Docket File
DCS MS-016

MAY 4 1982

Docket Nos. 50-313
and 50-368

Mr. William Cavanaugh, III
Senior Vice President, Energy
Supply Department
Arkansas Power & Light Company
P. O. Box 551
Little Rock, Arkansas 72203

Dear Mr. Cavanaugh:

SUBJECT: PURGE VALVES - LOCKED CLOSED AND LEAKAGE TESTING FOR ANO UNITS 1 AND 2

Our letter of December 14, 1981 discussed the status of the containment purge/vent and TMI Item II.E.4.2 reviews for ANO-2. Our letter dated July 15, 1981 requested APL to submit proposed Technical Specifications for the remaining open items concerning the purge/vent valves for ANO-1. These letters indicate that the only remaining open items in these areas are the requirements to (1) provide positive assurance that the large butterfly type containment purge isolation valves will be closed and will remain closed during MODES 1 through 4 by locking/sealing the valves closed, and (2) to perform leakage tests on these valves at intervals not to exceed six months. Based on the similarity in Unit 1 and 2 valve designs the requirements for these issues and your technical responses are understood to be equally applicable to Units 1 and 2.

Purge Valves Locked Closed

Your response dated February 3, 1982, which we understand to be applicable to both Units, stated that you did not plan to submit Technical Specifications requiring these valves to be locked or sealed closed. The bases cited for your position were (1) a reliance on administrative controls to keep the valves closed and (2) problems associated with one particular method of locking/sealing the valves (e.g., removing power from the valve operator).

We have reviewed your response and have discussed the matter with your staff (Mr. L. Young, et al). As a result of these discussions we note that there are several types of solutions to acceptably lock/seal close such valves. These solutions include removal of power from the valve motor operators, isolating the air supply from air operated valves, and key locked control switches in the control room when the keys are kept under administrative control by, for example, the shift supervisor.



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We wish to exphasize that the staff position on this issue remains as stated in our December 14, 1982 letter. We do not believe that the administrative controls cited in your February 13, 1982 letter will provide adequate assurance that the valves will remain closed at all times during MODES 1, 2, 3 and 4. . Therefore, we conclude that your response to this matter is insufficient and find that the matter remains open.

Purge Valve Leakage Testing

Your responses, dated September 17, 1981 and March 31, 1982 for ANO-1 and 2 respectively would result in a requirement to test the valves prior to reentering MODE 4 following operation in MODE 5 unless the test had been performed during the previous six months. Although we recognize that past ANO operating experience indicates that your proposed Technical Specifications (TS) would likely require testing at least several times per fuel cycle we note that the TS does not explicitly require testing at intervals not to exceed six months.

In response to the requests of your staff for further information on the staff position we note that the test data reviewed by a previously existing Division of Licensing task force pursuant to the DOL Task Action Plan B-20 "Containment Leakage Due to Seal Deterioration" revealed a number of instances in which large butterfly containment purge system isolation valves failed the Type C test at successive refueling outages. In some cases the failures were gross failures (i.e., the valves would not hold pressure, or leakage rates on the order of 10% to 100% of the containment volume per day were measured). More frequent leakage integrity tests adopted by a few plant operators have shown that more frequent testing will allow the opportunity for repair before gross leakage failures develop. The task force concluded that leakage failures were due to (a) wear induced by operating the valves and/or (b) environmental conditions. Wear appeared to be the cause for the majority of the reported instances of leakage rate failures while seasonal weather conditions were found to be another, but less predominant cause of excessive leakage.

The staff also conducted an analysis of the potential reduction in the likelihood of a containment purge/vent penetration exhibiting unacceptable leakage which might be realized by an increase in the leakage test frequency currently required by Appendix J. The finding was that an increase in the test frequency could significantly reduce the probability of unacceptable leakage assuming that excessive seal wear leading to gross leakage requires several months to occur, and further that early indications of wear failure are possible.

The staff's consideration of information on the effects of wear, environmental conditions and the analysis discussed above has resulted in the position that the subject valves in ANO Units 1 and 2 should be tested at a interval not exceeding six months.

As stated in our letter of December 14, 1981 it is not our intention to require a plant to shutdown just to conduct the valve leakage integrity tests. In this regard, installation of a leakage test connection that is accessible from outside containment may be appropriate to allow testing during power operation.

Summary

Our positions on these two subjects were provided in our December 14, 1981 letter. At your staff's request we have provided in this letter additional bases for our positions. We reaffirm that, given the information docketed by AP&L Co. to date on these subjects, these positions continue to be applicable to ANO Units 1 and 2.

Should you wish to appeal the imposition of these positions on the ANO plant your further submittals should address all of the relevant features of your plant design which contribute to or detract from (a) the assurance that at all times while in MODES 1, 2, 3 and 4, each of the purge system isolation valves will remain fully closed and (b) the assurance that at all times while in MODES 1, 2, 3 and 4 the leaktight integrity of the valves will meet the Technical Specification surveillance acceptance criteria.

We request that you provide a description of your plans and schedule for responding to this matter within thirty days of receipt of this letter.

Sincerely,

Original signed by
Robert A. Clark

Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing

Original signed by

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

cc: See next page

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Summary

Our positions on these two subjects were provided in our December 14, 1981 letter. At your staff's request we have provided in this letter additional bases for our positions. We reaffirm that, given the information docketed by AP&L Co. to date on these subjects, these positions continue to be applicable to ANO Units 1 and 2.

Should you wish to appeal the imposition of these positions on the ANO plant your further submittals should address all of the relevant features of your plant design which contribute to or detract from (a) the assurance that at all times while in MODES 1, 2, 3 and 4, each of the six purge system isolation valves will remain fully closed and (b) the assurance that at all times while in MODES 1, 2, 3 and 4 the leaktight integrity of the six valves will meet the Technical Specification surveillance acceptance cirteria.

We request that you provide a description of your plans and schedule for responding to this matter within thirty days of receipt of this letter.

Sincerely,

Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing

John F. Stolz, Chief
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Division of Licensing

cc: See next page

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