

January 31, 1990

Project No. 675

Mr. E. H. Kennedy, Manager  
Nuclear Systems Licensing  
Combustion Engineering  
1000 Prospect Hill Road  
Post Office Box 500  
Windsor, Connecticut 06095

Dear Mr. Kennedy:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION ON CESSAR-DC, SYSTEM 80+

Enclosed is a request for additional information based on a review by the Reactor Systems Branch of Section 15.4 of CESSAR-DC. Please respond within 90-days of receipt of this request.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P. L. 96-511.

Sincerely,

original signed by  
Thomas V. Wambach, Project Manager  
Standardization Project Directorate  
Division of Advanced Reactors and  
Special Projects  
Office of Nuclear Reactor Regulation

Enclosure:  
As stated

cc w/enclosure:  
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555

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Sincerely,

A handwritten signature in cursive script that reads "Thomas V. Wambach".

Thomas V. Wambach, Project Manager  
Standardization Project Directorate  
Division of Advanced Reactors and  
Special Projects  
Office of Nuclear Reactor Regulation

Enclosure:  
As stated

cc w/enclosure:  
See next page

Combustion Engineering, Inc.

Project No. 675

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1000 Prospect Hill Road  
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Windsor, Connecticut 06095-0500

REQUEST FOR ADDITIONAL INFORMATION  
CESSAR SYSTEM 80+

## 15.4 REACTIVITY ACCIDENTS

- 440.32 Discuss why an initial top-peaked ASI of -0.3 is conservative for the rod withdrawal events since this would appear to result in a more rapid negative reactivity insertion on scram.
- 440.33 Why is the maximum assumed reactivity rate at the maximum CEA withdrawal rate only  $1.5 \times 10^{-4}$  delta rho/sec compared to  $2.5 \times 10^{-4}$  delta rho/sec for System 80?
- 440.34 Table 15.4.3-2 gives 0.1 sec as the time for a dropped CEA to be fully inserted. Since the event is analyzed from full power, the core should essentially be unrodded and a CEA drop over the entire core would take several seconds. Please justify the 0.1 sec time interval used.
- 440.35 Since operation with less than all 4 RC pumps is allowed during shutdown modes, discuss the effects of this initial condition on the CEA withdrawal event from these modes, particularly with respect to the pressure transient.
- 440.36 Discuss the adequacy of a high neutron flux alarm to indicate a boron dilution event in sufficient time during Modes 3, 4, or 5.
- 440.37 Standard Review Plan 15.4.6 requires redundancy of alarms that alert the operator to an unplanned boron dilution event. Describe the redundant alarms available in each operating mode.
- 440.38 The first paragraph describing the results of the CEA ejection analysis should state that the radial averaged fuel enthalpy is less than 280 cal/gm "at the hottest axial location of the hot fuel pin."