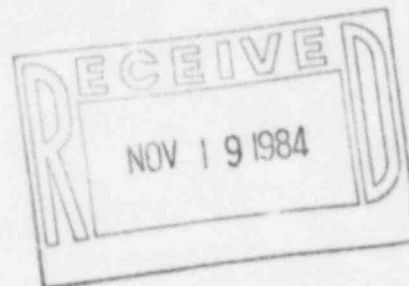




Public Service Company of Colorado

November 13, 1984  
Fort St. Vrain  
Unit No. 1  
P-84487

Regional Administrator  
Region IV  
U. S. Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 1000  
Arlington, Texas 76012



Attention: Mr. E. H. Johnson

DOCKET NO. 50-267

SUBJECT: Safety Parameter Display  
System Safety Analysis  
Report

- REFERENCES: 1.) NRC Letter, Johnson to  
Lee dated 9/14/84  
(G-84355)
- 2.) PSC Letter, Warembourg  
to Johnson, dated  
9/19/84 (P-84372)

Dear Mr. Johnson:

Attached please find the Safety Analysis Report (SAR) for PSC's Safety Parameter Display System (SPDS) (Attachment 1).

This letter also provides the schedule and/or actions taken in regards to the "Information needed for Staff Review" discussed in Reference 1. The approach taken on these requests was to address them as follows:

- 1.) Include the response in the SAR. (Left margin identifies areas that have been revised)
- 2.) Include the response in PSC's revised SPDS program plan.
- 3.) Include the response in an attachment to this letter.

The following is a list of the requests extracted from your September 14, 1984 letter, (Reference 1), and the location of our response:

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PDR ADOCK 05000267  
F PDR

HOO5  
RETURN ORIGINAL TO  
RIV 11

ITEM 1

NRC Request

NUREG-0737, Supplement 1, requires licensees and applicants to prepare a written safety analysis describing the basis on which the selected parameters are sufficient to assess the safety status of each identified function for a wide range of events, which include symptoms of severe accidents.

The licensee was encouraged to ensure that all requirements for an SPDS as defined in NUREG-0737, Supplement 1, are addressed in the forthcoming SAR, if not already addressed in the Program Plan (Reference 1). This should include the justification of parameters selected for use in the SPDS.

PSC Response

The SPDS SAR (Attachment 1) addresses the above.

ITEM 2

NRC Request

Licensees and applicants shall also prepare an implementation plan for the SPDS which contains schedules for design, development, installation and full operation of the SPDS, as well as a design verification and validation plan.

Define a schedule for the completion and the operational installation of the SPDS in the Control Room.

PSC Response

The implementation plan of our SPDS and the verification and validation plan are included in the Fort St. Vrain SPDS Program Plan (Attachment 2). The schedule for design, development, installation and full operation is provided as Attachment 3.

ITEM 3

NRC Request

Define the method and means used to validate data in the computer system prior to its display to the operator. Also define how invalid data will be defined to the operator.

PSC Response

This item is addressed in the revised SPDS Program Plan (Attachment 2).

ITEM 4

NRC Request

Define how parameters are displayed with an accuracy sufficient for operators to discriminate between abnormal operations and normal operations, as stated on Page 5 of the SPDS Program Plan.

PSC Response

This response is contained in the revised SPDS Program Plan (Attachment 2).

ITEM 5

NRC Request

Define and provide a process/emergency response basis for the 5 second data sample rate to justify no loss of displayed information to operators.

PSC Response

The 5 second data sample rate and other computer processing times are justified in the SPDS SAR (Attachment 1).

ITEM 6

NRC Request

Define the scope of the SPDS and provide a facsimile of the prototype displays. Black and white hard copies, labeled "PROTOTYPE" will be adequate.

PSC Response

The scope of the SPDS is defined by the Program Plan and the SAR. Prototype SPDS displays are included in the Program Plan (Attachment 2).

ITEM 7

NRC Request

With regards to isolation devices between the SPDS and safety systems, provide the following information:

- a.) Prior to procurement, FSV will conduct an analysis to determine the maximum credible fault (voltage and current) that the isolators will be exposed to during normal operation. The staff advised FSV that the credible fault must be applied to the output of the device in the transverse mode (between signal and return) and other faults should be considered (i.e., open and short circuits).

PSC Response

- a.) This analysis is currently being performed and will be provided by 1/31/85.

NRC Request

- b.) The staff requested that the acceptance criteria be identified in their Safety Analysis Report, and the test results be submitted to the NRC for confirmatory review.

PSC Response

- b.) The acceptance criteria will be provided by 1/31/85. The test results will be provided when available.

NRC Request

- c.) For each type of device used to accomplish electrical isolation, describe the specific testing performed to demonstrate that the device is acceptable for its application(s). This description should include the test configuration and how the maximum credible faults were applied to the devices.

PSC Response

- c.) This information will be provided when available. The final decision regarding an isolation device vendor has not been made and, thus, a definite date is not available. In any case, it will be provided by August 1985.

ITEM 7 (cont.)

NRC Request

- d.) 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).

PSC Response

- d.) This information will be provided when available. The final decision regarding an isolation device vendor has not been made, thus, a definite date is not available. In any case, it will be provided by August 1985.

NRC Request

- e.) Define the pass/fail acceptance criteria for each type of device.

PSC Response

- e.) This will be provided by 1/31/85.

NRC Request

- f.) 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.

PSC Response

- f.) The isolation devices will be located in a mild environmental location at Fort St. Vrain and, thus, are not covered by 10 CFR 50.49. The seismic qualification response curves for these devices are provided as Attachment 4.

NRC Request

- g.) A description of the measures taken to protect the safety systems from electrical interference (i.e., Electrostatic Coupling, EMI, Common Mode and Crosstalk) that may be generated by the SPDS.

PSC Response

- g.) This information will be provided by 1/31/85.

If you have any questions regarding this matter, please call  
Mr. M. H. Holmes at (303) 571-8409.

Very truly yours,

*D. W. Warembourg*  
D. W. Warembourg,  
Manager, Nuclear Engineering  
Division

DWW/MEN/kss