ASME NQA-1–2012

(Revision of ASME NQA-1–2008)

Quality Assurance Requirements for Nuclear Facility Applications

AN AMERICAN NATIONAL STANDARD

The American Society of Mechanical Engineers

INTENTIONALLY LEFT BLANK

ASME NQA-1–2012

(Revision of ASME NQA-1–2008)

Quality Assurance Requirements for Nuclear Facility Applications

AN AMERICAN NATIONAL STANDARD

The American Society of Mechanical Engineers

Two Park Avenue • New York, NY • 10016 USA

Date of Issuance: March 15, 2013

The next edition of this Standard is scheduled for publication in 2014.

ASME issues written replies to inquiries concerning interpretations of technical aspects of this Standard. Interpretations are published on the ASME Web site under the Committee Pages at http://cstools.asme.org/. [Interpretations are also included with each edition.]

Errata to codes and standards may be posted on the ASME Web site under the Committee Pages to provide corrections to incorrectly published items, or to correct typographical or grammatical errors in codes and standards. Such errata shall be used on the date posted.

The Committee Pages can be found at http://cstools.asme.org/. There is an option available to automatically receive an e-mail notification when errata are posted to a particular code or standard. This option can be found on the appropriate Committee Page after selecting "Errata" in the "Publication Information" section.

The American Society of Mechanical Engineers
Two Park Avenue, New York, NY 10016-5990

CONTENTS

(A detailed Contents precedes each NQA Part.)

(12)

FOREWORD

Early in 1975, the American National Standards Institute (ANSI) assigned overall responsibility for coordination among technical societies and development and maintenance of nuclear power quality assurance standards to the American Society of Mechanical Engineers (ASME). The ASME Committee on Nuclear Quality Assurance was constituted on October 3, 1975 and began operating under the ASME Procedures for Nuclear Projects. The ASME Committee on Nuclear Quality Assurance currently operates under the ASME Operating Procedures and Practices for Nuclear Codes and Standards Development Committees. This Committee prepared ANSI/ASME NQA-1, Quality Assurance Program Requirements for Nuclear Power Plants, and ANSI/ASME NQA-2, Quality Assurance Requirements for Nuclear Power Plants, which were first issued in 1979 and 1983, respectively, as American National Standards.

NQA-1-1979 was based upon the contents of ANSI/ASME N45.2-1977, Quality Assurance Program Requirements for Nuclear Facilities; ANSI N46.2, Revision 1, Quality Assurance Program Requirements for Post Reactor Nuclear Fuel Cycle Facilities; and the following seven daughter Standards of ANSI/ASME N45.2:

N45.2.6-1978	Qualifications of Inspection, Examination, and Testing Personnel for Nuclear Power Plants
N45.2.9-1979	Requirements for Collection, Storage, and Maintenance of Quality Assurance Records for Nuclear Power Plants
N45.2.10-1973	Quality Assurance Terms and Definitions
N45.2.11-1974	Quality Assurance Requirements for the Design of Nuclear Power Plants
N45.2.12-1977	Requirements for Auditing of Quality Assurance Programs for Nuclear Power Plants
N45.2.13-1976	Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants
N45.2.23-1978	Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants

Since the 1979 Edition was issued, NQA-1 was revised and published in 1983, 1986, 1989, 1994, 1997, 2000, 2004, and 2008. From its initial publication in 1979, the Standard has retained the 18-criteria structure of 10 CFR 50 Appendix B in a portion of the document. For this edition, Part I is organized by the 18-criteria structure and is intended to meet and implement the criteria of 10 CFR 50 Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants, dated January 20, 1975.

The ASME NQA-2-1983 standard incorporated the requirements of the following quality assurance Standards not included in ASME NQA-1:

N45.2.1-1980	Cleaning of Fluid Systems and Associated Components for Nuclear Power Plants
N45.2.2-1978	Packaging, Shipping, Receiving, Storage, and Handling of Items for Nuclear Power Plants
N45.2.3-1973 (R1978)	Housekeeping During the Construction Phase of Nuclear Power Plants
N45.2.5-1978	Supplementary Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete, Structural Steel, Soils, and Foundations During the Construction Phase of Nuclear Power Plants
N45.2.8-1975 (R1980)	Supplementary Quality Assurance Requirements for Installation, Inspection and Testing of Mechanical Equipment and Systems for the Construction Phase of Nuclear Power Plants
N45.2.15-1981	Hoisting, Rigging, and Transporting of Items for Nuclear Power Plants
N45.2.20-1979	Supplementary Quality Assurance Requirements for Subsurface Investigations for Nuclear Power Plants

In 1984, the NQA Committee initiated work to expand the Standard to address quality assurance program requirements appropriate to site characterization of high-level nuclear waste repositories. This effort resulted in the preparation of a new standard, ASME NQA-3, Quality Assurance Program Requirements for the Collection of Scientific and Technical Information for Site Characterization of High-Level Nuclear Waste Repositories, which was issued in 1989.

The NQA Committee has regularly updated and revised the Standards since the 1979 Edition was issued to improve its utility and value to the nuclear industry. In the early 1990s, the NQA Committee recognized that the NQA-1, NQA-2, and NQA-3 standards were not easily understood and applied by all users, and some potential users were not selecting NQA-1 and NQA-2 as their Standard of choice. The Committee decided to restructure the NQA Standards into a single multipart document that would improve the clarity of the Standard, allow more rapid response to varied applications of NQA requirements and guidance, and provide a performance-based focus. The restructured requirements, guidance, and applications appendices facilitate judicious application of the entire Standard or portions of the Standard to the wide variety of work encountered by today's nuclear industry. The new structure aids improved understanding and supports effective implementation of the requirements, continues to address quality assurance program compliance aspects, and adds focus on quality results.

This multipart Standard, issued initially as NQA-1-1994, includes requirements and nonmandatory guidance to establish and implement a quality assurance program for any nuclear facility application. Part I contains quality assurance program requirements for the siting, design, construction, operation, and decommissioning of nuclear facilities. Part II contains quality assurance requirements for the planning and conducting of the fabrication, construction, modification, repair, maintenance, and testing of systems, components, or activities for nuclear facilities. Part III contains nonmandatory guidance and application appendices previously included in NQA-1, NQA-2, and NQA-3. Part IV contains NQA position papers, application matrices for users, cross-reference comparisons to NQA, and other quality program information.

The arrangement of the requirements in Part I (from former NQA-1), requirements for work practices in Part II (from former NQA-2), and nonmandatory guidance and applications appendices in Part III (from former NQA-1 and NQA-2) permits judicious application of the entire Standard or portions of the Standard. If this edition (or post-1994 edition or addenda) is invoked by a procurement document or contract, only Parts I and II should be considered requirements as applicable, unless other specific Parts, Subparts, or Appendices of NQA-1 are specified. The guidance in Part III is not intended to be automatically imposed as supplemental requirements. The extent to which this Standard should be applied will depend upon the specific type of nuclear facility, items, or services involved and the nature and scope and the relative importance of the activities being performed. The extent of application is to be determined by the organization imposing the Standard. For example, the organization may invoke all requirements, selected requirements, or requirements with appropriate changes. Part III is intended to provide explanatory information and guidance for use by organizations in developing and implementing their programs. It also provides examples of methods for implementing the requirements of Parts I and II. Other methods may be equally suitable. The Standard may be applied to any structure, system, component, or activity that is essential to the satisfactory performance of the facility. The Standard may also be applied to a structure, system, component, or activity independent of a facility if its satisfactory performance is essential.

The NQA Committee is aware of, and actively endorses, the growing worldwide movement toward rational, cost-effective quality assurance practices — practices that focus on results. Therefore, changes considered necessary to improve the understanding and effective implementation have been made that are intended to address compliance aspects with a focus on results. To assure consistency with outside activities of a similar nature, the Committee is maintaining liaison with other national and international groups that have a similar interest.

Requests for interpretation or suggestions for improvement of this Standard should be addressed to the Secretary of the ASME Committee on Nuclear Quality Assurance, The American Society of Mechanical Engineers, Two Park Avenue, New York, NY 10016-5990.

For a listing of the NQA publication history, refer to the following table:

NQA-1			NQA-2			NQA-3		
Editions and Addenda	Designator	Issued	Editions and Addenda	Designator	Issued	Editions and Addenda	Designator	Issued
1st Ed.	**NQA-1-1979**	8/31/1979		...	...		...	...
Add.	NQA-1a-1981	4/30/1981		...	...		...	...
Add.	NQA-1b-1981	1/31/1982		...	...		...	...
2nd Ed.	**NQA-1-1983**	7/1/1983	1st Ed.	**NQA-2-1983**	8/31/1983		...	...
Add.	NQA-1a-1983	12/31/1983	Add.	NQA-2a-1985	10/15/1985		...	...
Add.	NQA-1b-1984	3/15/1985		...	...		...	...
Add.	NQA-1c-1985	12/31/1985		...	...		...	...
3rd Ed.	**NQA-1-1986**	7/1/1986	2nd Ed.	**NQA-2-1986**	7/1/1986		...	...
Add.	NQA-1a-1986	2/15/1987	Add.	NQA-2a-1986	2/15/1987		...	...
Add.	NQA-1b-1987	3/15/1988	Add.	NQA-2b-1987	4/15/1988		...	...
Add.	NQA-1c-1988	2/28/1989	Add.	NQA-2c-1988	2/28/1989		...	...
4th Ed.	**NQA-1-1989**	9/15/1989	3rd Ed.	**NQA-2-1989**	9/30/1989	1st Ed.	**NQA-3-1989**	3/23/1990
Add.	NQA-1a-1989	3/31/1990	Add.	NQA-2a-1990	5/31/1990		...	...
Add.	NQA-1b-1991	4/15/1991	Add.	NQA-2b-1991	5/12/1992		...	...
Add.	NQA-1c-1992	9/30/1992		...	...		...	...
5th Ed.	**NQA-1-1994** [Note (1)]	7/29/1994		...	...		...	...
Add.	NQA-1a-1995	1/19/1996		...	...		...	...
6th Ed.	**NQA-1-1997**	12/31/1997		...	...		...	...
Add.	NQA-1a-1999	5/25/1999		...	...		...	...
7th Ed.	**NQA-1-2000**	5/21/2001		...	...		...	...
Add.	NQA-1a-2002	12/6/2002		...	...		...	...
8th Ed.	**NQA-1-2004**	12/22/2004		...	...		...	...
Add.	NQA-1a-2005	5/3/2006		...	...		...	...
Add.	NQA-1b-2007	6/1/2007		...	...		...	...
9th Ed.	**NQA-1-2008**	3/14/2008		...	...		...	...
Add.	NQA-1a-2009	7/20/2009		...	...		...	...
Add.	NQA-1b-2011	1/4/2011		...	...		...	...
10th Ed.	**NQA-1-2012**	3/15/2013		...	...		...	...

NOTES:
(1) This edition is a consolidaton of NQA-1 and NQA-2.
(2) NQA editions and addenda prior to 1989 were titled ANSI/ASME NQA.

PREPARATION OF TECHNICAL INQUIRIES TO THE NUCLEAR QUALITY ASSURANCE COMMITTEE

INTRODUCTION

The ASME Nuclear Quality Assurance Committee will consider written requests for interpretations and revisions to NQA Standards and develop new requirements or guidance if dictated by technological development. The Committee's activities in this regard are limited strictly to interpretations of the requirements and guidance, or to the consideration of revisions to the present Standard on the basis of new data or technology. As a matter of published policy, ASME does not "approve," "certify," "rate," or "endorse" any item, construction, proprietary device, specific organizations, individual titles, or activity and, accordingly, inquiries requiring such consideration will be returned. Moreover, ASME does not act as a consultant for specific engineering problems or for the general application or understanding of the Standard requirements. If, based on the inquiry information submitted, it is the opinion of the Committee that the inquirer should seek assistance, the inquiry will be returned with the recommendation that such assistance be obtained.

All inquiries that do not provide the information needed for the Committee's full understanding will be returned.

INQUIRY FORMAT

Inquiries shall be limited strictly to interpretations of the requirements and guidance, or to the consideration of revisions to the present Standard on the basis of new data or technology.

Inquiries shall be submitted in the following format:

(a) Scope. The inquiry shall involve a single requirement/guidance or closely related requirements/guidance. An inquiry letter concerning unrelated subjects will be returned.

(b) Background. State the purpose of the inquiry, which would be either to obtain an interpretation of the Standard or to propose consideration of a revision to the present Standard. Provide the information needed for the Committee's understanding of the inquiry concisely, being sure to include reference to the applicable Standard, Edition, Addenda, Requirements, Parts, Subparts, Appendices, paragraphs, figures, and tables. If illustrations are provided, they shall be limited to the scope of the inquiry.

(c) Inquiry Structure

(1) Proposed Question(s). The inquiry shall be stated in a condensed and precise question format, omitting superfluous background information, and, where appropriate, composed in such a way that "yes" or "no" (perhaps with provisos) would be an acceptable reply. The inquiry statement should be technically and editorially correct.

(2) Proposed Reply(ies). State what it is believed that the Standard requires. If, in the inquirer's opinion, a revision to the Standard is needed, recommended wording shall be provided.

(d) Submittal. The inquiry shall be submitted in typewritten form; however, legible, handwritten inquiries will be considered. It shall include the name and mailing address and telephone number of the inquirer and be mailed to the following address:

Secretary
ASME Nuclear Quality Assurance Committee
Nuclear Department
Two Park Avenue
New York, NY 10016-5990

COMMITTEE ON NUCLEAR QUALITY ASSURANCE

(As of August 7, 2012)

STANDARDS COMMITTEE OFFICERS

R. C. Schrotke, Jr., *Chair*
G. Danielson, *Vice Chair*
M. Smith, *Vice Chair*
O. Martinez, *Secretary*
J. G. Adkins
T. M. Alexovich
J. W. Anderson, *Contributing Member*
N. R. Barker
J. E. Bergstrom
D. A. Brown
R. G. Burns
N. M. Burstein, *Contributing Member*
M. Concepcion-Robles, *Contributing Member*
J. J. Connelly
J. DeKleine
T. E. Dunn
M. C. Eagle
M. A. Gavett
E. L. Jordan
H. J. Kirschenmann
C. R. Martin
J. W. McIntyre
R. P. McIntyre
N. P. Moreau
K. A. Morrell
C. H. Moseley, Jr.
T. Muraki
M. F. Nicol
R. A. Sacco
T. V. Sarma
W. K. Sowder, Jr.
D. R. Sparkman, *Contributing Member*
R. A. Symes
G. Szabatura
P. Vincze, *Contributing Member*
W. G. Ware
D. A. Winchester
J. R. Yanek
S. A. Bernsen, *Honorary Member*
J. A. Perry, *Honorary Member*

Subcommittee on Applications

J. J. Connelly, *Chair*
D. C. Agarwal, *Vice Chair*
M. A. Gavett, *Vice Chair*
S. D. Diffey, *Secretary*
J. W. Anderson
P. M. Bell, Sr.
R. J. Blauw
R. D. Brown
G. Danielson
P. F. Gillespie
D. K. Jensen
N. J. Linarez-Royce
D. A. Morley
C. H. Moseley, Jr.
R. C. Schrotke, Jr.
W. R. Smith
W. K. Sowder, Jr.

Subcommittee on Assessment and Verification

T. V. Sarma, *Chair*
J. W. McIntyre, *Vice Chair*
T. M. Alexovich
B. Blum
S. F. Borland
J. Burkhead
G. Deaton
T. B. Franchuk
E. D. Groover
M. A. Hayse
D. J. Jantosik
E. C. Love
C. A. Marden
P. F. Prescott
T. Rezk
T. S. Van Valkenburg
G. C. Smolens
T. T. Suzuki
R. A. Symes
J. D. York, Jr.
J. M. Ziemba

Subcommittee on Engineering and Procurement Processes

J. DeKleine, *Chair*
V. J. Grosso, *Secretary*
N. R. Barker
T. M. Cauley
R. W. Dillman
T. Fukuda
G. M. Gilmartin
R. S. Jolly
K. A. Kavanagh
J. Marsden
T. L. Montgomery
C. Smith
R. Srinivasan
G. E. Szabatura
M. H. Tannenbaum
D. W. Tuttel
M. V. Mitchell
W. G. Ware
J. R. Yanek

Subcommittee on Interfaces and Administration

D. A. Brown, *Chair*
R. A. Sacco, *Vice Chair*
K. A. Morrell, *Secretary*
J. G. Adkins
R. G. Burns
N. M. Burstein
G. Danielson
T. E. Dunn
M. W. Harvey
C. H. Moseley, Jr.
D. Prigel
G. J. Reed
M. Smith

Subcommittee on Program Management Processes

D. A. Winchester, *Chair*
R. L. Blyth, *Vice Chair*
R. E. Stone, *Secretary*
A. Appleton
S. D. Atack
J. E. Bergstrom
R. G. Burns
L. M. Cavet
D. K. Dreyfus
H. J. Kirschenmann
D. Malito
M. J. Mason
R. P. McIntyre
J. A. Mohr
D. Prigel
K. L. Rhoads
E. S. Schwartz
D. Vickery
D. N. Zweifel

Subcommittee on Software Quality Assurance

D. R. Sparkman, *Chair*
N. P. Moreau, *Vice Chair*
N. Kyle, *Secretary*
S. B. Ailes
K. Ake
E. Baglietto
R. J. Blauw
D. H. Brown
W. Bryan
K. A. Byle
J. Chappel
M. Concepcion-Robles
B. Frank
C. Givens
W. Horton
E. L. Jordan
G. A. Lipscomb
C. R. Martin
T. Muraki
S. Sen
H. V. Sobah
T. R. Verma
D. J. Williams

Subcommittee on Waste Management

M. F. Nicol, *Chair*
M. C. Eagle, *Vice Chair*
D. Arroyo
J. Baker
P. P. Carier
R. P. Keele
M. Kotzalas
M. J. Mason

ASME NQA-1–2012
SUMMARY OF CHANGES

Following approval by the ASME Standards Committee of the Committee on Nuclear Quality Assurance and ASME, and after public review, ASME NQA-1–2012 was approved by the American National Standards Institute on December 18, 2012.

ASME NQA-1–2012 consists of NQA-1–2008, NQA-1a–2009, and NQA-1b–2011; editorial changes, revisions, and corrections; as well as the following changes identified by a margin note, **(12)**.

Page	*Location*	*Change*
iv–vi	Foreword	Revised
31	Part I, Requirement 17, 401.2	Revised
33	Part I, Requirement 18, 500	Subparagraph (d) revised
	Part I, Requirement 18, 600	First sentence revised
34–36	Part II Contents	Updated
49	Part II, Subpart 2.2, 301	Last sentence added
51	Part II, Subpart 2.2, 305.1	Subparagraph (h) added
54	Part II, Subpart 2.2, 309	Subparagraph (c)(6)(g) revised
55	Part II, Subpart 2.2, 405	Former paragraph 405 deleted, and paragraph 406 redesignated
60, 61	Part II, Subpart 2.3	Title revised
	Part II, Subpart 2.3, 100	The words “power plant” corrected to read “facility”
	Part II, Subpart 2.3, 200	The word “plant” corrected to read “facility” twice
	Part II, Subpart 2.3, 201	The word “plant” corrected to read “facility” twice
	Part II, Subpart 2.3, 202	(1) Second sentence added (2) Subparagraphs (d) and (e) revised
	Part II, Subpart 2.3, 301	The word “plant” corrected to read “facility”
	Part II, Subpart 2.3, 302.3	The word “plant” corrected to read “facility”
	Part II, Subpart 2.3, 303	The word “plant” corrected to read “facility”
80–85	Part II, Subpart 2.8	Revised in its entirety
105–110	Part II, Subpart 2.20	Revised in its entirety
111–114	Part II, Subpart 2.22	Added
115, 116	Part III Contents	Updated
119	Part III, Subpart 3.1-1.1	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised

Page	*Location*	*Change*
120	Part III, Subpart 3.1-2.1	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised
123	Part III, Subpart 3.1-2.2	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised
125	Part III, Subpart 3.1-2.3	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised
127	Part III, Subpart 3.1-2.4	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised
130	Part III, Subpart 3.1-3.1	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised
134	Part III, Subpart 3.1-4.1	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised
139	Part III, Subpart 3.1-7.1	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised
	Part III, Subpart 3.1-7.1, 100	Last paragraph deleted
142	Part III, Subpart 3.1-10.1	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised
143, 144	Part III, Subpart 3.1-16.1	(1) Nonmandatory Appendix designation changed to Subpart (2) Revised in its entirety
145	Fig. 300	Revised in its entirety
146	Part III, Subpart 3.1-17.1	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised
149	Part III, Subpart 3.1-17.2	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised
151	Part III, Subpart 3.1-18.1	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised
	Part III, Subpart 3.1-18.1, 201	Subparagraph (i) revised
	Part III, Subpart 3.1-18.1, 202	Subparagraph (e) revised
153, 154	Part III, Subpart 3.1-18.1, 402	Subparagraph (e) revised
	Part III, Subpart 3.1-18.1, 500	Last sentence revised

Page	*Location*	*Change*
155	Part III, Subpart 3.2	Title revised
156	Part III, Subpart 3.2-2.1	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised
157	Part III, Subpart 3.2-2.7	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised
159	Part III, Subpart 3.2-2.7, 302	Paragraphs 302.1 and 302.2 deleted
162–168	Part III, Subpart 3.2-2.14	Added
169–175	Table 501	Added
176	Part III, Subpart 3.2-2.15	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised
177	Part III, Subpart 3.2-2.18.1	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised
178	Part III, Subpart 3.2-2.18.2	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised
180	Part III, Subpart 3.2-2.20	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised
184–186	Part IV Contents	Updated
188	Part IV, Subpart 4.1.1	Designation and title revised
202	Part IV, Subpart 4.1.2	Designation and title revised
207	Part IV, Subpart 4.1.3	Designation and title revised
214	Part IV, Subpart 4.1.4	Designation and title revised
235	Part IV, Subpart 4.2.1	Subpart designation changed
238	Part IV, Subpart 4.2.1, 600	Last two sentences added
239	Table 600-1	(1) Table designation changed (2) “Software” and “Computer Program” rows added
	Table 600-2	Added
240	Part IV, Subpart 4.2.1, 603	(1) Paragraphs 603.1, 603.3, and 603.4 revised (2) Paragraph 603.2.1 added
242	Part IV, Subpart 4.2.1, 611	(1) Paragraph 611.1 revised (2) Paragraph 611.2.1 added (3) Last sentence added to paragraph 611.4
243	Part IV, Subpart 4.2.1, 700	Added
244	Table 700	Added
245	Part IV, Subpart 4.2.2	Designation and title revised

Page	*Location*	*Change*
247	Part IV, Subpart 4.2.3	Nonmandatory Appendix designation changed to Subpart
249	Part IV, Subpart 4.2.4	Nonmandatory Appendix designation changed to Subpart
252	Part IV, Subpart 4.2.5	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised
255	Part IV, Subpart 4.2.6	(1) Nonmandatory Appendix designation changed to Subpart (2) Title revised

SPECIAL NOTE:

The interpretations to ASME NQA-1–2012 are included in this edition as a separate section for the user's convenience.

PART I: REQUIREMENTS FOR QUALITY ASSURANCE PROGRAMS FOR NUCLEAR FACILITIES
(FROM FORMER NQA-1)

CONTENTS

PART I
INTRODUCTION

This Standard reflects industry experience and current understanding of the quality assurance requirements necessary to achieve safe, reliable, and efficient utilization of nuclear energy, and management and processing of radioactive materials. The Standard focuses on the achievement of results, emphasizes the role of the individual and line management in the achievement of quality, and fosters the application of these requirements in a manner consistent with the relative importance of the item or activity.

100 PURPOSE

This Part sets forth requirements for the establishment and execution of quality assurance programs during siting, design, construction, operation, and decommissioning of nuclear facilities. Nonmandatory guidance is provided in the Appendices in Part III.

200 APPLICABILITY

The requirements of Part I apply to activities that could affect the quality of nuclear material applications, structures, systems, and components of nuclear facilities. Examples of nuclear facilities are facilities for power generation, spent fuel storage, waste management, fuel reprocessing, nuclear material processing, fuel fabrication, and other related facilities. Activities include siting, designing, procuring, fabricating, constructing, handling, shipping, receiving, storing, cleaning, erecting, installing, inspecting, testing, operating, maintaining, repairing, refueling, modifying, and decommissioning. The application of this Part, or portions thereof, shall be invoked by written contracts, policies, procedures, specifications, or other appropriate documents.

300 RESPONSIBILITY

The organization invoking this Part shall be responsible for specifying which requirements, or portions thereof, apply, and appropriately relating them to specific items and services. The organization implementing this Part, or portions thereof, shall be responsible for complying with the specific requirements to achieve quality results.

400 TERMS AND DEFINITIONS

The following definitions are provided to assure a uniform understanding of select terms as they are used in this Part:

acceptance criteria: specified limits placed on the performance, results, or other characteristics of an item, process, or service defined in codes, standards, or other requirement documents.

audit: a planned and documented activity performed to determine by investigation, examination, or evaluation of objective evidence the adequacy of and compliance with established procedures, instructions, drawings, and other applicable documents, and the effectiveness of implementation. An audit should not be confused with surveillance or inspection activities performed for the sole purpose of process control or product acceptance.

audit, external: an audit of those portions of another organization's quality assurance program not under the direct control or within the organizational structure of the auditing organization.

audit, internal: an audit of those portions of an organization's quality assurance program retained under its direct control and within its organizational structure.

Certificate of Conformance: a document signed or otherwise authenticated by an authorized individual certifying the degree to which items or services meet specified requirements.

certification: the act of determining, verifying, and attesting in writing to the qualifications of personnel, processes, procedures, or items in accordance with specified requirements.

characteristic: any property or attribute of an item, process, or service that is distinct, desirable, and measurable.

commercial grade item:[1,2] a structure, system, component, or part thereof that affects its safety function, that was not designed and manufactured as a basic component. Commercial grade items do not include items where the design and manufacturing process require in-process inspections and verifications to ensure that defects or failures to comply are identified and corrected (i.e., one or more critical characteristics of the item cannot be verified).

commercial grade item:[1,3] an item satisfying the following:

(a) not subject to design or specification requirements that are unique to those facilities or activities

[1] See Part II, Subpart 2.14, *Quality Assurance Requirements for Commercial Grade Items and Services* for other definitions related to the dedication of commercial grade items.

[2] This definition is applicable to nuclear power plants and activities licensed pursuant to 10 CFR Part 30, 40, 50, 52, or 60.

[3] This definition is applicable to nuclear facilities and activities licensed pursuant to 10 CFR Parts 30, 40, 50 (other than nuclear power plants), 60, 61, 63, 70, 71, or 72.