# **American Nuclear Society**



criteria for nuclear criticality safety controls in operations where shielding protects personnel

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Secretariat American Nuclear Society

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## Foreword

(This Foreword is not a part of American National Standard Criteria for Nuclear Criticality Safety Controls in Operations Where Shielding Protects Personnel, N16.8-1975/ANS-8.10.)

This Standard amplifies the conditions necessary for the control of criticality in fissionable materials set forth in American National Standard for Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors, N16.1-1975, when radiation shielding adequate for the protection of operating personnel from radiation arising from accident conditions is provided. In the context of this Standard the shielding may be present because of radiation emitted from the process material in normal operations or it may be designed into the facility expressly to protect against accidental exposure.

The usefulness and protective features of shielding for personnel involved in operations with fissionable materials have long been recognized, although guidance has not been provided previously.

This Standard was initiated as the result of a survey, conducted in September, 1968, to establish the need for and the feasibility of a standard in this area.

The Work Group appointed in November, 1968, to prepare the proposed standard submitted the first draft in June, 1969, for comment. Subsequently, the Working Group, in response to various comments, prepared twelve additional drafts over a five-year period. Some of the later revisions were the consequence of recommendations from American National Standard Committee N16 in 1972.

The Standard was drafted by a Working Group of Subcommittee 8 comprised of:

- E. D. Clayton, Chairman, Battelle Pacific Northwest Laboratories
  J. K. Fox, Consultant
  - Ridge Gaseous Diffusion Plant F. E. Woltz, Goodyear Atomic Corporation
- W. A. Johnson, U.S. Energy Research and Development Administration, Oak Ridge Operations

This Standard was prepared by Subcommittee 8 of the Standards Committee of the American Nuclear Society. At the time of approval the membership of the Sub-

- J. D. McLendon, Chairman, Union Carbide Corporation, Nuclear Division
- E. B. Johnson, Secretary, Union Carbide Corporation, Nuclear Division
- F. M. Alcorn, Babcock and Wilcox Company
- H. K. Clark, Savannah River Laboratory

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- E. D. Clayton, Battelle Pacific Northwest Laboratories
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The American National Standards Committee N16, Nuclear Criticality Safety, which reviewed and approved this Standard in 1974, had the following membership:

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