

American Nuclear Society

**categorization of nuclear facility structures,
systems, and components for seismic design**

an American National Standard

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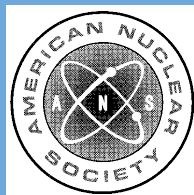
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**American National Standard
Categorization of Nuclear Facility
Structures, Systems, and Components
for Seismic Design**

Secretariat
American Nuclear Society

Prepared by the
**American Nuclear Society
Standards Committee
Working Group ANS-2.26**

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American National Standard

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Foreword (This foreword is not part of American National Standard Categorization of Nuclear Facility Structures, Systems, and Components for Seismic Design, ANSI/ANS-2.26-2004.)

This standard has been developed based on methods used by the U.S. Department of Energy (DOE) for performance categorizing and designing structures, systems, and components (SSCs) in nuclear facilities to withstand the effects of natural phenomena (DOE-STD-1021-93, “Natural Phenomena Hazards Performance Categorization Guidelines for Structures, Systems, and Components,” July 1993, Reaffirmed 2002; DOE-STD-1020-2002, “Natural Phenomena Hazards Design and Evaluation Criteria for Department of Energy Facilities,” January 2002; DOE-STD-1022-94, “Natural Phenomena Hazards Site Characterization Criteria,” March 1994, Reaffirmed 2002; DOE-STD-1023-95, “Natural Phenomena Hazards Assessment Criteria,” March 1995, Reaffirmed 2002).

This standard provides criteria and guidance for selecting a seismic design category (SDC) and Limit State for the SSCs with a safety function in a nuclear facility, other than commercial power reactors, whose seismic design requirements are established by other standards and regulations. The SDC and Limit State are to be used in conjunction with standards ANS-2.27, “Criteria for Investigations of Nuclear Materials Facilities Sites for Seismic Hazard Assessments”; ANS-2.29, “Probabilistic Seismic Hazard Analysis”; and ANSI/ASCE/SEI 43-05, “Seismic Design Criteria for Structures, Systems and Components in Nuclear Facilities.” These standards together establish the design response spectra and the design and construction practices to be applied to the SSCs in the facility, dependent on which SDC and Limit State are assigned to the SSC. The objective is to achieve a risk-informed design that protects the public, the environment, and workers from potential consequences of earthquakes. Application of this group of standards will produce (a) the design response spectra, (b) the SSC Limit State necessary to achieve adequate safety performance during and following earthquakes, and (c) SSC designs that achieve the desired Limit State. Referenced standards and their procedural relationship to this standard are discussed in Appendix A of this standard.

Working Group ANS-2.26 of the Standards Committee of the American Nuclear Society had the following membership at the time of approval of this standard and indeed was stable throughout the development of the standard:

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This standard was processed and approved for submittal to ANSI by the Nuclear Facilities Standards Committee (NSFC) of the American Nuclear Society on ANSI/ANS-2.26, "Categorization of Nuclear Facility Structures, Systems, and Components for Seismic Design." Committee approval of this standard does not necessarily imply that all members voted for approval. At the time it approved this standard, the NFSC had the following membership:

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