

Docket



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555  
April 25, 1989

Docket No. 50-313

Mr. T. Gene Campbell  
Vice President, Nuclear  
Operations  
Arkansas Power & Light Company  
Post Office Box 551  
Little Rock, Arkansas 72203

Dear Mr. Campbell:

SUBJECT: REACTOR COOLANT PUMP CASING WELD FLAW INDICATIONS - REQUEST  
FOR RELIEF FROM ASME SECTION XI INSPECTION REQUIREMENTS,  
ARKANSAS NUCLEAR ONE, UNIT 1 (TAC NO. 64146)

Paragraph(g)(4) of 10 CFR 50.55a requires that ASME Code Class 1, 2, and 3 components (including supports) of a pressurized water-cooled nuclear power facility meet the requirements set forth in Section XI, Rules for Inservice Inspection of Nuclear Power Plant Components, of the ASME Boiler and Pressure Vessel Code except where specific written relief has been granted by the Commission. By letter dated October 27, 1988, Arkansas Power and Light Company (the licensee) requested relief from specific ASME Code required inspections that were considered impractical. Additional supporting technical information was supplied by letter dated November 15, 1988. The proposed relief request was also discussed at a meeting in Rockville, Maryland, on October 18, 1988.

During an inservice inspection in 1986 of the "A" reactor coolant pump (RCP) casing, the licensee detected a relatively long flaw indication using conventional radiographic techniques. This volumetric examination of the "A" pump casing was practical due to the removal of the RCP rotating assembly for other reasons. To evaluate this indication, the licensee obtained the original fabrication radiographs for the "A" RCP casing and used computer techniques to enhance the radiographs in selected areas. Radiographs of the other three RCP casings were also examined. During this process, a linear indication that exceeded the fabrication acceptance standards was identified in a weld of the "A" RCP casing. This indication corresponded to the one noted above. In addition, a linear indication was identified in a weld in the "B" RCP casing. The licensee performed supplemental ultrasonic testing in the weld regions with the linear indications, for these two RCPs. A fracture mechanics evaluation was performed by the licensee to assess the extent of flaw growth during the rest of plant life. An analysis of the "A" RCP casing showed that the stresses met ASME Code Section III criteria. By letter dated December 11, 1986, the staff allowed the licensee to delay inspection of the "B" RCP casing until the 1988 refueling outage, to allow time for the development of an improved ultrasonic testing technique.

Since the 1986 inspection, the licensee, with Babcock & Wilcox (B&W) assistance, completed a comprehensive program to develop an ultrasonic testing (UT) procedure for the examination of the pump casing welds from the outside surface. An examination of the flaw indication in "A" RCP and the entire weld on "B" RCP was performed during the 1988 refueling outage.

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Mr. T. Gene Campbell

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Although, some indications were identified in the "B" RCP, the licensee determined they were not service induced. Also no growth was noted in the previously identified indications for either pump. The staff and the licensee discussed these examination results and the licensee's evaluation during an October 18, 1988 meeting. Subsequently, the staff and our consultant from Pacific Northwest Laboratories visited the B&W facility to evaluate the UT instrumentation.

By letter dated October 27, 1988, the licensee requested relief from paragraphs IWB-2430 and IWB-2420 of ASME Section XI, 1980 Edition including Addenda through Winter 1981. Specifically, the licensee requested relief from performing additional volumetric examinations of "C" or "D" RCP, and from performing successive radiographic examinations of "A" or "B" RCP, which would necessitate disassembly of the pump.

The staff approves the relief request, with the condition that the licensee conducts an augmented inservice inspection program as discussed in the enclosed safety evaluation (page 7 of the enclosure). This augmented inspection program was agreed to by your staff in a telephone conversation on April 10, 1989. This relief is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest given due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility. Based on the approval of your relief request, we consider this issue to be closed.

Sincerely,

original signed by Kenneth Heitner for

Jose A. Calvo, Director  
Project Directorate - IV  
Division of Reactor Projects - III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

Enclosure:  
Safety Evaluation

cc w/enclosure:  
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Sincerely,



Jose A. Calvo, Director <sup>for</sup>  
Project Directorate - IV  
Division of Reactor Projects - III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

Enclosure:  
Safety Evaluation

cc w/enclosure:  
See next page

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