the edited version to each plant and licensee with operating BWRs?

Attachment