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March 12, 1986

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: B.J. Youngblood, Director
PWR Project Directorate #4

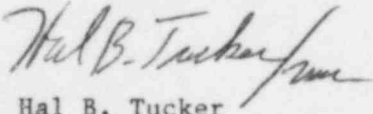
Subject: McGuire Nuclear Station - Docket Numbers 50-369/370
Supplemental Information for Technical Specification Change
To Delete Automatic Close Signal From NI-122B

Dear Sir:

On July 15, 1985, Duke Power Company submitted a proposed change to McGuire's Technical Specifications to delete NI-122B from Table 3.6-2, which lists valves that receive a containment isolation signal. On November 20, 1985, the NRC Staff responded to that submittal by requesting additional information. Attached are the Staff's questions and the response to each.

This information supplements a Technical Specification change submittal, and as such requires no additional fees.

Very truly yours,



Hal B. Tucker

SAG/jgm
Attachment

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ATTACHMENT

Question 1:

As stated in the McGuire SER Section 6.2.5, the NRC staff reviewed the containment isolation signals for isolation valves to General Design Criteria 54, 55, 56, and 57 and Regulatory Guide 1.11. Your letter does not discuss the proposed deletion in terms of these regulatory requirements.

RESPONSE:

Criterion 54 provides general requirements for all piping systems which penetrate containment. Criteria 55, 56, and 57 are subsets of the general group of containment-penetrating piping; each with a different applicability. NI-122B is part of the safety injection system, which is not directly open to containment atmosphere and is part of the reactor coolant pressure boundary; therefore, criterion 55 applies and criteria 56 and 57 do not. Also, Regulatory Guide 1.11 applies to instrument lines and is not applicable here. Criterion 55 offers the opportunity, in lieu of the specific provisions of GDC 55, to demonstrate that isolation provisions for a specific class of lines are acceptable on some other defined basis. This submittal represents an effort to define an acceptable basis.

Removal of the St (automatic Closure) signal from NI-122B will not significantly impact containment isolation because:

1. NI-122B is normally closed during operation.
2. The line upstream (in the direction leading out of containment) of NI-122B is high quality (Class B) piping.
3. The valve immediately upstream and outside containment, NI-121, has a leakoff connection to carry valve stem leakage to a storage tank.
4. NI-121 always has a higher pressure on the side away from containment, so failure of the line inside containment cannot cause a leak to occur through NI-121.

Question 2:

In regard to your proposed station modifications and administrative controls, we find no indication as to whether the valve would be sealed closed in the context of Standard Review Plan 6.2.4:

RESPONSE:

Standard Review Plan 6.2.4 states that "containment isolation provisions for lines in engineered safety feature or engineered safety feature-related systems may include remote-manual valves". In lieu of automatic closure or sealed-closed capabilities, NI-122B will be provided with a remote closure mechanism.

Question 3:

Your analysis in support of a No Significant Hazards Consideration provides no discussion of an open NI-122B valve relative to ECCS performance in terms of its probability or consequences of an accident previously evaluated nor its influence on a margin of safety.

RESPONSE:

The immediate safety injection flow path for the NI pumps is into the reactor coolant system's cold legs. Injection into the hot legs will begin fifteen hours after the LOCA occurs. Valve NI-122B is downstream of isolation valve NI-121A which is closed during the cold leg injection mode of operation. Therefore an open NI-122B valve would not have any adverse impact on ECCS performance. Due to the valve's location on a branch of the hot leg injection flow path, it would not divert any flow from the reactor coolant system within the first fifteen hours of a LOCA.

When the hot leg injection flow path is initiated later in the accident, flow requirements are greatly reduced. In addition, the following shows that with NI-122B open, the increase in total flow area (potential decrease in effective safety injection flow) is not significant.

Safety Injection Lines: 4-2" lines Sch 160
NI-122B line: 1-3/4" line Sch 160

2" Sch 160 - ID = 1.637" 3/4" Sch 160 - ID = .612"

Total Cross-sectional Area of 2" lines	= 8.94 in
Total Cross-sectional Area of 3/4" line	= .294 in
Total	9.234

This illustrates $\left(\frac{9.234 - 8.94}{8.94}\right) \times 100 = 3.29\%$ that with NI-122B open the increase in total flow path is less than 4%. Since each train of Safety Injection is capable of providing 100% of the required flow, 200% is available. Therefore, no effect on ECCS performance or margin of safety which would increase the probability or consequences of a previously evaluated accident can be foreseen.

Therefore the removal of the ST signal from valve NI-122B does not affect the probability of an accident occurring or increase the consequences should a LOCA or DBA occur. No other Chapter 15 accident, including the steamline break accident requires design basis flow through the NI line in question. Therefore the plant margin to safety is not reduced.