Duke Power Company
M:Gui'e Nuclear Generation Department
12700 Hagers Ferry Road (MG01A)
Huntersville, NC 28078-8985

T. C. McMeekin
Vice President
(704)875-4800
(704)875-4809 Fax

DUKE POWER

March 10, 1993

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Re: McGuire Nuclear Station, Units 1 and 2
Docket Nos. 50-369 and 50-370

Dear Sir:

According to the Supplement 5 of the SER (4-81) (attachment 1), Duke Power responded to Recommendation GS-2 of NUREG-0611 by indicating in a letter dated September 18, 1980 that "all manual valves in the auxiliary feedwater flow paths were checked monthly to verify that they were locked open," and "this requirement was included in the McGuire Technical Specifications (T.S.)." Contrary to the above, a recent review of the subject SER Supplement and the McGuire T.S. revealed that this requirement was never included in the approved McGuire T.S. (attachment 2).

Due to the long elapsed time between that letter, generation of the McGuire T.S., and this discovery, it is impossible for us now to determine how this discrepancy happened, whether it was an oversight or a conscious decision by the Technical Specification Review Branch.

Even though this commitment was not included in the McGuire T.S., procedures PT/1,2/B/4700/23, "Semi-annual Outside Containment Locked Valve Verification," which include twenty-nine (29) locked-open manual auxiliary feedwater valves, have been performed semi-annually since 1984 with only one time when valve 1CA-21 (turbine driven auxiliary feedwater pump discharge to steam generator) was found in the open position but not locked. This happened in August, 1985. It should be noted that prior to June, 1990 these two procedures were combined in one procedure, PT/0/B/4700/23, "same title."

Based on the above, we conclude that the previously committed monthly surveillance frequency would not have enhanced safety. Furthermore, this requirement is not included in the new Standard Technical Specification (attachment 3). We feel that revising this T.S. now will not add any benefit.

Should you have any questions concerning this subject, please contact P. T. Vu at (704) 875-4302.

Very truly yours,

T. C. McMeekin

ROS/PTV/ptv100.nrc
Attachments

xc: Mr. S.D. Ebneter
Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta St., NW, Suite 2900
Atlanta, Ga. 30323

Mr. Tim Reed
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
One White Flint North, Mail Stop 9H3
Washington, D.C. 20555

Mr. P.K. VanDoorn
NRC Resident Inspector
McGuire Nuclear Station

bxc: E. M. Geddie
G. D. Gilbert
R. O. Sharpe
B. H. Hamilton
G. A. Copp (NS)
W. M. Sample (NS)
NSRB (EC12A)
P. F. Guill
L. J. Kunka
P. T. Vu
File: 801.01
File: PIR 0-M92-0120

MNS SSER-5 (4-81)

II.E.1.1 Auxiliary Feedwater System Evaluation

Requirement

(1) Perform a simplified AFW system reliability analysis that uses event-tree and fault-tree logic techniques to determine the potential for AFW system failure under various loss-of-main-feedwater-transient conditions. Particular emphasis is given to determining potential failures that could result from human errors, common causes, single-point vulnerabilities, and test and maintenance outages;

(2) Perform a deterministic review of the AFW system using the acceptable criteria of Standard Review Plan Section 10.4.9 and associated Branch Technical Position ASB 10-1 as principal guidance; and

(3) Reevaluate the AFW system flowrate design bases and criteria.

(4) Implement the short-term recommendations in Appendix III to NUREG-0611.

This requirement shall be met before issuance of a full-power license. (Implementation of long-term recommendations in Appendix III of NUREG-0611 is addressed in II.E.1.1, Section 22.5, "Dated Requirements.") See NUREG-0694, NUREG-0611, and letters of March 10 and October 31, 1980 (NUREG-0737).

Discussion and Conclusion

The Three Mile Island Unit 2 (TMI-2) accident and subsequent investigations and studies highlighted the importance of the Auxiliary Feedwater System (AFWS) in the mitigation of transients and accidents. As part of our assessment of the TMI-2 accident and related implications for operating plants, we evaluated the AFW systems for all operating plants having nuclear steam supply systems (NSSS) designed by Westinghouse (NUREG-0611) or Combustion Engineering (NUREG-0635). Our evaluations of these system designs are contained in the NUREGs along with our recommendations for each plant and the concerns which led to each recommendation. The objectives of the evaluation were to: (1) identify necessary changes in AFW system design or related procedures at the operating facilities in order to assure the continued safe operation of these plants, and (2) to identify other system characteristics of the AFW systems which, on a long-term basis, may require system modifications. To accomplish these objectives, we:

(1) Reviewed plant-specific AFW system designs in light of current regulatory requirements (SRP), and

(2) Assessed the relative reliability of the various AFW systems under various loss-of-feedwater transients (one of which was the initiating event of TMI-2) and other postulated failure conditions by determining the potential for AFW system failure due to common causes, single-point vulnerabilities, and human error.

In accordance with the requirements of this item, we have included the following aspects in our review of the McGuire AFW system:

1. We have applied the generic results and recommendations from the above-described reviews for operating plants to the McGuire AFWS.

2. We have reviewed the detailed McGuire AFWS reliability evaluation submitted by the licensee.

3. We have reviewed the licensee's deterministic comparison of the McGuire AFWS against Standard Review Plan (SRP) Section 10.4.9 and Branch Technical Position (BTP) ASB 10-1, and find that the AFWS design is in compliance.

4. We have reviewed the licensee's response to our request in Enclosure 2 of our letter dated March 10, 1980 regarding the design basis for AFWS flow requirements. The licensee provided this information in a letter dated August 13, 1980. We have performed an independent analysis of the AFWS flow requirements and conclude that the applicant's design basis for AFWS flow requirements is acceptable.

We conclude that the implementation of the following recommendations identified from the above reviews has improved the reliability of the McGuire AFW system.

Implementation of Our Recommendations

A. Short-Term Recommendations

1. Recommendation GS-1 - "The licensee should propose modifications to the Technical Specifications to limit the time that one AFW system pump and its associated flow train and essential instrumentation can be inoperable. The outage time limit and subsequent action time should be as required in current Technical Specifications; i.e., 72 hours and 12 hours, respectively."

   In response, the licensee indicated in a letter dated September 18, 1980, that the existing McGuire Technical Specification complies with the recommendation. This specification limits operation with one AFW train out of service to 72 hours and the subsequent action time to 12 hours. We conclude that this Technical Specification is in compliance with our recommendation and is, therefore, acceptable.

2. Recommendation GS-2 - "The licensee should lock open single valves or multiple valves in series in the AFW system pump suction piping and lock open other single valves or multiple valves in series that could interrupt all AFW flow. Monthly inspections should be performed to verify that these valves are locked and in the open position. These inspections should be proposed for incorporation into the surveillance requirements of the plant Technical Specifications. The long-term resolution of this concern is discussed in Recommendation GL-2."

   In response to this recommendation, the licensee indicated in a letter dated September 18, 1980 that there is no single valve or multiple valves in series in the AFW pump suction piping and single valves or multiple valves in series that can defeat the system. Alternate water sources to the pump suctions do not share the same flow path with any valves in the normal water supply lines. All manual valves in the AFW flowpath are checked monthly that they are locked open. This requirement is included

in the McGuire Technical Specifications. In addition, the AFWS suction will automatically align to an alternate water source (nuclear service water) on low suction pressure in each AFW pump. We have reviewed the licensee's response and conclude that the existing design meets this recommendation and is, therefore, acceptable.

3. Recommendation GS-3 - "The licensee has stated that it throttles AFW system flow to avoid water hammer. The licensee should reexamine the practice of throttling AFW system flow to avoid waterhammer. The licensee should verify that the AFW system will supply on demand sufficient initial flow to the necessary steam generators to assure adequate decay heat removal following loss of main feedwater flow and a reactor trip from 100 percent power. In cases where this reevaluation results in an increase in initial AFW system flow, the licensee should provide sufficient information to demonstrate that the required initial AFW system flow will not result in plant damage due to water hammer."

   In a letter dated September 18, 1980, the licensee responded to this recommendation stating that the AFW flow would not be throttled initially to prevent water hammer. The required flow rate is available within 60 seconds following the initiating event as described further in their response to Enclosure 2 to our March 10, 1980 letter.

   The licensee provided this information in a letter dated August 13, 1980. We have reviewed the licensee's response and have concluded that its design basis for AFWS flow requirements are acceptable.

4. Recommendation GS-4 - "Emergency procedures for transferring to alternate sources of AFW supply should be available to the plant operators. These procedures should include criteria to inform the operator when, and in what order, the transfer to alternate water sources should take place. The following cases should be covered by the procedures:

   - The case in which the primary water supply is not initially available. The procedures for this case should include any operator actions required to protect the AFW system pumps against self-damage before water flow is initiated.

   - The case in which the primary water supply is being depleted. The procedure for this case should provide for transfer to the alternate water sources prior to draining of the primary water supply."

In a letter dated September 18, 1980, the licensee indicated that transfer of the AFW supply from the normal (nonsafety grade) to a safety-grade supply would occur automatically when suction pressure fell below an acceptable limit. The instrumentation and controls used in the switchover logic are safety grade. The safety grade assured supply source is the nuclear service water. We conclude that the above automatic feature of the licensee's design adequately addresses this recommendation; therefore, additional procedures are not required.