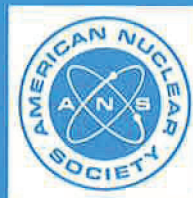


American Nuclear Society

**guidelines for considering user needs in
computer program development**

an American National Standard



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American Nuclear Society
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Guidelines for Considering User Needs
in Computer Program Development

Secretariat
American Nuclear Society

Prepared by the
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Standards Committee
Working Group ANS-10.5

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American National Standard

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Foreword

(This Foreword is not a part of American National Standard Guidelines for Considering User Needs in Computer Program Development, ANSI/ANS-10.5-1986.)

A high degree of reliance is placed on results produced by computer calculations. Often the users of computer programs have limited program expertise and can be unaware of the consequences of misapplication. Similarly, program developers may have limited appreciation of user needs, particularly in the area of adequate documentation, input preparation, and output interpretation. Cooperative interaction between developers and prospective users throughout the development and trial use periods is important to produce a product that can be used with a high degree of reliability. In many projects, the prospective user is unavailable and the developer must anticipate the needs of users.

As a guideline, this standard recommends programming and documentation practices that are important for accommodating user needs. It is one of three documents directed towards individuals who develop computer programs. The other two are American National Standard for Recommended Programming Practices to Facilitate the Portability of Scientific Computer Programs, ANSI/ANS-10.2-1982 and American National Standard Guidelines for the Documentation of Digital Computer Programs, ANSI/ANS-10.3-1986 (replacing ANSI/N413-1974). As used here, the definition of guidelines is "Particular provisions which are considered good practice but which are not mandatory in programs intended to comply with this standard. The term 'should' denotes a guideline; the term 'shall' denotes a mandatory requirement." (See American National Standard Quality Assurance Program Requirements for Nuclear Facilities, ANSI/ASME NQA-1-1986.)

Proper application of this standard will improve the design and utility of computer programs by encouraging the developer to consider aspects related to user requirements which are often overlooked or assigned a low priority. It is recognized that a substantial effort may be required to fully implement these recommendations. The cost of this effort must be weighed against the potential benefits resulting from ease of use and increased reliability.

These guidelines were prepared by the ANS-10 Subcommittee of the American Nuclear Society's Standards Committee. This subcommittee is sponsored by the Mathematics and Computation Division of the Society. The Mathematics and Computation Division has encouraged the development and interchange of digital computer programs. These recommendations are based on experience in the development and use of computer programs for scientific and engineering calculations in the nuclear industry.

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