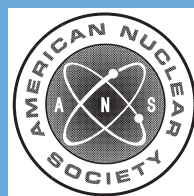


American Nuclear Society

WITHDRAWN

**nuclear safety criteria for the
design of stationary boiling water
reactor plants**

an American National Standard



**published by the
American Nuclear Society
555 North Kensington Avenue
La Grange Park, Illinois 60526 USA**

**American National Standard
Nuclear Safety Criteria for the
Design of Stationary
Boiling Water Reactor Plants**

**Secretariat
American Nuclear Society**

**Prepared by the
American Nuclear Society
Standards Committee
Working Group ANS-52.1**

**Published by the
American Nuclear Society
555 North Kensington Avenue
La Grange Park, Illinois 60525 USA**

**Approved March 16, 1978
by the
American National Standards Institute, Inc.**

American National Standard

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Published by

**American Nuclear Society
555 North Kensington Avenue, La Grange Park, Illinois 60525 USA**

Price: \$45.00

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Printed in the United States of America

Foreword

(This Foreword is not a part of American National Standard Nuclear Safety Criteria for the Design of Stationary Boiling Water Reactor Plants, ANSI/ANS-52.1-1978 (N212))

At the annual ANS meeting in June 1970, the ANS-20 Power Reactor Systems Engineering Committee (now part of ANS-50, Nuclear Power Plant Systems Engineering Committee) accepted the responsibility to develop a set of Nuclear Safety Criteria for Boiling Water Reactors. At the first organizing meeting in September 1970, the ANS-52 (formerly ANS-22) Subcommittee reviewed the work of ANS-20 on the PWR criteria and considered in substantial detail an appropriate approach and format for the BWR criteria.

It was established that the PWR criteria (now N18.2) would be utilized to form the basic structure of the BWR criteria. That is, it was agreed to adopt the Safety Class concept, to establish Conditions for Design, and to adopt the same basic format regarding criteria for individual systems. The ANS-52 Subcommittee also agreed that the scope of the BWR criteria would be extended beyond that represented in the PWR criteria of August 1970, in three principal areas:

a) Safety Classes

The ANS BWR Criteria would be structured to include instrumentation, control, fuel storage, electrical and other similar structures and equipment having plant safety functions. It would not be limited to pressure retaining components.

b) Conditions for Design

The ANS-52 Subcommittee adopted the philosophy that the definition of Conditions for Design should be the combination of plant process conditions and natural phenomena that could result in simultaneous effects on plant equipment.

c) Design Requirements

The ANS BWR Criteria would provide a set of Design Requirements for all categories of Safety Classes in terms of industry codes and standards for each of the Conditions of Design. The BWR Design Requirements would then be referenced to specific established standards and in this manner assure substantial interrelationship with the codes and standards developed by other technical groups.

In developing the format and technical content of the ANS BWR Criteria it has been the objective of the Subcommittee to achieve the following:

- a) To establish a disciplined, systematic method for defining safety requirements for a boiling water reactor power plant;
- b) To establish and delineate the basic functional safety requirements for the design of a boiling water reactor power plant;
- c) To be responsive to both the regulatory requirements of the Nuclear Regulatory Commission and the design and technical requirements of industry codes and standards;
- d) To provide a framework for augmentation of the ANS BWR Criteria as additional standards are developed within the nuclear industry;
- e) To provide a uniform basis for design safety requirements which are to be reflected in regulatory licensing documentation.

It is believed that these objectives have been achieved.

To achieve a broad consensus forum, the ANS BWR Criteria was issued for the "Trial Use and Comment" in 1974. The ANS BWR Criteria was updated after the "Trial Use and Comment" phase incorporating 1) input from the "Trial Use and Comment" reviewers; 2) the ANS-50 Glossary, designated CWG-1; and 3) the latest state-of-the-art, e.g., recently issued ANSI Standards. The modification was made in accordance

with the ANS-50 format, designated CWG-4. The Standard as updated was approved by the ANS-52 Committee in April 1975, ANS-50 in January 1976; and by the ANSI N18 Committee in July 1976.

ANS-52 recognizes that continuing efforts will be required to augment or modify the criteria to implement changing licensing requirements, to achieve standardization among the various industry criteria and standards currently being developed, and to provide additional clarification or interpretation as appropriate.

The ANS-52 BWR Subcommittee meets regularly to consider revisions or modifications to these standards. Comments, suggestions and requests for interpretations should be addressed to the Chairman, ANS-52 BWR Criteria Subcommittee, American Nuclear Society, 555 North Kensington Avenue, La Grange Park, IL 60525

The ANS-52 membership at the time of approval of this standard was:

W. H. D'Ardenne, Chairman, <i>General Electric Company</i>	A. T. Molin, <i>United Engineers & Constructors, Inc.</i>
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The membership of ANS-50 at the time of its approval of this Standard was:

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J. H. Noble, <i>Stone & Webster Engineering Corporation</i>	F. Zapp, <i>Oak Ridge National Laboratory</i>
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The American National Standards Committee N18, Nuclear Design Criteria, had the following membership at the time it reviewed and approved this standard:

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A.H. Redding, Vice Chairman, Westinghouse Electric Corporation

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