



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555

May 27, 1988

Docket No. 50-382

Mr. J. G. Dewease  
Senior Vice President - Nuclear Operations  
Louisiana Power and Light Company  
317 Baronne Street, Mail Unit 17  
New Orleans, Louisiana 70112

Dear Mr. Dewease:

SUBJECT: APPROVAL OF FRACTURE MECHANICS ANALYSIS OF REACTOR VESSEL  
FLAW INDICATIONS IN HOT LEG NOZZLE TO SHELL WELD - WATERFORD  
STEAM ELECTRIC STATION, UNIT 3 (TAC NO. 67977)

By letter dated May 16, 1988, the Louisiana Power and Light Company provided results of a recent Inservice Inspection (ISI) examination of Waterford 3. During the second refueling outage, ISI examinations of certain reactor vessel welds and ligaments were performed in accordance with the ASME Code, Section XI. The examinations were completed on May 9, 1988.

During the scheduled ISI of the reactor vessel, three flaw indications were detected in the nozzle located at 0 degrees that exceeded or approached the acceptance standards of ASME Code, Section XI. To provide enhanced characterization and sizing of these indications, the Ultrasonic Data Recording and Processing System (UDRPS) was used. The UDRPS data revealed three indications in the hot leg nozzle to shell weld within the weld at or near the weld/nozzle forging fusion line. The UDRPS examination determined that the three flaws exceed the standards of ASME Code, Section XI. Therefore, the component would be unacceptable for service unless flaws are removed or repaired. However, as allowed by ASME Code, a fracture mechanics evaluation, needed to demonstrate acceptance for service by evaluation and reexamination, was provided for our approval. We have completed our review.

Our enclosed safety evaluation concludes the following:

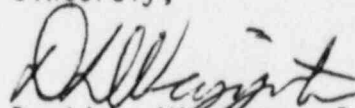
1. The fracture mechanics analysis demonstrates that the three flaw indications in the hot leg nozzle-to-shell weld will not grow during the life of the plant to a size that will affect the integrity of the reactor vessel.

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P PDR

2. These flaw indications are conditionally acceptable for service and, therefore, require augmented inservice inspection during the next three inspection periods pursuant to ASME Section XI paragraph IWB-2420(b).

Please contact us should you have any questions.

Sincerely,



David L. Wigginton, Project Manager  
Project Directorate - IV  
Division of Reactor Projects - III,  
IV, V and Special Projects

Enclosure:  
Safety Evaluation

cc w/enclosure:  
See next page

Mr. Jerrold G. Dewease  
Louisiana Power & Light Company

Waterford 3

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Mr. R. F. Burski, Acting  
Nuclear Safety and Regulatory Affairs Manager  
Louisiana Power & Light Company  
317 Baronne Street  
New Orleans, Louisiana 70112

2. These flaw indications are conditionally acceptable for service and, therefore, require augmented inservice inspection during the next three inspection periods pursuant to ASME Section XI paragraph IWB-2420(b).

Please contact us should you have any questions.

Sincerely,

*1st*

David L. Wigginton, Project Manager  
Project Directorate - IV  
Division of Reactor Projects - III,  
IV, V and Special Projects

Enclosure:  
Safety Evaluation

cc w/enclosure:  
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