



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

AUG 10 1979

Docket No.: 50-339

Mr. W. L. Proffitt
Senior Vice President - Power
Virginia Electric and Power Company
P. O. Box 26666
Richmond, Virginia 23261

Dear Mr. Proffitt:

SUBJECT: CLARIFICATION OF STAFF POSITION ON ELECTRICAL PROTECTION
OF CONTAINMENT PENETRATIONS FOR NORTH ANNA POWER STATION,
UNIT 2

In a letter to you dated August 3, 1979, we advised you of our position regarding the electrical protection of containment penetrations for North Anna Power Station, Unit 2 and requested additional information. In response to our request you submitted, in a letter dated October 5, 1979, information regarding this matter.

We have reviewed the information and have determined further clarification of our requirements is necessary. The intent of this letter is to clarify our letter of August 3, 1979 by relating our requirements to those recently applied to Diablo Canyon, Units 1 and 2. In discussions with your representatives, we indicated that VEPCO could use the requirements for Diablo Canyon's containment penetration devices and the utility's response as an example of acceptable design.

These requirements are:

1. Identify each type of electrical circuit that penetrates the containment.
2. Describe the primary and backup overcurrent protective systems provided for each type of circuit identified in Item 1. The description of the primary overcurrent protective system that will be installed and operable prior to issuance of the operating license shall be provided in the response to this request. The description of the backup system and its design shall be submitted for review not

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later than six months from the date of issuance of the operating license and shall be installed and operable prior to completion of the first refueling outage.

3. Describe the fault current-vs-time regime for which the primary and proposed redundant backup overcurrent protective systems are designed. This information for the backup system can be submitted at the same time as the information for Item 2.
4. Describe the maximum fault current-vs-time regime for which the penetrations are designed and qualified. In this regard, the Diablo Canyon applicant was required to ensure that the maximum temperature when combining the penetration temperature rise due to overcurrent with the peak LOCA temperature did not exceed the maximum temperature the penetration was qualified for. In calculating the temperature rise the applicant was further required to assume that no heat generated by fault current passing through the penetration was lost from the penetration.
5. Provide curves that show coordination between Items (3) and (4) for each type of circuit identified in Item 1. These curves shall demonstrate that the fault-current vs time relationship to which the penetrations are qualified is not exceeded.
6. The elements of the containment penetration electrical protective system shall have the capability for periodic test and calibration. The coordination between primary and backup elements shall be periodically tested. Where fuses are used as protective elements in the design, provisions shall be made for testing on a periodic basis to assure their continued capability to interrupt the fault current within the required time.
7. Where external control power is used for actuating the protective systems, signals for tripping primary and backup system devices shall be independently derived and the signal handling and actuating circuits for each primary and backup device shall be independent, physically separated to the extent practical and energized from separate sources.

In prior discussions with your representatives, they have stated that they might not have space to install separate, redundant racks. In response we stated that we would allow primary devices and redundant backup devices to be installed in the same set of racks provided they were separated where practical such that both devices would not be subject to loss or damage by the occurrence of a common physical event.

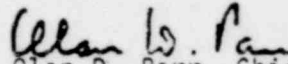
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Mr. W. L. Proffitt

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Accordingly we request that you amend your rSAR to clearly state your intent regarding compliance with our position as stated above. Please inform us within seven days of receipt of this letter of your schedule for providing the information described above.

Sincerely,



Alan D. Parr, Chief
Light Water Reactors, Branch No. 3
Division of Project Management

cc: See Next Page

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