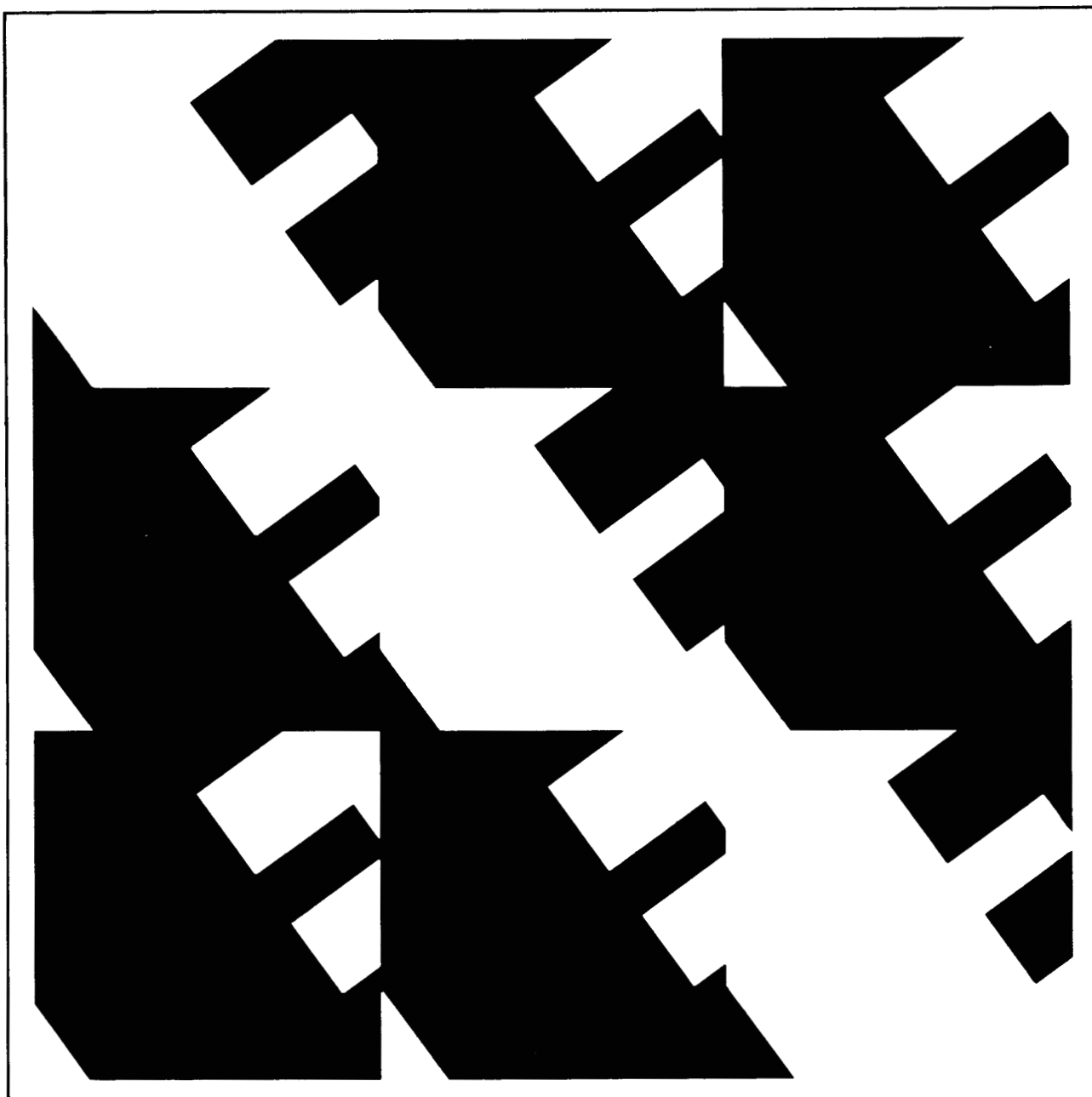


IEEE Trial-Use Standard Criteria for the Design of the Control Room Complex for a Nuclear Power Generating Station

ANSI/IEEE Std 567



Published by The Institute of Electrical and Electronics Engineers, Inc. 345 East 47th Street, New York, New York 10017
October 17, 1980

SH07815

THIS PAGE WAS
BLANK IN THE ORIGINAL

ANSI/IEEE Std 567

(Issued October 1980
for trial use.)

Draft American National Standard

**IEEE Trial-Use Standard
Criteria for the Design of the
Control Room Complex for a
Nuclear Power Generating Station**

Sponsor

Power Generation Committee of the
IEEE Power Engineering Society

Draft American National Standard

Publication of this draft standard for comment and criticism has been approved by the Institute of Electrical and Electronics Engineers. Distribution of this draft standard for comment shall not continue beyond 12 months from the date of publication. It is expected that following this 12 month period, this draft standard, revised as necessary, shall be submitted to the American National Standards Institute for approval as an American National Standard. Suggestions for revision should be directed to the Secretary, IEEE Standards Board, 345 East 47th Street, New York, N.Y. 10017.

© Copyright 1980 by

The Institute of Electrical and Electronics Engineers, Inc

*No part of this publication may be reproduced in any form,
in an electronic retrieval system or otherwise,
without the prior written permission of the publisher.*

Approved December 20, 1979

IEEE Standards Board

Joseph L. Koepfinger, *Chairman*

Irvin N. Howell, Jr, *Vice Chairman*

Ivan G. Easton, *Secretary*

G. Y. R. Allen
William E. Andrus
C. N. Berglund
Edward Chellotti
Edward J. Cohen
Warren H. Cook
R. O. Duncan
Jay Forster

Harold S. Goldberg
Richard J. Gowen
H. Mark Grove
Loering M. Johnson
Irving Kolodny
W. R. Kruesi
Leon Levy

J. E. May
Donald T. Michael*
R. L. Pritchard
F. Rosa
Ralph M. Showers
J. W. Skooglund
W. E. Vannah
B. W. Whittington

*Member emeritus

Foreword

(This Foreword is not a part of ANSI/IEEE Std 567, IEEE Trial-Use Standard Criteria for the Design of the Control Room Complex for a Nuclear Power Generating Station.)

This standard provides criteria for the design of the control room complex for a nuclear power generating station and is directed toward the central control room and the overall complex in which it is housed as a physical entity. The complex protects personnel and safety-related equipment from the adverse effects of hazards that could prevent personnel from performing their intended functions.

Each applicant for a construction permit or an operating license is required to provide assurance that the proposed nuclear power generating station meets the General Design Criteria contained in Appendix A of 10CFR50, Code of Federal Regulations, Title 10. This standard is intended to assist the applicant in meeting those criteria of 10CFR50 that apply directly to the control room complex.

Adherence to this document alone may not suffice for assuring public health and safety since it is the integrated performance of structures, fluid systems, instrumentation systems, electrical systems and plant personnel that establish safe operating conditions of the nuclear power generating station.

The contents of this document were originally included in the Scope of IEEE Std 566-1977, Recommended Practice for the Design of Display and Control Facilities for Central Control Rooms of Nuclear Power Generating Stations, which was prepared jointly by the Nuclear Power Plant Control and Protection Working Group of the Power Generation Committee and Subcommittee (SC) 1.2 of the Nuclear Power Engineering Committee. Because of the diverse nature of the information and topics under consideration, the working group decided to remove the design of the control room complex from IEEE Std 566-1977 and continue the preparation of this proposed standard as a separate task. This standard has been prepared under the auspices of the Power Plant Control Protection and Automation Subcommittee of the Power Generation Committee.

This document was in the final stages of resolution of ballots when the Three Mile Island (TMI) Unit No 2 accident occurred. Various bodies have been reviewing the TMI accident to assess its impact on the design, operation and regulation of nuclear power plants. Some early responses have come from the Nuclear Regulatory Commission (NRC), which has set up three task forces.

The working group has reviewed the statements issued so far from the *lessons learned* task force contained in NUREG-0578, TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations (July, 1979), to see what impact these observations have on this document. It is expected that as more of the committees report on their conclusions, other items will arise for consideration by the working group.

Sections of this document likely to be affected are as follows. Habitability (see 5.8) is affected by the understanding of design basis accident, which may include potentially radioactive releases due to inadvertent action. Secondly, it is anticipated that the definition of control room complex (see Section 3) will be changed, subject to industry consensus, to reflect the opinion of NUREG-0578 that an onsite technical support center and an operational support center be located near the main control room and preferably within the control room complex. Finally, there will be review of emergency communications system requirements (see 5.5) to include a *hot line* to the Nuclear Regulatory Commission. The working group also considered that the replacement of the design basis accident concept and single-failure by a more complex, multi-failure scenario might lead to more restrictive requirements with regard to radioactive sources located near the control room and affecting the control room environment.

One of the principal observations resulting from a review of the TMI-2 accident is that the information display systems were inadequate. IEEE Std 566-1977 is under view by the working group and recommendations to improve the displays and control facilities will be incorporated in the revised IEEE Std 566.