American Nuclear Society

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guidelines for the verification and validation of scientific and engineering computer programs for the nuclear industry

an American National Standard

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American National Standard Guidelines for the Verification and Validation of Scientific and Engineering Computer Programs for the Nuclear Industry

Secretariat
American Nuclear Society

Prepared by the
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Standards Committee
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Foreword

(This Foreword is not a part of American National Standard Guidelines for the Verification and Validation of Scientific and Engineering Computer Programs for the Nuclear Industry, ANSI/ANS-10.4-1987.)

The purpose of this standard is to provide guidelines for the verification and validation of scientific and engineering computer programs developed for nuclear industry applications. The standard does not recommend a specific approach to program development, but does recommend that verification and validation activities be carried out in parallel with program development. For a specific project, the project sponsor should determine the level of the verification and validation effort to be applied. The standard complements the following ANS-10 standards relating to computer program development:

American National Standard Guidelines for the Documentation of Digital Computer Programs, ANSI/ANS-10.3-1986.

American National Standard Guidelines for Considering User Needs in Computer Program Development, ANSI/ANS-10.5-1986.

American National Standard for Recommended Programming Practices to Facilitate the Portability of Scientific Computer Programs, ANSI/ANS-10.2-1982.

In addition, an effort has been made to maintain consistency in terminology and concepts with various software standards being developed under the sponsorship of the Institute of Electrical and Electronics Engineers, Inc. (IEEE) and to identify areas of disagreement.

This standard has been written by Working Group ANS-10.4 of the American Nuclear Society's Standards Committee. The membership of this group during the preparation of the final drafts consisted of:

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The publication of R. L. Merilott, "Computer Software Validation and Verification, A Generic Guideline," BCS40342 June 1981, was used as a general reference.

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