

## **7.12 ENVIRONMENTAL QUALIFICATION OF ELECTRIC EQUIPMENT IMPORTANT TO SAFETY**

Equipment used to perform a necessary safety function must be demonstrated to be capable of maintaining functional operability for the time it is required to operate, under all service conditions postulated to occur during its installed life. This requirement, which is embodied in General Design Criteria 1 and 4 of Appendix A and Sections III, XI, and XVII of Appendix B to 10 CFR Part 50, is applicable to equipment located inside as well as outside containment. More detailed requirements and guidance relating to the methods and procedures for demonstrating this capability for electrical equipment are contained in 10 CFR 50.49, "Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plants," NUREG-0588, "Interim Staff Position of Environmental Qualification of Safety-Related Electrical Equipment" and "Guidelines for Evaluating Environmental Qualification of Class IE Electrical Equipment in Operating Reactors" (DOR Guidelines).

On January 14, 1980, Nuclear Regulatory Commission (NRC) issued Inspection and Enforcement Bulletin (IEB) 79-01B which included the DOR Guidelines and NUREG-0588 (for comment version). Subsequently, on May 23, 1980, Commission Memorandum and Order CLI-80-21 was issued and stated that the DOR Guidelines and portions of NUREG-0588 (for comment version) form the requirements that Calvert Cliffs must meet regarding environmental qualification of safety-related electrical equipment. Supplements to IEB 79-01B, issued on February 29, September 30, and October 24, 1980, NUREG-0588, Revision 1, dated July 1981 and NRC Generic Letter 82-09, dated April 20, 1982 provide further clarification and definition of the NRC's requirements.

A final rule on environmental qualification of electric equipment important to safety for nuclear power plants became effective on February 22, 1983. This rule, Section 50.49 of 10 CFR Part 50, specifies the requirements to be met for demonstrating the environmental qualification of electrical equipment important to safety located in a harsh environment. In accordance with this rule, equipment for Calvert Cliffs may be qualified to the criteria specified in either the DOR Guidelines or NUREG-0588, (for comment version) except for replacement equipment. Replacement equipment installed subsequent to February 22, 1983 must be qualified in accordance with the provisions of 10 CFR 50.49, using the guidance of Regulatory Guide 1.89, Revision 1, unless there are sound reasons to the contrary.

The Calvert Cliffs Environmental Qualification Program complies with these requirements.