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documentation of computer software

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American National Standard for Documentation of Computer Software

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American Nuclear Society

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Standards Committee
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American National Standard

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Foreword

(This Foreword is not a part of American National Standard for Documentation of Computer Software, ANSI/ANS-10.3-1995.)

This standard supersedes and is a revision of American National Standard Guidelines for the Documentation of Digital Computer Programs, ANSI/ANS-10.3-1986. These documents were prepared by Subcommittee ANS-10 of the Standards Committee of the American Nuclear Society (ANS). This subcommittee is sponsored by the Mathematics and Computation Division of the Society. Since its inception, the Mathematics and Computation Division has encouraged and promoted the interchange of computer software within the nuclear industry. The guidelines recommended herein are based on experience in working with neutronics, shielding, and engineering applications in this industry.

This standard addresses the documentation of engineering and scientific software. Good documentation promotes understanding, reduces duplication of effort, eases conversion to different computer environments, and facilitates extension to other applications. Good documentation is essential for effective implementation and use of computer software.

The intention of this standard is to encourage better communication between the developer and the user; it should be regarded as a guide rather than a set of rigid specifications. As a guide, it is sufficiently comprehensive to apply to large-scale programs and for software intended for extensive external use. Not all features of this document are appropriate in all circumstances. For example, software in the initial experimental stage would not be expected to require the extensive documentation suggested in this standard. The degree of conformance is a matter of judgment and must be established for each individual situation by the management of the development effort. In general, as the project complexity increases so does the need for more complete documentation. Most software development organizations will have additional documentation requirements which extend this standard.

Documentation requirements for on-line monitoring, control, and safety systems are not covered in this standard.

This standard is one of four documents directed toward individuals who develop computer programs. The other three are American National Standard Recommended Programming Practices to Facilitate the Portability of Scientific and Engineering Computer Programs, ANSI/ANS-10.2-1988; American National Standard Guidelines for the Verification and Validation of Scientific and Engineering Computer Programs for the Nuclear Industry, ANSI/ANS-10.4-1987; and American National Standard for Accommodation of User Needs in Computer Program Development, ANSI/ANS-10.5-1994. These standards are under continual maintenance by ANS-10. The user is advised to review the current versions of these standards for possible changes.

This standard was drafted by Working Group ANS-10.3 of Subcommittee ANS-10, Mathematics and Computation. The membership of ANS-10.3, at the time of its approval of this standard, was as follows:

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