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FITZPATRICK,E. American Electric Power Co., Inc.
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SUBJECT: Forwards revised relief requests for REL-12 & REL-13.Revised relief request P-2 contained in Attachment 2.Rev to relief request P-1 previously submitted in,ltr dtd 970627.

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INDIANA MICHIGAN POWER

August 19, 1997

AEP:NRC:0969BE

Docket Nos.: 50-315
50-316

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Donald C. Cook Nuclear Plant Units 1 and 2
RELIEF REQUESTS FOR THE THIRD TEN-YEAR PUMP
AND VALVE IN-SERVICE TEST PLANS

References:

1. Letter AEP:NRC:0969AM, "Donald C. Cook Nuclear Plant Units 1 and 2, RELIEF REQUESTS FOR THE THIRD TEN-YEAR PUMP IN-SERVICE TEST PLAN", dated June 12, 1996.

2. Letter AEP:NRC:0969AN, "Donald C. Cook Nuclear Plant Units 1 and 2, RELIEF REQUESTS FOR THE THIRD TEN-YEAR VALVE IN-SERVICE TEST PLAN", dated April 24, 1996.

3. Letter, G. H. Marcus (NRC) to E. E. Fitzpatrick (I&M), "EVALUATION OF THIRD 10-YEAR INTERVAL FOR THE PUMP AND VALVE IN-SERVICE TESTING PROGRAM FOR DONALD C. COOK NUCLEAR PLANT, UNITS 1 AND 2 (TAC NOS. M95721, M95722, M95890, AND M95981)", dated May 27, 1997.

4. Letter AEP:NRC:0969BD, "Donald C. Cook Nuclear Plant Units 1 and 2, REQUEST NO. 1 - REVISED RELIEF REQUEST FOR THE THIRD TEN YEAR INTERVAL PUMP IN-SERVICE TEST PLAN", dated June 27, 1997.

The third ten year in-service testing program for pumps and valves was submitted in references 1 and 2, respectively. As part of these submittals, we submitted relief requests for code requirements that we had determined were impractical to meet. In the NRC response to our relief requests, reference 3, relief requests P-1 (containment spray pump vibration limits), REL-12 (valve SI-189 test frequency), and REL-13 (valves CS-328L1, L4, CS-329L1, L4 test frequency and exercise requirements) were denied. Additionally, relief request P-2 (boric acid transfer pump axial vibration measurements) was granted on an interim basis for ninety days.

Revised relief requests for REL-12 and REL-13 are contained in attachment 1. Revised relief request P-2 is contained in attachment 2. The revision to relief request P-1 was previously submitted in reference 4.

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Relief request REL-12 has been revised to require disassembly, manual full-stroke exercising, and visual examination at a refueling frequency. Testing at this frequency will begin with the next scheduled outage. Should it be determined that this frequency of testing presents an extreme hardship, a revised relief request will be submitted at a later date.

Relief request REL-13 has been revised to state there is no upstream instrumentation that would provide an indication the valves have returned to their fully closed position after exercising. Thus, disassembly is the only means of verifying closure. The revised relief request still contains the proposal to perform the disassembly and inspection on a sample basis (1 of 4) during each refueling outage. However, as an interim measure, all four valves will be included in the outage scope for disassembly and inspection during the next outage.

Relief request P-2 has been revised to provide more detailed information about the impractability of obtaining the code-required measurements.

Sincerely,

E. E. Fitzpatrick
Vice President

vlb

Attachments

c: A. A. Blind
A. B. Beach
MDEQ - DW & RPD
NRC Resident Inspector
J. R. Padgett

ATTACHMENT 1 TO AEP:NRC:0969BE

REVISED RELIEF REQUESTS REL-12 AND REL-13

REVISED RELIEF REQUESTS REL-12 AND REL-13

Revised Relief Request REL-12

SI-189: This valve is located in the safety valves discharge (emergency core cooling, residual heat removal, centrifugal charging pump, etc.) collection header leading to the pressurizer relief tank. Isolating this valve for testing would result in dead heading all safety valves in the above systems. This would result in loss of over-pressurization protection and could put the plant in an unsafe condition. Therefore, the valve will be part-stroke exercised to the open position using an external source via a test connection at a cold shutdown frequency. The valve will be disassembled, manually full-stroke exercised, and visually examined at refueling frequency.

Revised Relief Request REL-13

CS-328L1,L4; CS-329L1,L4: These check valves have a closed safety function and provide the interface point between the reactor coolant system (RCS) and the chemical and volume control system (CVCS). Because the discharge piping of the CVCS is designed to a pressure rating higher than the RCS, these valves do not perform a pressure isolation function. The high pressure to low pressure isolation is accomplished by other valves that are tested to category A requirements. These 3" bolted bonnet swing check valves have no external position indication or means of exercising, and are located inside the crane wall in the reactor containment. There is no upstream instrumentation that can be used to show that the valves return to the fully closed position after exercising. In accordance with generic letter 89-04, attachment 1, position 2, the valves will be disassembled and inspected on a sample basis (1 of 4) during each refueling outage.

ATTACHMENT 2 TO AEP:NRC:0969BE

REVISED RELIEF REQUEST P-2

REQUEST NO. 2 - REVISED RELIEF REQUEST
THIRD TEN-YEAR INTERVAL PUMP IN-SERVICE TEST PLAN

TITLE: Boric Acid Transfer Pump Axial Vibration Measurement

UNIT APPLICABILITY: Units 1 and 2

PUMP NAME: Boric Acid Transfer Pump

PUMP NUMBERS: 1-PP-1, 2; 2-PP-46-3, 4

SYSTEM: Chemical and Volume Control System (CVCS) Makeup

FLOW DIAGRAM: 12-5131 ASME CLASS: 2

PUMP FUNCTION: Transfer boric acid solution from the storage tank to the charging pump suction header.

RELIEF TYPE: Compliance with code requirements is impractical.

ASME CODE TEST REQUIREMENT REFERENCE:

OMa-1988, Part 6, Paragraph 4.6.4(a)

CODE REQUIREMENT DESCRIPTION

On centrifugal pumps, measurements shall be taken in a plane approximately perpendicular to the rotating shaft in two orthogonal directions on each accessible pump bearing housing. Measurements also shall be taken in the axial direction on each accessible pump thrust bearing.

BASIS FOR CODE COMPLIANCE REQUIREMENTS BEING IMPRACTICAL

The boric acid transfer pumps are designed and manufactured by Gould Pumps. The model installed at Cook Nuclear Plant is model 3196-STD. They are single stage separately coupled machines equipped with a fully open face, overhung impeller with partial shrouds. The pumps are supplied by end suction and generate totally radial flow. The shearing action of the impeller vanes on the casing wall virtually eliminates axial thrust. Both of the inboard and outboard bearings are located in one housing between the pump and its coupling. Neither rolling element bears on a plane perpendicular to the shaft; hence, mechanical degradation of this type of power train cannot be accurately measured by axial vibration. This makes the burden of modifying the coupling shield such that the bearing housing flange becomes safely accessible, or taking axial measurements elsewhere, unwarranted. Note that, by design, the only accessible axial vibration measurement available exists at the outboard end of the motor. The motor is excluded by section 1.2(a) of the code; however, these measurements shall continue to be taken in support of predictive maintenance and reliability.

Because these bearings are angular contact rolling element bearings, the radial direction will provide ample indication of a possible degraded bearing. Indications of inner race, outer race, and ball spin frequencies are capable of being monitored in the radial direction, and provide adequate information as to the health

and condition of the thrust bearing. Therefore, use of radial measurements on rolling element bearings, in-service as thrust bearings, provides adequate data to evaluate the mechanical operating condition of the pump.

PROPOSED ALTERNATE TESTING

Measurements will be taken in a plane approximately perpendicular to the shaft in two orthogonal directions on each accessible pump bearing housing.

BASIS ALTERNATE TESTING YIELDS ACCEPTABLE LEVELS OF QUALITY AND SAFETY

Measurements taken in planes perpendicular to the shaft in two orthogonal directions have provided adequate data to evaluate pump performance and condition.