American Nuclear Society

verification and validation of non-safety-related scientific and engineering computer programs for the nuclear industry

an American National Standard

REAFFIRMED

September 26, 2016

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Foreword

(This Foreword is not a part of American National Standard "Verification and Validation of Non-Safety-Related Scientific and Engineering Computer Programs for the Nuclear Industry," ANSI/ANS-10.4-2008.)

The purpose of this standard is to provide guidelines for the verification and validation (V&V) of non-safety-related 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 V&V activities be carried out in parallel with program development. For a specific project, the project sponsor should determine the level of the V&V effort to be applied. The standard complements the following ANS-10 standards relating to computer program development:

ANSI/ANS-10.3-1995, "Guidelines for the Documentation of Computer Programs" (withdrawn);

ANSI/ANS-10.5-2006, "Accommodating User Needs in Scientific and Engineering Computer Software Development";

ANSI/ANS-10.2-2000, "Portability of Scientific and Engineering Software."

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., and to identify areas of disagreement.

Compliance with this standard does not substitute for compliance with regulatory requirements. For example, any analysis that requires a 10 CFR Part 50 Appendix B quality assurance program would still require one whether or not it conforms with this standard.

Charles R. Martin was the working group chair for much of the development of this standard. His contributions are gratefully acknowledged.

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