

# GENERAL ELECTRIC

NUCLEAR POWER  
SYSTEMS DIVISION

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MFN-137-80

August 5, 1980

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

Dear Mr. Denton:

The purpose of this letter is to comment on a statement attributed to you in the July 17, 1980 issue of Nucleonics Week. This article states that had the partial scram at Browns Ferry Unit 3 occurred at 100% power, the reactor would have dropped to 20% power, and had operator action such as to initiate the standby liquid control system not taken place at this point, there would have been core damage within 30 minutes.

We do not believe this article is consistent with the information provided to your staff by General Electric in generic ATWS submittals and in telephone discussions related specifically to the Browns Ferry event. The article implies difficulties with a partial scram occurring at 100% power independent of the initiating event -- this is not the case. A conservative assessment of reactor power following a Browns Ferry type partial scram from 100% power was provided during a July 3 telecon with the NRC. It was estimated that power would fall below 10% given 70 control rods remain fully withdrawn following the first scram attempt. At this power level and assuming a vessel isolation, successful completion of the scram within 40 minutes or manual initiation of the standby liquid control system within 10 minutes would have maintained the peak pool temperature below acceptable temperature limits. There would be no fuel damage.

More recent detailed calculations (discussed with your staff on July 24, 1980) confirmed that power following the Browns Ferry partial scram from full power would be less than 10%. Furthermore, in the case of an isolation, pool temperature (assuming 2 RHR loops and the manual standby liquid control system start at 10 minutes) would peak at approximately 135°F. These conditions are relatively mild and should not stimulate a concern for core damage.

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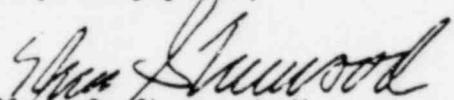
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Clearly, prolonged operator inattention could eventually lead to situations from which core damage scenarios may be postulated. These are unrealistic when consideration is given to the time available for operator action and existing operating procedures. Operator response at Browns Ferry resulted in complete shutdown well within the time available to prevent core damage or any other adverse consequences should the initiating situation have been an isolation from 100% power.

We hope this information will be useful in giving perspective to a Browns Ferry-type incident. We would be pleased to provide you any additional further assistance if needed.

Very truly yours,

  
Glenn G. Sherwood, Manager  
Safety and Licensing Operation

GGs:pes/SLP422

cc: Commissioner John Ahearne  
Dr. M. Plesset (ACRS)  
Mr. V. Stello  
Dr. D. Ross  
Mr. L. Gifford (GE - Bethesda)