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RECIP.NAME RECIPIENT AFFILIATION
TEDESCO,R.L. Assistant Director for Licensing

SUBJECT: Forwards revised cable separation criteria in response to NRC 810504 request.Circuits will be modified as necessary to comply w/new criteria.Deviations not included in revision will be addressed in Chapter 8 of FSAR.

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June 18, 1981
G02-81-146

U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D. C. 20555

Attention: R. L. Tedesco
Assistant Director for Licensing
Division of Licensing

Gentlemen:

Subject: SUPPLY SYSTEM NUCLEAR PROJECT NO. 2
CABLE SEPARATION CRITERIA

Reference: (1) Letter, NRC (R. L. Tedesco) to Supply System (R. L. Ferguson), "Staff Response to the Presently Proposed Cable Separation Criteria for the WNP-2 Facility", dated May 4, 1981

In response to Reference (1), we will modify our cable separation criteria as indicated in Attachment I to this letter. We believe this is consistent with the criteria presented to us in the referenced letter except for wiring in cabinets, cable-end points, equipment internals, and separation of redundant conduits. Justification for these deviations will be included in Chapter 8 of the FSAR when the FSAR is amended to include the revised separation criteria and the section on compliance with Regulatory Guide 1.75.

The revised separation criteria in Attachment I calls for elimination of cables "bridging" directly between redundant safety related cable trays which was allowed in our previous criteria and was a concern expressed by yourselves and the Office of Inspection and Enforcement during the April 1 meeting. Though we do not expect to find many of these circuits, due to the general plant and cable tray configuration, we commit to modifying the circuits as necessary to comply with the new criteria. Of course, all future cable pulling and separation will be performed consistent with the new criteria. With specific reference to criteria for separation of redundant conduit, our old or new criteria does not call for any particular separation. This will be justified in our FSAR submittal as explained previously. With reference to cable marking criteria, both the FSAR (Chapter 8) and question 31.100 will be revised to reflect the tray/cable marking codes in the new criteria.

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We appreciate your past attention to this matter. If you have further concerns relative to the contents of this letter, we would like to meet with you on an expedited basis.

Very truly yours,

G. D. Bouchey
Director, Nuclear Safety

BHS:kjf

Attachment

cc: R. Auluck - NRR-DDL
K. Brockwell - B&R
R. Dodds - NRC - I&E Region V
OK Earle - B&R RO
J. Elin - NRC - I&E Region V
JA Forrest - B&R RO
F. Rosa - NRR - PSB
JJ Verderber - B&R NY
HR Canter - B&R
J. Ellwanger - B&R NY
RC Root - B&R Site
FA MacLean - General Electric
S. Smith - General Electric
ND Lewis - EFSEC, Olympia
WS Chin - Bonneville Power Admin.
NS Reynolds - Debevoise & Liberman
WNP-2 Files

June 18, 1981
G02-81-146

NRC COMMITMENTS

RESPONSIBLE ENGINEER B. H. Supremo

DATE DUE None, unless further concerns or questions are raised.

SUMMARY Modification of cable separation criteria per NRC concerns.

REVISION TO WNP-2 SEPARATION CRITERIA

Replace previous description entitled "Non-Class 1E Circuits" with the following:

Associated Circuits

Associated circuits are defined as follows:

1. Non-Class 1E cables/wires that share raceways with Class 1E cable and are not physically separated from Class 1E cables/wires.

2. Non-Class 1E cables/wires that share enclosures and are not physically separated from Class 1E cables/wires.

3. Non-Class 1E loads which are supplied from a Class 1E power source.

Associated circuits shall comply with at least one of the following requirements:

A. For cable trays, raceways, and PGCC floor ducts (Associated Circuit Definitions 1 and 3).

   1. They shall be uniquely identified as such or as Class 1E and shall remain with, or be physically separated the same as, those Class 1E circuits with which they are associated.

   2. They shall be in accordance with item (1) above from the Class 1E equipment up to and including an isolation device. Beyond the isolation device, such a circuit is not subject to the requirements of these criteria, provided it does not again become associated with a Class 1E system.

   3. They shall be analyzed or tested to demonstrate that Class 1E circuits are not degraded below an acceptable level.

B. For cabinets, cable end points, equipment internals (external to "A" above) (Associated Circuit Definitions 2 and 3).

   1. Associated Circuit Definition #3 - Associated circuits which receive power from Class 1E power sources shall comply with the same separation requirements placed on Class 1E circuits. For example, a Division A non-Class 1E circuit whose power source origin is a Division I critical bus must be separated from a Division II circuit or a Division B non-Class 1E circuit whose power source origin is a Division II critical bus.

   2. Associated Circuit Definition #2 - Associated circuits which become associated due to sharing of enclosures with Class 1E circuits do not require separation, but shall be analyzed to show that the Class 1E circuits are not degraded below an acceptable level.

Non-Class 1E Circuits

The isolation of Non-Class 1E circuits from Class 1E circuits or associated circuits shall be achieved by complying with at least one of the following requirements.

1. Non-Class 1E circuits shall be physically separated from Class 1E circuits and associated circuits by the minimum separation requirements specified for redundant Class 1E divisions or they become associated circuits.

2. Non-Class 1E circuits shall be electrically isolated from Class 1E circuits associated circuits by the use of isolation devices, shielding and wiring techniques, physical separation, or an appropriate combination or they become associated circuits.
3. The effects of lesser separation or the absence of isolation between the Non-Class 1E circuits and the Class 1E circuits or associated circuits shall be analyzed to demonstrate that Class 1E circuits are not degraded below an acceptable level or they become associated circuits.

4. Low energy Non-Class 1E instrumentation and control circuits are not required to be physically separated or isolated from associated circuits provided: (a) the Non-Class 1E circuits are not routed with associated cables of a redundant division; or (b) they are analyzed to demonstrate that Class 1E circuits are not degraded below an acceptable level. As part of the analysis, consideration shall be given to potential energy and identification of the circuits involved.

Note: Definition of isolation is as previously defined in the WNP-2 criteria.