

ASME ANDE-1–2020

(Revision of ANDE-1–2015)

ASME Nondestructive Examination and Quality Control Central Qualification and Certification Program

AN AMERICAN NATIONAL STANDARD



**The American Society of
Mechanical Engineers**

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Two Park Avenue • New York, NY • 10016 USA

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FOREWORD

In 2010, an ASME Project Team was formed with the intent to write a written practice type of document for the qualification and certification of nondestructive examination (NDE) personnel. The written practice document would have been used to support ASME qualification and certification efforts. After much discussion, it was determined that a Standard was more appropriate for accomplishing the goals of the ASME Project Team. The Project Team was dissolved in May 2012 and merged into a Standards Writing Committee. The Standards Writing Committee is now called the “ASME NDE (ANDE) Committee on Qualification and Certification of Nondestructive Examination Personnel and Quality Control Technicians” and, as used in this Standard, is referenced as the “ANDE Committee.” The ANDE Committee (consensus Committee), with its supporting Subcommittees, has the responsibility to write, maintain, and improve this Standard.

This Standard has been written to provide the requirements for a central qualification and certification program conducted by a third-party certification organization (certification body) for NDE and quality control (QC) personnel and uses both performance-based and prescriptive requirements that serve as the program core for these activities.

This Standard has been written to meet the needs of many different industries such as the aerospace and defense industry, the automotive industry, the construction and building industry, and the energy industry. The energy industry, which directly relates to many different specific industry sectors (SISs), such as power plants, fossil power, renewable energy, arctic engineering and offshore technology, nuclear power, and energy efficiency, includes many SIS activities that require NDE or QC to be performed by qualified and certified personnel. These SIS activities include manufacturing, fabrication, construction, installation, maintenance, preservice inspection, and inservice inspection. The use of performance-based requirements for qualification with a systematic approach to training (SAT) process in this Standard, along with the use of job task analyses (JTAs) for the qualification and certification of NDE and QC personnel, makes it unique and supports a goal of enhancing personnel capabilities to perform NDE and QC methods. These performance-based requirements are focused on training and true performance demonstration of the skills needed for personnel to perform specific job functions throughout initial qualification and certification and then during certification periods.

It is expected that with the use of this Standard, NDE and QC inspection reliability and qualification performance will be improved and that a larger pool of personnel will become available to support any industry or SIS that either requires or chooses to use this Standard.

This edition of the Standard may be used beginning with the date of issuance shown on the copyright page. After such date of issuance, this edition becomes the requirement for compliance with this Standard.

ANDE-1-2020 was approved as an American National Standard on November 5, 2020.

ASME NDE (ANDE) COMMITTEE

Certification of Nondestructive Examination (NDE) Personnel and Quality Control (QC) Technicians

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CORRESPONDENCE WITH THE ANDE 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 or a case, and attending Committee meetings. Correspondence should be addressed to:

Secretary, ANDE 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.

Proposing a Case. Cases may be issued to provide alternative rules when justified, to permit early implementation of an approved revision when the need is urgent, or to provide rules not covered by existing provisions. Cases are effective immediately upon ASME approval and shall be posted on the ASME Committee web page.

Requests for Cases shall provide a Statement of Need and Background information. The request should identify the Standard and the paragraph, figure, or table number(s), and be written as a Question and Reply in the same format as existing Cases. Requests for Cases should also indicate the applicable edition(s) of the Standard to which the proposed Case applies.

Interpretations. Upon request, the ANDE 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 ANDE 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 ANDE 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 ANDE 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 ANDE Standards Committee.

Part 1

General Requirements

SECTION 1-1 INTRODUCTION

1-1.1 Scope

(a) This Standard includes both performance-based and prescriptive requirements to be used for an ASME Nondestructive Examination (NDE) and Quality Control (QC) Central Qualification and Certification Program that applies to NDE personnel and QC inspection personnel.

(b) This Standard includes requirements for personnel education, training, experience, written examinations, and practical demonstrations. The requirements are based on a systematic approach to training (SAT) process that integrates the development of job task analyses (JTAs) and body of knowledge (BoK) requirements.

(c) This Standard is applied by a third-party certification organization, which is referred to within this Standard as a certification body (CB).

(d) This Standard classifies CB-certified individuals as Level I, Level II, or Level III.

(e) [Mandatory Appendices I and II](#) include requirements specific to the nuclear sector and the boiler and pressure vessel and piping (BPVP) industry sectors, respectively. [Mandatory Appendix III](#) includes requirements specific to the qualification and certification of nondestructive testing personnel to ISO 9712.

1-1.2 Applicability

This Standard is applicable to any industry or industry sector that performs industry sector activities such as manufacturing, fabrication, construction, installation, maintenance, preservice inspection (PSI), and inservice inspection (ISI) that require NDE or QC inspections to be performed by qualified and certified NDE and QC inspection personnel.

1-1.3 Use of This Standard

This Standard is required to be used when referenced by a user's code, standard, specification, procedure, or instruction, which the user has committed to meet or is required to meet. Optional use of this Standard is not prohibited, but when this Standard is used, all requirements are mandatory, including those in the applicable Mandatory Appendices, except where specific alternatives are provided in this Standard. Use of Nonmandatory

Appendices is optional, but when used, all the requirements within a Nonmandatory Appendix become mandatory unless the Nonmandatory Appendix is specified for guidance only. See [Nonmandatory Appendix A](#) for guidance on maintenance of the Standard.

1-1.4 Involvement of Regulatory or Enforcement Authorities or Jurisdictions, or Authorized Inspection Agencies

When a referencing code or standard requires the involvement of regulatory or enforcement authorities or jurisdictions or an Authorized Inspection Agency (AIA), those authorities or agencies shall be provided the certified individual's written approval (see [para. 1-7.3](#)) to access a copy of documentation, qualification, or certification activities performed to meet this Standard.

1-1.5 Applications, Certification Forms, Job Task Analyses, Related Body of Knowledge Requirements, and Qualification/Continuity Cards

When the following documents, methods, or requirements are referenced in this Standard, the latest versions approved by the applicable specific industry sector (SIS) committee shall apply:

- (a) applications and related forms
- (b) JTAs for NDE or QC methods or endorsements
- (c) BoK for NDE or QC methods or endorsements
- (d) qualification/continuity cards and their instructions

1-1.6 Eye Examinations

(a) In addition to maintaining certification, candidates shall demonstrate satisfactory visual acuity to perform NDE or QC methods, as applicable. The eye examination shall be given on an annual basis (i.e., certified personnel shall receive and successfully pass vision acuity examinations at intervals not to exceed 1 yr, which expire on the last day of the month of the expiration date, in order to maintain their certifications in an active status) in accordance with the following requirements:

- (1) *Near Vision Acuity.* The candidate shall demonstrate near vision acuity, natural or corrected, of Jaeger 1 or equivalent at a distance not less than 12 in. (30 cm) in at least one eye or shall meet the vision