



Mississippi State Department of Health

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Alton B. Cobb, M.D., M.P.H.
State Health Officer

August 11, 1983

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

Dear Mr. Denton:

SUBJECT: Grand Gulf Nuclear Station, Unit 1,
Docket No. 50-416, License No. NPF-13,
File 0260/L-860.0 - Comments on Changes
to Grand Gulf Technical Specifications
(NUREG 0926) Proposed by MP&L August 1,
1983.

Based on our review of Grand Gulf Technical Specifications changes proposed by MP&L in their transmittal of August 1, 1983, we submit the following comments for your consideration:

Item 15. (GGNS-828) causes us concern from a safety margin standpoint.

Our understanding of this item is that during conditions involving low reactor pressure (such as during startup or power descension) the High Pressure Core Spray (HPCS) is unable to initiate automatically from a high drywell pressure signal. This is attributed to false wide range level indication causing HPCS to isolate for protection from overpressurization. Manual initiation is also not possible with the false signal present.

We understand that the condensate chamber reference leg type level instruments are the industry standard for BWR's and that their gross inaccuracy in all but the range for which they are calibrated (usually operating range) is widely accepted. Therefore, the HPCS injection inability due to this isolation problem should have been accounted for at the design stage, considering the design experience available from previous plants.

It is also our understanding that liquid mass rather than density corrected level (as modeled from differential pressure) was utilized as an input to the safety analysis computer code, and that this caused the problem to be overlooked during the safety analysis. Certainly, at the time of the original safety analysis, the technology existed to include in the model the level instrumentation gross inaccuracies through known temperature, pressure and density changes. This leads us to question how many safety analyses do not adequately model real plant situations due to utilization of inputs and parameters which are not indicative of quantities actually measured.

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Mr. Harold R. Denton
August 11, 1983
Page 2

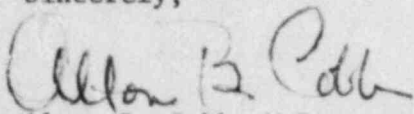
The merit of any mathematical model is based on how well the inputs and algorithms approximate real situations. As a State agency, we are concerned for the health and safety of our people. Resource limitations prohibit us from analyzing the methodology used in all the safety analyses for GGNS. We only wish to express our concern to NRC, whom we realize also has limited resources.

We agree that failure of HPCS to initiate on high drywell pressure does not prevent a safe shutdown of the facility. However, we contend that the margin of safety is substantially affected when the failure to initiate occurs in concert with other failures. We agree that the predicted worst case 400°F increase in cladding temperature does not mandate fuel failure. However, historically, fuel failure at operating facilities indicates that cladding defects may be produced during manufacturing, shipment, transfer, fuel loading, etc. Since a 400°F increase could expedite failure in such damaged fuel, a reduction in the margin of safety is realized.

We are delighted that MP&L has agreed to further evaluate this HPCS initiation inability and to make design changes if necessary. We feel these changes should be expeditious considering the safety role of HPCS. However, we are concerned with how the inability to initiate such a major Emergency Core Cooling System was missed at the design stage, during the safety analyses, and during preoperational testing and was not reported until July 12, 1983. This raises concerns about the adequacy of design, of safety analyses, and of preoperational testing requirements at GGNS. It further raises concerns about how many other Emergency Core Cooling Systems do not have the capability to initiate over the range of their operability. The worst time to discover that an emergency system is incapable of functioning due to design deficiency would be during an actual emergency. Therefore, we are expressing our concerns to NRC.

We have no comments with respect to the other items addressed in the referenced transmittal.

Sincerely,



Alton B. Cobb, M.D.

ABC/GRW/gw

cc: Mr. Eddie Fuente (MSDH)
Ms. Helen Wetherbee (MSDH)
Mr. Joe Brown (MSDH)
Mr. Dean Houston (NRC)
Mr. Don Hoffman (NRC)
Mr. J. P. McGaughy (MP&L)
Mr. Al Waggoner (NRC)
Mr. James P. O'Reilly (NRC)