NOT MEASUREMENT SENSITIVE

MIL–STD–410E
25 January 1991
SUPERSEDING
MIL–STD–410D
23 JULY I974

MILITARY STANDARD

NONDESTRUCTIVE TESTING PERSONNEL QUALIFICATION AND CERTIFICATION

AMSC N/A AREA NDTI

DISTRIBUTION STATEMENT A. Approved for public release distribution is unlimited.

F O R E W O R D

1. This military standard is approved for use by all Departments and Agencies of the Department of Defense.

2. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to ASD/ENES, Wright–Patterson Air Force Base, Ohio 45433–6503, by using the self addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

3. MIL–STD–410E specifies the qualification and certification requirements for nondestructive testing/nondestructive inspection personnel. Previous revisions of this specification addressed the requirements for personnel using penetrant, magnetic particle, ultrasonic, eddy current and radiographic nondestructive testing/nondestructive inspection methods. This revision adds detailed requirements for acoustic emission and neutron radiographic methods as well as general requirements for any other nondestructive method for determining the acceptability of a product. In addition, this revision upgrades the designation of Level I, eliminates the Level I Special, adds an instructor level of qualification and adds a recertification requirement for Level III.

CONTENTS

CONTENTS

CONTENTS

1. SCOPE

1.1 Purpose. This standard establishes the minimum requirements for the qualification and certification for personnel involved in the application of nondestructive inspection (NDI) or nondestructive testing (NDT) personnel. These requirements include training, experience and examination.

1.2 Applicability. This standard applies to personnel using NDI or NDT methods to accept materials, products, subsystems, components or systems for the Government, prime contractors or subcontractors. It also applies to those individuals directly responsible for the technical adequacy of the NDI and NDT methods used as well as those providing the technical training or supervision for NDI or NDT personnel. This standard is not intended to apply to individuals with administrative authority only over the above identified personnel or to research personnel developing technology for use by qualified and certified NDI or NDT personnel.

1.2.1 Common methods. This standard contains detailed requirements for the applicable training, experience, and examination for the following methods:

Liquid penetrant	(PT)
Magnetic particle	(MT)
Eddy current	(ET)
Ultrasonic	(UT)
Radiography	(RT)
Acoustic emission	(AE)
Neutron radiography	(NRT)

1.2.2 Other methods. This standard may apply to other NDI or NDT methods such as leak testing, thermography, holography, computed tomography, or any other method that can determine the acceptability or suitability for intended service of a material, part, component, subsystem, or system without impairment of the intended function. The requirements for personnel training, experience, and examination for these other methods shall be as established by the contracting agency and shall be in accordance with the guidelines established for the methods listed in 1.2.1.

1.3 Levels of qualification. The levels of qualification established by this standard are:

Trainee
Level I
Level II
Instructor
Level III

1.4 Levels of certification. The levels requiring certification in accordance with this standard are:

Level I
Level II
Level III

2. APPLICABLE DOCUMENTS

2.1 Non–Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN SOCIETY FOR NONDESTRUCTIVE TESTING

ASNT–CP–189 – ASNT Standard for Qualification and Certification of Nondestructive Testing Personnel

ASNT Recommended Practice No. SNT–TC–1A – Personnel Qualification and Certification in Nondestructive Testing

(Applications for copies should be addressed to the American Society for Nondestructive Testing, 1711 Arlingate Plaza, Columbus OH 43228–0518.)

2.2 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. DEFINITIONS

3.1 Activity. One of the organizational elements of an agency of the Department of Defense.

3.2 Certification. A written statement by an employer that an individual has met the applicable requirements of this standard.

3.3 Certifier. A designated representative of the employer with the responsibility and authority to document that an individual meets the applicable requirements of this standard.

3.4 Closed book examination. An examination administered without access to reference material except that provided with or in the examination. Questions utilizing such reference material shall require understanding of the information contained therein rather than mere location.

3.5 Contracting agency. A government activity, prime contractor or subcontractor procuring the product requiring testing or the nondestructive testing services.

3.6 Documented. The condition of being in written form.

3.7 Employer. The government activity, prime contractor, subcontractor, or outside agency employing individuals performing NDI or NDT.

3.8 Evaluation. The determination of the significance of relevant indications.

3.9 Examination. A formal, controlled, documented interrogation conducted in accordance with a procedure.

3.10 Experience. Actual performance or observation conducted during work time resulting in the acquisition of knowledge and skill. This does not include classroom or laboratory training but does include on–the–job training.

3.11 General examination. A written examination addressing the basic principles of the applicable NDI or NDT method.

3.12 Indication. The response, or evidence of a response, occurring during a nondestructive inspection or test.

3.13 Instructor. An individual qualified and designated, IAW this standard, to provide classroom or laboratory training for NDT/NDI personnel and to administer and grade qualification examinations.

3.14 Interpretation. The determination of whether indications are relevant or nonrelevant.

3.15 Method. One of the disciplines of nondestructive inspection or testing (e.g. radiography) within which different techniques exist.

3.16 On–the–job training. Training, during work time, in learning instrumentation set up, equipment operation, recognition of indications, and interpretation under the technical guidance of a designated Level II or Level III individual.

3.17 Organization. The entity, Government or private, having the responsibility of complying with this standard.

3.18 Outside agency. The organization under contract for NDI or NDT services which may include the training and examination of personnel to the requirements of this standard. Consultants and self employed individuals are included in this definition

3.19 Practical examination. The examination used to demonstrate an individual's ability in conducting the NDI or NDT methods that will be performed for the employer. Questions and answers need not be written, but observations and results must be documented.

3.20 Prime contractor. The organization having responsibility to the government for a system, component, or materials.

3.21 Procedure. A detailed, written instruction for conducting NDI or NDT or certifying personnel. All procedures shall be approved by a Level III.

3.22 Product form. Materials, parts, or components having similar NDI or NDT characteristics. Examples of individual product forms are: castings, extrusions, plate, weldments, pyrotechnics, bonded assemblies, composite materials, and printed circuit boards.

3.23 Qualification. The skills, training, knowledge and experience required for personnel to properly perform to a particular Level.

3.24 Specific examination. The written examination to determine an individual's understanding of procedures, codes, standards, and specifications for a given method used by the employer.

3.25 Technique. A category within a method, for example: ultrasonic immersion testing or fluorescent dye penetrant inspection.

3.26 Test samples. Parts containing known defects and used in the practical examination to demonstrate the candidate's proficiency in using a particular method. Test samples will not be production parts unless the Level III has previously investigated the parts and documented all abnormal or out of specification conditions within the samples. Alternatively, test samples can refer to images of actual hardware, i.e., radiographs, when the candidate's required proficiency is in the interpretation of the image rather than the generation of the image.

3.27 Training. An organized and documented program of activities designed to impart the knowledge and skills to be qualified to this standard. This program may be a mix of classroom, laboratory, programmed self–teaching and on–the–job training as approved by the appropriate Level III.

4. GENERAL REQUIREMENTS

4.1 Certification procedure. All organizations involved in any aspect of NDI or NDT shall develop and maintain a procedure for the qualification and certification of their NDI or NDT personnel. This procedure shall be in accordance with the requirements of this standard. The procedure shall be available for review by the organization's customers. The procedure, as a minimum, shall include:

4.1.1 Levels of qualification. This shall include identification of the levels of qualification covered by the procedure. The organization may add any additional levels that are appropriate; however, in no manner can the organization eliminate or reduce minimum requirements of this standard in its qualification and certification procedure.

4.1.2 Personnel duties and responsibilities. This shall include the identification of the duties and responsibilities for the different levels of qualification.

4.1.3 Training program. This shall include outlines of the instruction provided by the organization as well as sources of outside training utilized by the organization.

4.1.4 Experience requirements. This shall include the techniques within the method and the minimum amount of time for each technique.

4.1.5 Examination practices. This shall include the designation of the individuals or organizations that will perform the examinations as well as the number of questions, and the specific types of physical tests to be used.

4.1.6 Records and documentation administrative practices. This shall include the description of the details to be recorded for each certified individual and identification of the individuals responsible for developing, administering, and maintaining the employer's certification program.

4.1.7 Recertification requirements. This shall include the employer's requirements for recertification of personnel. It shall also include the requirements for the loss and reinstatement of certification.

4.2 Personnel. Personnel (Government, prime contractor, subcontractor, outside agency, etc.) performing, specifying, reviewing, monitoring, supervising, or evaluating NDI or NDT functions for the purpose of accepting items for the Government shall be qualified to the appropriate requirements of this standard. Personnel performing specialized NDI or NDT, such as ultrasonic thickness gauging or electrical conductivity tests, with equipment designed for and limited to such usage and that produces clearly recognizable output for both acceptable and unacceptable conditions, do not require qualification to this standard.

4.3 Methods. For the common methods listed in paragraph 1.2.1 of this standard, the requirements for training, experience and examination are detailed in section 5 of this standard. These requirements, as well as those requirements contained in the two publications referenced in paragraph 2.1, shall serve as guidelines for those methods not listed in paragraph 1.2.1.

4.4 Compliance. Prime contractors shall be responsible for compliance to this standard by their subcontractors. Those organizations utilizing outside sources for training or examination of their personnel shall be responsible for assuring that the appropriate requirements of this standard are met. The employer is solely responsible for the certification of its employees and cannot certify for another employer. Individuals cannot certify themselves.

4.5 Outside agency. An employer may utilize an outside agency to develop a certification program, train and examine NDI or NDT personnel and perform any other Level III function. An outside agency cannot certify personnel. The employer shall document the suitability of any outside source selected to perform any function to meet the requirements of this standard. This documentation shall be sufficient to justify that the outside agency is capable of performing the required Level III functions.

5. DETAILED REQUIREMENTS

5.1 Levels of qualification. There shall be five levels of personnel qualification.

5.1.1 Trainee. A trainee is an individual who is participating in a training program for an NDI or NDT method and is not certified. Trainees shall obtain work experience only under the direct supervision of a Level II, Level III or Instructor in the same method. Trainees shall not independently conduct tests, make accept or reject decisions, or perform any other NDI or NDT functions.

5.1.2 Level I. Level I is the first certifiable qualification level. The Level I certification shall be for a specific technique in a given method. The Level I individual shall have the skills and knowledge to perform specific tests, specific calibrations, and, with prior written approval of the appropriate Level III individual, specific interpretations and evaluations for acceptance or rejection, and document the results in accordance with specific procedures. The individual shall be knowledgeable of any necessary preparation of parts before or after inspection. The individual shall be able to follow procedures in the techniques for which certified and shall receive the necessary guidance or supervision from an Level II or Level III individual.

5.1.3 Level II. Level II individuals shall have the skills and knowledge to set up and calibrate equipment, conduct tests, and to interpret, evaluate, and document results in accordance with procedures approved by the appropriate Level III. The individual shall be thoroughly familiar with the scope and limitations of the method in which he is certified and shall be capable of directing the work of trainees and Level I personnel. The individual shall be able to organize and document NDI or NDT results. The individual shall be familiar with the codes, standards, and other contractual documents that control the method as utilized by the employer.

5.1.4 Instructor. Instructors shall have the skills and knowledge to plan, organize, and present classroom, laboratory, or on–the–job training programs of instruction, in accordance with approved course outlines, in the method for which appointed. The individual shall be familiar with the codes, standards, and other contractual documents that control the method as utilized by the employer.

5.1.5 Level III. Level III individuals shall have the skills and knowledge to interpret codes, standards, and other contractual documents that control the method as utilized by the employer; select the method and technique for a specific inspection; and prepare and verify the adequacy of procedures. Only individuals certified to Level III shall have the authority to approve procedures for technical adequacy in the method to which they are certified. The individual shall also have general knowledge of all other NDI or NDT methods utilized by the employer. The individual shall be capable of conducting or directing the training and examination of personnel in the method certified. The individual shall not conduct NDI or NDT for the acceptance of parts unless the demonstration of proficiency in this capability was included in the practical examination upon which, in part, the certification is based.

5.2 Training. Candidates for certification as Level I or Level II shall complete sufficient organized training to become familiar with the principles and practices of the applicable test method and techniques. The training shall be conducted in accordance with a detailed course outline approved by a Level III. The training shall cover basic principles, products, equipment, operating procedures and techniques, and the applicable specifications, codes and instructions used by the employer. The supplements to SNT–TC–1A may be used to develop the training outlines. Subjects not covered in the instruction shall not appear on the training outline. The training outlines shall include the list of references from which the training material is derived.

5.2.1 Specialist personnel. The training shall be presented by an Instructor or a Level III with the exception that specialist personnel not qualified to this standard may be used to provide instruction on highly specialized topics. Selection of such personnel must be approved by the Level III.

5.2.2 Exams. An individual must pass a final exam in order to receive credit for a block of training hours. Such examinations given in conjunction with training shall not be used to satisfy any of the qualification examination requirements of section 5.4.

5.2.3 Minimum required training hours. The minimum training hours for Levels I and II are given in table I for a variety of NDI/NDT methods. The minimum training hours for those methods not covered by table I shall be as determined by the Level III and agreed upon by the facility's customer. There are no additional training requirements to transition from Level II to Level III nor can an individual have sufficient training to allow certification to Level III without prior certification as a Level II or performance equivalent to a Level II.

TABLE I. MINIMUM TRAINING HOURS, LEVELS I AND II

METHOD	CONDITION [1]	[2]	[3]
Penetrant	8	8	16
Magnetic particle	12	8	20
Eddy current	12	40	52
Ultrasonics	40	40	80
Radiography	40	40	80
Acoustic Emission	40	40	80
Neutron radiography	28	40	68

[1] Level I
[2] Level II, with prior Level I Certification
[3] Level II, no prior Level I Certification

5.2.4 Previous training. Training obtained from a prior employer must be documented and verified by the previous employer in order to be accepted by the current employer. For personnel credited with training from a prior employer or those not certified within 6 months of their training, refresher training must be provided. The refresher training shall cover the following subjects with the depth of coverage of each subject determined by the Level III responsible for the employer's certification program:

Standardization and calibration
Operation of applicable test or inspection equipment
Specific test or inspection procedures
Interpretation and evaluation of test or inspection results
Safety
Applicable codes, standards and specifications

5.3 Experience. Candidates for certification at Levels I, II or III shall have sufficient practical experience to assure that they are capable of performing the duties of the level for which certification is sought. The minimum requirements for Levels I, II and III are given in Table II.

TABLE II. MINIMUM EXPERIENCE REQUIREMENTS

	CONDITION					
METHOD	[1]	[2]	[3]	[4]	[5]	[6]
Penetrant	130 hrs	270 hrs	400 hrs	4 yrs	2 yrs	1 yr
Magnetic particle	130 hrs	400 hrs	530 hrs	4 yrs	2 yrs	1 yr
Eddy current	130 hrs	1200 hrs	1330 hrs	4 yrs	2 yrs	1 yr
Ultrasonics	400 hrs	1200 hrs	1600 hrs	4 yrs	2 yrs	1 yr
Radiography	400 hrs	1200 hrs	1600 hrs	4 yrs	2 yrs	1 yr
Acoustic Emission	400 hrs	1200 hrs	1600 hrs	4 yrs	2 yrs	1 yr
Neutron radiography	800 hrs	2400 hrs	3200 hrs	4 yrs	2 yrs	1 yr

[1] Trainee experience for Level I. Experience in method must be at least half this time.

[2] Level I experience for Level II. Experience in method must be at least half this time.

[3] Trainee experience for direct certification to Level II. Experience in method must be at least half this time.

[4] Level II experience required for Level III with no college degree.

[5] Level II experience required for Level III with technical associate degree.

[6] Level II or equivalent work experience required for Level III with technical bachelors degree. Equivalency of the work experience shall be determined and documented by the Level III responsible for the employer's certification program.

5.3.1 Previous experience. A candidate's experience with a previous employer may be accepted by the current employer only if that experience is documented and verified by the former employer.

5.3.2 Equivalent experience. For personnel certified under previous revisions of this document or other qualification/certification programs, the equivalency of their previous experience to the requirements of table II will be determined and documented by the Level III.

5.4 Examinations. The examinations to verify the physical and technical qualifications of candidate personnel shall consist of a physical examination, a general examination, a specific examination, and a practical examination. The requirements for the physical examinations; the questions utilized for the general and specific examinations and the checklist for the practical examination shall be available for review by the facility's customers. If the actual test questions given during certification examinations are not kept in each certified individual's records, then the listing of questions from which examinations are derived shall be available for review by the facility's customers. The questions shall be made available to certification candidates only during administration of the examinations.

5.4.1 Physical. The physical examination shall assure that the applicants near vision and color perception meet the following requirements. Near vision tests shall be administered annually and color perception tests shall be administered prior to certification or recertification. These tests shall be administered by an individual approved by the Level III responsible for the maintenance of the certification program or by the outside agency utilized for the examination of personnel:

Near vision – Jaeger #1 test chart at not less than 12 inches, or equivalent with one eye, either natural or corrected.

Color perception – Distinguish and differentiate between the colors used in the method for which certification is sought.

5.4.2 General. The general examination for all levels shall be a closed book examination consisting of questions that cover the cross–section of the applicable method at the appropriate level. The questions, answers, and references in the applicable SNT–TC–1A supplement and other publications may be used to develop the general examination. A minimum of 40 questions shall be used for the general examination at each level. For Level III, the general examination questions will address the general knowledge of other methods as well as the method for which certification is sought. Possession of a current ASNT NDT Level III certificate by the candidate shall be satisfactory evidence that the general examination requirement is satisfied.

5.4.3 Specific. The specific examination for all levels shall be a closed book examination and shall cover the specifications, codes, equipment, operating procedures, and test techniques the candidate may use in the performance of his duties. A minimum of 30 questions shall be used for the specific examination at each level.

5.4.4 Practical. The practical examination shall consist of a demonstration of proficiency by the candidate in performing tasks that are typical of those to be accomplished in the performance of his duties. Test samples used in the examination may be actual hardware, if the candidate is required to demonstrate proficiency in the application of the process as well as interpretation of results, or may be images, such as radiographs, if the candidate is only required to interpret the results and not perform the process of generating the image. Written checklists covering the topics detailed below shall be developed by the Level III to assure adequate coverage and to assist in the administration and grading of the examination.

5.4.4.1 Level I. The candidate shall demonstrate proficiency by using the appropriate method to examine at least one test sample for each technique to be used and document the results. The test samples shall be representative of the products to be encountered by the candidate in the performance of his duties. The checklist shall address proficiency in the use of the procedures and equipment or materials, adherence to procedural details and the documentation of the results. If the Level I candidate is to accept products, then the checklist shall also include proficiency in the interpretation and evaluation of indications.

5.4.4.2 Level II. The candidate shall demonstrate proficiency by using the appropriate method to examine at least one test sample for each technique. The candidate shall interpret, evaluate and document the results of the examination of the test samples. At least two test samples shall be evaluated for each method. The test samples shall be representative of the products to be encountered by the candidate in the performance of his duties. The checklist shall include proficiency in the use of the procedures and equipment or materials, adherence to procedural details, and the accuracy and completeness of interpretations and evaluations of indications.

5.4.4.3 Level III. The candidate shall demonstrate proficiency by preparing an NDI/NDT procedure appropriate to his employer's requirements. When the candidate's duties will include inspection or evaluation of products, then proficiency in performance of such tasks shall be demonstrated also. The checklist shall address the practical and technical adequacy of the procedures prepared by the candidate, and when applicable, the adequacy of the interpretation and evaluation of indications. In the event that the candidate has already developed satisfactory procedures, then it is not necessary to develop another one for the practical examination. The results of the practical examination shall be documented. Procedures developed for a previous employer can be used to satisfy this requirement if their adequacy can be verified and documented.

5.4.5 Administration. A Level III, knowledgeable and familiar with the specifications, standards, codes, techniques and products associated with the employer, and certified Level III in the method for which the examinations are given, shall be responsible for the administration of all qualification examinations. The administration and grading of those examinations using multiple choice or true/false type questions can be delegated by the Level III. If an outside agency is used to provide this function, then the employer shall assure that the individual who performs the administration of the examinations is fully qualified. In no case can an examination be administered by one's self or by a subordinate.

5.4.6 Grading. The candidate for certification must achieve a minimum grade of 70% on the general and specific qualification examinations. The candidate must detect all discontinuities or conditions specified by the Level III during the practical examination and achieve a minimum score of 70% on the remainder of the practical examination. The candidate must have an average score of no less than 80% in order to be eligible for certification. All examination scores shall be of equal weight in determining the average score.

5.4.7 Re–examination. Candidates failing any examination (general, specific or practical) shall receive additional training or wait at least 30 days before attempting re–examination. The additional training shall be documented and shall address those areas found deficient in the candidate's skills or knowledge. The re–examination shall not utilize the same questions or specimens that were used in the initial examination.

5.5 Designation of Instructors. Instructors shall be designated by the Level III responsible for the employer's certification program and shall meet a least one of the following criteria:

a. Be certified to Level III in the method for which they will be designated Instructors.

b. Possess the equivalent of a B.S. in engineering, physical science or technology and have adequate knowledge in the method for which they will be designated Instructors.

c. Possess an associate's degree in physical science or technology and have a minimum of 5 years experience, or equivalent, as a Level II in the method for which they will be designated Instructors.

d. Possess a minimum of 10 years experience as a Level II, or equivalent, in the method for which they will be designated Instructors.

5.6 Certification. Personnel who have demonstrated that they possess the appropriate qualifications shall be certified by their employer in accordance with the employer's certification procedure. Certification is not required for personnel who are trainees or those who are designated as Instructors.

5.6.1 Records. The employer shall maintain certification records for personnel for as long as their certification is in effect. Such records shall be available for audit by the facility's customers. The records shall include, as a minimum:

a. Name of the individual certified.

b. Level, method, and techniques for which individual is certified.

c. Results of all qualification examinations, including the separate test scores, that the individual has taken.

d. Date and expiration of current certification(s).

e. History of all previous NDT/NDI certifications with current employer.

f. Training history which identifies source and dates of training, course hours and grades (if given after training), and instructor's name.

g. Experience history, both with current and previous employers, sufficient to justify satisfaction of experience requirements for certification.

h. Results of physical examinations.

i. Extent and documentation of formal education.

5.6.2 Loss of certification. Certification may expire, be suspended or be revoked. Certification shall expire when employment is terminated or when the certification interval has lapsed with no recertification attempted. Certification shall be suspended when the periodic physical examination is overdue, the individual does not perform in the method certified for at least 12 consecutive months, or the individual's performance is found to be deficient in any manner. Certification shall be revoked when the individual does not perform in the method certified for at least 24 consecutive months or the individuals conduct is found to be unethical or incompetent.

5.6.3 Reinstatement of certification. Certifications which have been suspended may be reinstated when the cause for suspension has been corrected and the correction verified by the employer. Certifications that have expired or been revoked may not be reinstated except by recertification.

5.6.4 Recertification. Level I and II personnel shall be recertified at intervals not to exceed three years. Level III personnel shall be recertified at intervals not to exceed 5 years. The physical and practical examinations, equivalent to those required for initial certification, shall be given prior to recertification. The extent to which the individual's knowledge of the general and specific examination subject areas is examined shall be determined by the Level III responsible for the employer's certification program and shall be documented in the individuals certification records.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Level I Special. The Level I designation in this revision is equivalent to the Level I Special designation of MIL–STD–410D. The MIL–STD–410D Level I Special was limited to the ultrasonic and eddy current methods. Experience has shown that the Level I Special designation is an effective way of designating the entry level certification for nondestructive inspection and that it should be allowed a for all methods; thus the change was made in this revision. Because of the increased responsibilities assigned to the Level I, minimum required classroom training hours are not specified (see table I).

6.2 Intended use. When invoked in a Request for Proposal (RFP), Invitation for Bid (IFB), of other similar document, the contracting agency should request that a copy of the offeror's existing qualification/certification procedure for NDI or NDT personnel be included with the technical proposal. If the offeror has no existing procedure or if the existing procedure does not comply with this standard, then the contracting agency should request that the offeror's approach for establishing a procedure that complies with this standard be included in the technical proposal. In addition, if the contacting agency intends that personnel using methods other than those listed in paragraph 1.2.1 be qualified and certified to this standard, then details on the offeror's approach to conducting such an effort should be requested as part of the technical proposal.

6.3 Subject term (key word) listing.

Acoustic emission
Certification
Eddy current
Liquid penetrant
Magnetic particle
Neutron radiography
Nondestructive testing
Qualification
Radiography
Ultrasonic

6.4 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodians:

Army – MR
Navy – AS
Air Force – 11

Reviewer Activities:
Army – AR

Preparing Activity:

Air Force – 11

(Project No. NDTI–0176)