ASME NQA-1–2019

(Revision of ASME NQA-1–2017)

Quality Assurance Requirements for Nuclear Facility Applications

AN AMERICAN NATIONAL STANDARD

The American Society of Mechanical Engineers

ASME NQA-1–2019
(Revision of ASME NQA-1–2017)

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: December 31, 2019

The next edition of this Standard is scheduled for publication in 2021.

ASME issues written replies to inquiries concerning interpretations of technical aspects of this Standard. Interpretations are published on the ASME website under the Committee Pages at http://cstools.asme.org/ as they are issued.

Errata to codes and standards may be posted on the ASME website 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

Figures

Tables

FOREWORD

This Standard is intended to serve the global nuclear industry responsible for the safety and quality of nuclear facilities and activities.

It is intended to be applied to any structure, system, component, activity, or organization that is essential to the safe, reliable, and efficient performance of a nuclear facility and any activities independent of a facility that may affect performance. It is also intended to be applied to all phases of a nuclear facility life cycle and to related activities.

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 Committee on Nuclear Quality Assurance (NQA) actively endorses the growing worldwide movement toward rational, cost-effective quality assurance practices — practices that focus on results. The NQA Committee also maintains liaison with national and international groups that have similar interests in quality to assure consistency and maximum applicability of the Standard in a global setting. Consequently, the NQA Committee has regularly updated and revised the Standard since its first edition was issued in 1979 to improve its utility, effect on nuclear safety, and value to the nuclear industry.

This Standard includes requirements and guidance and is organized in the following four parts:

(a) Part I contains requirements for a Quality Assurance Program for nuclear facility applications.

(b) Part II contains additional quality assurance requirements for the planning and conduct of specific work activities conducted under a Quality Assurance Program developed in accordance with Part I.

(c) Part III contains guidance for implementing the requirements of Parts I and II.

(d) Part IV contains guidance for the application of NQA-1 and comparisons of NQA-1 with other quality requirements.

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 NQA was constituted on October 3, 1975, and assumed responsibility for the ANSI/ASME N45 series documents. Currently, the NQA Committee operates under the ASME requirements for Nuclear Codes and Standards Development Committees.

This Committee initially prepared

ANSI/ASME NQA-1–1979	Quality Assurance Program Requirements for Nuclear Power Plants
ANSI/ASME NQA-2–1983	Quality Assurance Requirements for Nuclear Power Plants
ANSI/ASME NQA-3–1989	Quality Assurance Requirements for High Level Waste Management

For a detailed history of the NQA Committee and evolution of the Standard, go to: http://cstools.asme.org/csconnect/CommitteePages.cfm?Committee=O10500000&Action=16897.

Requests for interpretation or suggestions for improvement of this Standard should be submitted in accordance with Correspondence With the NQA Committee.

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

Historical Listing of NQA Publications

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	...	...	...	...	...	...
11th Ed.	**NQA-1–2015**	2/20/2015	...	...	...	...	...	...
12th Ed.	**NQA-1–2017**	1/18/2018	...	...	...	...	...	...
13th Ed.	**NQA-1–2019**	12/31/2019	...	...	...	...	...	...

GENERAL NOTE: NQA editions and addenda prior to 1989 were titled ANSI/ASME NQA.

NOTE: (1) This edition is a consolidation of NQA-1 and NQA-2.

CORRESPONDENCE WITH THE NQA COMMITTEE

General. ASME Standards are developed and maintained with the intent to represent the consensus of concerned interests. As such, users of this Standard may interact with the Committee by requesting interpretations, proposing revisions, and attending Committee meetings. Correspondence should be addressed to:

Secretary, NQA Standards Committee
The American Society of Mechanical Engineers
Two Park Avenue
New York, NY 10016-5990
http://go.asme.org/Inquiry

Proposing Revisions. Revisions are made periodically to the Standard to incorporate changes that appear necessary or desirable, as demonstrated by the experience gained from the application of the Standard. Approved revisions will be published periodically.

The Committee welcomes proposals for revisions to this Standard. Such proposals should be as specific as possible, citing the paragraph number(s), the proposed wording, and a detailed description of the reasons for the proposal, including any pertinent documentation.

Interpretations. Upon request, the NQA Standards Committee will render an interpretation of any requirement of the Standard. Interpretations can only be rendered in response to a written request sent to the Secretary of the NQA Standards Committee.

Requests for interpretation should preferably be submitted through the online Interpretation Submittal Form. The form is accessible at http://go.asme.org/InterpretationRequest. Upon submittal of the form, the Inquirer will receive an automatic e-mail confirming receipt.

If the Inquirer is unable to use the online form, he/she may mail the request to the Secretary of the NQA Standards Committee at the above address. The request for an interpretation should be clear and unambiguous. It is further recommended that the Inquirer submit his/her request in the following format:

Subject:	Cite the applicable paragraph number(s) and the topic of the inquiry in one or two words.
Edition:	Cite the applicable edition of the Standard for which the interpretation is being requested.
Question:	Phrase the question as a request for an interpretation of a specific requirement suitable for general understanding and use, not as a request for an approval of a proprietary design or situation. Please provide a condensed and precise question, composed in such a way that a "yes" or "no" reply is acceptable.
Proposed Reply(ies):	Provide a proposed reply(ies) in the form of "Yes" or "No," with explanation as needed. If entering replies to more than one question, please number the questions and replies.
Background Information:	Provide the Committee with any background information that will assist the Committee in understanding the inquiry. The Inquirer may also include any plans or drawings that are necessary to explain the question; however, they should not contain proprietary names or information.

Requests that are not in the format described above may be rewritten in the appropriate format by the Committee prior to being answered, which may inadvertently change the intent of the original request.

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.

ASME procedures provide for reconsideration of any interpretation when or if additional information that might affect an interpretation is available. Further, persons aggrieved by an interpretation may appeal to the cognizant ASME Committee or Subcommittee. ASME does not "approve," "certify," "rate," or "endorse" any item, construction, proprietary device, or activity.

Attending Committee Meetings. The NQA Standards Committee regularly holds meetings and/or telephone conferences that are open to the public. Persons wishing to attend any meeting and/or telephone conference should contact the Secretary of the NQA Standards Committee.

ASME NQA COMMITTEE
Nuclear Quality Assurance

(The following is the roster of the Committee at the time of approval of this Standard.)

STANDARDS COMMITTEE ON NUCLEAR QUALITY ASSURANCE

R. Schrotke, *Chair,* Ron Schrotke, LLC
J. W. McIntyre, *Vice Chair,* Sargent & Lundy
T. S. Van Valkenburg, *Vice Chair,* Los Alamos National Laboratory
D. Miro-Quesada, *Secretary,* The American Society of Mechanical Engineers
J. G. Adkins, Consultant
D. C. Agarwal, U.S. Department of Energy
N. R. Barker, Atkins Global — Member of the SNC-Lavalin Group
J. E. Bergstrom, Bergstrom Consulting
R. L. Blyth, North Wind Portage
D. Brown, Sargent & Lundy
W. J. Bryan, ANSYS, Inc.
G. Danielson, Unaffiliated
C. Givens, Bechtel National, Inc.
M. A. Hayse, Unaffiliated
D. K. Jensen, Optimum Performance Solutions
R. S. Jolly, Bechtel Power Corp.
C. R. Martin, Office of Congresswoman Marcy Kaptur
N. Moreau, Theseus Professional Services, LLC
K. A. Morrell, Mission Support and Test Services, LLC
C. H. Moseley, Edgewater Technical Associates
T. Muraki, Advanced Technology
M. F. Nicol, Unaffiliated
P. F. Prescott, U.S. Nuclear Regulatory Commission
D. W. Prigel, Argonne National Laboratory
K. L. Rhoads, Unaffiliated
R. A. Sacco, SHINE Medical Technologies
W. Sowder, Quality Management Services, LLC
D. R. Sparkman, Sparkman & Associates, LLC
C. A. Spletter, Unaffiliated
R. A. Symes, Unaffiliated
G. Szabatura, Framatome, Inc.
M. H. Tannenbaum, Electric Power Research Institute
W. G. Ware, Southern Nuclear Operating Co.
D. A. Winchester, PSEG Nuclear
J. R. Yanek, Executive Services NQA ESH
J. W. Anderson, *Contributing Member,* Performance Dev Corp.
M. Concepcion-Robles, *Contributing Member,* Dominion Energy Services, Inc.
J. DeKleine, *Contributing Member,* Axion Technical Services, LLC
S. Bernsen, *Honorary Member,* Unaffiliated

EXECUTIVE COMMITTEE ON NUCLEAR QUALITY

J. W. McIntyre, *Chair,* Sargent & Lundy
T. S. Van Valkenburg, *Chair,* Los Alamos National Laboratory
R. Schrotke, *Vice Chair,* Ron Schrotke, LLC
D. Miro-Quesada, *Secretary,* The American Society of Mechanical Engineers
R. L. Blyth, North Wind Portage
G. Danielson, Unaffiliated
C. Givens, Bechtel National, Inc.
M. A. Hayse, Unaffiliated
D. K. Jensen, Optimum Performance Solutions
R. S. Jolly, Bechtel Power Corp.
N. Moreau, Theseus Professional Services, LLC
M. F. Nicol, Unaffiliated
P. F. Prescott, U.S. Nuclear Regulatory Commission
R. A. Sacco, SHINE Medical Technologies
D. R. Sparkman, Sparkman & Associates, LLC
C. A. Spletter, Unaffiliated

SUBCOMMITTEE ON APPLICATIONS

D. K. Jensen, *Chair,* Optimum Performance Solutions
S. D. Diffey, *Vice Chair,* Los Alamos National Laboratory
T. M. Grace, *Vice Chair,* Bechtel – Nuclear, Security, and Environmental
D. Barrera, *Secretary,* Sandia National Laboratory
D. C. Agarwal, U.S. Deptartment of Energy
R. Brown, Atkins Global — Member of the SNC-Lavalin Group
G. Danielson, Unaffiliated
R. Daudt, Pacific Northwest National Laboratory
D. A. Morley, S. A. Technologies
C. H. Moseley, Edgewater Technical Associates
R. Schrotke, Ron Schrotke, LLC
G. Udenta, Unaffiliated
J. W. Anderson, *Contributing Member,* Performance Development Corp.

SUBCOMMITTEE ON ASSESSMENT AND VERIFICATION

M. A. Hayse, *Chair,* Unaffiliated
J. M. Ziemba, *Vice Chair,* Atkins Global — Member of the SNC-Lavalin Group
K. L. Morris, *Secretary,* Ellis and Watts Global Industries, Inc.
B. Blum, Unaffiliated
S. F. Borland, Unaffiliated

R. Carbonneau, Unaffiliated
G. Deaton, HSB Global Standards
T. B. Franchuk, Curtiss-Wright, QualTech NP
E. D. Groover, N/A
J. G. Ice, Exelon
K. Iwasawa, Toshiba Corp. Power Systems Co.
D. J. Jantosik, Sequoia Consulting Group, Inc.
R. M. Joschak, Framatome, Inc.
E. C. Love, U.S. Nuclear Regulatory Commission
J. W. McIntyre, Sargent & Lundy
K. Miller, Sargent & Lundy
J. A. Ortega-Luciano, U.S. Nuclear Regulatory Commission
G. C. Smolens, Department of Energy, National Nuclear Security Administration
T. T. Suzuki, Chubu Electric Power Co.
R. A. Symes, Unaffiliated
T. S. Van Valkenburg, Los Alamos National Laboratory
W. Sowder, *Contributing Member,* Quality Management Services, LLC

SUBCOMMITTEE ON ENGINEERING AND PROCUREMENT

R. S. Jolly, *Chair,* Bechtel Power Corp.
V. J. Grosso, *Vice Chair,* National Security Technologies, LLC
P. Kilroy, *Secretary,* Waste Treatment Completion Co., LLC
P. J. Anderson, Dominion Energy
N. R. Barker, Atkins Global — Member of the SNC-Lavalin Group
R. L. Boler, Unaffiliated
T. Bolt, AZZ Nuclear
J. Cook, Unaffiliated
R. Czuba, Sonic Systems International, Inc.
J. DeKleine, Axion Technical Services, LLC
R. W. Dillman, Savannah River Nuclear Solutions
D. Ethington, NuScale Power
S. T. Fairburn, BWX Technologies, Inc.
R. Horst, National Nuclear Security Administration
K. Kavanagh, U.S. Nuclear Regulatory Commission
J. D. Lipsky, Department of Energy, Savannah River Site
J. Marsden, NuScale Power
G. Oliveros, Tecnatom
P. F. Prescott, U.S. Nuclear Regulatory Commission
E. Renaud, Westinghouse Electric Co.
T. N. Rezk, Bechtel Power Corp.
D. Y. Roberts, Engine Systems, Inc.
N. Sakamoto, Mitsubishi Heavy Industries, Ltd.
G. Szabatura, Framatome, Inc.
M. H. Tannenbaum, Electric Power Research Institute
M. Vann Mitchell, Mitsubishi Nuclear Energy Systems
W. G. Ware, Southern Nuclear Operating Co.
J. R. Yanek, Executive Services NQA ESH
T. L. Montgomery, *Contributing Member,* Unaffiliated
D. W. Tuttel, *Contributing Member,* Parsons

SUBCOMMITTEE ON INTERFACES AND ADMINISTRATION

R. A. Sacco, *Chair,* SHINE Medical Technologies
C. H. Moseley, *Vice Chair,* Edgewater Technical Associates
D. R. Sparkman, *Vice Chair,* Sparkman & Associates, LLC
L. F. Taggart, *Secretary,* AZZ Nuclear
S. Berner, QAISO, Inc.
D. Brown, Sargent & Lundy
M. Mahar, Los Alamos National Laboratory
D. W. Prigel, Argonne National Laboratory
J. W. Anderson, *Contributing Member,* Performance Development Corp.
M. E. Smith, *Contributing Member,* Nuclear Innovation North America

SUBCOMMITTEE ON INTERNATIONAL ACTIVITIES

C. A. Spletter, *Chair,* N/A
D. W. Prigel, *Vice Chair,* Argonne National Laboratory
R. W. VonRoble, *Secretary,* VonRoble Consulting
D. C. Agarwal, U.S. Department of Energy
G. Danielson, Unaffiliated
D. K. Jensen, Optimum Performance Solutions
G. Oliveros, Tecnatom
A. Sengupta, U.S. Department of Transportation
M. Vann Mitchell, Mitsubishi Nuclear Energy Systems
T. R. Verma, Unaffiliated
B. Wang, State Nuclear Power Engineering Co.
O. Martinez, *Contributing Member,* The American Society of Mechanical Engineers
D. Miro-Quesada, *Contributing Member,* The American Society of Mechanical Engineers
M. Sharma, *Contributing Member,* ASME India
J. Zhang, *Contributing Member,* ASME Asia Pacific, LLC

CHINA INTERNATIONAL WORKING GROUP

W. Bin, *Chair,* State Nuclear Power Engineering Co.
L. Haibin, *Vice Chair,* Shanghai Nuclear Engineering Research and Design Institute
F. Jianping, *Vice Chair,* Nuclear Regulatory Department on Nuclear Power of NNSA
X. Xue, *Secretary,* State Nuclear Power Engineering Co., Ltd.
J. Fei, China National Erzhong Group
D. Hongwei, Nuclear and Radiation Safety Center
D. Hui, State Nuclear Baotai Zirconium Industry Co.
S. Jianmin, State Nuclear Power Engineering, Co., Ltd.
Z. Jin, China Productivity Center For Machinery
X. Lang, Dalian DV Valve Co., Ltd
J. Long, Shanghai Electric — KSB Nuclear Pumps and Valves Co., Ltd.
H. Mingxuan, China Nuclear Power Technology Research Institute Co., Ltd.
S. Peng, Harbin Electric Corporation (QHD) Heavy Equipment Co., Ltd.
X. Qin, State Nuclear Power Engineering Co.
P. Ruihua, Sanmen Nuclear Power Co.
B. Shao, China Nuclear Power Engineering Co., Ltd.

EUROPE INTERNATIONAL WORKING GROUP

C. A. Spletter, *Chair,* Unaffiliated
L. Bohl, LISEGA SE
D. Duba, Tüv Nord Systems GmbH & Co. KG
D. Koelbl, CIS GmbH, Tüv Thüringen Group
H. Malkhasyan, Worleyparsons Nuclear Services
A. Pascal, Westinghouse Belgium
L. Rezab, Skoda JS a.s.
I. Rommerskirchen, Wilhelm Schulz GmbH
D. Udrea, SNN, CNE Cernavoda
J. Wendt, Tüv Sud Industrie Service GmbH
C. Yilmaz, Schneider Electric/Gutor Electronic
A. Zaehner, CCI AG

SUBCOMMITTEE ON PROGRAM MANAGEMENT PROCESS

R. L. Blyth, *Chair,* North Wind Portage
J. E. Bergstrom, *Vice Chair,* Bergstrom Consulting
K. L. Rhoads, *Vice Chair,* Unaffiliated
M. K. Cox, *Secretary,* BWXT Nuclear Operations Group, Inc.
A. Ramirez, *Secretary,* U.S. Nuclear Regulatory Commission
L. A. Yochim, *Secretary,* Black & Veatch
J. G. Adkins, Unaffiliated
H. S. O. Al Jaberi, Emirates Nuclear Energy Corp.
A. Appleton, Alloy Stainless Products Co., Inc.
W. Clover, Exelon Corp.
A. C. Cole, Hartford Steam Boiler
J. N. Dailey, Weller Energy Services Corp.
J. Gardiner, Curtiss-Wright, EMD
L. E. Meche, Unaffiliated
D. Vickery, Dubose National Energy Services, Inc.
D. A. Winchester, PSEG Nuclear

SUBCOMMITTEE ON SOFTWARE QUALITY ASSURANCE

C. Givens, *Chair,* Bechtel National, Inc.
B. Frank, *Vice Chair,* Westinghouse Electric Co.
T. J. Hall, *Secretary,* Ellis and Watts Global Industries, Inc.
L. Abbott, Savannah River Nuclear Solutions
S. B. Ailes, Atkins Global — Member of the SNC-Lavalin Group
W. J. Bryan, ANSYS, Inc.
M. Concepcion-Robles, Dominion Energy Services, Inc.
K. Cook, Unaffiliated
P. R. Diepolder, EMC, Inc.
G. S. Galletti, U.S. Nuclear Regulatory Commission
M. Hayden, NuScale Power, LLC
H. Henry, Battelle Energy Alliance
N. M. Kyle, Theseus Professional Services
G. A. Lipscomb, Goldwing Services
P. I. Loo, Unaffiliated
C. R. Martin, Office of Congresswoman Marcy Kaptur
N. Moreau, Theseus Professional Services, LLC
A. R. Mrugacz, Sargent & Lundy
T. Muraki, Advanced Technology
S. K. Sen, U.S. Department of Energy
H. V. Sobah, Unaffiliated
D. Taneja, U.S. Nuclear Regulatory Commission
P. L. Valdez, Palo Verde Generating Station
T. R. Verma, Unaffiliated
R. W. VonRoble, VonRoble Consulting
D. J. Williams, Unaffiliated
D. R. Sparkman, *Contributing Member,* Sparkman & Associates, LLC

SUBCOMMITTEE ON WASTE MANAGEMENT

M. F. Nicol, *Chair,* Unaffiliated
R. Wood, *Vice Chair,* Unaffiliated
C. M. Palay, *Secretary,* U.S. Department of Energy
G. Appel, Sandia National Laboratories
B. Bice, Seafab Metals
A. V. Chermak, Battelle Energy Alliance
M. C. Eagle, U.S. Environmental Protection Agency, Office of Radiation and Indoor Air
K. A. McMahon, Sandia National Laboratories
K. A. Morrell, Mission Support and Test Services, LLC
R. D. Murray, U.S. Department of Energy
D. A. Sayre, WECTEC, Westinghouse Electric Co.
A. Sengupta, U.S. Department of Transportation
J. Tapp, U.S. Nuclear Regulatory Commission
P. Yadav, Unaffiliated

INTERPRETATION SPECIAL WORKING GROUP (ISWG)

D. R. Sparkman, *Chair,* Sparkman and Associates, LLC
M. Concepcion-Robles, Dominion Energy Services, Inc.
M. A. Hayse, Unaffiliated
T. N. Rezk, Bechtel Power Corp.
D. Vickery, Dubose National Energy Services, Inc.

SPECIAL WORKING GROUP ON HONORS AND AWARDS

N. Moreau, *Chair,* Theseus Professional Services, LLC
J. Adkins, Unaffiliated
J. E. Bergstrom, Bergstrom Consulting
J. M. Ziemba, Atkins Global — Member of the SNC-Lavalin Group

INTRODUCTION

This Standard is to be applied to any structure, system, component, activity, or organization that is essential to the safe, reliable, and efficient performance of a nuclear facility and any activities independent of a facility that may affect performance (e.g., transportation of nuclear materials) of those activities. The extent to which this Standard should be applied depends upon the specific type of facility, items, or services involved and the nature, scope, and relative importance of the activity being performed. It is also to be applied to all phases of a nuclear facility life cycle (e.g., siting, design, construction, operation, and decommissioning) and all types of activities (e.g., training, testing, software development or use).

The Standard also applies to activities that could affect the quality of nuclear material applications, structures, systems, and components of nuclear facilities.

Examples of nuclear facilities are those for power generation, spent fuel storage, waste management, fuel reprocessing, nuclear material processing, fuel fabrication, nuclear research, and other related facilities. Examples of activities include siting, designing, procuring, developing or using software, fabricating, constructing, handling, shipping, receiving, storing, cleaning, erecting, installing, inspecting, testing, operating, maintaining, repairing, refueling, modifying, and decommissioning.

This Standard is organized in the following four parts:

(a) Part I contains requirements for developing and implementing a Quality Assurance Program for nuclear facility applications.

(b) Part II contains additional quality assurance requirements for the planning and conduct of specific work activities under a Quality Assurance Program developed in accordance with Part I.

(c) Part III contains guidance for implementing the requirements of Parts I and II.

(d) Part IV contains guidance for application of NQA-1 and comparisons of NQA-1 with other quality requirements.

The arrangement of the requirements in Parts I and II and the guidance in Parts III and IV permit the judicious application of the Standard or portions of the Standard. Applicable requirements of Parts I and II are to be implemented to ensure conformance with NQA-1. The application of this Standard, or portions thereof, shall be invoked by written contracts, policies, procedures, specifications, or other appropriate documents.

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 and sustainment of quality, and fosters the application of these requirements in a manner consistent with the relative importance of the item or activity (i.e., a “graded approach”).