Selection and Training of Personnel for Research Reactors

ANSI/ANS-15.4-2016

An American National Standard

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American National Standard
Selection and Training of Personnel for Research Reactors

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American National Standard

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(1) the name, company name if applicable, mailing address, and telephone number of the inquirer;

(2) reference to the applicable standard edition, section, paragraph, figure, and/or table;

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(5) a proposed reply, if the inquirer is in a position to offer one.

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Scientific Publications and Standards Department
555 N. Kensington Avenue
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or standards@ans.org

Foreword

(This foreword is not part of American National Standard "Selection and Training of Personnel for Research Reactors," ANSI/ANS-15.4-2016.)

The standard "Selection and Training of Personnel for Research Reactors," ANS-15.4, was first published in 1977. It was revised in 2007 to incorporate requirements for requalification and medical competence of licensed or certified operations personnel. It is again being revised, to address changes in regulatory requirements and attitudes and changes to medical techniques. The standard is designed to be easily adopted by the wide range of research reactors in operation in the United States and abroad.

Administrative and organizational requirements and structures, including reviews and audits, are found in companion standard ANSI/ANS-15.1-2007 (R2013), "The Development of Technical Specifications for Research Reactors."

Critical facilities and fast pulse reactors should rely on existing standards ANSI/ANS-1-2000 (R2012), "Conduct of Critical Experiments," and ANSI/ANS-14.1-2004 (R2014), "Operation of Fast Pulse Reactors," and should use ANS-15.4 to supplement these standards to the extent applicable.

This standard might reference documents and other standards that have been superseded or withdrawn at the time the standard is applied.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

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

The family of research reactor standards that would be helpful for operators, users, and regulators of these facilities are the following:

- ANSI/ANS-15.1-2007 (R2013), "The Development of Technical Specifications for Research Reactors";
- ANSI/ANS-15.2-1999 (R2016), "Quality Control for Plate-Type Uranium-Aluminum Fuel Elements";
- ANSI/ANS-15.8-1995 (R2013), "Quality Assurance Program Requirements for Research Reactors";
- ANSI/ANS-15.11-2009, "Radiation Protection at Research Reactor Facilities";
- ANSI/ANS-15.15-1978 (R1986), "Criteria for the Reactor Safety Systems of Research Reactors" (withdrawn);
- ANSI/ANS-15.16-2015, "Emergency Planning for Research Reactors";
- ANSI/ANS-15.21-2012, "Format and Content for Safety Analysis Reports for Research Reactors."

The ANS-15.4 Working Group that developed the standard under the auspices of the Operation of Research Reactors Subcommittee was composed of the following members:

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The Operation of Research Reactors Subcommittee had the following membership at the time of approval of this standard:

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1 Scope

This standard provides criteria for the selection and training of research reactor operating personnel. It addresses their qualifications, training, initial licensing, requalification, and relicensing.

This standard is predicated on levels of responsibility rather than on a particular organizational concept.

2 Definitions

2.1 Shall, should, and may

The word “shall” is used to denote a requirement; the word “should” is used to denote a recommendation; and the word “may” is used to denote permission, neither a requirement nor a recommendation.

2.2 Definitions

The following special definitions will be useful in understanding this and companion or reference standards.

academic training: Academic training is successfully completed job-related college-level work.

certificate or charter: See “license.”

certification: See “licensing.”

certified: See “licensed.”

Class A reactor operator: See “senior reactor operator.”

Class B reactor operator: See “reactor operator.”

controls: When used with respect to a nuclear reactor means apparatus and mechanisms the manipulation of which directly affects the reactivity or power level of the reactor.

designated medical examiner: A licensed medical practitioner, either a Doctor of Medicine or a Doctor of Osteopathy, familiar with the medical provisions of this standard and the general responsibilities and work environment of the examinee.

disqualifying or disqualifying conditions: Something that precludes unconditional medical approval for research reactor operator licensing.

license: The written authorization, by the responsible authority, for an individual to carry out the duties and responsibilities associated with a position requiring licensing.

licensed: See “licensee.”

licensee: An individual or organization holding a license.

licensing: The confirmation by the responsible authority of the experience, education, medical condition, training, and testing pertinent to a specific job assignment.