

DUKE POWER COMPANY

P.O. BOX 33139
CHARLOTTE, N.C. 28242

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PROJECTS

TELEPHONE
(704) 373-4031

March 17, 1986

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

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

Subject: McGuire Nuclear Station
Docket Nos. 50-369, -370

Dear Mr. Youngblood:

As a follow-up to the conversations of March 6 and 7, 1986 between representatives of the NRC, Duke, and Westinghouse, the following additional information or clarifications are being provided related to the requested licensing amendment associated with the McGuire Nuclear Station Upper Head Injection (UHI) System. In general, the information provided in previous transmittals remains valid. The only revision to the previous transmittals is the replacement of the large break LOCA analyses, which had been performed using the BASH methodology, with analyses performed using the NRC approved BART methodology. Due to the number of transmittals exchanged related to the UHI isolation request, the following list is provided to clarify where information related to various aspects of the program may be found. This list is also intended to verify that the information provided in previous transmittals remains valid except where specifically noted.

Item 1 - Large Break LOCA Analysis

The original large break LOCA analysis provided to support the isolation of the UHI System (October 2, 1986 transmittal, Appendix A) used the Westinghouse BASH methodology which has not yet been approved by the NRC. Since changes to the BASH computer code have been required in order to gain NRC approval, the BASH methodology cannot be used to support the isolation of UHI in the upcoming McGuire Unit 2 outage. The large break LOCA analysis has been performed using the Westinghouse BART methodology which has been reviewed and approved by the NRC. The spectrum of large break discharge coefficients (0.4, 0.6, and 0.8 for minimum SI and 0.6 for maximum SI) have been analyzed using the BART methodology and the results provided by Westinghouse (copy of transmittal letter attached) have shown acceptable results for McGuire assuming UHI isolated, minor changes to Cold Leg Accumulator parameters, and a peaking factor (F-Q) of 2.26.

8603200308 860318
PDR ADOCK 05000369
P PDR

Item 2 - Small Break LOCA Analysis

The small break LOCA analysis performed to support the isolation of UHI was performed using the NOTRUMP computer code which has been reviewed and approved by the NRC. Detailed information regarding the small break analysis is provided in the October 2, 1986 transmittal, Appendix A. The information provided in the above transmittal remains applicable.

Item 3 - Non-LOCA Transients

The only FSAR non-LOCA transient which involved the expected actuation of the UHI System is the steamline break transient. The evaluation of the steamline break transients was performed with NRC approved methodologies and reflected the planned configuration of McGuire with UHI isolated, minor modifications to the cold leg accumulator parameters, and as in the existing FSAR analyses the removal of the Boron Injection Tank has been reflected in the safety analyses. The details of the steamline break analysis is provided in Appendix B of the October 2, 1986 transmittal.

Containment response was evaluated in regard to peak temperatures and pressures and the discussions provided in the Safety Analysis for UHI Elimination report provided in the October 2, 1986 transmittal remain applicable.

Item 4 - Comparison/Explanation of UHI and UHI Isolated Analyses

The explanation of the results of the UHI isolated analysis relative to previous analyses with the UHI System assumed operable are provided by the Westinghouse letter attached.

Item 5 - Discussion of Impact of UHI Internals

The major plant differences between McGuire and non-UHI Westinghouse plants after the UHI isolation is implemented is the UHI internals package. The benefits of the reactor vessel internals arrangement at McGuire are discussed in Westinghouse letter attached.

Item 6 - Description of Procedures for UHI Isolation

The planned isolation of the UHI System and the impact on plant Technical Specifications and procedures was discussed in the transmittals of December 17, 1985 and January 14, 1986. Plant Technical Specifications will reflect the isolation of the UHI System by requiring the UHI isolation valves to be closed and confirmed to be closed at periodic surveillance intervals. Modifications to Cold Leg Accumulator pressure and level specifications reflect the assumptions used in the BART and other safety analyses. A summary list of the plant procedures which require changes due to the isolation of UHI is provided below:

- A) Plant operating procedures will be changed in regard to UHI isolation valve position and required actions during startup and shutdown, surveillance of UHI and Cold Leg Accumulator parameters, specific actions related to maintenance of the UHI System, and response to UHI related alarms.
- B) Plant emergency procedures will be changed with regard to verification of UHI operability, verification of UHI isolation after automatic actuation, UHI isolation during a controlled shutdown, and modifications to Cold Leg Accumulator parameters.
- C) Plant support procedures such as instrumentation and chemistry related procedures will be changed to reflect the inoperable status of UHI and the changes to Cold Leg Accumulator parameters.

In addition to the above information, Duke submitted via the December 23, 1985 transmittal the assessment of the radiological impact of UHI deletion. This assessment is related to the actual removal of the UHI piping, capping of the UHI upper head penetrations, and other tasks required to physically disconnect and remove the UHI System. Current plans for the operation of McGuire involve removal of UHI in the 1987-1988 time period and isolation of UHI by valve configuration changes after upcoming outages and until the physical removal. The operation of the plant with UHI isolated versus UHI operable does not involve significant modification to plant systems or significant changes to those plant procedures associated with occupational radiation exposure. Therefore, the radiological aspects of UHI System isolation do not differ significantly from operation with the system in an operable status.

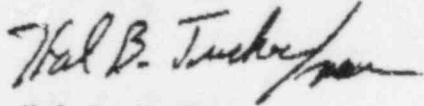
Duke believes that the information provided above or provided by previous transmittals and referenced above justify the operation of the McGuire Nuclear Station with the UHI System isolated during normal operation. All analyses have been performed using methodologies reviewed and approved by the NRC and have shown acceptable results as compared to criteria equal to or more restrictive than those defined by the NRC. Duke has made every effort to respond to the questions and requests of the NRC in a timely and thorough manner in order that the licensing amendment request will be approved in support of the upcoming McGuire Unit 2 outage.

If any questions arise regarding the above information, previous transmittals, the material provided in the attached letter or other aspects

Harold R. Denton
March 17, 1986
Page 4

of the UHI isolation project, please contact Duke through normal licensing channels.

Very truly yours,



Hal B. Tucker

RLG/jgm

Attachment

cc: Dr. J. Nelson Grace, Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
101 Marietta St., NW, Suite 2900
Atlanta, Georgia 30323

W.T. Orders
NEC Resident Inspector
McGuire Nuclear Station

Darl Hood, Project Manager
Division of Licensing
Office of Nuclear Regulatory Commission
Washington, D.C. 20555