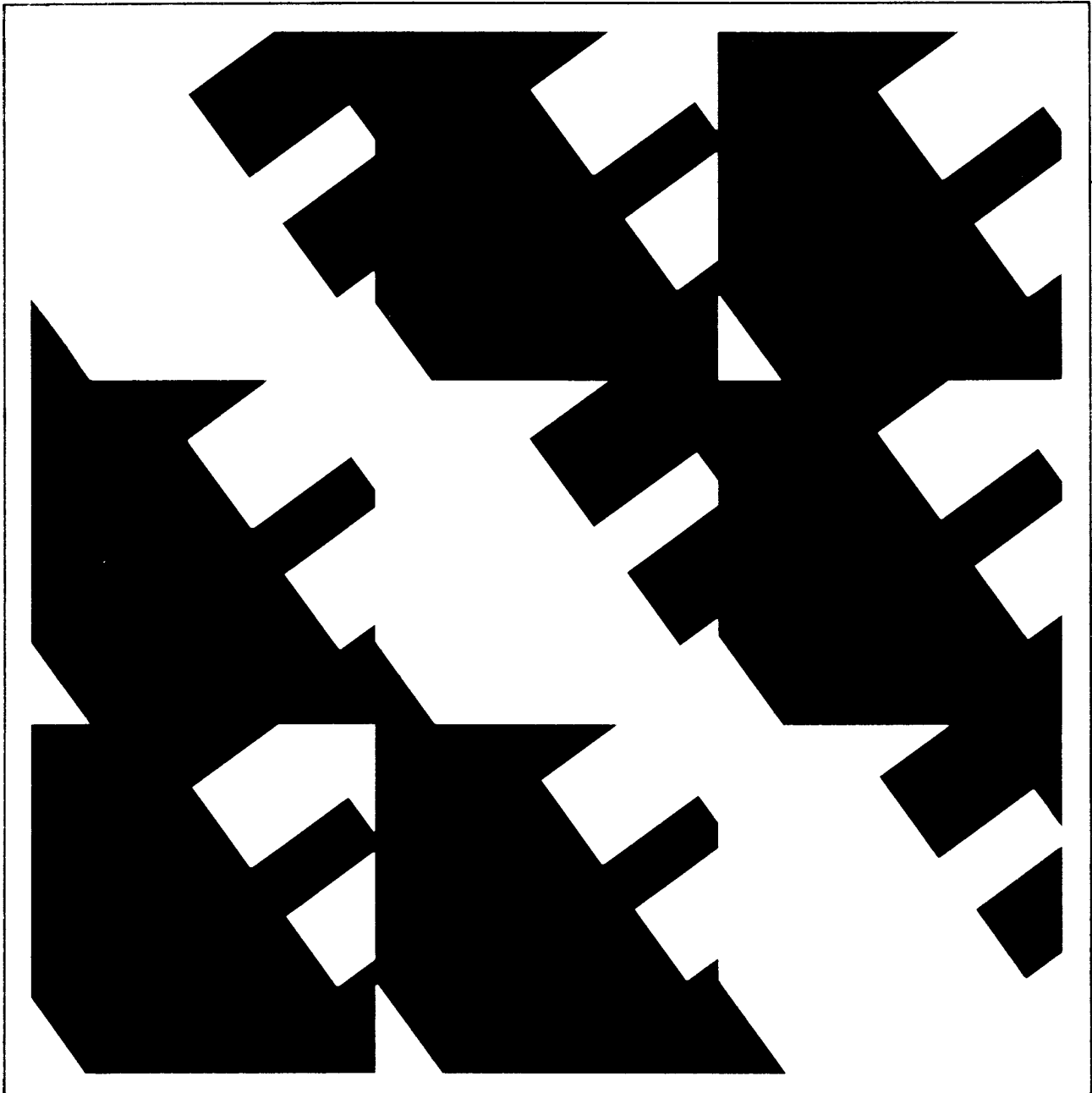


IEEE Standard Criteria for the Protection of Class 1E Power Systems and Equipment in Nuclear Power Generating Stations

ANSI/IEEE Std 741-1986



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**IEEE Standard Criteria for the Protection of
Class 1E Power Systems and Equipment
in Nuclear Power Generating Stations**

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

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IEEE Standards Board

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Foreword

(This Foreword is not a part of ANSI/IEEE Std 741-1986, IEEE Standard Criteria for the Protection of Class 1E Power Systems and Equipment in Nuclear Power Generating Stations.)

The IEEE has developed this document to provide the principal design criteria, design features, and testing requirements for the protection of Class 1E power systems and equipment supplied from those systems. It is of particular use in identifying the need for special protection features, where the requirements of nuclear power generating stations necessitate supplementing accepted industry practices.

Wherever possible, the standard identifies other standards or documents which provide more explicit guidance for specific protection requirements. By definition, the protection must be adequate to sense and to determine the presence of an unacceptable condition and execute the operations required in order to limit degradation effects. In this role, the standard pays special attention to the requirements for design verification documentation to support the protection performance.

Of particular interest are the electrical penetration assemblies installed as part of the containment structure which may require special considerations for their protection. Included are the criteria used to establish the necessity for special considerations and the resulting protection requirements where this is needed.

Since this document has been prepared, IEEE Std 946-1985, IEEE Recommended Practice for the Design of Safety-Related DC Auxiliary Power Systems for Nuclear Power Generating Stations, has been approved for publication. The SC4.7 Working Group will be reviewing IEEE Std 946-1985 for its use as a reference in future revisions of IEEE Std 741-1986. Protective devices associated with motor operated valves are also under consideration for inclusion in future revisions of this standard.

Adherence to the criteria set out in this standard may not in itself suffice for assuring public health and safety because it is the integrated performance of structures, fluid systems, instrumentation, and electrical systems that limit the consequence of accidents. Each applicant has the responsibility to assure himself and others that the integrated performance is adequate.

Working Group SC4.7 had the following membership at the time it prepared this standard:

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J. T. Haller
R. V. Rebbapragada

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The membership of Subcommittee SC4 on Auxiliary Power Systems of the Nuclear Power Engineering Committee of the IEEE Power Engineering Society that reviewed and recommended approval of this standard were:

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