# American Nuclear Society

## evaluation of subsurface radionuclide transport at commercial nuclear power plants

## an American National Standard

**REAFFIRMED**

**June 28, 2021**
**March 10, 2016**
**ANSI/ANS-2.17-2010; R2021**

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reviewed and reaffirmed with the recognition that it may reference other standards and documents that may have been superseded or withdrawn.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 Evaluation of Subsurface Radionuclide Transport at Commercial Nuclear Power Plants

Secretariat
**American Nuclear Society**

Prepared by the
**American Nuclear Society**
**Standards Committee**
**Working Group ANS-2.17**

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by the
**American National Standards Institute, Inc.**

**American National Standard**

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This standard was developed under procedures of the Standards Committee of the American Nuclear Society; these procedures are accredited by the American National Standards Institute, Inc., as meeting the criteria for American National Standards. The consensus committee that approved the standard was balanced to ensure that competent, concerned, and varied interests have had an opportunity to participate.

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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 "Evaluation of Subsurface Radionuclide Transport at Commercial Nuclear Power Plants," ANSI/ANS-2.17-2010.)

This standard constitutes a major revision of the original standard, ANSI/ANS-2.17-1980, which was adopted on April 9, 1980, reaffirmed on October 3, 1989, and withdrawn on July 28, 2000. A new working group, Working Group ANS-2.17 of ANS-25 Subcommittee (Siting: Environmental & Emergency Preparedness) of the American Nuclear Standards Committee, was constituted November 2005 to revise the original standard.

This standard might reference documents and other standards that have been superseded or withdrawn at the time the standard is applied. A statement has been included in the references section that provides guidance on the use of references.

This standard mentions, but does not exhaustively describe, the concepts of generating risk-informed insights, performance-based requirements, and a graded approach to quality assurance. The user is advised that one or more of these techniques could enhance the application of this standard.

Two appendices are provided to assist practitioners who would implement the guidance in this standard. Appendix A provides information on relevant U.S. Nuclear Regulatory Commission regulatory criteria and guidance, and its Table A provides a listing of standard documents (e.g., ANS, ASTM, ISO, etc.) for conducting subsurface radionuclide transport characterization, monitoring, and modeling programs. Appendix B provides tables that summarize information and parameters identified in the guidance.

The ANS-2.17 Working Group of the Standards Committee of the American Nuclear Society had the following membership:

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This standard was prepared under the guidance of Subcommittee ANS-25, Siting: Environmental & Emergency Preparedness, of the American Nuclear Society. At the time of the ballot, Subcommittee ANS-25 was composed of the following members:

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[1)] The working group would like to gratefully acknowledge the contributions by G. S. "Bo" Bodvarsson, who died prior to the completion of this standard.

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# Contents