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October 19, 1982

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

Attention: Ms. E. G. Adensam, Chief
Licensing Branch No. 4

Re: McGuire Nuclear Station
Docket Nos. 50-369 and 50-370
Revised Requests for Relief from ASME Code Section XI Requirement Determined to be Impractical

Dear Mr. Denton:

Please find attached revisions to two separate requests for relief from Hydrostatic Testing Requirements on the Feedwater System to the units one and two steam generators, and the unit one Safety Injection System. These revisions reflect the results of a telecon held between Duke Power Company (G. A. Copp, et. al.) and NRC/ONRR (R. A. Birkel, et. al.) on October 12, 1982 in which NRC/ONRR expressed several concerns with the original relief request submittal (ref. my letter dated September 14, 1982). In addition, the Feedwater System relief request has been expanded to incorporate unit 2 (hydrostatic testing of the Unit 2 Secondary System has been previously performed per ASME Code Section III). These piping modifications are tentatively scheduled to be performed for Unit 1 during the upcoming outage scheduled to start on October 29, 1982. The Unit 2 modification will be accomplished after modification of Unit 1.

It is requested that these relief requests be processed in a timely manner, in order to meet present scheduling activities, and the return of Unit 1 to system operation by February 1, 1983. If there are any questions on this matter, please advise.

Very truly yours,

Hal B. Tucker

Hal B. Tucker

PBN:jfw
Attachment

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cc: Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Mr. P. R. Bemis
Senior Resident Inspector-NRC
McGuire Nuclear Station

Mr. J. F. Cook
EG&G Idaho
Idaho Laboratory Facility
Idaho Falls, Idaho 83401

DUKE POWER COMPANY
MCGUIRE NUCLEAR STATION

REQUEST FOR RELIEF FROM ASME CODE SECTION XI REQUIREMENT DETERMINED TO BE IMPRACTICAL

1. COMPONENT FOR WHICH RELIEF IS REQUESTED:

A. Name and Number

Unit One safety injection system piping is to be modified in order to prevent the primary and secondary check valves to the reactor coolant system from fluttering.

B. FUNCTION

The safety injection system provides emergency core cooling to the reactor vessel. This particular affected protion of the system also provides a flow path for removal of decay heat in the shutdown condition, and also is the primary check valve for the cold leg accumulators.

C. ASME SECTION III CODE CLASS

Equivalent Class 1.

D. VALVE CATEGORY

N/A.

E. MATERIALS AND WELDS

Materials per area (two areas total).

(1) 10" x 10" x 6" Reducing Tee schedule 140 x 160 (1.00" x .718")
SA 403 WP 316 (P No. 8 Group 1)

(1) 6" Short Radius 90° Elbow Sch. 160 (.718") (P No. 8 Group 1)

(1) 6" Long Radius 90° Elbow Sch. 160 (.718) SA 403 WP 304 (P No. 8 Group 1)

6" Pipe Sch. 160 (.718") SA 376 TP 304 (P No. 8 Group 1)

WELDS

The Tee will be rotated and welded between the 10" check valves (SA 351 CFBM - P No. 8 Group 1) - then the 6" elbows and pipe will be welded.

Two (2) 10" welds -Four (4) Total

Six (6) 6" welds one area, Five (5) for other area - Eleven (11) Total.

2. ASME CODE SECTION XI REQUIREMENT THAT HAS BEEN DETERMINED TO BE IMPRACTICAL

ASME B and PV Code, Section XI, 1977 Edition, through Summer 1978 Addenda, IWA - 4400, IWC - 5000.

3. BASIS FOR REQUESTING RELIEF

There are two affected areas of piping in the system. One area is between two check valves, and the other area is identical (reference Figure 1). There are no isolation valves downstream of these primary and secondary check valves to the NC system, therefore it is impossible to isolate these portions of systems. However, there are several approaches to partially pressurizing the system.

The first approach would be to pressurize the (NC) Reactor Coolant System to 2235 pounds, and then use the (NI) Safety Injection pumps to pressurize the NI Systems against one of the check valves. However, this pump pressure is only 1600 pounds, which falls far short of the required test pressure.

The second approach would be to remove the internals from the primary check valves, which go to the NC System, and then pressurize the NC System to 1.02 of 2235 pounds @ 500$^{o}$ temperature. However, this method would still not achieve the desired test pressure per the code, because this would be a dead leg pipe with no flow, and the convective and conductive effect of heat transfer possibly would not reach the 500$^{o}$ temperature minimum, as this portion of the system is uninsulated. This would also require draining the system in order to replace the internals into the check valve, a very timely and very costly procedure.

Therefore, due to orientation of the valves within the system, it is not possible to hydrostatically test the system. However, the alternate examinations as specified in Item 4 are equal to or better than the required testing per the code.

4. ALTERNATE EXAMINATION

A 100% radiographic examination of all pressure boundary welds, with additional PT examination on root pass welds, and also final pass welds.

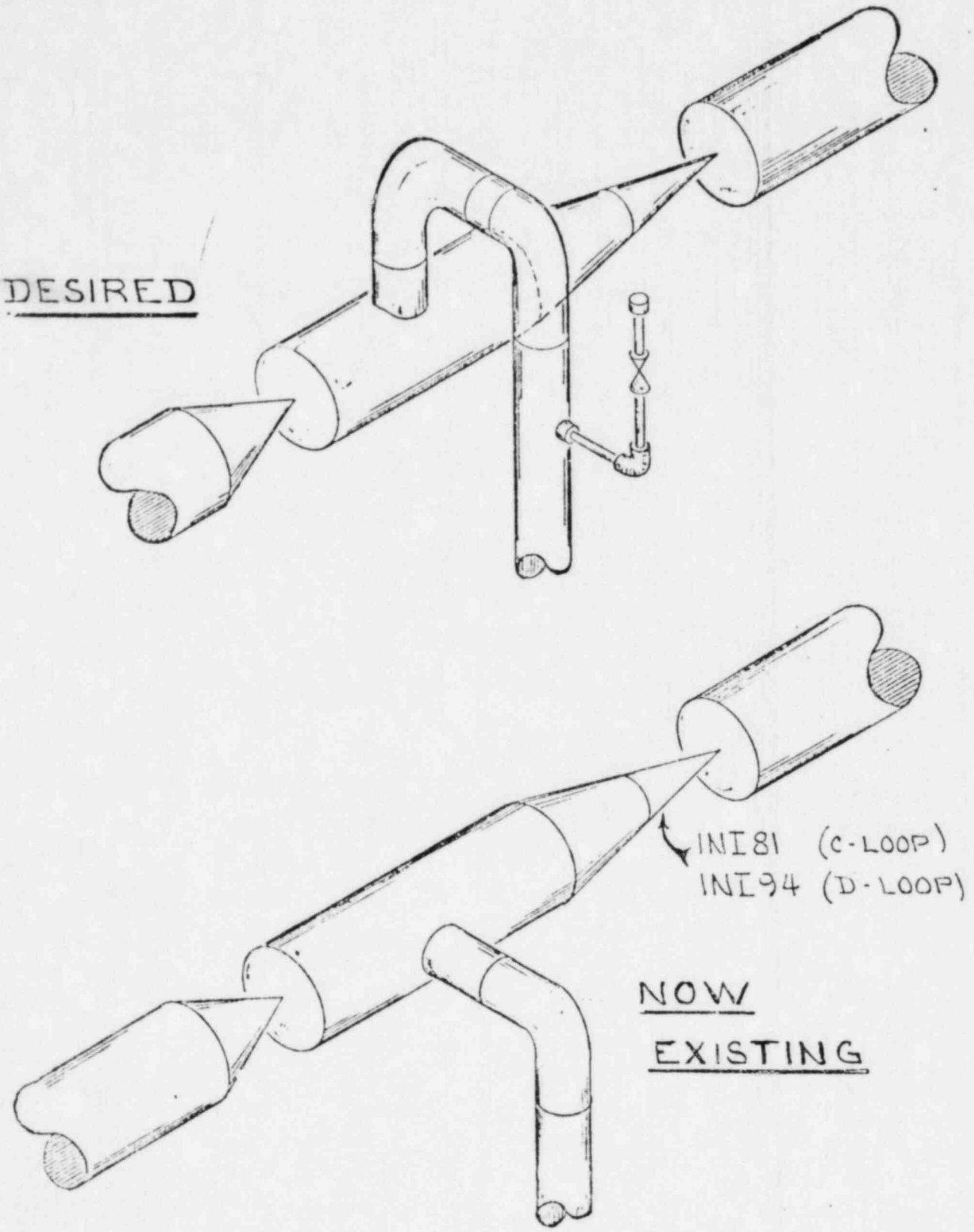
4. ALTERNATE EXAMINATION (Continued)

Also, a hydro test will be performed at the 10-year inspection interval per Section XI of the ASME Code. An inservice leak test cannot be performed on this system because if the check valves hold, the system will not see system pressure. In addition a UT examination will be performed on the welds for Preservice Baseline Inspection per ASME Section XI.

5. IMPLEMENTATION

These examinations, with the exception of the hydrostatic test, will be carried out after the modification on the (NI) Safety Injection System is complete, and prior to the system being declared operable.

Figure 1



DUKE POWER COMPANY

MCGUIRE NUCLEAR STATION

REQUEST FOR RELIEF FROM ASME CODE SECTION XI REQUIREMENT DETERMINED TO BE IMPRACTICAL

1. COMPONENT FOR WHICH RELIEF IS REQUESTED:

   A. Name and Number

   Piping to the Units 1 and 2 steam generator feedwater nozzles is to be removed and replaced to facilitate installation of flow distribution manifold. Unless otherwise indicated, relief request information for the two Units is identical. The Unit 2 secondary system has previously been hydrostatically tested per ASME Code Section III.

   B. FUNCTION

   The main feedwater system supplies water to the steam generators (S/G) where it removes heat from the reactor coolant system.

   C. ASME Section III Code Class

   Equivalent Class 2.

   D. VALVE CATEGORY

   N/A.

   E. MATERIALS AND WELDS

   Materials: 16" 90° Long Radius Elbow Schedule 80 (.844") A234 WPB (P No. 1 Group 1)

   One (1) Elbow per Steam Generator

   Four (4) total

   Welds: The elbow is welded to the S/G feedwater nozzle (SA 508 CL2 - P No. 3 Group 3) and the feedwater check valve (SA 216 WCB - P No. 1 Group 2)

   Two (2) welds per S/G

   Eight (8) welds total.

2. ASME CODE SECTION XI REQUIREMENT THAT HAS BEEN DETERMINED TO BE IMPRACTICAL

ASME B and PV code Section XI, 1977 Edition through Summer 1978 Addenda, Article IWA-4400, IWC-5000.

3. BASIS FOR REQUESTING RELIEF:

Performing a hydrostatic test on the steam generator nozzles and feedwater piping would be impractical, extremely difficult, and very costly due to the following reasons:

A. Isolation and preparation of this system would result in considerable additional radiation exposure to personnel. (Not applicable for Unit 2 since initial fuel loading has not begun)

B. Additional time required to gag safety relief valves.

C. Additional time required to pin or block main steam constant support hangers.

D. Potential damage due to static load on main steam system caused by water solid condition.

E. Potential damage to S. G. tube bundle.

F. Potential leakage through main steam isolation valves, feedwater isolation valves, and other valves in the system (inability to hold pressure).

G. Potential damage to instrumentation, or considerable delay due to isolation/ removal of instrumentation.

In addition to these reasons, the alternate examinations as specified in 4, are equal to or better than the required testing per the code.

4. ALTERNATE EXAMINATION

A 100% radiographic examination of the pressure boundary welds, with additional MT examination on root pass and final weld. In addition UT examination will be performed in accordance with ASME Section V, Article 5. The data (results) from this UT examination, in our opinion, will be less than meaningful due to the geometrical reflections, complex geometry and rough surfaces in and adjacent to the area of examination. In addition to the other examinations, an inservice leak test will be performed on the system, along with a hydro test to be performed at the 10 year inspection interval per Section XI of ASME Code.

5. IMPLEMENTATION

These examinations, with the exception of the hydrostatic test, will be carried out after the feedwater pipe replacement on each steam generator, before the system is declared operable.