



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
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ATLANTA, GEORGIA 30303

JAN 17 1980

In Reply Refer To:

RII:JPO

50-338, 50-339

50-280, 50-281

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

Gentlemen:

Please disregard IE Bulletin No. 79-01B and enclosures dated January 14, 1980.

Enclosed is IE Bulletin No. 79-01B which requires action by you with regard to your power reactor facility(ies) with an operating license.

Should you have questions regarding this Bulletin or the actions required of you, please contact this office.

Sincerely,

James P. O'Reilly
Director

Enclosures:

1. IE Bulletin No. 79-01B
with Enclosures
2. List of Recently Issued
IE Bulletins

8002150 246

JAN 17 1980

Virginia Electric and
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D.C. 20555

SSINS No.: 6820
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January 14, 1980

IE Bulletin No. 79-01B

ENVIRONMENTAL QUALIFICATION OF CLASS IE EQUIPMENT

Description of Circumstances:

IE Bulletin No. 79-01 required the licensee to perform a detailed review of the environmental qualification of Class IE electrical equipment to ensure that the equipment will function under (i.e. during and following) postulated accident conditions.

The NRC staff has completed the initial review of licensees' responses to Bulletin No. 79-01. Based on this review, additional information is needed to facilitate completion of the NRC evaluation of the adequacy of environmental qualification of Class IE electrical equipment in the operating facilities. In addition to requesting more detailed information, the scope of this Bulletin is expanded to resolve safety concerns relating to design basis environments and current qualification criteria not addressed in the facilities' FSARS. These include high energy line breaks (HELB) inside and outside primary containment, aging, and submergence.

Enclosure 4, "GUIDELINES FOR EVALUATING ENVIRONMENTAL QUALIFICATION OF CLASS IE ELECTRICAL EQUIPMENT IN OPERATING REACTORS", provides the guidelines and criteria the staff will use in evaluating the adequacy of the licensee's Class IE equipment evaluation in response to this Bulletin.

In general, the reporting problems encountered in the original responses and the additional information needed can be grouped into the following areas:

1. All Class IE electrical equipment required to function under the postulated accident conditions, both inside and outside primary containment, was not included in the responses.
2. In many cases, the specific information requested by the Bulletin for each component of Class IE equipment was not reported.
3. Different methods and/or formats were used in providing the written evidence of Class IE electrical equipment qualifications. Some licensees used the System Analysis Method which proved to be the most effective approach. This method includes the following information:
 - a. Identification of the protective plant systems required to function under postulated accident conditions. The postulated accident conditions are defined as those environmental conditions resulting from both LOCA and/or HELB inside primary containment and HELB outside the primary containment.

DUPLICATE

- b. Identification of the Class IE electrical equipment items within each of the systems identified in Item a, that are required to function under the postulated accident conditions.
 - c. The correlation between the environmental data requirements specified in the FSAR and the environmental qualification test data for each Class IE electrical equipment item identified in Item b above.
4. Additional data not previously addressed in IE Bulletin No. 79-01 are needed to determine the adequacy of the environmental qualification of Class IE electrical equipment. These data address component aging and operability in a submerged condition.

Action To Be Taken By Licensees Of All Power Reactor Facilities With An Operating License (Except those 11 SEP Plants Listed on Enclosure 1)

1. Provide a "master list" of all Engineered Safety Feature Systems (Plant Protection Systems) required to function under postulated accident conditions. Accident conditions are defined as the LOCA/HELB inside containment, and HELB outside containment. For each system within (including cables, EPA's terminal blocks, etc.) the master list identify each Class IE electrical equipment item that is required to function under accident conditions. Pages 1 and 2 of Enclosure 2 are standard formats to be used for the "master list" with typical information included.

Electrical equipment items, which are components of systems listed in Appendix A of Enclosure 4, which are assumed to operate in the FSAR safety analysis and are relied on to mitigate design basis events are considered within the scope of this Bulletin, regardless whether or not they were classified as part of the engineered safety features when the plant was originally licensed to operate. The necessity for further up grading of nonsafety-related plant systems will be dependent on the outcome of the licensees and the NRC reviews subsequent to TMI/2.

2. For each class IE electrical equipment item identified in Item 1, provide written evidence of its environmental qualification to support the capability of the item to function under postulated accident conditions. For those class IE electrical equipment items not having adequate qualification data available, identify your plans for determining qualifications of these items and your schedule for completing this action. Provide this in the format of Enclosure 3.
3. For equipment identified in Items 1 and 2 provide service condition profiles (i.e., temperature, pressure, etc., as a function of time). These data should be provided for design basis accident conditions and qualification tests performed. This data may be provided in profile or tabular form.

4. Evaluate the qualification of your Class IE electrical equipment against the guidelines provided in Enclosure 4. Enclosure 5, "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment," provides supplemental information to be used with these guidelines. For the equipment identified as having "Outstanding Items" by Enclosure 3, provide a detailed "Equipment Qualification Plan." Include in this plan specific actions which will be taken to determine equipment qualification and the schedule for completing the actions.
5. Identify the maximum expected flood level inside the primary containment resulting from postulated accidents. Specify this flood level by elevation such as the 620 foot elevation. Provide this information in the format of Enclosure 3.
6. Submit a "Licensee Event Report" (LER) for any Class IE electrical equipment item which has been determined as not being capable of meeting environmental qualification requirements for service intended. Send the LER to the appropriate NRC Regional Office within 24 hours of identification. If plant operation is to continue following identification, provide justification for such operation in the LER. Provide a detailed written report within 14 days of identification to the appropriate NRC Regional Office. Those items which were previously reported to the NRC as not being qualified per IEB-79-01 do not require an LER.
7. Complete the actions specified by this bulletin in accordance with the following schedule:
 - (a) Submit a written report required by Items 1, 2, and 3 within 45 days from receipt of this Bulletin.
 - (b) Submit a written report required by Items 4 and 5 within 90 days from receipt of this Bulletin.

This information is requested under the provisions of 10 CFR 50.54(f). Accordingly, you are requested to provide within the time periods specified in Items 7.a and 7.b above, written statements of the above information, signed under oath or affirmation.

Submit the reports to the Director of the appropriate NRC Regional Office. Send a copy of your report to the U.S. Nuclear Regulatory Commission, Office of Inspection and Enforcement, Division of Reactor Operations Inspection, Washington, D.C. 20555.

Approved by GAO, B180225 (R0072); clearance expires 7/31/80. Approval was given under a blanket clearance specifically for identified generic problems.

Enclosures:

1. 11 SEP Plants
2. Master List
3. System Component Evaluation Work Sheet Instructions
4. Guidelines for Evaluating Environmental Qualification of Class IE Electrical Equipment in Operating Reactors
5. Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment (NUREG-0588)

Note: The above enclosures are to be sent to the corporate offices only.

RECENTLY ISSUED
IE BULLETINS

Bulletin No.	Subject	Date Issued	Issued To
80-01	Operability of Ads Valve Pneumatic Supply	1/11/80	All BWR power reactor facilities with an operating license
79-01B	Environmental Qualification of Class IE Equipment	1/14/80	All power reactor facilities with an operating license
79-28	Possible Malfunction of Namco Model EA 180 Limit Switches at Elevated Temperatures	12/7/79	All power reactor facilities with an OL or a CP
79-27	Loss Of Non-Class-1-E Instrumentation and Control Power System Bus During Operation	11/30/79	All power reactor facilities holding OLs and to those nearing licensing
79-26	Boron Loss From BWR Control Blades	11/20/79	All BWR power reactor facilities with an OL
79-25	Failures of Westinghouse BFD Relays In Safety-Related Systems	11/2/79	All power reactor facilities with an OL or CP
79-17 (Rev. 1)	Pipe Cracks In Stagnant Borated Water System At PWR Plants	10/29/79	All PWR's with an OL and for information to other power reactors
79-24	Frozen Lines	9/27/79	All power reactor facilities which have either OLs or CPs and are in the late stage of construction
79-23	Potential Failure of Emergency Diesel Generator Field Exciter Transformer	9/12/79	All Power Reactor Facilities with an Operating License or a construction permit
79-14 (Supplement 2)	Seismic Analyses For As-Built Safety-Related Piping Systems	9/7/79	All Power Reactor Facilities with an OL or a CP
79-22	Possible Leakage of Tubes of Tritium Gas in Timepieces for Luminosity	9/5/79	To Each Licensee who Receives Tubes of Tritium Gas Used in Timepieces for Luminosity