

ASME QAI-1–2016
(Revision of ASME QAI-1–2010)

Qualifications for Authorized Inspection



**The American Society of
Mechanical Engineers**

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FOREWORD

The 2016 Edition of ASME QAI-1 incorporates the 2010 Edition of QAI-1 and revisions and additions approved by the QAI Standards Committee since the publication of the 2010 Edition.

This Standard is arranged into the Parts listed below.

- Part 1 Requirements for qualifications and duties of the Authorized Inspection Agency, its Authorized Nuclear Inspectors, and its Authorized Nuclear Inspector Supervisors, as used with the ASME Boiler and Pressure Vessel Code Section III, Division 1, Rules for Construction of Nuclear Facility Components; Section III, Division 3, Containments for Transportation and Storage of Spent Nuclear Fuel and High Level Radioactive Material and Waste; and Section III, Division 5, High Temperature Reactors
- Part 2 Requirements for qualifications and duties of the Authorized Inspection Agency, its Authorized Nuclear Inservice Inspectors, and its Authorized Nuclear Inservice Inspector Supervisors, as used with the ASME Boiler and Pressure Vessel Code Section XI, Rules for Inservice Inspection of Nuclear Power Plant Components
- Part 3 Requirements for qualifications of the Authorized Inspection Agency, its Authorized Nuclear Inspectors (Concrete), and its Authorized Nuclear Inspector Supervisors (Concrete), as used with the ASME Boiler and Pressure Vessel Code Section III, Division 2, Code for Concrete Reactor Vessels and Containments (ACI 359)
- Part 4 Requirements for accreditation of Authorized Inspection Agencies
- Part 5 Requirements for qualifications and duties of the Authorized Inspection Agency and its Supervisors, and qualifications of Authorized Inspectors, as used with the ASME Boiler and Pressure Vessel Code Sections I; IV; VIII, Divisions 1, 2, and 3; X; and XII.
- Part 6 Requirements for qualifications and duties for Qualified Inspection Organizations and qualifications for Inspectors and Supervisors as used with the ASME Boiler and Pressure Vessel Code Section XII
- Part 7 Requirements for accreditation of Qualified Inspection Organizations performing inspections as required by the ASME Boiler and Pressure Vessel Code Section XII
- Part 8 Requirements for qualification and duties of the Certified Individual performing inspections as used with the ASME Boiler and Pressure Vessel Code Sections I; IV; VIII, Divisions 1, 2, and 3; X; and XII when so referenced by the respective Code Sections

These requirements were developed and are maintained by the ASME Committee on Qualifications for Authorized Inspection, which was first formed on March 29, 1973, as a special committee under the Policy Board, Codes and Standards and that now reports to the ASME Board on Conformity Assessment. The Committee operates under procedures accredited by the American National Standards Institute.

The QAI-1 Standard has been developed with the following principles intended to apply to all jurisdictional authorities accredited as an AIA by ASME:

(a) *Reciprocity.* The enforcement authority (jurisdiction) agrees to accept the results of inspections required by the ASME Boiler and Pressure Vessel Code that have been performed by an accredited AIA.

(b) *Integrity.* The AIA maintains the commitment to the integrity of the inspection process and of the ASME Code Symbol Marks by fulfilling its obligations under the ASME Boiler and Pressure Vessel Code and by recognizing the role of the third party inspection system.

(c) *Openness.* The enforcement authority (jurisdiction) permits ASME Certificate Holders and Applicants for ASME Certificates of Authorization located within its jurisdiction to select other ASME accredited AIAs.

(d) *Participation in the Process.* The AIA agrees to participate in the development of the ASME Boiler and Pressure Vessel Code by becoming a member of either the Conference Committee or the International Interest Review Group (IIRG).

When required by context in this Section, the singular shall be interpreted as the plural and vice-versa, and the feminine, masculine, or neuter gender shall be treated as such other gender as appropriate.

Requests for interpretations or suggestions for improvement of this Standard should be addressed to the Secretary of the Committee on Qualifications for Authorized Inspection, The American Society of Mechanical Engineers, Two Park Avenue, New York, NY 10016-5990.

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(The following is the roster of the Committee as of December 2015.)

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ASME QAI-1–2016 SUMMARY OF CHANGES

ASME QAI-1–2016, which was approved by ASME on March 17, 2016, replaces previously issued ASME QAI-1–2010.

ASME QAI-1–2016 includes editorial changes and corrections as well as the following changes identified by a margin note, **(16)**.

<i>Page</i>	<i>Location</i>	<i>Change</i>
1, 2	Part 1	Title revised
	1-0	Revised
	1-1.1	(1) First paragraph and subpara. 1-1.1.1(a) revised
		(2) Paragraphs 1-1.1.2 through 1-1.1.4 redesignated as 1-1.3 through 1-1.1.5, respectively
1-1.2	(3) Paragraphs 1-1.1.2 and 1-1.1.6 added	
	Paragraphs 1-1.2, 1-1.2.2, and 1-1.2.6 and subpara. 1-1.2.5(d) revised	
3, 4	1-1.2.11	Added
	1-2.1	Revised in its entirety
	1-2.2	Revised
	1-2.2.6	First paragraph revised
5	1-2.2.10	Revised
	1-2.2.12	Added
	1-3.1	Revised in its entirety
6	1-3.2.18	Revised in its entirety
7, 8	2-1.1	(1) Paragraphs 2-1.1.2 through 2-1.1.4 redesignated as 2-1.1.3 through 2-1.1.5, respectively
		(2) Paragraphs 2-1.1.2 and 2-1.1.6 added
	2-1.2	Revised
	2-1.2.11	Added
9	2-2.1	Revised in its entirety
	2-2.2	Revised
10	2-2.2.9	Added
	2-3.1	Revised in its entirety
11	2-3.2.10	Revised in its entirety
12, 13	3-1.1	(1) Paragraphs 3-1.1.2 through 3-1.1.4 redesignated as 3-1.1.3 through 3-1.1.5, respectively
		(2) Paragraphs 3-1.1.2 and 3-1.1.6 added
	3-1.2	Revised

<i>Page</i>	<i>Location</i>	<i>Change</i>
14, 15	3-1.2.11	Added
	3-2.1	Revised in its entirety
	3-2.2	Revised
16	3-2.2.11	Added
	3-3.1	Revised in its entirety
	3-3.2.1	Second paragraph in Note revised
17	3-3.2.19	Revised in its entirety
18	4-0	Revised
	4-3	Second paragraph added
21–23	5-1.1.9	Added
	5-1.2	(1) First paragraph revised (2) Paragraph 5-1.2.11 redesignated as 5-1.2.12 (3) Paragraph 5-1.2.11 added
	5-2.1	Revised in its entirety
	5-2.2	Revised
	5-2.2.8	Added
	5-3.1	Revised in its entirety
24	5-3.3	Added
25, 26	6-1.2	(1) First paragraph revised (2) Paragraphs 6-1.2.9 and 6-1.2.10 redesignated as 6-1.2.10 and 6-1.2.11, respectively (3) Paragraph 6-1.2.9 added
31	8-1	Subparagraph (a) revised

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QUALIFICATIONS FOR AUTHORIZED INSPECTION

Part 1

(16)

Qualifications and Duties for Authorized Inspection Agencies, Nuclear Inspectors, and Nuclear Inspector Supervisors (Applicable to ASME Boiler and Pressure Vessel Code Section III, Divisions 1, 3, and 5)

(16) 1-0 SCOPE

Part 1 is for use with Section III, Divisions 1, 3, and 5 of the ASME Code,¹ including applicable Addenda and Code Cases.

1-1 THE AUTHORIZED INSPECTION AGENCY

(16) 1-1.1 Qualifications

An Authorized Inspection Agency is an organization meeting the criteria of this Standard that is accredited by the Society pursuant to the provisions set forth in Part 4 to provide Authorized Inspection Agency services within a jurisdiction.² Such agencies employ Authorized Inspectors and Inspector Supervisors that meet the criteria of Section III, Division 1; Section III, Division 3; or Section III, Division 5 of the ASME Code and of the National Board Rules for Commissioned Inspectors.³

1-1.1.1 An Authorized Inspection Agency shall be one of the following:

(a) a jurisdiction² that has adopted and does administer Section III, Division 1; Section III, Division 3; or Section III, Division 5 of the ASME Code as a legal requirement and is qualified to be represented on the ASME Code Conference Committee.

(b) an insurance company that has been licensed or registered by the appropriate authority of a state of the United States of America, or of a province of Canada, to write boiler and pressure vessel insurance in such state or province. The insurance company shall show its capability to provide boiler and pressure vessel insurance coverage by being actively engaged in writing such

insurance in one or more of the states or provinces where so licensed or registered.

(c) a company in the business of providing “third party” inspection services within a jurisdiction,² which has government recognition to perform inspection and design reviews for boilers and pressure vessels.

1-1.1.2 The jurisdiction described in 1-1.1.1(a) may designate one or more organizations to act on its behalf to enforce its regulations. The organization shall

(a) provide evidence establishing that such delegation of authority is duly authorized by the laws of the jurisdiction

(b) describe how the ASME Code is accepted by the jurisdiction

(c) describe how the Code is enforced by the organization

1-1.1.3 An Authorized Inspection Agency shall be accredited by the Society pursuant to the provisions set forth in Part 4. The Authorized Inspection Agency services provided by their Inspectors and Inspector Supervisors shall also be subject to audit by ASME for compliance with this Standard during shop or site reviews of organizations for which they provide Authorized Nuclear Inspection.

1-1.1.4 The Authorized Inspection Agency shall provide authorized inspection services within such states or provinces by Inspectors and Inspector Supervisors who meet the qualifications of the Authorized Nuclear Inspector and of the Authorized Nuclear Inspector Supervisor as defined herein.

1-1.1.5 The Authorized Inspection Agency shall have no commercial interest in, or shall be independent of any part of an organization having direct commercial interest in, the products to be inspected. The staff shall be free from any commercial, financial, and other pressures

¹ ASME Code refers to the ASME Boiler and Pressure Vessel Code.

² Considered to be enforcement authority per Section III, Subsection NCA, NCA-9000, of the ASME Code, as appropriate.

³ The *National Board* refers to The National Board of Boiler and Pressure Vessel Inspectors.