



Washington Public Power Supply System
A JOINT OPERATING AGENCY

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April 11, 1980
ELE-GCS-80-096

Mr. Andrew J. Szukiewicz
Instrumentation and Control
Systems Branch
Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: NUREG-0588, "INTERIM STAFF POSITION ON EQUIPMENT
QUALIFICATION OF SAFETY-RELATED ELECTRICAL EQUIPMENT"

Dear Mr. Szukiewicz:

The Washington Public Power Supply System has reviewed the subject document and provides for your consideration the attached comments.

Very truly yours,

D. L. RENBERGER
ASSISTANT DIRECTOR
TECHNOLOGY

DLR:GCS:crw

Attachments

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COMMENTS TO NUREG-0588

Appendix C - Para. 1.1(3) -

Appendix C provides DBE qualification profiles for BWR and Ice Condenser Containments only.

Comment: Is it the Staff's intention to provide the profiles for PWR and other containments at a later date?

Para. 1.5(1) -

Requires equipment located in areas that could be subjected to high energy pipe breaks (HEPB) should be qualified to the condition resulting from the accident for the durations required.

Comment: Only that equipment necessary to mitigate the consequences of the postulated HEPB accident need be qualified to the respective HEPB conditions.

Para. 2.2(10) -

Expected extremes in power supply voltage range and frequency should be applied during simulated event environmental testing.

Comment: This position is too binding and does not allow analysis to be considered to establish most critical input conditions. Also, simulation of undervoltage and/or frequency is applied during seismic testings and is considered more severe.

Para. 2.2(11) -

Dust environments should be addressed when establishing qualification service conditions.

Comment: We disagree that this should be a "service condition" specified in the qualification programs. The dust accumulation is primarily a function of housekeeping. If any special cleaning requirements are necessary in order to insure operability of the equipment, it should be addressed in the operating and maintenance requirements of the equipment and not the qualification service conditions. It should not be the intent of a qualification program to address all possible service conditions that could occur if normal maintenance is not performed.

Para. 3.(4) -

Establishes a minimum test time margin for equipment subjected to an "event" of 1 hour in excess of the time assumed in the accident analysis.

Comment: The "1-hour minimum operability time" following the DBE is a new requirement and will impact present and previous equipment programs. It also is more and above that required by Paragraph 2.1(3) and Appendix E, Section 2.

Adding a 1-hour operability requirement to equipment qualification will discourage additional transducer suppliers, whose equipment is designed to function quickly for safety purposes. The "margin" defined in IEEE 323-1974 appears sufficient.

The term "event" is not obvious. This should be clarified (i.e., LOCA, MSLB, etc.).

Appendix E - The following commentary is offered on Appendix E of NUREG-0588.

General Comment: Paragraphs 2, 3, 4 and 5 overlap in many areas in such a way as to appear redundant. For example, an adequate design specification will uniquely "categorize" the equipment by defining the required safety function, the environmental and service conditions, and the time required for the equipment to fulfill its safety function. Thus, it is difficult to isolate paragraphs 2 and 3 as presently described.

It would be helpful if these four paragraphs could be clarified and condensed - into outline form if at all possible.

Specific Comments:

Para. 2c: This category, as described, is typical of Class 2 equipment. The function(s) required would be part of the normal design, prototype testing or operational history, and plant functional testing. Class 1E qualification would not be required for this class of equipment. Clarification of this paragraph is requested.

Para. 3d: The technical bases for equipment location would be dictated by the items indicated by Paragraphs 3a, 3b and possibly 3c. Therefore 3d appears redundant.

The following comments apply only to Category I Positions.

Para. 4.(3) -

Requires consideration synergistic effects in the qualification program.

Comment: Consideration of synergistic effects is a new requirement for which there are no specific guidelines to apply to equipment involved in a qualification program, that including NUREG/CR-0276 and NUREG/CR-0401. Equipment that is properly qualified to the intent and requirements of IEEE 323-1974 demonstrates its ability to survive and perform its safety function.

The evaluations of synergisms for Class 1E equipment appears to be more in line with a R&D program that introduces new equipment, but is not in line with the qualification of equipment to the requirements of IEEE 323-1974. See our response to Reg. Guide 1.131 for additional detail.

Para. 5.(2) -

"A Certificate of Conformance by itself is not acceptable unless it is accompanied by test data and information on the qualification program".

Comment: The requirement to require "test data" on each piece of complex and varied equipment, much of which could be qualified by extension to equivalent or identical pieces, would be extremely cumbersome and expensive to manage. Paragraph 3.0 of IEEE 334-1975 illustrates the difficulty that might be involved.

It appears sufficient for the last sentence to read in effect"

"...unless it is accompanied by information on the qualification program, including test data or comparable test data from equivalent equipment".

The following comments apply only to Category II position.

Para. 4.(1) -

Requires aging be considered per Category I requirements for valve operators and motors.

Para. 4.(1) - (cont)

Comment: The Category I position far exceeds those established in IEEE 382-1972 or IEEE 334-1971. Compliance to the provisions of these standards should be sufficient for Category II equipments. It is recommended to delete the last sentence of the Category II position 4.(1).

Para. 4.(2) -

Requires an aging evaluation program be conducted and a periodic replacement schedule be established. This is of major impact. For this category of plants the staff should specifically state what equipment has been shown susceptible to aging effects. One source could be the NPRD program. Trend studies could be conducted that point to equipment aging at an unacceptable rate. Periodic bulletins could alert the utilities and corrective action taken based on good data rather than engineering guesses. Requiring a reevaluation of aging effects in the Category II equipment is well beyond the licensing commitments.

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