



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555
June 29, 1979

Docket No.: 50-313

Mr. William Cavanaugh, III
Vice President, Generation
and Construction
Arkansas Power & Light Company
P. O. Box 551
Little Rock, Arkansas 72203

Dear Mr. Cavanaugh:

We have reviewed your submittals regarding the extent of your compliance with the requirements of 10 CFR 50.55a(g) for Arkansas Nuclear One, Unit No. 1 and have determined additional information is needed to complete our evaluation. Enclosed is listed the information which is needed. We believe that much of the information needed can be readily provided through discussion with your staff. Therefore, within 10 days on receipt of this letter, please arrange a conference telephone call with our staff to close out these remaining items.

Sincerely,

A handwritten signature in cursive script that reads "Robert W. Reid".

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

Enclosure:
Request for Additional
Information

cc w/enclosure: See next page

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Arkansas Power & Light Company

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REQUEST FOR ADDITIONAL INFORMATION
ARKANSAS NUCLEAR ONE, UNIT NO. 1
INSERVICE TESTING PROGRAM

SUBJECT:

These questions are the result from the Brookhaven National Laboratory review of the Arkansas Nuclear One, Unit 1 (Docket 50-313) Inservice Test Program Resubmittal (1-019-6) dated January 15, 1979.

REFERENCES:

- A. BNL-NUREG-25496, "Recommendations to the Staff on Arkansas Nuclear One, Unit 1 Inservice Testing Program," December 1978.

Note: This is the BNL report to the NRC that resulted from the IST program SER meeting held at the plant on November 15 & 16, 1978.

- B. Arkansas Nuclear One, Unit 1 Inservice Testing Program Resubmittal (1-091-6), dated January 15, 1979.
- C. Arkansas Nuclear One, Unit 1, Inservice Testing Program (pumps and valves) submittal 1005.08, dated June 18, 1977, (20 month period starting April 1978).

1.0 CF-1A and CF-1B

Reference B (Enclosure 1, Item 3.0) stated that the subject check valves shall be partial-stroke exercised during each refueling outage.

Reference B (Enclosure 1, Item 3) also stated that "Full-stroking of these valves during cold shutdown could delay start-up more than 8 hours and create as much as 28,000 gallons of liquid waste." While this provided a basis for not full stroking at cold shutdown, it did not provide the information required in Reference A (Item 2.2.5.1, Evaluation) i.e., to provide information that would indicate the degree of part stroking obtainable and provide technical justification as to why full stroking is not practical at refuelings or some time during service life.

Provide information concerning the degree of part stroking expected during tests; such as a percentage of design flowrate obtained or some other measure. The licensee should also give specific reasons why full stroking these valves cannot be accomplished at refueling intervals or at some time during service life. (What are the problems involved?)

2.0 MU-34D

During discussions at the SER meeting (Reference A, Item 2.2.6, Evaluation), this check valve was determined to be in the normal make-up path to the RCS. The problem with full stroking was understood to be that flows up to 250 GPM would be required via the make-up pumps and would exceed letdown flow, possibly leading to a high pressurizer level reactor trip. Reference B (Enclosure 3) indicates that full stroke exercising this valve during normal plant operation would thermally shock the HPI nozzle.

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It was our understanding from the SER meeting, that the MU-34D path was the make-up path and that thermal shock of this nozzle was not a problem. Review the reasons cited above and confirm for the sake of consistency which one is to be used as the basis for relief.

3.0 CV-1214, CV-1216, and CV-1221

The explanation given in Reference B (Enclosure 1) appears to be different than the evaluation written in Reference A (Item 2.4.3.1, Evaluation). Reference B states "Failure of valves in closed position would require stopping RC pump seal injection and the RC pumps. Reference A indicates the problem could be high level pressurizer trip. This should be clarified for the sake of consistency.

4.0 CV-1050

Reference B (Enclosure 1) shows the valve deleted from the program. Reference A (Item 2.2.3 and 2.2.6.2) shows the valve as being in the program as Category B. The valve is a Pressure Isolation candidate and was questioned as to possibly performing a containment isolation function. The following information is required before we can evaluate whether or not this valve is to remain in the IST program: Is the valve a containment isolation valve? Does it receive a C.I. signal?

5.0 CV-1300 and CV-1301

These valves were listed in Reference C as Category B. Reference B lists these valves as Category A. Which is correct? If these valves are Category A, satisfy all the requirements of IWV-3420 or request relief from this paragraph.

6.0 CV-1234

Based on discussions at the SER meeting, Reference A (Item 2.4.4.1) states that the valve would be exercised at cold shutdown. Reference B (Enclosure 2) states that the valve will be exercised every 3 months to Code. Please confirm which is correct.

7.0 CV-1220

Reference A (Item 2.4.5.1) indicates the reason for stroking this valve at cold shutdown was that makeup flow disruption would occur if the valve was exercised quarterly. Reference B indicates the reason as being the potential to overpressurize upstream piping. This should be clarified. Which basis is correct?

8.0 CV-1404

Reference A (Item 2.5.1) states that this valve is in the program, and satisfies the Code requirement. Reference B (Enclosure 4) states that this valve is deleted from the program because it does not change position during an emergency. This valve is in the Decay Heat return line from the RCS to the RHR pump and is closed during normal plant operation.

The following information is required before we can evaluate whether or not this valve is to remain in the IST program. Is the valve a containment isolation valve? Does it receive a C.I. signal or safety injection signal?

9.0 CV-1428 and CV-1429

Reference A (Item 2.5.1) states these valves are in the program as Category E. Reference B (Enclosure 4) states these valves are deleted from the program for the following reasons: "The valves are used to control decay heat and LPI flow. They do not change position upon ES actuation, and physically cannot be locked which precludes classification as Category E."

The following information is requested in order to complete the evaluation.

What is the position of the valve during normal power operation - partially open, full open, etc.? Are these valves required to be operator controlled at any time prior to, during or after LPSI phase? Provide circumstances where operator control of these valves is necessary during emergency condition (if applicable).

10.0 CV-1410

Reference A (Item 2.5.2 and 2.5.5.1) states this valve is in the program. Reference B (Enclosure 4) states this valve is deleted from the program because it does not change position during an emergency. Reference B also notes that the valve is interlocked to close or remain closed when RCS pressure is greater than 290 psig.

The following information is required before it can be determined if this valve can be removed from the IST program. Is this valve a Containment Isolation valve? Does it receive a C.I. signal?

11.0 CV-1414 and CV-1415

Reference A (Item 2.5.3.1) states these valves are in the program and treated as passive valves, i.e., open and their function is to open during an emergency. Reference B (Enclosure 4) states these valves are deleted from the program.

In order to complete the evaluation, the following information is required. Is there power to these valves or are they racked out? Describe how power is racked out if applicable. Do these valves have position indicators and are the read outs in the control room? At what frequency does the licensee determine by visual inspection of the position lights and/or actual valve position that these valves are aligned open? Is there a check list procedure to accomplish this periodic check?

12.0 CA-61 and CA-62

Reference A (Item 2.5.4.1) based on the SER meeting stated that these valves will be part stroked only every 3 months. Reference B (Enclosure 2) states that the valves will meet the Code.

Are these valves full stroke exercised during these quarterly tests?

13.0 CV-2415 and CV-2419

Reference A (Item 2.8.3.1) states these valves are in the program as Category B with relief requested and a recommendation that relief be granted. Reference B states these valves are in the program with no category given, but a notation stating "Locked in Position." This should be clarified.

How are these valves locked in position? Please describe physical and/or administrative methods used to lock these valves. Are these valves setup to receive a safety injection signal?

These valves should also be code categorized by the licensee.

14.0 BS-4A and BS-4B

Reference A states that the licensee at the SER meeting had requested relief to exercise these check valves by conducting air flow tests every 5 years as part of the Reactor Building spray header flow tests. The staff questioned the proposed air tests as to the possibility that seat leakage past a stuck closed check valve could lead to the belief that the valve was being part-stroked open. The licensee was asked to review the proposed testing and provide technical information that would support the proposed air flow tests in light of the staff's concern about seat leakage vs. determination of part stroking.

Reference B was reviewed and found to request relief for partial stroke exercising at refueling outages. Also presented was the licensee's basis for not testing at cold shutdown. However, no information was presented to satisfy the concern that the air flow test might not be valid to demonstrate check valve part stroking.

The licensee is requested to provide a description of the testing performed to stroke these valves, and show how it will be determined that seat leakage across a stuck closed valve can be distinguished from the air flow through a part stroked open valve.

15.0 CV-3823 and CV-3824

Reference A (Item 2.10.2) states these valves are in the program as Category E. Reference B (Enclosure 2) states these valves are Category E, but has a notation as follows: "To be removed from program." Why are these valves being removed from the program?

16.0 CV-3640 thru CV-3646, CV-3811, CV-3820

Reference A (Item 2.10.3.1) states that the licensee was to establish the basis for the relief request and would provide it. Reference B (Enclosure 3) provided the following statement as the basis for exercising at cold shutdown; "Testing these valves during normal operation, would result in inadequate flow to components at high elevations due to reductions in service water flow."

The basis as presented is inadequate and does not present the information necessary to make a proper evaluation. Provide a basis for each of these valves that is consistent with the requirements of NRC Staff Guidance for Preparing Pump and Valve, Pursuant to 10 CFR 50.55a(g), dated January 13, 1978, Section II. You are requested to answer the following:

- a. What is the position (open or closed) of each of these valves during normal plant operation?
- b. Can these valves be part-stroke or full-stroke exercised quarterly? If no, give reasons such as, what equipment is affected by stroking a particular valve, and how specifically might this equipment's operation be affected? What is the possible consequences to plant operation such as reactor trip, turbine trip, etc, if applicable?

17.0 CA-90A and CA-90B

Reference A (Item 2.8.4.1) indicates that at the SER meeting, relief was requested to only part-stroke exercise these check valves every 3 months. Reference B (Enclosure 2) states that these valves will meet the Code requirements. Are these valves considered full-stroke exercised during quarterly tests?