

DUKE POWER COMPANY

P.O. BOX 33189

CHARLOTTE, N.C. 28242

HAL B. TUCKER

VICE PRESIDENT
NUCLEAR PRODUCTION

TELEPHONE
(704) 373-4531

August 18, 1989

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

Subject: McGuire Nuclear Station, Unit 2
Docket No. 50-370
NRC Bulletin 88-08
Thermal Stress in Piping Connected to The Reactor Coolant System

Gentlemen:

On June 22, 1988, the NRC issued Bulletin 88-08, Thermal Stresses in Piping Connected to the Reactor Coolant System. NRC Bulletin 88-08 requires the inspection of unisolable sections of piping connected to the Reactor Coolant System which may be subjected to excessive thermal stresses. My September 9, 1988 letter to the Document Control Desk conservatively identified 1-1/2 inch diameter safety injection piping for inspection. This piping is not as likely to be subjected to thermal stresses as Farley's 6 inch diameter piping because: 1) Smaller piping has a higher probability of mixing due to its smaller flow area; 2) Smaller diameters enhance the effects of heat conduction around circumference of the pipe wall; and 3) Thinner walls lessen the effect of the through-wall thermal gradient. My August 8, 1989 letter to the Document Control Desk requested an exception from the inspection requirements of Bulletin 88-08 for two elbows in the 1-1/2 inch safety injection line going into cold leg 'D' because of ALARA considerations. This letter provides additional information regarding the instrumentation being placed in the cold leg 'D' 1-1/2 inch safety injection line. This safety injection line is being instrumented to monitor thermal conditions in the pipe and verify that it is not subjected to excessive thermal stresses.

Thermocouples (TCs) are being installed upstream and downstream of the cold leg 'D' safety injection line check valves. Two TCs are being strapped circumferentially on the safety injection line outer diameter at each location. One TC is installed at the top of the line, and the other TC is installed at the bottom of the line. The safety injection line outer diameter is 1.9 inch. The two elbows described in my August 8, 1989 submittal are located in the Reactor Coolant System side of the safety injection line check valves. Both elbows are at Reactor Coolant System pressure. Similar instrumentation is also being installed on the other three safety injection lines.

Temperature data will be collected during heatup, cooldown, steady state power operation, and plant transients. Temperature data will be collected throughout heatup and cooldown. Power operation temperature data will be collected until a representative sample is obtained following startup. Duke Power personnel will evaluate the need to continue monitoring the safety injection lines based on the initial analysis of the data collected. Data will also be collected

8908240167 890818
PDR ADDUCK 05000370
PDC

Add:
Mark Hartman ^{6/18/89}

IE/6
1/1

Change: original
w/ drawing to Reg Files

Document Control Desk
August 18, 1989
Page 2

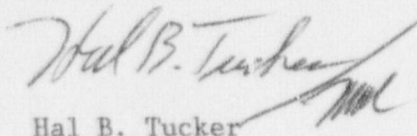
following selected plant transients. Temperature data will be collected just before the event and for an appropriate period afterward.

Temperature data and plant operating parameters will be collected, digitized, and written to a file using Fluke Helios hardware and Labtech Notebook software running on a personal computer. The computer files are periodically transferred to a second personal computer which charts and graphs the data using Lotus software.

Please find attached Duke Power engineering drawings of the Reactor coolant System cold leg 'D' safety injection line showing the location of the two elbows. I have also enclosed drawings of the rupture restraint which does not allow access to the to elbows.

As indicated in my August 8, 1989 submittal, McGuire Unit 2 is scheduled to return to power operation following completion of the end of cycle 5 refueling outage. Therefore, it is requested that the NRC review and approve an exception from the inspection requirements of Bulletin 88-11 for the two elbows prior to August 28, 1989.

Very truly yours,



Hal B. Tucker

JGT/4/88-08R1

xc: Mr. S. D. Ebnetter
Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Mr. P. K. Van Doorn
NRC Resident Inspector
McGuire Nuclear Station

OVERSIZE DOCUMENT PAGE PULLED

SEE APERTURE CARDS

NUMBER OF OVERSIZE PAGES FILMED ON APERTURE CARDS

2

APERTURE CARD/HARD COPY AVAILABLE FROM

RECORDS AND REPORTS MANAGEMENT BRANCH