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IE Bulletin No. 79-01B
Supplement Information

ENVIRONMENTAL QUALIFICATION OF CLASS IE EQUIPMENT

Enclosed are the generic questions and answers which resulted from NRC Task Group/Licensee "workshop" meetings held recently in NRC Regional Offices regarding IE Bulletin No. 79-01B. This information is intended to further the understanding of the qualification review process and reporting requirements of the Bulletin.

The further intent of this information is to assist the licensees in providing a method of approach acceptable to the assigned NRC Task Review Group in determining adequacy of the environmental qualification of Class IE Electrical Equipment installed at their respective facilities.

It should be recognized that the review of the licensee's responses may generate additional need for guidance of finalized resolution of the environmental qualification issue.

Enclosure:
Generic Questions and Answers
to IE Bulletin No. 79-01B

GENERIC QUESTIONS AND ANSWERS TO IE BULLETIN No. 79-01B

Question 1 IEB 79-01B indicates the scope of the task is only that equipment exposed to a harsh environment. Enclosure 4, Section 4.3.3 identified areas outside of containment not exposed to harsh environmental conditions as the results of an accident. Should these areas be included in our evaluations?

Answer 1 No. Although the guidelines encompass all safety-related electrical equipment and components, the scope of IEB 79-01B is limited to only that electrical equipment which is exposed to the harsh environments identified in action item 1, including where fluids are recirculated from inside containment to accomplish long-term cooling following a LOCA. All equipment and components identified in action item 1 shall be included in the subsequent actions required by IEB 79-01B.

Question 2 IEB 79-01B action item 1 and Enclosure 4 indicate that emergency procedures be used to identify equipment to be included in the master list. Should all the equipment identified in the emergency procedures be included in the master list?

Answer 2 All the equipment the licensee relies upon in the emergency procedures to mitigate design basis events that may be exposed to a harsh environment must be identified in response to Question 1. It is not the intent of this task to change the existing procedures by removing references to equipment or components that are considered nonessential and not environmentally qualified. This master list identifies all equipment and components that must be evaluated in response to action item 4. A determination should be made that sufficient equipment is environmentally qualified to permit accident mitigation. A tabulation of other equipment or components which are referenced in the Emergency Procedures but are not relied upon should be available for NRC review. Justification should also be available so that this non-qualified equipment will not be misleading to the operator.

Question 3 Is note 2 of Appendix A to Enclosure 4 within the scope of this task?

Answer 3 Only those emergency shutdown systems that could be used for mitigation of a LOCA or HELB and are exposed to a harsh environment identified in response to Question 1. Licensee review should: (1) identify equipment that could be used to achieve cold shutdown following LOCA or HELB; and (2) determine if environmental qualification exists. For equipment that is not environmentally qualified the licensee should either provide plans to qualify this equipment or provide justification that qualification is not needed to achieve safe shutdown to meet licensing requirements applicable to your facility.

- Question 4 What is the basis for the 343 Degrees F for 6 hours requirement identified in Enclosure 4 and NUREG 0588, Figure C 1?
- Answer 4 For minimum high temperature conditions in pressure suppression type containments, we do not require that 340 Degrees F for 6 hours be used for BWR drywells or that 340 Degrees F for 3 hours be used for PWR ice condenser lower compartments. These values are from a bounding high temperature profile (see Section 1.1 and 1.2 of NUREG 0588) that can be used in lieu of a plant specific profile, provided that expected pressure and humidity conditions as a function of time are accounted for.
- In general, the containment temperature and pressure conditions as a function of time should be based on analyses in the FSAR. However, these conditions should bound that expected for coolant and steam line breaks inside the containment. The steam line break conditions should include superheated conditions: the peak temperature, and subsequent temperature/pressure profile as a function of time. If containment spray is to be used, the impact of the spray on required equipment should be accounted for.
- Question 5 Should equipment or systems which are presently planned to be modified as a result of actions, such as lessons learned, to be included in the response to IEB 79-01B?
- Answer 5 No.
- Question 6 Will there be any other actions required when the NRC completes its evaluation of the responses to IEB 79-01B and any related corrective actions deemed necessary are complete?
- Answer 6 The NRC staff does not foresee any additional actions for the electrical equipment and components which are included in the scope of IEB 79-01B; however, if new problems or concerns are identified, appropriate action will be taken.
- Question 7 Are Spare Parts required to meet 79-01B?
- Answer 7 Yes. The Spare Parts are required to meet the same criteria as the installed electrical equipment or component resulting from the evaluation of IEB 79-01B.
- Question 8 The instruction sheet for Enclosure 3 "System Component Evaluation" indicates that outstanding items be identified. What is the definition of outstanding items?

- Answer 8** An outstanding item is defined as that item that does not meet the environmental qualification guidelines and requirements of IEB 79-01.
- Question 9** Are the requirements and positions in NUREG 0588 the same as those in NUREG 0578 in relation to environmental qualification of electrical equipment and components?
- Answer 9** Yes.
- Question 10** NUREG 0588 is out for comment. Does the staff expect any significant changes which may impact this effort?
- Answer 10** No.
- Question 11** When it is determined, as a result of the efforts required by IEB 79-01B, that specific equipment be upgraded, are the guidelines in Enclosure 4 to be used?
- Answer 11** As a minimum the same requirements that were used to determine the acceptability of the electrical equipment and components within the scope of IEB 79-01B may be used; however, if equipment is available which meets the requirements of IEEE 323-1974 it should be used.
- Question 12** Does the Licensee Event Report (LER) requirements of IEB 79-01B supercede or change the reporting requirements already defined?
- Answer 12** No. The requirement for reporting in IEB 79-01B does not change the reporting requirements defined in the license conditions.
- Question 13** Are only those items known to be unqualified immediately reportable whereas items for which there is no data or insufficient data are open items to be resolved, but are not immediately reportable?
- Answer 13** When a determination has been made that the existing data is inadequate or no data exists to have reasonable assurance that the Class IE electrical equipment components can perform their safety-related function required in the specified FSAR environments, that is reportable per IEB 79-01B. The time and technical judgments required to make the determination should be based on the significance of the specific equipment, components and the discrepancies.

- Question 14 Are the results of an evaluation using the materials identified in Enclosure 4, Appendix C, of an acceptable method of addressing the effects of aging within the scope of Bulletin 79-01B?
- Answer 14 Yes, for those materials on the list, however, Appendix C indicates this is a partial list. Your evaluation in response to IEB 79-01B may identify other materials that are susceptible to significant degradation.
- Question 15 What are the sources Appendix C-1 used to identify the materials in Table C-1 and establish the failure levels?
- Answer 15 Typical sources for the information are given in Appendix C. Your information of materials not on this table should identify the source for your evaluation.
- Question 16 Is additional effort or calculations required for radiation service conditions if previous efforts did not utilize the methodology or assumptions identified in NUREG 0588?
- Answer 16 Yes, the extent of the effort required will be dependent on the significance of the difference in methodology and assumptions.
- Question 17 Will extension of time be granted for schedules if identified in IEB 79-01B action item 7.
- Answer 17 The schedule was based on the significance of the safety concerns relating to the adequacy of environmental qualification of electrical equipment or components. Any projected deviations from these schedules should be identified to the Regional Office by a written request. The NRC staff will make a determination on a case-by-case basis.

RECENTLY ISSUED
IE BULLETINS

Bulletin No.	Subject	Date Issued	Issued To
80-04	Analysis of a PWR Main Steam Line Break With Continued Feedwater Addition	2/8/80	All PWR reactor facilities holding OLs and to those nearing licensing
80-03	Loss of Charcoal From Standard Type II, 2 Inch, Tray Adsorber Cells	2/6/80	All holders of Power Reactor OLs and CPs
80-02	Inadequate Quality Assurance for Nuclear	1/21/80	All BWR licenses with a CP or OL
80-01	Operability of ADS Valve Pneumatic Supply	1/11/80	All BWR power reactor facilities with and OL
79-01B	Environmental Qualification of Class IE Equipment	1/14/80	All power reactor facilities with an OL
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. 2)	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