

DCS MS-016

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Docket No. 50-285

Mr. W. C. Jones  
Division Manager, Production  
Operations  
Omaha Public Power District  
1623 Harney Street  
Omaha, Nebraska 68102

Dear Mr. Jones:

In conducting our review of your October 28, 1983 submittal relating to the Safety Parameter Display System Safety Analysis at the Fort Calhoun Station, Unit No. 1, we have determined that we will need the additional information identified in the enclosure to continue our review.

In order for us to maintain our review schedule, your response is requested within 60 days of your receipt of this letter.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than 25 respondents; therefore, OMB clearance is not required under P.L. 96-511.

Please contact us if you have any questions concerning this request.

Sincerely,

Original Signed by J R. Miller

James R. Miller, Chief  
Operating Reactors Branch #3  
Division of Licensing

Enclosure:  
Request for Additional  
Information

cc w/enclosure:  
See next page

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OFFICE	ORB#3:DL	ORB#3:DL	HFEB/OHPS	ORB#3:DL		
SURNAME	PMKreutzer	ETourigny/pn	VMoore	JRM Miller		
DATE	7/3/84	7/3/84	7/17/84	7/24/84		

Omaha Public Power District

cc:

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Regional Administrator  
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Office of Executive Director  
for Operations  
611 Ryan Plaza Drive, Suite 1000  
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REQUEST FOR ADDITIONAL INFORMATION ON FORT CALHOUN'S SAFETY  
PARAMETER DISPLAY SYSTEM

The staff conducted a review of Ft. Calhoun's safety analysis (Reference 1) for the Safety Parameter Display System (SPDS) in response to NRC requirements for this system. The staff was unable to complete its review of the analysis because of lack of information. In order to complete the NRC review of Fort Calhoun's SPDS, the staff request that the licensee provide the following information:

- o Conclusions regarding changes to tech. specs.
- o SPDS implementation plan, including
  - proposed method of data validation;
  - description of human factors program and its implementation into the design of the SPDS to ensure that displayed information can be readily perceived and comprehended so as not to mislead operators;
  - proposed method of isolation from safety systems including:
    - a. For each type of device used to accomplish electrical isolation at Fort Calhoun describe the specific testing performed to demonstrate that the device is acceptable for its application(s). This description should include elementary diagrams where necessary to indicate the test configuration and how the maximum credible faults were applied to the devices.
    - b. Data to verify that the maximum credible faults applied during the test were maximum voltage/current to which the device could be exposed, and define how the maximum voltage/current was determined.
    - c. Data to verify that the maximum credible fault was applied to the output of the device in the transverse mode (between signal and return) and other faults were considered (i.e., open and short circuits).
    - d. Define the pass/fail acceptance criteria for each type of device.

- e. Provide a commitment that the isolation devices comply with the environmental qualification (10 CFR 50.49) and the seismic qualifications which were the basis for plant licensing.
- f. Provide a description of the measures taken to protect the safety systems from electrical interference (i.e., Electrostatic Coupling, Electromagnetic Interference, Common Mode and Crosstalk) that may be generated by the SPDS.

In the staff review of the safety analysis, we noted the parameters selected for the SPDS were generally consistent with the Combustion Engineering Emergency Procedure Guidelines (EPGs). However, we also noted that the licensee did not provide an evaluation of the relationship of the selected parameters to the Critical Safety Functions in NUREG-0737, Supplement 1. In order to complete our review, the staff requests the licensee to provide the relationship of the selected parameters to the Critical Safety Functions.

The staff agrees that the EPGs provide an appropriate general guidance document to assist in the selection of SPDS parameters. However, we note that the Fort Calhoun SPDS does not monitor the following parameters:

1. Steam generator pressure;
2. Containment sump level; and
3. Steamline radioactivity.

The steam generator pressure is of key importance in determining Reactor Core Cooling and Heat Removal from the Primary System and Reactor Coolant System Integrity Critical Safety Functions. With a knowledge of the steam generator pressure, the operator is able to determine directly whether heat can be removed from the primary system and is able to determine Reactor Coolant System Integrity for a steam generator tube rupture. This parameter is specified in the CE EPGs as related to important operator actions.

Containment sump level is of key importance to assessing Reactor Coolant System Integrity for small loss-of-coolant accidents where the primary system pressure may not be changing.

Steamline radioactivity is of key importance for Radioactivity Control when the condenser is isolated and, hence, the other monitor becomes unavailable.

The staff requests that the licensee consider the above parameters for addition to the Fort Calhoun SPDS or that valid reasons be provided as to why the above parameters not be included in the SPDS.