American Nuclear Society

REAFFIRMED

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nuclear criticality safety training

an American National Standard

This standard has been reviewed and reaffirmed with the recognition that it may reference other standards and documents that may have been superseded or withdrawn. The requirements of this document will be met by using the version of the standards and documents referenced herein. It is the responsibility of the user to review each of the references and to determine whether the use of the original references or more recent versions is appropriate for the facility. Variations from the standards and documents referenced in this standard should be evaluated and documented.
This standard does not necessarily reflect recent industry initiatives for risk informed decision-making or a graded approach to quality assurance. Users should consider the use of these industry initiatives in the application of this standard.

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American National Standard for Nuclear Criticality Safety Training

Secretariat
American Nuclear Society

Prepared by the
American Nuclear Society
Standards Committee
Working Group ANS-8.20

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by the
American National Standards Institute, Inc.

American National Standard

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Comments on this standard are encouraged and should be sent to Society Headquarters.

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Foreword

(This Foreword is not a part of American National Standard for Nuclear Criticality Safety Training, ANSI/ANS-8.20-1991.)

This standard presents the training outline, procedures, and responsibilities for providing appropriate nuclear criticality safety training for employees associated with fissile material operations outside reactors. The usefulness of this standard lies in its provisions for the establishment of training objectives, the designation of personnel requiring training, the skeletal framework of training program content, and criteria for program documentation and evaluation. The two appendixes include relevant references and resources and various methods for conducting training. Heretofore, no generally accepted guidance for nuclear criticality safety training has been available.

This standard was initiated by the Training Work Group of the U.S. Department of Energy Nuclear Criticality Technology and Safety (U.S. DOE NCT&S) Project in recognition of the need for and the feasibility of a standard for the establishment of consistent, appropriate nuclear criticality safety training in fissile material operations outside nuclear reactors.

A group, ANS-8.20, under Subcommittee 8 of the Standards Committee of the American Nuclear Society, was established to formulate the proposed standard. Several drafts were prepared for review by the members of the NCT&S Project Training Work Group. The membership of the Training Work Group was expanded to include representatives from not only the U.S. DOE, its field offices, and its contractors, but also from the U.S. Nuclear Regulatory Commission (U.S. NRC), private nuclear industry companies, and universities.

This standard was developed by ANS-8.20, which had the following membership:

M. R. Crowell, Chairman, *Oak Ridge Associated Universities*
F. M. Alcorn, *Babcock & Wilcox Company*
L. C. Dolan, *Martin Marietta Energy Systems, Inc.*
M. C. Evans, *British Nuclear Fuels plc*
C. M. Hopper, *Oak Ridge National Laboratory*
N. Ketzlach, *The Ralph M. Parsons Company*
L. L. Lowry, *Lawrence Livermore National Laboratory*
T. P. McLaughlin, *Los Alamos National Laboratory*

Invaluable assistance was given in the review process of this standard by R. A. Knief of *GPU Nuclear Corporation,* G. A. Price of *Brookhaven National Laboratory,* and other members of the Training Work Group of the NCT&S Project.

This standard was prepared under the direction of ANS-8, Fissionable Materials Outside Reactors. The membership of ANS-8 at the time of its approval of this standard was as follows:

J. T. Thomas, Chairman, *Martin Marietta Energy Systems, Inc.*
E. B. Johnson, Secretary, *Oak Ridge National Laboratory*
F. M. Alcorn, *Babcock & Wilcox Company*
R. D. Carter, *Westinghouse Hanford Company*
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D. M. Dawson, *Science Applications International Corporation*
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Consensus Committee N16, Nuclear Criticality Safety, had the following membership at the time of its approval of this standard:

Dixon Callihan, Chairman
David R. Smith, Vice Chairman
Elizabeth B. Johnson, Secretary

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American Institute of Chemical Engineers	L. Robert LaRiviere
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