



**DUKE POWER**

January 2, 1991

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

Subject: McGuire Nuclear Station, Units 1 and 2  
Docket Nos. 50-369 and 50-370  
Catawba Nuclear Station, Units 1 and 2  
Docket Nos. 50-413 and 50-414  
NRC Bulletin 88-08  
Thermal Stress In Piping Connected  
to the Reactor Coolant System

H. B. Tucker's letters dated August 18, 1989 and August 28, 1989 described the monitoring program for determining the temperatures in the safety injection lines in response to Bulletin 88-08. Data was collected at McGuire Unit 2 for the startup period from September 3, 1989 to September 21, 1989, for a power operation period from August 4, 1990 to August 14, 1990, and for the shutdown period from August 31, 1990 to September 4, 1990. At no time did the data indicate that a Farley type event was in progress, i.e., no significant temperature cycling was observed in any of the class 1 piping (between the check valves and the Reactor Coolant System (RCS)).

The data does suggest that the gate valves separating the charging pumps from the RCS (upstream from the check valves) may be leaking, thus supplying a small, almost constant supply of cooler water to the upstream side of the check valves. The data also suggests that these check valves may be leaking this cooler water into the RCS, although not in a fashion to cause stratification in the class 1 piping, nor with significant cycling behavior.

In the class 1 piping, some cycling apparently related to Reactor Coolant Pump (RCP) operation was observed during cooldown. This was on the order of 200 degrees F and at a rate observed on the exterior of the pipe (1.5 schedule 160) much less than that assumed in the Justification for Continued Operation (JCO) referenced in the August 28, 1989 letter.

On the class 2 portion, stratification up to 140 degrees F was observed in association with the cooler water being supplied to that location. This stratification disappeared when a leak developed in a vent valve, apparently supplying an alternate escape path for the cooler water.

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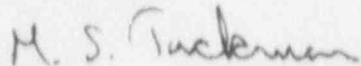
The bounding analysis described in H. B. Tucker's letter dated August 28, 1989 still conservatively envelopes the above observations. That bounding analysis was given as justification for continuing operation of McGuire Unit 1 until November 1992, McGuire Unit 2 until December 1991, Catawba Unit 1 until May 1992, and Catawba Unit 2 until December 1992.

Duke Power believes it is prudent to do the following:

1. Evaluate more closely the apparent causes of the observed events;
2. Determine what additional continuing actions may be necessary to ensure long-term integrity of this piping;
3. If required, evaluate the observed events in the Code compliance calculations and appropriate stress reports. The bounding analysis referenced above did not completely integrate the postulated events into a code of compliance evaluation.

Duke Power will complete the above tasks and submit a final report to the NRC by June 1, 1991.

Very truly yours,



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CRL/12/lcs

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