



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 62 TO FACILITY OPERATING LICENSE NO. NPF-6

ARKANSAS POWER & LIGHT COMPANY

ARKANSAS NUCLEAR ONE, UNIT 2

DOCKET NO. 50-368

INTRODUCTION

A letter containing model Standard Technical Specifications was sent to all power reactor licensees, except systematic evaluation program (SEP) licensees, on November 20, 1980 (Ref. 1). 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 Technical Specifications.

The Arkansas Power and Light Company (AP&L) response (Ref. 2) for Arkansas Nuclear One, Unit 2 (ANO-2) proposed that an industry standard, ANSI/ASME OM4 (Ref. 3), under development should be used as the basis for the Technical Specification revision. The NRC staff indicated (Refs. 4-6) that the industry standard, ANSI/ASME OM4, was not acceptable and requested proposed Technical Specifications modeled after the Standard Technical Specifications. AP&L responded to NRC concerns in several succeeding letters (Refs. 7-14).

A meeting between the NRC staff and AP&L personnel was held on August 23, 1983, to resolve differences. Among the positions, agreements, and actions discussed in the meeting minutes (Ref. 15) were (a) the NRC staff prefers the classification of snubbers as accessible or inaccessible; (b) the NRC staff desires that all snubbers, regardless of size, should be subject to testing; (c) the NRC staff provided AP&L with a copy of the McGuire snubber operability and surveillance Technical Specifications, which are of a more recent version than the November 20, 1980, model Technical Specifications and which contain features acceptable to both the NRC staff and AP&L; and (d) AP&L agreed to submit revised Technical Specifications based on the current Standard Technical Specifications format approach as exemplified by the McGuire Technical Specifications within 60 days of the end of the third ANO-2 refueling outage.

BACKGROUND

In the time period of 1973 to 1975, numerous discoveries of inoperable snubbers resulted in surveillance requirements 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

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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. In-service 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. In-service 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, in-service 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 Multi-Plant Action Items: B-17, "Technical

Specifications Surveillance for Hydraulic Snubbers," and B-22, "Technical Specifications Surveillance for Mechanical Snubbers." Generic guidance was sent to AP&L and others via NRC's letter dated November 20, 1980.

Subsequent to the NRC/AP&L meeting on August 23, 1983, the NRC staff issued Generic Letter 84-13 (Ref. 16), which officially updated the model Technical Specifications contained in the November 20, 1980, letter. Pertinent to the AP&L submittal for ANO-2 Technical Specifications, Generic Letter 84-13 stated that tabular listings of snubbers would no longer be required in plant Technical Specifications.

EVALUATION

On May 19, 1984, AP&L submitted (Ref. 17) revised snubber Technical Specifications for ANO-2. These specifications were patterned after the McGuire Technical Specifications. AP&L, however, did not elect to delete snubber tables from the Technical Specifications as permitted by Generic Letter 84-13. AP&L has requested that the proposed Technical Specifications be made effective concurrent with the next refueling outage (i.e., number 4). This request is acceptable. The modified Technical Specifications 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, in-service testing.
5. Clearly defined in-service 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-2 Technical Specifications 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 improvements are, therefore, acceptable.

ENVIRONMENTAL CONSIDERATION

This amendment involves changes in inspection and surveillance requirements and in the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20. The staff has 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 the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Dated: January 29, 1985

REFERENCES

1. D. G. Eisenhut (NRC) letter to Power Reactor Licensees (except SEP Licensees), "Technical Specification Revision for Snubber Surveillance," November 20, 1980.
2. D. C. Trimble (AP&L) letter to D. G. Eisenhut (NRC), April 1, 1981.
3. "Examination and Performance Testing of Nuclear Power Plant Dynamic Restraints (Snubbers)," American Society of Mechanical Engineers Standard ANSI/ASME OM4-1982.
4. R. A. Clark (NRC) and J. F. Stolz (NRC) letter to W. Cavanaugh (AP&L), June 17, 1981.
5. R. A. Clark (NRC) and J. F. Stolz (NRC) letter to W. Cavanaugh (AP&L), September 21, 1982.
6. R. A. Clark (NRC) and J. F. Stolz (NRC) letter to J. M. Griffin (AP&L), May 9, 1983.
7. D. C. Trimble (AP&L) letter to R. A. Clark (NRC) and J. F. Stolz (NRC), July 17, 1981.
8. D. C. Trimble (AP&L) letter to J. F. Stolz (NRC) and R. A. Clark (NRC), October 28, 1981.
9. D. C. Trimble (AP&L) letter to J. F. Stolz (NRC) and R. A. Clark (NRC), December 14, 1981.
10. J. R. Marshall (AP&L) letter to J. F. Stolz (NRC) and R. A. Clark (NRC), August 31, 1982.
11. J. R. Marshall (AP&L) letter to J. F. Stolz (NRC) and R. A. Clark (NRC), November 26, 1982.
12. J. R. Marshall (AP&L) letter to J. F. Stolz (NRC) and R. A. Clark (NRC), February 28, 1983.
13. J. R. Marshall (AP&L) letter to J. F. Stolz (NRC) and R. A. Clark (NRC), June 10, 1983.
14. J. M. Griffin (AP&L) letter to J. F. Stolz (NRC) and R. A. Clark (NRC), June 30, 1983.
15. G. S. Vissing (NRC) summary of meeting, September 30, 1983.
16. D. G. Eisenhut (NRC) letter to Power Reactor Licensees (except SEP Licensees) and Applicants for Licenses, "Technical Specification for Snubbers (Generic Letter 84-13)," May 3, 1984.
17. J. M. Griffin (AP&L) letter to J. R. Miller (NRC), May 19, 1984.