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November 17, 1995

U.S. Nuclear Regulatory Commission
Mail Station P1-37
Washington, D.C. 20555

Attention: Document Control Desk

Subject: Grand Gulf Nuclear Station
Docket No. 50-416
License No. NPF-29
Response to NRC Bulletin 95-02

GNRO-95/00124

Gentlemen:

This submittal provides the Grand Gulf Nuclear Station (GGNS) response to NRC Bulletin 95-02, "Unexpected Clogging of a Residual Heat Removal (RHR) Pump Strainer While Operating in Suppression Pool Cooling Mode". GGNS believes that suppression pool cleanliness is important to reliable ECCS operation, and has already performed many of the requested actions in response to similar events that occurred at the Barseback and Perry Nuclear Stations. Grand Gulf intends to fully comply with the five requested actions of the Bulletin, with a response to each requested action provided as Attachment 1. A confirmatory response will be provided after completion of Requested Actions 1) and 4).

This information is being submitted under oath and affirmation in accordance with 10CFR50.54(f). Please contact Brian Blanche at 601-437-6475 should you have any questions or require additional information regarding this matter.

Yours truly,

C. R. Hutchinson

CRH/BJB/bjb
attachment: Response to NRC Bulletin 95-02
cc: (See Next Page)

JE44

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Attachment 1

Response to NRC Bulletin 95-02

NRC Bulletin 95-02 contains five Requested Actions. The following paragraphs provide the GGNS response to Requested Actions 1 through 5.

Requested Action 1

Verify the operability of all pumps which draw suction from the suppression pool when performing their safety functions (e.g., ECCS, containment spray, etc.), based on an evaluation of suppression pool and suction strainer cleanliness conditions. This evaluation should be based on the pool and strainer conditions during the last inspection or cleaning and an assessment of the potential for the introduction of debris or other materials that could clog the strainers since the pool was last cleaned.

GGNS Response

Grand Gulf routinely cleans the suppression pool during each refueling outage. The suppression pool and all submerged structures were cleaned during the last refueling outage in April, 1995.

Seven systems take a strained suction from the Grand Gulf suppression pool:

- Residual Heat Removal (RHR) A, B, & C
- Low Pressure Core Spray (LPCS)
- High Pressure Core Spray (HPCS)
- Reactor Core Isolation Cooling (RCIC)
- Suppression Pool Cleanup (SPCU)

All of these systems, except SPCU and RCIC, are operated in quarterly surveillances that verify suppression pool strainer operability. The surveillance establishes administrative limits for before-start and after-start suction pressure, to alert operators to the possibility of suppression pool strainer clogging. Each of these systems has been run at least two times since the last suppression pool cleaning, with no abnormal pump suction pressures. The operability of these systems is determined to be verified from these past surveillance runs.

The RCIC quarterly surveillance is performed using the Condensate Storage Tank as the pump suction and discharge flow path. Suppression pool water has not flowed through the RCIC suppression pool strainer since the last pool cleaning; therefore, no potential exists for strainer clogging.

The SPCU system does not perform a safety function; therefore, this system is not applicable to an operability review.

In the GGNS response to NRCB 93-02, Supplement 1, several actions were performed to control items that could potentially enter the suppression pool and clog the strainers. These measures included:

- procedural modifications regarding control of material brought into the containment,
- posting of large signs at containment entrance-ways to alert personnel of suppression pool cleanliness requirements, and
- the addition of a step requiring building operators to verify that accessible areas of the suppression pool are clean, and to initiate a work document to remove any identified foreign material.

Grand Gulf is currently in the process of re-evaluating its present Foreign Material Exclusion program, and will provide a written response with details of any program deficiencies and proposed enhancements.

Requested Action 2

The operability evaluation in requested action 1 above should be confirmed through appropriate test(s) and strainer inspection(s) within 120 days of the date of this bulletin.

GGNS Response

In response to this requested action, GGNS inspected the suppression pool suction strainers. The inspection was performed from the suppression pool walk-way, using an underwater light and visual magnification as necessary. The HPCS, LPCS, RCIC and RHR C strainers were clean, with the exception of a light dust of iron-oxide that develops between each refueling outage suppression pool cleaning.

The RHR A and B strainers had the same dusting of iron-oxide as previously described, but also had a small amount of unidentified debris. The debris buildup on the RHR B strainer was minimal. The majority of the debris was located on the RHR A strainer. A sample of this debris will be evaluated to determine the identification of the debris source.

After inspection of the RHR A and B strainers, the RHR A pump was run to determine if the identified debris had any effect on pump suction pressure since the last quarterly surveillance run. The pump suction pressure was consistent with past pump suction pressures. The RHR A and B suppression pool strainers were then cleaned

with SPCU in operation. After approximately two days of SPCU operation, the RHR A pump was run for approximately six hours in the test return mode to simulate the pool turbulence of suppression pool cooling. Pump suction pressure at the beginning and end of the test remained virtually constant. A second visual inspection of the RHR A and B suction strainers indicated that the strainers were still very clean, with a small amount of unidentified debris collected on each strainer. A portion of the debris also collected on the SPCU system strainers.

As an additional measure, Grand Gulf will visually inspect the LPCS, HPCS, RHR A, B, and C suppression pool strainers after the Technical Specifications quarterly pump runs to verify strainer cleanliness. These inspections will be performed for each pump's next two surveillance runs, and will be suspended if no further debris buildup is identified.

Requested Action 3

Schedule a suppression pool cleaning. The schedule for cleaning the pool should be consistent with the operability evaluation in requested action 1 above. In addition, a program for periodic cleaning of the suppression pool should be established, including procedures for the cleaning of the pool, criteria for determining the appropriate cleaning frequency, and criteria for evaluating the adequacy of the pool cleanliness.

GGNS Response

Grand Gulf cleaned the suppression pool during the last refueling outage, RF07, and will clean again in RF08, currently scheduled in October of 1996. GGNS has already established a program for periodic cleaning of the pool each refueling outage, and procedures are presently in place to govern the acceptability of each cleaning. Operating experience has shown that each operating cycle is adequate for a cleaning interval; therefore, this interval will be maintained until information related to the design of strainers related to post-LOCA clogging from fibrous debris changes this schedule.

Requested Action 4

Review FME procedures and their implementation to determine whether adequate control of materials in the drywell, suppression pool, and systems that interface with the suppression pool exists. This review should determine if comprehensive FME controls have been established to prevent materials that could potentially impact ECCS operation from

being introduced into the suppression pool, and whether workers are sufficiently aware of their responsibilities regarding FME. Any identified weaknesses should be corrected. In addition, the effectiveness of the FME controls since the last time the suppression pool was cleaned and the ECCS strainers inspected, and the impact that any weaknesses noted may have on the operability of the ECCS should be assessed.

GGNS Response

In addition to the FME controls described in Action Item 1, Grand Gulf is currently in the process of re-evaluating its present Foreign Material Exclusion program, and will provide a written response with details of any program deficiencies and proposed enhancements.

Requested Action 5

Consider additional measures such as suppression pool water sampling and trending of pump suction pressure to detect clogging of ECCS suction strainers.

GGNS Response

As described in Requested Action 1, GGNS records before-start and after-start suction pressure for each ECCS pump that takes a suction from the suppression pool during its quarterly operability surveillance. These pressures are reviewed by the GGNS IST and Operations Surveillance coordinator, and were used in trending the operation of RHR A as described in Action Item 2.

BEFORE THE

UNITED STATES NUCLEAR REGULATORY COMMISSION

LICENSE NO. NPF-29

DOCKET NO. 50-416

IN THE MATTER OF

MISSISSIPPI POWER & LIGHT COMPANY
and
SYSTEM ENERGY RESOURCES, INC.
and
SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION
and
ENTERGY OPERATIONS, INC.

AFFIRMATION

I, C. R. Hutchinson, being duly sworn, state that I am Vice President, Operations GGNS of Entergy Operations, Inc.; that on behalf of Entergy Operations, Inc., System Energy Resources, Inc., and South Mississippi Electric Power Association I am authorized by Entergy Operations, Inc. to sign and file with the Nuclear Regulatory Commission, this response to NRC Bulletin 95-02 for the Grand Gulf Nuclear Station; that I signed this response as Vice President, Operations GGNS of Entergy Operations, Inc.; and that the statements made and the matters set forth therein are true and correct to the best of my knowledge, information and belief.

C. R. Hutchinson

STATE OF MISSISSIPPI
COUNTY OF ~~WARREN~~ Claiborne
11/17/95 313

SUBSCRIBED AND SWORN TO before me, a Notary Public, in and for the County and State above named, this 17th day of November, 1995.

(SEAL)

Richard R. Moore III
Notary Public

My commission expires:
MISSISSIPPI STATEWIDE NOTARY PUBLIC
MY COMMISSION EXPIRES JUNE 5, 1998
BONDED THRU STEGALL NOTARY SERVICE