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IEEE Recommended Practice for the Protection of Electric Equipment in Nuclear Power Generating Stations from Water Hazards

Sponsor
**Nuclear Power Engineering Committee
of the
IEEE Power Engineering Society**

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Foreword

(This Foreword is not a part of IEEE Std 833.-1988, IEEE Recommended Practice for the Protection of Electric Equipment in Nuclear Power Generating Stations from Water Hazards.)

Concerns have been expressed relative to failures of electric equipment in operating nuclear power plants resulting from water or moisture intrusion. (See Appendix for references that document these occurrences.) The purpose of this document is to recommend practices that respond to these concerns and that are in addition to those that may already be required or in place to protect the electric equipment or systems from water hazards.

It would be desirable to specifically define when a water hazard exists and should be treated, and to give specific directions as to how to deal with that hazard; however, the individuality of each nuclear power plant structure makes this difficult. Further, it may not be reasonable to provide protection for all possible flooding scenarios. Examples of such scenarios are multiple or simultaneous pipe breaks, valve leaks, or deliberate operation of fire hoses to extinguish fires in equipment. Where it can be determined by analysis or experience that a malfunction of equipment or loss of a system function is likely to result due to inadvertent water or moisture intrusion, and where that loss threatens the continued operation of the plant, appropriate steps should be taken. It is the responsibility of the user to make this determination and select the appropriate means of protection.

This document does not address the ability of the electric equipment to withstand a "loss-of-coolant" accident, high energy line break, or the physical forces resulting from jet impingement, or other line breaks which are covered by other analyses, standards, or requirements.

The working group recognizes that the state of the industry is such that these recommendations may be considered for operating plants, new plants, or during plant modifications. The user is encouraged to consider all of the recommendations in the application of this document.

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