



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST FOR A TEMPORARY WAIVER OF COMPLIANCE REGARDING

SNUBBER FUNCTIONAL TESTING INTERVALS

FACILITY OPERATING LICENSE NO. NPF-49

NORTHEAST NUCLEAR ENERGY COMPANY

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 3

DOCKET NO. 50-423

BACKGROUND

By letter dated January 15, 1993, as supplemented January 21, 1993, Northeast Nuclear Energy Company (NNECO/licensee) proposed a one-time revision to the surveillance requirement frequency for snubber functional testing, by allowing an extension to the current 18-month surveillance interval, plus the additional 25 percent allowed by Technical Specification 4.0.2. NNECO requested that this amendment request be processed on an emergency basis pursuant to 10 CFR 50.91(a)(5), in that failure to act on this proposed amendment would result in a plant shutdown. The next functional test for certain snubbers is currently required to be performed no later than January 22, 1993. The proposed amendment would defer the required test until the next refueling outage, but no later than September 30, 1993. This extension would represent an additional time period of approximately 8 months to the basic 18-month interval, plus 25 percent (22.5 months), for a total interval of approximately 31 months.

DISCUSSION AND EVALUATION

NNECO assessed the effects of the proposed extension to the functional testing interval and concluded that the proposed change still results in an adequate level of confidence in the reliability of the snubber population.

The licensee identified four groups of snubbers:

- Type A - small mechanical (i.e., PSA- $\frac{1}{4}$, $\frac{1}{2}$),
- Type B - medium mechanical (i.e., PSA-1, 3, 10),
- Type C - large mechanical (i.e., PSA-35, 100), and
- Type D - large hydraulic (i.e., Paul-Munroe).

During the last refueling outage, a total of 291 snubbers (231 Type A, 43 Type B, 12 Type C, and 5 Type D) were functionally tested. Nineteen failures were reported, 16 of which were considered actual functional test failures attributable to installation, maintenance or operation, and 3 which were

determined to have been damaged during testing. All of the failures occurred on the Type A snubbers; no functional failures were identified for the other types of snubbers (i.e., Types B, C, or D). The entire population of Type A snubbers (231) was functionally tested based upon the observed failure rate of the initial sample.

The licensee performed root cause of failure analyses for the 16 snubbers which failed their functional test. Results of the analyses indicate that one failure was caused by contact with corrosive agents, eight failures were likely caused by operational vibration or transients, and seven failures were likely caused by improper installation, or mishandling and misuse during the performance of maintenance activities (external loadings). The licensee also noted that 13 of the 16 snubbers that failed their functional test were located in the steam generator cubicles. Such locations appear to be a common factor among many of the failures due to piping configuration and space limitations. The licensee has implemented corrective actions to prevent recurrence of the failures caused by corrosion and external loadings.

To verify that the replaced and reinstalled Type A snubbers had not sustained any damage from the time between installation and startup of the current cycle, NNECO visually inspected all of the Type A snubbers. No damage was observed. NNECO has also committed to test those snubbers which failed during the last functional test during the upcoming outage to verify whether their corrective actions were adequate and to assess whether changes to system configurations or support locations may be required to alleviate the effects of operational vibration and transients.

Based on the above, the staff finds that the licensee has taken reasonable and adequate measures to ensure the operability of snubbers, and that the proposed extension of the current functional testing interval to not beyond September 30, 1993, is acceptable.

In its January 15, 1993 submittal, the licensee has suggested that the ASME O&M Code - 1990, "Code for Operation and Maintenance of Nuclear Power Plants," Subsection ISTD 7.4, "Inservice Operability Testing Interval," further enhances their argument that confidence in the reliability of their snubber population is not diminished by the extension of the functional testing interval, in that ISTD 7.4 sets the inservice operability testing of snubbers at refueling outages rather than at an 18-month interval. NNECO's interpretation of this provision would then suggest that the confidence level is independent of the testing interval so long as one of the approved sampling plans are used.

The staff disagrees with the licensee's suggestion that the language in ISTD 7.4 keys the testing of snubbers at refueling outages without regard to the length of the testing interval. Rather, the staff's view regarding the term "refueling outage" as used in ISTD 7.4, is that the term is based on an 18-month interval, as stated in ISTD 6.5.2, "Subsequent Examination

Intervals," and that, absent additional justification, sample sizes must be proportionally adjusted to account for increases to the basic inspection interval.

This issue, however, does not affect the acceptability of the licensee's proposed extension since the licensee will have functionally tested roughly 70 percent of the 935 snubbers which comprise the total population of snubbers, by the end of the next refueling outage.

CONCLUSION

Based on our review, the staff concludes that adequate bases have been provided to permit the one-time extension of the snubber functional testing interval from 18 months plus 25 percent (22.5 months) to the 1993 (fourth) refueling outage, but not beyond September 30, 1993, and that the licensee has taken reasonable and adequate measures to ensure the operability of snubbers such that the proposed extension of the current functional testing interval to not beyond September 30, 1993, does not result in an undue risk to public health and safety.

Principal Contributor: T. Chan

Date: January 25, 1993