

A MODEL WRITTEN PRACTICE

2020
EDITION

**BASED ON *RECOMMENDED
PRACTICE NO. SNT-TC-1A***



The American Society for Nondestructive Testing Inc.
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ASNT Mission Statement:
ASNT exists to create a safer world by advancing scientific, engineering, and technical knowledge in the field of nondestructive testing.

ASNT *Code of Ethics*:
The ASNT *Code of Ethics* was developed to provide members of the Society with broad ethical statements to guide their professional lives. In spirit and in word, each ASNT member is responsible for knowing and adhering to the values and standards set forth in the Society's Code. More information, as well as the complete version of the *Code of Ethics*, can be found on ASNT's website, asnt.org.

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INTRODUCTION

This *Model Written Practice* was prepared to assist individuals charged with the responsibility for preparing a written practice that reflects an employer's processes for qualifying and certifying NDT personnel. The need for, and application of, a written practice is established in *ASNT Recommended Practice No. SNT-TC-1A: Personnel Qualification and Certification in Nondestructive Testing* (2020), a document produced by the American Society for Nondestructive Testing (ASNT). *SNT-TC-1A* was first introduced in 1966 and has been revised in 1968, 1970, 1975, 1980, 1984, 1988, 1992, 1996, 2001, 2006, 2011, 2016, and 2020. Reference should be made to applicable interpretations from *Interpreting SNT-TC-1A*, current edition, also published by ASNT. The interpretations are answers to questions frequently asked by those responsible for drafting written practices for their employers.

SNT-TC-1A provides guidelines for employers to establish a written practice that conveys the intent of *SNT-TC-1A*, stated in the Foreword of that document: "This recommended practice is not intended to be used as a strict specification. It is recognized, however, that contracts require programs which meet the intent of this document. For such contracts, purchaser and supplier must agree upon acceptability of an employer's program." This statement conveys the frequent reality that contracts, specifications, or codes require NDT personnel qualification and certification to be in accordance with *Recommended Practice No. SNT-TC-1A*. The usual interpretation by auditors, and others reviewing such programs, is that each and every provision, including stated recommendations (for example, training hours, numbers of examination questions, and extent of hands-on experience), is to be met explicitly or exceeded.

There is no assurance that this *Model Written Practice*, as presented, will satisfy all mandated requirements of contracts or other documents referenced by a purchaser of goods and/or services. As a model, however, it does serve to provide a solid foundation for a written practice for the control and administration of most NDT personnel qualification and certification programs. Modifications can readily be made to add or delete specific parts. The shaded and bracketed text throughout the document indicates where the user may want to modify this *Model Written Practice* to fit the employer's requirements.

In the absence of contractual or other mandated requirements, employers voluntarily applying the recommendations of *SNT-TC-1A* have more flexibility in the preparation of a written practice. This *Model Written Practice* presents, in detail, what a written practice can be. It is not a prescription for what such a practice should be. It should reflect the qualification and performance goals of the employer. In the Scope of *SNT-TC-1A*, paragraph 1.2 states, "This document provides guidelines for the establishment of a qualification and certification program."

[INSERT COMPANY NAME OR OTHER APPROPRIATE DOCUMENT HEADINGS.]

Written Practice in Accordance with *Recommended Practice No. SNT-TC-1A: Personnel Qualification and Certification in Nondestructive Testing* (2020)

1.0 Scope

- 1.1 This written practice establishes the minimum requirements for education, training, experience, examination, and certification of personnel responsible for conducting nondestructive tests while in the employment of [INSERT COMPANY NAME]. It applies to all persons conducting nondestructive tests that are required to be certified to the provisions of *ASNT Recommended Practice No. SNT-TC-1A: Personnel Qualification and Certification in Nondestructive Testing* (2020).
- 1.2 The methods and techniques of nondestructive testing covered by this written practice are used in accordance with the applicable codes, standards, specifications, and procedures referenced below.

[NOTE: SNT-TC-1A (2020) EDITION, PROVIDES THAT, “In developing a written practice as required in Section 5, the employer should review the detailed recommendations presented herein and modify them, as necessary, to meet particular needs. Such modification may alter but shall not eliminate basic provisions of the program such as training, experience, testing, and recertification. Supporting technical rationale for modification of detailed recommendations should be provided in an Annex to the written practice.” IF THIS PROVISION IS INVOKED, ADD THE PARAGRAPH BELOW AND CREATE AN ANNEX TO DEFINE THE CONDITIONS TO WHICH IT PERTAINS AND INCLUDE THE RATIONALE. DELETE THE PARAGRAPH BELOW IF THIS PROVISION IS NOT INVOKED.]

- 1.3 Annex A in this written practice indicates where [INSERT COMPANY NAME] has deviated from *Recommended Practice No. SNT-TC-1A* (2020).

[NOTE: The employer’s written practice should be reviewed and approved by the employer’s responsible Level III.]

[NOTE: The written practice should be assigned a company document number, revision number, and revision date.]

[NOTE: The written practice, or other company issued document, should identify who the certifying authority is.]

2.0 References

2.1 General

- 2.1.1 *ASNT Recommended Practice No. SNT-TC-1A: Personnel Qualification and Certification in Nondestructive Testing* (2020).*
- 2.1.2 Applicable method *Questions & Answers Books*.*
- 2.1.3 *Interpreting SNT-TC-1A*, current edition. (Contains inquiries to, and responses from, ASNT’s *SNT-TC-1A* Interpretation Panel).*

* References available from the American Society for Nondestructive Testing (ASNT).

- 2.1.4 *ANSI/ASNT CP-105: ASNT Standard Topical Outlines for Qualification of Nondestructive Testing Personnel*, (2020).*
- 2.1.5 *ACCP-CP-1*, ASNT Central Certification Program.*
- 2.1.6 *CP-ASNT-2*, ASNT NDT Level II Program.*

[LIST OTHER GENERAL REFERENCES AVAILABLE FROM ASNT OR OTHER SOURCES, AS APPLICABLE.]

- 2.2 Applicable Employer NDT and Administrative Procedures.
[LIST AS APPROPRIATE.]
- 2.3 Applicable Codes, Standards, Specifications, and Procedures.
[LIST AS APPROPRIATE.]

3.0 Definitions

[LIST AS APPROPRIATE FROM THE FOLLOWING DEFINITIONS.]

- 3.1 **Calibration, Instrument:** the comparison of an instrument with, or the adjustment of an instrument to, a known reference(s) often traceable to the applicable country's national institute or standards body (See also Standardization, Instrument.)
- 3.2 **Certification:** written testimony of qualification.
- 3.3 **Certifying Agency:** the employer of the personnel being certified; specifically, [INSERT COMPANY NAME].
- 3.4 **Certifying Authority:** the person or persons properly designated in the written practice to sign certifications on behalf of the employer; specifically, [INSERT "RESPONSIBLE NDT LEVEL III," OR THE POSITION OR TITLE OF THE COMPANY OFFICIAL WHO IS DESIGNATED TO SIGN CERTIFICATIONS ON BEHALF OF THE CERTIFYING AGENCY].
- 3.5 **Closed-Book Examination:** an examination administered without access to reference material except for materials supplied with or in the examination. (See paragraph 8.6.1.1.)
- 3.6 **Comparable:** being at an equivalent or similar level of NDT responsibility and difficulty as determined by the employer's responsible NDT Level III.
- 3.7 **Detection Rate:** the number or percentage of false calls allowed for a test specimen as defined by the NDT Level III.
- 3.8 **Documented:** the condition of being in written form.
- 3.9 **Employer:** the corporate, private, or public entity, which employs personnel directly or indirectly for wages, salary, fees, or other considerations. This would include organizations that obtain their qualified supplemental workforce personnel through third-party agencies, providing the use and certification of those supplemental employees is addressed in the employer's written practice; specifically, [INSERT COMPANY NAME] written practice.
- 3.10 **Experience:** work activities accomplished in a specific NDT method under the direction of qualified supervision including the performance of the NDT method and related activities, but not including time spent in organized training programs.
- 3.11 **False Call:** when an indication and/or grading unit is incorrectly identified as being a defect.
- 3.12 **Grading Unit:** a qualification specimen can be divided into sections called grading units, which do not have to be equal length or be equally spaced. Grading units are unflawed or flawed, and the percentage of flawed/unflawed grading units required shall be approved by the NDT Level III.
- 3.13 **Limited Certification:** nondestructive test methods may be further subdivided into limited disciplines or techniques to meet specific employer's needs; these are NDT Level II certifications, but to a limited scope.
- 3.14 **Method:** one of the disciplines of NDT; for example, ultrasonic testing, within which various test techniques may exist.

* References available from the American Society for Nondestructive Testing (ASNT).

- 3.15 **Nondestructive Testing:** a process that involves the inspection, testing, or evaluation of materials, components and assemblies for materials' discontinuities, properties, and machine problems without further impairing or destroying the part's serviceability. Throughout this document the term NDT applies equally to the NDT inspection methods used for material inspection, flaw detection, or predictive maintenance (PdM) applications.
- 3.16 **Outside Agency:** a company or individual who provides NDT Level III services and whose qualifications to provide these services have been reviewed by the employer engaging the company or individual.
- 3.17 **Personalized Instruction:** personalized instruction may consist of blended classroom, supervised laboratory, and/or hybrid online competency-based course delivery. Modular content is covered through online presentations, in the classroom, and/or in small groups. Personalized instruction also enables students to achieve competency using strategies that align with their knowledge, skills, and learning styles.
- 3.18 **Qualification:** demonstrated skill, demonstrated knowledge, documented training, and documented experience required for personnel to properly perform the duties of a specific job.
- 3.19 **Recommended Practice:** a set of guidelines to assist the employer in developing uniform procedures for the qualification and certification of NDT personnel to satisfy the employer's specific requirements.
- 3.20 **Standardization, Instrument:** the adjustment of an NDT instrument, using an appropriate reference standard, to obtain or establish a known and reproducible response. (This is usually done prior to an examination, but can be carried out any time there is concern about the examination or instrument response.) (See also Calibration, Instrument.)
- 3.21 **Technique:** a category within an NDT method; for example, ultrasonic thickness measurement.
- 3.22 **Third-Party Agency:** a company or organization, without an established written practice, providing supplemental workforce to the employer; for example, a temporary staffing company.
- 3.23 **Training:** an organized program developed to impart the knowledge and skills necessary for qualification.
- 3.24 **Written Practice:** a written procedure developed by the employer that details the requirements for qualification and certification of their employees.

4.0 Nondestructive Testing Methods

- 4.1 Qualification and certification of NDT personnel in accordance with this written practice is applicable to each of the following methods and techniques:
- 4.1.1 [LIST APPLICABLE NDT METHODS AND TECHNIQUES FROM 3.1 OF *Recommended Practice No. SNT-TC-1A: Personnel Qualification and Certification in Nondestructive Testing* (2020).]

5.0 Levels of Qualification

- 5.1 There are three basic levels of qualification.
- 5.2 While in the process of being initially trained, qualified, and certified, an individual shall be considered a trainee. A trainee shall work with a certified individual. The trainee shall not independently conduct, interpret, evaluate, or report the results of any NDT test.
- 5.3 The three basic levels of qualification are:
- 5.3.1 NDT Level I. An NDT Level I individual shall be qualified to properly perform specific standardizations, specific NDT, and specific evaluations for acceptance or rejection determinations according to written instructions and to record results. The NDT Level I shall receive the necessary instruction and supervision from a certified NDT Level II or III individual.
- [ADVISORY NOTE: Normally the NDT Level I does not have the authority to sign off on the acceptance and completion of the nondestructive test unless specifically trained to do so per clearly written instructions.]

- 5.3.2 NDT Level II. An NDT Level II individual shall be qualified to set up and standardize equipment and to interpret and evaluate results with respect to applicable codes, standards, and specifications. The NDT Level II shall be thoroughly familiar with the scope and limitations of the methods for which qualified and shall exercise assigned responsibility for on-the-job training and guidance of trainees and NDT Level I personnel. The NDT Level II shall be able to organize and report the results of NDT tests.
- 5.3.3 NDT Level III. An NDT Level III individual shall be capable of developing, qualifying, and approving procedures; establishing and approving techniques; interpreting codes, standards, specifications, and procedures; and designating the particular NDT methods, techniques, and procedures to be used. The NDT Level III shall be responsible for the NDT operations for which qualified and assigned, and shall be capable of interpreting and evaluating results in terms of existing codes, standards, and specifications. The NDT Level III shall have sufficient practical background in applicable materials, fabrication, and product technology to establish techniques and to assist in establishing acceptance criteria when none are otherwise available. The NDT Level III shall have general familiarity with other appropriate NDT methods, as demonstrated by the NDT Level III basic examination or [INSERT A SPECIFIC DESCRIPTION OF THE ALTERNATIVE(S)]. The NDT Level III, in the methods in which certified, shall be capable of training and examining NDT Level I and II personnel for certification in those methods.

[ADVISORY NOTE: These levels may be further subdivided for specific situations where additional or limited levels of skill and responsibility are deemed necessary. For example, an individual may receive specific training to perform a specific task and be certified as an NDT Level II (limited) or as an NDT Level I or NDT Level II. If such subdivisions are used, they shall be addressed by revisions or addenda to this written practice. If individuals are certified to a limited scope, their certification records must reflect this certification.]

6.0 Education, Training, and Experience Requirements for Initial Qualification

- 6.1 Candidates for certification in NDT shall have sufficient education, training, and experience to ensure qualification in those NDT methods in which they are being considered for certification. Documentation of prior certification may be used by [INSERT COMPANY NAME] as evidence of qualification for comparable levels of certification. Educational attainment, completed training, and experience shall be documented on an appropriate form. [INSERT EXAMPLE “NONDESTRUCTIVE TESTING PERSONNEL QUALIFICATION RECORD FORM.”] This information should be compared to the requirements in Table 1 and/or Table 2, as applicable.
- 6.2 Documented training and/or experience gained in positions and activities comparable to those of NDT Levels I, II, and/or III prior to establishment of [INSERT COMPANY NAME] written practice may be considered in satisfying the criteria of paragraph 6.3.
- 6.3 To be considered for certification, a candidate shall satisfy one of the following criteria for the applicable NDT level:
- 6.3.1 NDT Levels I and II
- Table 1 lists the required training and experience hours to be considered by [INSERT COMPANY NAME] for initial qualification of NDT Level I and NDT Level II individuals.

[ADVISORY NOTE: The minimum training and experience hours may be modified to meet employer’s specific limited application(s). Limited certifications should apply to individuals who do not meet the full training and experience of Table 1. IF THIS PROVISION IS INVOKED, ADD THE LIMITED CERTIFICATION(S), TRAINING, AND EXPERIENCE HOURS TO TABLE 2 AND ADD THE FOLLOWING PARAGRAPH AT THIS POINT “TABLE 3 LISTS THE REQUIRED TRAINING AND EXPERIENCE HOURS TO BE CONSIDERED FOR INITIAL QUALIFICATION OF NDT LEVEL II LIMITED CERTIFICATION. LIMITED CERTIFICATIONS ISSUED IN ANY METHOD SHALL BE APPROVED BY THE RESPONSIBLE NDT LEVEL III AND DOCUMENTED IN THE CERTIFICATION RECORDS.”]