



**ENTERGY**

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November 8, 1993

**C. R. Hutchinson**

Vice President  
Operations  
Grand Gulf Nuclear Station

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  
Verification of Standby Service Water and Fuel  
Pool Cooling Flow Rates

GNRO-93/00131

Gentlemen:

In a letter dated November 01, 1991 (GNRO-91/00145), Entergy Operations, on behalf of the Grand Gulf Nuclear Station (GGNS) proposed an engineering solution that would provide sufficient spent fuel pool cooling capacity for the worst case normal design decay heat loads for the spent fuel pool. The worst case being a full pool containing 4348 spent fuel assemblies. The solution proposed consisted of operation of the fuel pool cooling and cleanup system (FPCC) with one FPCC pump through two FPCC heat exchangers with cooling provided by standby service water (SSW).

In a letter dated July 30, 1992 (GNRI-92/00163), the NRC provided its Safety Evaluation Report (SER) approving this mode of operation of the FPCC as a means of insuring sufficient spent fuel pool decay heat removal without reliance on the residual heat removal system for back up cooling. Final approval was contingent on verification that the increased SSW and FPCC flows necessary for the one pump two heat exchanger mode of operation are within the capability of the systems.

The SER requested these flow results be submitted prior to restart from refueling outage six. This letter fulfills that commitment by providing results from system tests which verify these increased flows are obtainable, while maintaining the required flows to other components.

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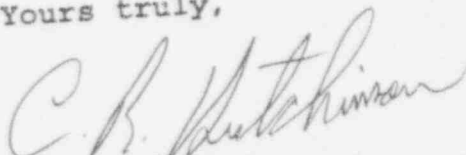
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A forthcoming GGNS operating license change request submittal to remove the Technical Specifications limit of 2324 (TS 5.6.3) spent fuel assemblies and allow full use of the 4348 spaces in the GGNS spent fuel pool, along with these test results will bring the GGNS spent fuel pool cooling issue to a close.

Yours truly,



CRH/JEO/mtc  
attachment:  
cc:

FPCC and SSW Flow Results  
Mr. R. H. Bernhard (w/a)  
Mr. H. W. Keiser (w/a)  
Mr. R. B. McGehee (w/a)  
Mr. N. S. Reynolds (w/a)  
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VERIFICATION OF INCREASED FUEL POOL AND STANDBY  
SERVICE WATER SYSTEM FLOWS

	<u>REQUIRED FLOW</u>	<u>TEST DATA</u>
FPCC Pump A	1600	1620 GPM
FPCC Pump B	1600	1600 GPM
<u>SSW A*</u>		
A and B Fuel Pool HTEXs	2508	2556 GPM

\*The "A" Train, which has higher flow requirements was tested.  
Apart from the flow differences, both A and B trains are  
identical.