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P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

June 9, 1982

NUCLEAR PRODUCTION DEPARTMENT

U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

Attention: Mr. Harold R. Denton, Director

Dear Mr. Denton:

SUBJECT: Grand Gulf Nuclear Station
Units 1 and 2
Docket Nos. 50-416 and 50-417
File 0260/0272/L-860.0
Additional Clarification of Justification for Fuel Load Pending Resolution of Humphrey's Concerns
References: AECM-82/237
AECM-82/250
AECM-82/260

As a result of discussions with you and members of your staff during our meeting on June 7, 1982, MP&L submitted letter AECM-82/250 to justify fuel loading and low power testing pending resolution of all of Mr. John Humphrey's concerns. As a result of additional discussions with members of the NRC's Containment Systems Branch, additional information was requested to justify the resolution of Humphrey Concern Number 14 until after receipt of the Low Power Operating License. The information requested is provided as an attachment to this letter.

With the addition of this information to that provided in AECM-82/250, we again conclude that the remaining open Humphrey Concerns may be resolved after issuance of a Low Power Operating License for GGNS Unit 1, authorizing fuel loading, testing, and operation up to 5% of full power.

If you need any additional information, please advise.

Yours truly,

L. F. Dale
Manager of Nuclear Services

JDR:lm
Attachment

cc: (See next page)

B001

cc: Mr. N. L. Stampley (w/a)
Mr. G. B. Taylor (w/a)
Mr. R. B. McGehee (w/a)
Mr. T. B. Conner (w/a)

Mr. Richard C. DeYoung, Director
Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Mr. J. P. O'Reilly, Regional Administrator
Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
Region II
101 Marietta St., N.W., Suite 3100
Atlanta, Georgia 30303

Attachment One
AECM-82/260

Humphrey Concern 14. RHR Backflow Through Containment Spray

A failure in the check valve in the LPCI line to the reactor vessel could result in direct leakage from the pressure vessel to the containment atmosphere. This leakage might occur as the LPCI motor operated isolation valve is closing and the motor operated isolation valve in the containment spray line is opening. This could produce unanticipated increases in the containment spray.

RESPONSE

The postulated event sequence is beyond the containment design basis because the required conditions for backflow cannot be established mechanistically or multiple operator error/equipment failure would be required.

Specifically, for design basis breaks and intermediate size breaks, the reactor will be depressurized to below 250 psig before the RHR can be placed in the LPCI mode. Thus initiation of automatic containment spray any time after 13 minutes will be with reactor at low pressure and LPCI flow into the reactor. Under this condition backflow will not occur. Also, the containment spray capability to handle drywell steam leakage is minimized for the intermediate break sizes at about 10 times greater than technical specification limit leakage of $A/\sqrt{K} = 0.1$ ft^2. For this limiting break and $A/\sqrt{K} = 0.1$ ft^2 the containment will not reach the spray initiation limit before 75 minutes into the accident. The use of technical specification limit leakage of $A/\sqrt{K} = 0.1$ ft^2 in the analysis is easily justified as a result of the recent containment leakrate testing performed during GGNS preoperational testing. With an allowable leakrate of3500 scfm, the measured leakrate was 609.7 scfm. In addition, the analysis conservatively excludes the affects of containment heat sinks.

For the small break accident, the time to reach the containment spray initiation pressure will be much greater than the IBA condition. Within the first hour after the SBA and well before a spray initiation signal, RHR loops A and B are switched into the pool cooling mode which closes the LPCI initiation valve. Thus the switch to containment spray mode will be from pool cooling and not from LPCI mode.

An additional comment is that failure of the LPCI check valve is highly unlikely and the probability of this valve failing has been estimated as approximately 3.6×10^{-6}.