# **American Nuclear Society**

### REAFFIRMED

May 10, 2013 ANSI/ANS-15.8-1995 (R2013)

quality assurance program requirements for research reactors

# an American National Standard

## REAFFIRMED

September 14, 2005 ANSI/ANS-15.8-1995 (R2005) 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reviewed and reaffirmed with the recognition that it may reference other standards and documents that may have been superseded or withdrawn.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 Quality Assurance Program Requirements for Research Reactors

Secretariat
American Nuclear Society

Prepared by the American Nuclear Society Standards Committee Working Group ANS-15.8

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Approved September 12, 1995 by the American National Standards Institute, Inc.

### American National Standard

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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 Quality Assurance Program Requirements for Research Reactors, ANSI/ANS-15.8-1995.)

The first version of American National Standard Quality Assurance Program Requirements for Research Reactors, ANSI/ANS-15.8-1976, was approved August 19, 1976, and subsequently reaffirmed December 15, 1986. It has been twenty years since the first working group started development of the standard. During this period of time, significant changes have occurred in the requirements associated with management of research reactor facilities, particularly in the degree of rigor and documentation. This edition of the standard is a complete rewrite and provides the applicable quality assurance program requirements for all phases of a facility's life.

In the process of implementing this standard with respect to the existing and varied practices in many operating facilities, it is important to recognize that:

- Considered use of the standard should assist in implementing regulatory requirements.
- b. The standard is intended to be a significant aid for existing and new owners or operators.
- c. The standard should be helpful for both the facility undergoing change or modification.
- d. Each provision of the standard should be used only to the extent appropriate to be individual facility.
- e. The standard is not intended to require backfitting.

With regard to this particular standard, it must be noted that research reactors have two characteristics which affect the type of quality assurance program that should be applied to them, when compared to power reactors. First, the reliability of most of the parts used in a research reactor is not relevant to the health and safety of the public since failure of the item generally shuts the system down and little else occurs. Second, the typical research reactor operates on a limited budget with its continued existence dependent upon maintaining a low-cost, reliable operation. Because of these inherent characteristics, the quality assurance program for research reactors is applied primarily to safety-related and important items, and should be graded appropriately to be economically feasible. It is the intent of this standard to state the requirements for such a program.

For those not yet exposed to modern quality assurance requirements, it is difficult to grasp the value of adequate documentation. Although documentation is not the totality of a quality assurance program, it is one element of an appropriate program for research reactors. Much of the documentation required by a quality assurance program already exists for an operating research reactor, and little additional documentation may be needed when the quality assurance program is established.

Appropriate application of a standard is very important, and a careful and comprehensive reading of this standard is highly recommended before use. Two comments are presented as aids to interpretation:

- (1) It is recognized that it is not necessary to apply the same degree of control to all items in a research reactor. Where this standard uses words such as "as appropriate" or "as necessary," these are to be interpreted as meaning variation in the degree of application.
- (2) It is not intended that this standard require modification of existing charter or licensing requirements, and should not be so interpreted.

The membership of Working Group ANS-15.8 at the time of the completion of the standard was:

- T. R. Schmidt, Chairman, Sandia National Laboratories
- A. Adams, Jr., U.S. Nuclear Regulatory Commission
- T. L. Bauer, University of Texas, Austin
- M. L. Gildner, Oak Ridge National Laboratory
- D. E. Hughes, Pennsylvania State University
- B. Q. Partain, Los Alamos National Laboratory
- J. Razvi, General Atomics
- W. G. Vernetson, University of Florida

The membership of Subcommittee ANS-15, Operations of Research Reactors, at the time of its approval of the standard was:

- W. J. Richards, Chairman, U.S. Department of Defense
- A. Adams, Jr., U.S. Nuclear Regulatory Commission
- T. L. Bauer, University of Texas
- S. K. Bhatnagar, U.S. Department of Energy
- L. M. Bobek, Worcester Polytechnic Institute
- W. J. Brynda, Brookhaven National Laboratory
- A. F. DiMeglio, Individual
- P. C. Ernst, Individual
- J. P. Farrar, University of Virginia
- D. E. Feltz, Texas A&M University
- M. L. Gildner, Oak Ridge National Laboratory
- D. Harris, Renssealaer Polytechnic Institute
- E. Lee, Oak Ridge Natinal Laboratory
- R. E. Malenfant, U.S. Department of Energy.
- R. C. Nelson, EG&G
- P. B. Perez, North Carolina State University
- T. M. Raby, National Institute of Standards and Technology
- J. Razvi, General Atomics
- T. R. Schmidt, Sandia National Laboratory
- M. H. Voth, Pennsylvania State University
- R. R. Walston, U.S. Department of Energy

Consensus Committee N17, Research Reactors, Reactor Physics, Radiation Shielding, and Computational Methods, had the following membership at the time it reviewed and approved this standard:

#### T. M. Raby, Chairman

#### A. Weitzberg, Vice Chairman

A. D. Callihan
R. E. Carter
D. Cokinos Brookhaven National Laboratory
A. De La Paz
D. Duffey
H. Goldstein
P. B. Hemmig U.S. Department of Energy
J. W. Lewellen (Alt.)
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J. E. Hyder Health Physics Society
A. G. Johnson (Alt.)
L. I. Kopp Individual
J. Miller Institute of Electrical and Electronics Engineers, Inc.
J. E. Olhoeft Individual
T. M. Raby
W. J. Richards
A. O. Smetana
M. M. Ter Pogossian
J. F. Torrence
D. K. Trubey Individual
S. H. Weiss U.S. Nuclear Regulatory Commission
A. Adams, Jr. (Alt.)
A. Weitzberg Halliburton NUS Corporation
W. L. Whittemore GA Technologies, Inc.

Contents	Section		Page
	1. Int 1.1 1.2 1.3	Application	1
	2.1 2.2 2.3 2.3 2.4 2.5 2.6 2.7 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1	Quality Assurance Program Design Control 2.3.1 Design Requirements 2.3.2 Design Process 2.3.3 Design Verification 2.3.4 Design Documents and Records 2.3.5 Commercial Grade Items 2.3.6 Change Control Procurement Document Control Procedures, Instructions, and Drawings Document Control Control of Purchased Items and Services 2.7.1 Supplier Selection 2.7.2 Work Control 2.7.3 Verification Activities 2.7.4 Item or Service Acceptance Identification and Control of Items Control of Special Processes Inspections Test Control Control of Measuring and Test Equipment Handling, Storage, and Shipping Inspection, Test, and Operating Status Control of Nonconforming Items and Services Corrective Actions Quality Records	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
	3. Fac 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.1 3.1 3.1 3.1	Organization Quality Assurance Program Performance Monitoring Operator Experience Operating Conditions Operational Authority Control Area Ancillary Duties Emergency Communications Configuration Control Lockouts and Tagouts Test and Inspection	7 7 7 7 7 7 7 7 8 8

Section			
4.	Applicability to Existing Facilities	. 8	
5.	Decommissioning	. 8	
6.	References	. 9	