UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 84 TO FACILITY OPERATING LICENSE NO. DPR-51

ARKANSAS POWER & LIGHT COMPANY

ARKANSAS NUCLEAR ONE, UNIT 1

DOCKET NO. 50-313

INTRODUCTION

By letter dated June 30, 1983, Arkansas Power & Light Company (AP&L or the licensee) requested amendments to the Technical Specifications (TSs), appended to Facility Operating Licenses Nos. DPR-51 and NPF-6 for Arkansas Nuclear One, Units Nos. 1 & 2 (ANO-1 & 2) respectively. By letter dated June 15, 1984, the licensee totally revised and resubmitted the proposed TS changes for ANO-1. The proposed changes would revise sections of the ANO-1 TSs related to hydraulic snubbers by including additional functional testing, and would incorporate in the TSs both operability and testing requirements for mechanical snubbers. Only the TS changes relating to ANO-1 are considered in this action. The TS changes relating to ANO-2 will be considered as a separate issue.

BACKGROUND

In the time period of 1973 to 1975, numerous discoveries of inoperable snubbers resulted in surveillance requirements for snubbers being placed in Technical Specifications for operating nuclear power plants. However, several deficiencies were identified after the original requirements had been in force for several years. These deficiencies were:

1. Mechanical snubbers were not included in the original requirements.

   Inasmuch as mechanical snubbers were not subject to any surveillance requirements and because the most likely failure of a mechanical snubber is permanent lock-up, which is a failure mode that can be harmful to the associated system even during normal plant operations, surveillance testing is clearly warranted.

2. Inservice testing of large snubbers was not required.

   When the hydraulic snubber surveillance requirements were first drafted, a compromise was made that limited the testing of snubbers to those with rated capacities of not more than 50,000 pounds because of the (a) limited capacity of the available test equipment and (b) poor understanding of some test parameters at the snubber-rated load. Since then, greater equipment capacity and better understanding of parametric correlations have become available.

3. The use of new types of seal materials required NRC approval.

   The original problems with hydraulic snubbers were primarily attributed to leaking seals. Most seal materials of the 1973 vintage did not have adequate resistance to the thermal and gamma radiation conditions of their service environments. Ethylene propylene was the first material that could provide a reasonable service life for those seals. In order to discourage the use of unproven material for those seals, the words "NRC approved material" were used in the Technical Specifications; and, on many occasions, staff members were asked to approve different seal materials. Consequently, since the basis for the approval was not defined, the development of better seal materials by the industry was actually discouraged.

4. Inservice test requirements were not clearly defined.

   The poorly defined acceptance criteria in the earlier version of the testing requirements resulted in nonuniform interpretation and implementation. In some cases, snubbers were tested without reference to acceptance criteria, resulting in completed tests of questionable value.

5. In-place, inservice testing was not permitted.

   Testing of snubbers was usually accomplished by removing snubbers from their installed positions, mounting them on a testing rig, conducting the test, removing them from the rig, and reinstalling them in their service positions. Snubbers were occasionally damaged during this process, and this unfortunately defeated the purpose for conducting the tests. New methods and equipment that permit in-place testing minimize potential snubber damage and utility outlays.

From these shortcomings, it was concluded that the snubber surveillance requirements for the Technical Specifications should be revised. This issue was then categorized into two Multiplant Action Items: B-17, "Technical Specifications Surveillance for Hydraulic Snubbers," and B-22, "Technical Specifications Surveillance for Mechanical Snubbers."

A letter containing model TSs was sent to all power reactor licensees, except systematic evaluation program (SEP) licensees, on November 20, 1980. This letter requested the upgrading of safety-related hydraulic snubber (shock suppressor) testing requirements and the inclusion of mechanical snubber operability and testing requirements into the TSs.

On May 3, 1984, the NRC staff issued Generic Letter 84-13 which officially updated the model TSs contained in the November 20, 1980, letter. Generic Letter 84-13 stated that tabular listings of snubbers would no longer be required in plant TSs.

The licensee's proposed changes were in response to the staff's requests of November 20, 1980, and May 3, 1984.

EVALUATION

The licensee's proposed snubber TSs were patterned after the McGuire TSs which were provided the licensee as an acceptable example. AP&L, however, did not elect to delete snubber tables from the TSs as permitted by Generic Letter 84-13. In their June 15, 1984, submittal, AP&L requested that the proposed TSs be made effective coincident with the next refueling outage (i.e., No. 6). This request is acceptable. The modified TSs provide for the following:

1. Snubber categorization by number, system, elevation, and accessibility.

2. Mechanical and hydraulic snubber surveillance and limiting conditions for operation.

3. Testing of all snubber types irrespective of capacity.

4. Provision for in-place, inservice testing.

5. Clearly defined inservice test requirements.

6. A seal service life monitoring program that assures all snubbers are functioning within their service life.

The NRC staff examined these and other proposed alternatives (i.e., testing frequency, sampling distribution, etc.) to the ANO-1 proposed TSs and concluded that the AP&L submittal is responsive to the NRC's request and consistent with present NRC positions and requirements and that these proposed changes would improve the level of plant safety and, therefore, are acceptable.

ENVIRONMENTAL CONSIDERATION

This amendment involves a change to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. We have determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: October 15, 1984
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