ASME QEI-1–2004
(Revision of ASME QEI-1–2001)

Standard for the Qualification of Elevator Inspectors

AN AMERICAN NATIONAL STANDARD



The American Society of Mechanical Engineers

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STANDARD FOR THE QUALIFICATION OF ELEVATOR INSPECTORS

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(04)

FOREWORD

Participants from the National Association of Elevator Safety Authorities, the National Elevator Industries, Inc., the American Insurance Association, and the Alliance of American Insurers met in early 1981 to discuss the trend among state and municipal governments to rely on private inspection agencies and self-inspection by elevator companies to perform inspections that had traditionally been done by the jurisdictional authorities. One of the prime concerns of the group was to develop a means for ensuring that the quality of the inspections remained at a high level. The group determined that addressing the qualifications of the persons performing the inspections is an important part of achieving this goal.

The American Society of Mechanical Engineers (ASME), which had been actively involved in elevator safety through the sponsorship of the A17 Elevator and Escalator Committee, was asked to participate in the group's discussions. ASME expressed an interest in this project and established an ad hoc committee consisting of members of the above organizations to develop a scope and guidelines for the establishment of a standards-writing committee.

On November 12, 1981, the ASME Council on Codes and Standards responded to this request and approved the formation of the ASME Committee on the Qualification of Elevator Inspectors (QEI Committee) to develop an American National Standard.

The goal established for the QEI Committee is to provide for the public health, safety, and welfare by supplementing existing standards in this field. ASME A17.1, Safety Code for Elevators and Escalators, covers design, construction, operation, inspection, testing, maintenance, alteration, and repair. ASME A17.2, Guide for Inspection of Elevators, Escalators, and Moving Walks, supplements the Safety Code by providing guidelines for the inspection and testing of the equipment. Neither A17.1 nor A17.2, however, covers the qualifications of inspection personnel, and the duties of the inspector are only covered briefly in the Introduction to the Inspectors' Manual.

The excellent safety record of elevators, escalators, and related equipment has been maintained, in part, by quality field inspections and tests. However, advancing technology and safety requirements have highlighted the need for establishing uniform criteria for the persons performing these inspections. The quality of inspections, of course, depends on the competence of the inspector, and the Standard for the Qualification of Elevator Inspectors is dedicated to that purpose.

Safety codes and standards are intended to enhance public health and safety. Revisions result from committee consideration of factors such as technological advances, new data, and changing environmental and industry needs. Revisions do not imply that previous editions were inadequate.

The 2004 edition of QEI-1 is a compilation of the 2001 edition, the 2001 and 2003 addenda, and additional revisions, and was approved by the American National Standards Institute on March 23, 2004.

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ASME COMMITTEE ON THE QUALIFICATION OF ELEVATOR INSPECTORS

(The following is the roster of the Committee as of September 2003.)

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PREFACE

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PURPOSE

This Standard is intended for the purpose of establishing uniform criteria, which will aid in:

(a) qualifying and training of inspection personnel for government agencies, insurance companies, elevator companies, building owners, and managers

(b) the accreditation of inspection agencies

(c) reducing the liability exposure of insurance companies, manufacturers, installers, and building owners

It is also intended to serve as a guideline on which certification is based by detailing the expertise necessary in performing inspections.

It is recommended that state, municipal, and other jurisdictional authorities reference this Standard in their governing regulations covering subjects included in this Standard. Model language for enforcement authorities to recognize certified inspectors and inspection supervisors from accredited organizations is shown in Appendix D.

ACCREDITATION

The American Society of Mechanical Engineers has established procedures to authorize organizations to certify that persons have met the requirements of this Standard (see Part 4). ASME does not "approve," "certify," "rate," or "endorse" any person certified by an organization holding a Certificate of Accreditation, and there shall be no statement or implication that might so indicate.

FORM AND ARRANGEMENT

The Foreword, Preface, and Appendices are included in this Standard for information only. They have been approved by the QEI Committee. The requirements therein are nonmandatory.

RELATED PUBLICATIONS

This Standard is one of the numerous codes and standards that have been developed and published by The American Society of Mechanical Engineers. These and publications of other organizations, all of which may be of special interest to users of this Standard, are listed in Appendix A.

CORRESPONDENCE WITH QEI COMMITTEE

ASME codes and 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, QEI Standards Committee
The American Society of Mechanical Engineers
Three Park Avenue
New York, NY 10016-5990

Proposing Revisions. Revisions made to this Standard will incorporate changes that appear necessary or desirable as demonstrated by the experience gained from its application, and in order to conform to developments in the elevator field. Approved revisions will be published in the next edition.

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 description of the reason(s) for the proposal, including any pertinent documentation.

Requesting Interpretations. ASME issues written replies to inquiries concerning interpretation of technical aspects of this Standard. Interpretations are published on the ASME Web site under the Committee Pages at http://www.asme.org/codes/. Interpretations can only be rendered in response to a written request sent to the Secretary of the QEI Standards Committee.

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Attending Committee Meetings. The QEI Standards Committee regularly holds meetings, which are open to the public. All portions of meetings that concern evaluation of certifying organizations are closed to the public. Persons wishing to attend any meeting should contact the Secretary of the QEI Standards Committee.

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ASME QEI-1–2004
SUMMARY OF CHANGES

Following approval by the ASME QEI Committee and ASME, and after public review, ASME QEI-1–2004 was approved by the American National Standards Institute on March 23, 2004.

ASME QEI-1–2004 includes editorial changes, revisions, and corrections introduced in ASME QEI-1–2001, ASME QEI-1a–2001, and ASME QEI-1b–2003, as well as the following changes identified by a margin note, **(04)**.

Page	*Location*	*Change*
iv	Foreword	Last paragraph revised
vi	Preface	(1) "QEI Main Committee" replaced with "QEI Standards Committee" throughout (2) Use of "Addenda" removed
4	2.1	First paragraph revised
11	A8	First sentence editorially revised

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PART 1
INTRODUCTION

1.1 Scope

1.1.1 Inspectors and Inspection Supervisors. This Standard includes requirements for the qualification, duties, and responsibilities of inspectors and inspection supervisors engaged in the inspection and testing of

(a) hoisting and lowering mechanisms, equipped with a car or platform, that move between two or more landings; this equipment includes, but is not limited to, the following:

(1) elevators (ASME A17.1)

(2) platform and stairway chairlifts (ASME A18.1)

(b) power-driven stairways and walkways for carrying persons between landings; this equipment includes, but is not limited to, the following:

(1) escalators (ASME A17.1)

(2) moving walks (ASME A17.1)

(c) hoisting and lowering mechanisms equipped with a car that serves two or more landings and is restricted to the carrying of material by its limited size or limited access to the car; this equipment includes, but is not limited to, the following:

(1) dumbwaiters (ASME A17.1)

(2) material lifts and dumbwaiters with automatic transfer devices (ASME A17.1)

NOTE: Appendix B also includes recommended qualifications and duties of inspector trainees.

1.1.2 Accreditation. This Standard includes requirements for accreditation of organizations that certify inspectors and inspection supervisors.

1.1.3 Certification. ASME A17.1, Sections 8.10.1.1 and 8.11.1.1, requires inspectors and inspection supervisors to be certified by an organization accredited by ASME in accordance with the requirements contained in this Standard.

1.1.4 Covered Inspections. This Standard applies to any person who is making an inspection to determine compliance with the requirements of ASME A17.1, ASME A17.3, CAN/CSA-B44.1/ASME A17.5, and ASME A18.1. It applies to persons typically employed by, but not limited to, the following:

(a) jurisdictional authorities.

(b) independent inspection agencies and elevator consultants.

(c) insurers of the equipment.

(d) manufacturers, installers, and maintainers of the equipment.

(e) building owners and managers.

(f) testing laboratories performing field inspections and tests. See also para. 1.1.5.

1.1.5 Exempt Inspections. This Standard does not cover personnel engaged in engineering and type testing as covered in Section 8.3 of ASME A17.1, Section 8 of ASME A18.1, and CAN/CSA-B44.1/ASME A17.5, including inspection by laboratories in association with these tests.

1.2 Definitions

Terms used in this Standard shall have the meanings specified in the following definitions. Other terms used shall have the meanings specified in Section 3 of ASME A17.1.

accredited certifying organization: a certifying organization that holds a valid Certificate of Accreditation.

ASME: The American Society of Mechanical Engineers.

Certificate of Accreditation: a certificate issued by ASME to a certifying organization that verifies the adequacy of the organization to meet the requirements of Part 4 of this Standard.

certification manual: the documentation of a certification program.

certification program: a certifying organization's controlled management program, which is utilized for the purpose of certifying inspectors and inspection supervisors.

certified inspection supervisor: a person certified by an accredited certifying organization as meeting the requirements of Part 3 of this Standard.

certified inspector: a person certified by an accredited certifying organization as meeting the requirements of Part 2 of this Standard.

certifying organization: an organization that certifies that persons are qualified to perform the duties of an inspector or inspection supervisor.

current edition: the edition of the ASME A17 documents now being followed by the respective authority having jurisdiction. In the case where there is no stated document to follow, the current edition will be the latest edition.

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Fig. 1.2 QEI Logo

equivalent field: a field that deals with electronic, electrical, mechanical (including hydraulic), and safety principles to the same degree of complexity as found in elevators.

inspection supervisor: a person meeting the qualifications of para. 3.1 who is responsible for the supervision of inspectors and inspector trainees.

inspector: a person meeting the qualifications of para. 2.1 who is engaged in the inspection and testing of equipment within the scope of ASME A17.1.

inspector trainee: a person who is being trained to become an inspector.

latest edition: the latest edition in effect or the specific edition referenced by ASME A17.1. Where the referenced standard does not include an effective date and a specific edition is not referenced in ASME A17.1, the effective date shall be 6 months from the date of publication. More recent editions may be used.

QEI logo: the logo shown in Fig. 1.2, which is a registered trademark. The logo may be used by accredited organizations and individuals holding valid certified inspector credentials or valid certified inspection supervisor credentials (see para. 1.5).

1.3 QEI Referenced Standards

(a) References to ASME A17.1 refer to the latest edition of ASME A17.1, Safety Code for Elevators and Escalators, an American National Standard.

(b) References to ASME A17.2 refer to the latest edition of Guide for Inspection of Elevators, Escalators, and Moving Walks.

(c) References to the National Electrical Code refer to the latest edition of ANSI/NFPA 70, National Electrical Code.

(d) References to building codes refer to the latest edition of the following:

(1) National Building Code

(2) Standard Building Code

(3) Uniform Building Code

(4) International Building Code

(e) References to standards regarding accessibility for people with disabilities refer to the latest editions of the following:

(1) ICC/ANSI A117.1, Accessible and Usable Buildings and Facilities, an American National Standard

(2) ADAAG, Americans With Disabilities Act Accessibility Guidelines for Buildings and Facilities

(f) References to ASME A17.3 refer to the latest edition of ASME A17.3, Safety Code for Existing Elevators and Escalators, an American National Standard.

(g) References to B44.1/A17.5 refer to the latest edition of CAN/CSA-B44.1/ASME A17.5, Elevator and Escalator Electrical Equipment, a National Standard of Canada and an American National Standard.

(h) References to ASME A18.1 refer to the latest edition of ASME A18.1, Safety Standard for Platform Lifts and Stairway Chairlifts.

(i) References to the Safety Handbook refer to the latest edition of the Elevator Industry Field Employees' Safety Handbook.

NOTE: See Appendix A for related documents. Also see para. 4.2.10.

1.4 Certificate Holder Reference Standards

The following list contains documents that shall be held by each certificate holder (see para. 4.2.7):

(a) current and all previous editions with supplements of ASME A17.1, Safety Code for Elevators and Escalators

(b) current edition with supplements of ASME A17.2, Guide for Inspection of Elevators, Escalators, and Moving Walks

(c) current and all previous editions with supplements of ASME A17.3, Safety Code for Existing Elevators and Escalators

(d) current edition of ASME A17.4, Guide for Emergency Personnel

(e) current and all previous editions with supplements of CAN/CSA-B44.1/ASME A17.5, Elevator and Escalator Electrical Equipment

(f) all published interpretations of A17 documents from June 14, 1972 through to most current

(g) current edition of A17.1 Handbook

(h) current and all previous editions, beginning with 1972 edition, of the National Electrical Code

(i) current and all previous editions, beginning with 1981 edition, of the International, National, Standard, and Uniform Building Codes

(j) current edition of ICC/ANSI A117.1 and ADAAG accessibility standards

(k) latest edition of the Elevator Industry Field Employees' Safety Handbook

Certificate holders with limited certificates shall be required to hold only those documents that apply to that program.

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1.5 Certified Elevator Inspector and Certified Elevator Inspector Supervisor Reference Standards

(a) Personal Possession

(1) ASME A17.1, Safety Code for Elevators and Escalators

(2) ASME A17.2, Guide for Inspection of Elevators, Escalators, and Moving Walks

(3) ANSI/NFPA 70, National Electrical Code

(4) ASME A17.3, Safety Code for Existing Elevators and Escalators

(5) ASME A18.1, Safety Standard for Platform Lifts and Stairway Chairlifts

(6) Elevator Industry Field Employees' Safety Handbook

(b) Workplace Access

(1) CAN/CSA-B44.1/ASME A17.5, Elevator and Escalator Electrical Equipment

(2) Building codes:

(a) National Building Code

(b) Standard Building Code

(c) Uniform Building Code

(d) International Building Code

(3) Standards regarding accessibility for people with disabilities:

(a) ICC/ANSI A117.1, Accessible and Usable Buildings and Facilities

(b) ADAAG, Americans With Disabilities Act Accessibility Guidelines for Buildings and Facilities

1.6 Credentials

An inspector holding a valid certification from an accredited certifying organization (see para. 1.2) may use the designation CEI after his/her name denoting "Certified Elevator Inspector" or CEIS denoting "Certified Elevator Inspection Supervisor."

An inspector or inspection supervisor may also state in oral and written reports that he or she is "certified by [name or acronym of accredited certifying organization] in conformance with the requirements of ASME QEI-1." Inspectors shall not state or imply that they are certified by ASME.

1.7 Use of QEI Logo

The QEI logo (see Fig. 1.2) is limited to use by accredited organizations and by individuals holding valid certified inspector credentials or certified inspection supervisor credentials, as defined in para. 1.2. In addition to using this symbol in their certification documentation, these organizations, as well as certified inspectors and certified inspection supervisors, may use the symbol for advertising materials or other literature. The QEI logo shall have the name or acronym of the certifying organization immediately adjacent to the logo.

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PART 2
QUALIFICATIONS AND DUTIES OF INSPECTORS

(04) 2.1 Qualifications

An inspector shall meet the definition of "Elevator Personnel" in ASME A17.1 Section 1.3 and have documented training and at least 1 year of experience performing inspections and performing or witnessing tests specified in ASME A17.1 and A18.1. Verifiable evidence of training and experience shall be documented with the application for certification to the certifying organization. An inspector shall also verify that he or she meets the following qualifications (see Nonmandatory Appendix B for the recommended qualifications and duties of inspector trainees):

(a) knowledge of personal safety practices, including, but not limited to, the safety practices contained in the Safety Handbook necessary to perform the following:

(1) acceptance inspections of new construction

(2) routine and periodic inspections of existing equipment

(3) inspections of equipment in hazardous environments, where applicable

(b) familiarity with industry terminology, including the following:

(1) terms defined and used in ASME A17.1 and ASME A18.1

(2) terms used in ASME A17.2

(3) terms defined and used in the National Electrical Code

(4) administrative terminology used by the jurisdictional authority

(c) ability to read architectural and installation drawings, including hoistway and machine room layouts

(d) working knowledge of electrical, electronic, and circuit construction principles, including but not limited to:

(1) voltage, currents, and resistance

(2) series and parallel circuits

(3) grounding

(4) ability to read circuit diagrams

(e) knowledge of the purpose and function of safety devices in the following locations:

(1) machine rooms and machinery spaces

(2) hoistways

(3) on the cars

(4) pits

(5) escalators, moving walks, and other related equipment

(f) working knowledge of mechanical principles as applied to structures, machines, mechanisms, and the effects of traction on ropes and sheaves

(g) working knowledge of hydraulic principles as applied to the operation of valves, pumps, plungers, piping, and buffers

(h) knowledge of the various types of equipment; their code requirements, uses, and limitations; and any special problems or applications as included in ASME A17.1 (past and present) and local regulations:

(1) classifications of usage:

(a) passenger elevators

(b) freight elevators (Classes A, B, C1, C2, and C3)

(c) private residence elevators

(d) sidewalk elevators

(e) special purpose personnel elevators

(f) inclined elevators

(g) material lifts and dumbwaiters with automatic transfer devices

(h) dumbwaiters

(i) elevators used for construction

(2) classifications of driving means:

(a) traction

(b) winding drum

(c) hydraulic (direct-plunger hydraulic, electrohydraulic, maintained-pressure hydraulic, and roped hydraulic)

(d) screw machine

(e) rack and pinion

(f) hand

(g) belt and chain drives

(3) escalators and moving walks

(4) inclined and vertical wheelchair lifts and stairway chairlifts (ASME A17.1b-1998 and earlier)

(i) working knowledge of the functions and operation of elevator systems, including machines, motors, governors, and other machine room equipment; controllers; position devices; door operator systems; hoistway systems; safety system testing and functions; pit equipment escalators; moving walks; electrical devices; and hydraulics

(j) knowledge of inspection and testing procedures as described in ASME A17.2

(k) working knowledge of applicable building, fire, electrical, and accessibility codes

(l) demonstrated ability to perform the duties specified in para. 2.2

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(m) working knowledge of the requirements of ASME A17.3

(n) awareness of B44.1/A17.5 to the extent that it is specified in ASME A17.1 and ASME A18.1

(o) knowledge of the various types of equipment; functions and operations; their code requirements, uses, and limitations; and any special problems or applications as included in ASME A18.1 (past and present) and local regulations

(p) must have in his or her personal possession the latest edition of QEI-1, as well as the current editions of the documents referenced in para. 1.5(a)

(q) must have workplace access to current editions of documents referenced in para. 1.5(b)

2.2 Duties

The duties of an inspector include the following:

(a) making acceptance inspections and witnessing tests to determine whether all parts of the installation conform to the requirements of the applicable code or regulations and whether the required safety devices function as required therein

(b) making routine or periodic inspections and witnessing tests of existing installations to determine that the equipment is in apparent safe operating condition, has not been altered except in conformity to the applicable code or regulations, and performs in accordance with test requirements

(c) reporting the results of the inspection and testing in accordance with the appropriate administrative procedures and the following:

(1) the certified inspector's report shall include a clear description of the scope of the inspection performed, including the type of inspection (acceptance, periodic, or routine) and whether or not the inspection was performed in accordance with the applicable requirements of ASME A17.1, Section 8.10 or 8.11, or ASME A18.1, Section 10. If any other type of inspection was performed, the report shall include a complete description of the scope of the inspection. The ASME checklist forms as published by ASME for electric elevators, hydraulic elevators, and escalators and moving walks shall only be used when the inspection complies with the requirements in ASME A17.1, Section 8.10 or 8.11.

(2) the report shall be signed by the certified inspector, and shall include his or her certification number and certifying agency.

(3) all Code deficiencies noted in the report shall include a reference to the applicable code and rule number(s).

(4) the report shall include the date and time that the inspection was conducted.

(d) maintain his or her personal copy of QEI-1 to be the latest edition, as well as the current edition of documents referenced in para. 1.5(a)

2.3 Maintenance of Qualifications

In order to maintain the qualifications as an elevator inspector, an inspector shall:

(a) become familiar with the applications of new technology, including the electronic and material fields.

(b) maintain knowledge of current local administrative or operating procedures necessary to discharge duties.

(c) maintain knowledge of the most recent revisions of ASME A17.1, ASME A17.2, ASME A17.3, and ASME A18.1, and awareness of B44.1/A17.5 to the extent that it is specified in ASME A17.1 and ASME A18.1, as well as the applicable requirements in the building, fire, electrical, and accessibility codes.

(d) actively participate in selected meetings, seminars, and educational programs related to duties.

(e) comply with the code of ethics established by the certifying organization.

(f) have in his or her personal possession the required latest edition of QEI-1, as well as the current edition of documents referenced in para. 1.5(a), plus workplace access to the documents referenced in para. 1.5(b). The inspector shall attest to this upon certification and annual renewal of certification.

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PART 3
QUALIFICATIONS AND DUTIES OF INSPECTION SUPERVISORS

3.1 Qualifications

An inspection supervisor shall have the qualifications of para. 2.1 and the following:

(a) demonstrated aptitude for leadership, administration, and management (should acquire management training within the first year).

(b) demonstrated in-depth knowledge of the applicable codes.

(c) demonstrated ability to perform the administrative and technical duties in para. 3.2. An inspection supervisor shall also meet one of the following experience requirements:

(1) five years' experience as an elevator inspector or in a job in an equivalent field at an equivalent level, 2 years of which must have been spent dealing directly with elevator inspections.

(2) four years' experience as an elevator inspector and a diploma or certificate of successful completion from a technical/vocational school (including high school) in an equivalent field.

(3) three years' experience as an elevator inspector and a bachelor's degree in an equivalent field.

(4) two years' experience as an elevator inspector and a bachelor's degree in engineering from an accredited school in an equivalent field.

(d) must have in his or her personal possession the latest edition of QEI-1, as well as the current editions of the documents referenced in para. 1.5(a)

(e) must have workplace access to current editions of documents referenced in para. 1.5(b)

3.2 Duties

3.2.1 Administrative. The administrative duties of an inspection supervisor include, but are not limited to, the following:

(a) scheduling of inspections and assignments

(b) training of inspectors and, where appropriate, others requiring elevator safety familiarity

(c) development of budget

(d) selection of new inspectors and trainees

(e) maintenance and analysis of records that include records of inspections, accident reports, and inspector performance, including inspector compliance with the requirements of para. 2.2

(f) personnel matters, such as performance appraisals and disciplinary actions

(g) handling public relations matters and serving as a liaison to concerned parties

(h) mediation of disputes

(i) assuring that inspectors under his or her supervision perform their duties in compliance with the requirements of para. 2.2

(j) maintain his or her personal copy of QEI-1 to be the latest edition, as well as the current edition of documents referenced in para. 1.5(a)

3.2.2 Technical. The technical duties of an inspection supervisor include, but are not limited to, the following:

(a) reviewing inspection reports and ensuring enforcement of legally adopted requirements

(b) reviewing applications for waivers and variances and making recommendations to proper authorities as required

(c) mediating disputes

(d) answering questions on Code, and obtaining formal interpretations from code-developing organizations

(e) actively participating in relevant code-developing committees on national, regional, or local levels

(f) assuring review of elevator plans and drawings

(g) investigating complaints and accidents

(h) helping to develop local policies and laws, and advocating adoption of the latest national codes

3.3 Maintenance of Qualifications

In order to maintain the qualifications as an inspection supervisor, an inspection supervisor shall

(a) conform to the requirements of para. 2.3.

(b) attend or conduct at least one professional level seminar or workshop per year related to one or more of the above duties.

(c) spend a minimum of 10% of work time with the inspectors in the field.

(d) have in his or her personal possession the required latest edition of QEI-1, as well as the current edition of documents referenced in para. 1.5(a), plus workplace access to the documents referenced in para. 1.5(b). The inspector supervisor shall attest to this upon certification and annual renewal of certification.

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PART 4
ACCREDITATION OF CERTIFYING ORGANIZATIONS

4.1 Scope

This Section covers the provisions under which ASME will accredit an organization to certify that inspectors and/or inspection supervisors meet and maintain the applicable requirements of this Standard.

Organizations meeting these provisions will be issued a Certificate of Accreditation.

4.2 Requirements for Obtaining a Certificate of Accreditation

Organizations shall have a certification program that includes all those planned and systematic actions necessary to provide confidence that the requirements of this Standard will be complied with. This program shall be documented in a certification manual, which shall be the basis for demonstration of compliance. The documentation shall include a completed QEI program checklist. The certification program shall include the following elements.

4.2.1 Authority, Responsibility, and Personnel. The authority and responsibility of those in charge of the certification program shall be clearly established and documented. They shall have the organizational freedom and administrative and technical expertise necessary to implement the program.

Personnel records shall be maintained for all persons with a direct involvement in the program and shall include the education, training, and experience of each person.

4.2.2 Methods of Evaluation of Qualification. The certification program shall clearly delineate the method of evaluating whether applicants meet the qualifications of inspectors (Part 2) and/or inspection supervisors (Part 3).

The method of evaluation may include written examinations, oral examinations, verification of employment, verification of attendance or successful completion at educational institutions, or other methods, provided that they assure compliance with para. 2.1 for inspectors or para. 3.1 for inspection supervisors.

Means shall be provided to assure that certified inspectors meet the maintenance of qualification provisions of para. 2.3 and that certified inspection supervisors meet the maintenance of qualification requirements of para. 3.3. The certification program shall include provisions to detail how a meeting, seminar, or education program can be accepted as meeting the criteria for maintenance of certification. A list of currently approved meetings, seminars, and education programs shall also be maintained on file. The information shall be made known to all certified inspectors and inspection supervisors.

4.2.3 Document Control. Means shall be provided to control the issuance, revision, and disposition of all documents, including examinations, and to prevent accessibility to unauthorized persons. Examinations shall not be accessible to any persons except those directly involved in their development.

4.2.4 Control of Subcontracted Services. The certifying organization may subcontract services to other organizations, provided that they ascertain the capability of the subcontractor to meet the applicable provisions of this Standard. The certifying organization shall monitor the activities of the subcontractor to assure continued compliance.

The certifying organization retains the ultimate responsibility for the subcontractor's activities necessary to assure compliance with this Standard.

4.2.5 Control of Certification Documentation. Accredited certifying organizations shall issue certification cards or other documentation to persons who are certified under the accredited program, indicating that they have met the requirements of this Standard. It shall include the following information (see also Appendix C):

(a) certified person's name

(b) a photograph of the certified person

(c) scope of the certification (inspector or inspection supervisor)

(d) effective date and expiration date

(e) name of the accredited certifying organization

(f) the QEI logo

The accredited certifying organization shall assure control of the distribution of certification cards and other documentation by sequential numbering at the time of printing, or by other equivalent means.

Accredited certifying organizations shall maintain a current list, including addresses, of all certified persons. This list shall be made available to the public.

Means shall be provided to assure that the documentation to persons who have not maintained their qualifications is revoked or not renewed.

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Procedures shall be established for handling lost or stolen certification cards and other certification documentation.

The accredited certifying organization shall have a procedure for the authorized use of the QEI logo together with the name or acronym of the certifying organization.

NOTE: See para. 4.2.10.

4.2.6 Disputes and Appeals. The program shall contain provisions for a fair and equitable handling of disputes, and shall provide for a detailed appeals mechanism in the event of a dispute.

The program shall also include provisions for handling complaints regarding the qualifications of persons who have been certified. Within 30 days of receipt, certificate holders shall notify ASME that a complaint has been received. Upon adjudication, the certificate holder shall submit a generic synopsis of the complaint to ASME outlining the nature of the complaint and its resolution.

The program shall include provisions to make the disputes and appeals mechanism known to applicants for certification, certified personnel, enforcing authorities, and organizations that contract or rely on reports from certified personnel.

4.2.7 Revisions to Standards. Provisions shall be included in the certified program to update it in conformance with revisions to the QEI-1 Standard, and to the reference standards listed in paras. 1.3 and 1.4. Copies of these standards shall be kept on file.

4.2.8 Certification Records. Records shall be compiled and maintained for all certified inspectors and certified inspection supervisors as documentary evidence that they have met the applicable requirements. These records, except examinations, shall be retained for as long as the inspector or inspection supervisor remains certified, plus 3 years. Examinations shall be retained for not less than 1 year.

Records shall be legible, identifiable, and retrievable. Records shall be protected against damage, deterioration, or loss. Requirements and responsibilities for record transmittal, distribution, retention, maintenance, and disposition shall be established and documented.

4.2.9 Upgrading Previous Certifications. An inspector or inspection supervisor certified by an organization prior to the acceptance of their program may become a certified inspector or inspection supervisor, provided that compliance with the qualifications of this Standard is demonstrated. The procedures for upgrading the certification of these persons shall be described in the certification manual.

4.2.10 International Accreditation. Organizations that certify persons as being qualified to inspect equipment for conformance with national or multinational standards of other countries shall conform with the following requirements.

(a) The nationally accepted reference standards of the applicable country or countries shall be used in place of the reference standards listed in para. 1.3.

(b) The certification documentation (para. 4.2.5) shall include the country or countries to which the certification applies.

4.2.11 Code of Ethics (Conduct). The certification manual shall establish a code of ethics and means for implementation and enforcement. Interpretation and enforcement of the accredited organization's "code of ethics" is the responsibility of the accredited organization. Appeal of their decision cannot be made to the ASME QEI Committee or ASME. Each person certified under the program will agree to comply with the code of ethics. Any alleged violation of the code of ethics will be handled as set forth in para. 4.2.6, Disputes and Appeals.

4.3 Procedures for Obtaining a Certificate of Accreditation

4.3.1 Application. Certifying organizations shall apply for accreditation on the forms supplied by ASME. The applicant shall also be supplied with a QEI program checklist.

4.3.2 Evaluation of Certification Program. The certification program shall be evaluated by ASME for compliance with this Standard initially, at each audit, and upon renewal. The QEI program checklist shall be utilized for evaluating the program's compliance with this Standard initially and upon renewal. If the program is found not to be in compliance, corrective action shall be taken or ASME may withdraw or refuse to issue a Certificate of Accreditation.

Prior to issuance of a Certificate of Accreditation, the certification manual shall be accepted by ASME and a copy shall be filed with ASME. The organization shall make available for on-site review by ASME such documents as are necessary to understand the certification program and demonstrate compliance with this Standard. The certification manual shall be ASME's guide for auditing the organization's continued compliance with the accepted certification program.

4.3.3 Issuance of Certificate of Accreditation. The Certificate of Accreditation may be granted or withheld by ASME at its discretion. If a certifying organization is accepted and the proper administrative fees are paid, a Certificate of Accreditation, expiring no later than the triennial anniversary date, will be forwarded to the applicant. Each Certificate will be signed by duly authorized ASME personnel. Six months prior to the date of expiration of such a Certificate, the certifying organization desiring to maintain accreditation shall apply for renewal. Evaluation shall be conducted by ASME, which

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reserves the right to cancel or refuse to renew the Certificate.

The Certificate shall identify the specific location of the certifying organization, and state the scope and limits of any activities for which authorization is granted. ASME may, at its discretion, limit or extend the scope of an accreditation.

After implementation, the certification program shall conform to the accepted copy of the certification manual filed with ASME. If the organization wishes to change the manual, or the program to a degree requiring changes to the manual, it shall submit the proposed changes to ASME, which shall accept or reject them in writing within 45 days of receipt. Organizational changes that affect compliance with this Standard require prior approval of ASME. The accredited certifying organization shall keep a controlled copy of the current certification manual in a place and manner readily available to ASME's audit team.

4.3.4 Audits. The accredited certifying organization shall be subject to a periodic audit program by ASME at least twice during the 3 year term of the Certificate of Accreditation. These audits shall be ASME's assurance that the accepted certification program is being followed.

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NONMANDATORY APPENDIX A
RELATED DOCUMENTS

This Appendix includes descriptions of nationally or regionally recognized documents pertinent to the inspection of elevators, escalators, and related equipment. The jurisdictional authority should be consulted to determine whether or not these codes and standards are legally in force, the applicable editions, and the existence of modifications or additions to the requirements.

A1 ELEVATOR CODES

ASME A17.1, Safety Code for Elevators and Escalators, covers the design, construction, operation, inspection, testing, maintenance, alteration, and repair of elevators, escalators, dumbwaiters, moving walks, material lifts and dumbwaiters with automatic transfer devices, vertical and inclined wheelchair lifts, and stairway chairlifts (publisher: ASME).

ASME A17.3, Safety Code for Existing Elevators and Escalators, covers retroactive requirements for electric and hydraulic elevators, and escalators (publisher: ASME).

A2 ELECTRICAL CODES

ANSI/NFPA 70, National Electrical Code, covers the installation of electric conductors and equipment in buildings and other structures. Article 620 of this code pertains specifically to elevators, escalators, and related equipment (publisher: NFPA).

ASME A17.1, Safety Code for Elevators and Escalators, requires electrical equipment to be certified to CAN/CSA-B44.1/ASME A17.5, Elevator and Escalator Electrical Equipment (publisher: ASME).

A3 BUILDING CODES

The following are the three most widely used building codes in the United States. They include requirements relative to the construction of hoistways, venting, standby (emergency) power, and means of egress.

(a) National Building Code (publisher: BOCA)
(b) Standard Building Code (publisher: SBCCI)
(c) Uniform Building Code (publisher: ICBO)

A4 ACCESSIBILITY STANDARDS

The following two standards include specifications for making elevators accessible to, and usable by, people with disabilities:

(a) ICC/ANSI A117.1, American National Standard, Accessible and Usable Buildings and Facilities (publisher: ICC)

(b) ADAAG, Americans With Disabilities Act Accessibility Guidelines for Buildings and Facilities (publisher: ATBCB)

A5 INSPECTORS' GUIDE

ASME A17.2, Guide for Inspection of Elevators, Escalators, and Moving Walks, provides recommended inspection and testing procedures for elevators, escalators, and moving walks, based on the requirements of ASME A17.1. It also includes pertinent information on the inspection of equipment installed under earlier editions of ASME A17.1 and other information useful to the inspector. The checklists shown in the inspectors' manual are also published in convenient-size pads (publisher: ASME).

A6 INTERPRETATIONS OF A17 PUBLICATIONS

Interpretations of the various A17 publications are issued periodically. The interpretations of A17.1 and A17.2, approved by the A17 Committee from June 14, 1972, through June 14, 1979, were published in a book in 1980. A second book of interpretations, covering the period from June 1979 through May 1989, was published in 1989. Both interpretation books are available from ASME. Starting in 1981, interpretations have been published with each new edition and supplement of the applicable standard (publisher: ASME).

A7 PLATFORM LIFT AND STAIRWAY CHAIRLIFT STANDARD

ASME A18.1, Safety Standard for Platform Lifts and Stairway Chairlifts, covers the design, construction, installation, operation, inspection, testing, maintenance, and repair of inclined stairway chairlifts and inclined and vertical platform lifts intended for transportation of a mobility impaired person only. The device has a limited vertical travel, operating speed, and platform area.

A8 HANDBOOKS (04)

The following handbooks augment the applicable codes with comments, diagrams, and illustrations that

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are intended to clarify the intricate requirements of the codes. They are especially useful in the training of new inspectors.

(a) Handbook on A17.1, Safety Code for Elevators and Escalators (publisher: ASME)

(b) The National Electrical Code Handbook (contains complete text of National Electrical Code; publisher: NFPA)

(c) ADA and Building Transportation, A Handbook on Accessibility Regulations for Elevators, Wheelchair Lifts, and Escalators (publisher: Elevator World, Inc.)

(d) Elevator Industry Field Employees' Safety Handbook (publisher: Elevator World, Inc.)

A9 PROCUREMENT INFORMATION

The preceding documents can be purchased from their respective publishers as listed below.

American National Standards Institute (ANSI), 25 West 43rd Street, New York, NY 10036

The American Society of Mechanical Engineers (ASME International), Three Park Avenue, New York, NY 10016-5990; Order Department: 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300

Architectural and Transportation Barriers Compliance Board, U.S. (ATBCB), 1331 F Street, NW, Suite 1000, Washington, DC 20004-1111

Building Officials and Code Administrators International (BOCA)[1]

Elevator World, Inc., 356 Morgan Avenue, P.O. Box 6507, Mobile, AL 36606

International Code Council (ICC), 5203 Leesburg Pike, Falls Church, VA 22041

International Conference of Building Officials (ICBO)[1]

National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02269

Southern Building Code Congress International (SBCCI)[1]

[1] Now available from International Code Council (ICC), 5203 Leesburg Pike, Falls Church, VA 22041

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NONMANDATORY APPENDIX B
RECOMMENDED QUALIFICATIONS AND DUTIES OF INSPECTOR TRAINEES

B1 QUALIFICATIONS

An inspector trainee should have the following qualifications:

(a) ability in written and oral communication as demonstrated by one of, or a combination of, the following:

(1) high school diploma or certificate of equivalency

(2) aptitude test

(3) job experience

(b) ability to understand mathematical, mechanical, and electrical principles as demonstrated by one of, or a combination of, the following:

(1) aptitude test

(2) training program

(3) technical/vocational school

(4) school of higher learning

(5) job experience

(c) physical ability to perform duties in a safe manner

B2 DUTIES

The duties of an inspector trainee include, but are not limited to, the following:

(a) acquiring a knowledge of and observing all personal safety practices

(b) acquiring knowledge and experience to meet the qualifications of inspector, as described in para. 2.1

(c) performing tasks assigned by an inspector or inspection supervisor

(d) studying Code requirements related to tasks performed and as assigned by the inspector or inspection supervisor

(e) studying basic mechanical and electrical principles as they apply to assignments

(f) clearly and accurately recording the findings of the inspection as directed by the inspector or inspection supervisor

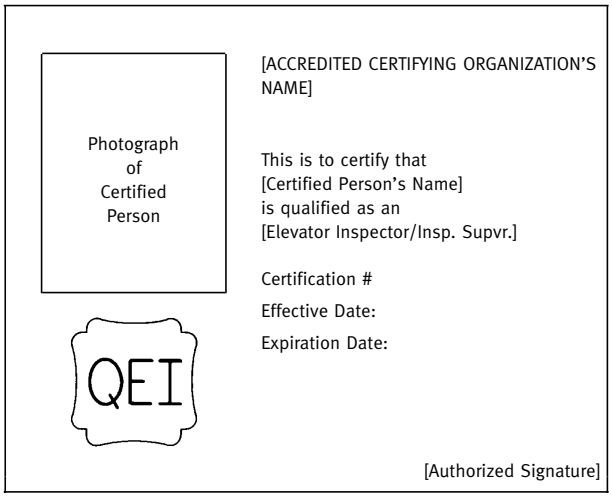
(g) performing inspections under the direct supervision of an inspector or inspection supervisor

(h) actively participating in selected meetings, seminars, and education programs

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NONMANDATORY APPENDIX C
SAMPLE CERTIFICATION CARD

Front



Back

The [Accredited Certifying Organization's Name] hereby certifies that the person to whom this card is issued has fulfilled the requirements of the ASME QEI-1 Standard for the Qualification of Elevator Inspectors.

The [Accredited Certifying Organization's Name] has been accredited by The American Society of Mechanical Engineers to issue this certification.

[Accredited Certifying Organization's Name]

[Accredited Certifying Organization's Address]

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NONMANDATORY APPENDIX D
MODEL LANGUAGE FOR ENFORCEMENT AUTHORITIES TO RECOGNIZE CERTIFIED INSPECTORS AND INSPECTION SUPERVISORS FROM ACCREDITED ORGANIZATIONS

Inspectors and inspection supervisors shall meet the minimum qualifications set forth in the Standard for the Qualification of Elevator Inspectors, ASME QEI-1.

Inspectors and inspection supervisors shall be certified by an organization accredited by The American Society of Mechanical Engineers Qualification of Elevator Inspectors Committee after (insert date), in accordance with the requirements set forth in the Standard for the Qualification of Elevator Inspectors, ASME QEI-1.

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