

American National Standard

concrete radiation shields

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Concrete Radiation Shields

**Secretariat
American Nuclear Society**

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American National Standard

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Foreword

(This Foreword is not a part of American National Standard for Concrete Radiation Shields, N101.6-1972.)

The American Nuclear Society's Subcommittee for Radioactive Materials Handling Facilities and Specialized Equipment, ANS-11, is responsible for developing standards for the design and construction of radioactive materials handling facilities and special remote-handling and associated equipment. This Subcommittee, sponsored by the ANS Remote Systems Technology Division, is responsible for issuing the series of standards which will constitute *A Guide for Good Practice for Hot Cell Design and Construction*.

The purpose of this Guide is to provide documentation and definition of practices proven by actual experience in hot cell facilities. The Guide is intended for use by architect-engineers, facility planners, designers, and operators in the design and construction of hot laboratory facilities, including shielded pilot plants and production, experimental, and storage facilities. Portions of the Guide are applicable to other shielding structures such as those for nuclear reactors. The Guide will consist of the following sixteen standards:

- ANS-11.1 *Interface and Trade-off Considerations for Hot Cell Design*
- ANS-11.2 *Radioactive Materials Flow Schemes*
- ANS-11.3 *Shielding Wall Penetrations for Manipulators, Viewing Devices, and Services*
- ANS-11.4 *Direct Viewing Windows*
- ANS-11.5 *Indirect Optical Viewing Devices*
- ANS-11.6 *TV Viewing*
- ANS-11.7 *Access Doors and Transfer Devices for Personnel and Equipment*
- ANS-11.8 *Illumination*
- ANS-11.9 *Manipulator Devices*
- ANS-11.10 *Elementary Materials Handling Devices*
- ANS-11.11 *Hot Cell Atmosphere Control Systems*
- ANS-11.12 *In-Cell Utility Requirements*
- ANS-11.13 *Concrete Radiation Shields*
- ANS-11.14 *Hot Cell Fire Prevention and Controls*
- ANS-11.15 *Wall Finishes and Protective Coatings*
- ANS-11.16 *Gloveboxes*

The Subcommittee has deliberately avoided discussion of operating philosophies except where absolutely necessary to support a particular design feature. It is not the intent of this Guide to describe safety practices and procedures except where they are directly related to facility design. Safety practices and procedures are the province of other committees and are beyond the scope of the Guide.

Many standards are being developed which relate to this standard. Of particular interest are those listed above which will comprise *A Guide to Good Practice for Hot Cell Design and Construction* and ANSI N45.2.5, *Installation, Inspection, and Testing of Structural Steel and Concrete During the Construction Phase of Nuclear Power Plants*. These standards will be referenced in future editions of N101.6-1972 as they are approved.

The American National Standards Committee N101, Atomic Industry Facility Design, Construction, and Operation Criteria, which reviewed and approved this standard in 1972 had the following membership:

- C. E. Stevenson, Chairman
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