

NDT Specialists, Inc

Personnel Qualification Procedure

PURPOSE and SCOPE

This document is a written practice for the control and administration of non-destructive personnel training, examination, and certification to NDE Level I, II, and III. It has been prepared to establish criteria for the qualification and certification of non-destructive testing personnel, whose specific jobs require appropriate knowledge of the technical principles underlying the non-destructive tests they perform, witness, monitor, or evaluate.

This procedure applies to all personnel certified or recertified to SNT-TC-1A after the effective date of this document. Personnel certifications issued prior to the effective date of this document shall remain valid until such time as they expire or are revoked.

This procedure is based upon the American Society for Non-destructive Testing Recommended Practice No. SNT-TC-1A (1980, 1996 w/1998 addendum & 2001 Edition where applicable).

Qualification and certification of non-destructive testing personnel in accordance with this procedure shall be applicable to each of the following methods:

Radiographic Testing	(RT)
Magnetic Particle Testing	(MT)
Liquid Penetrant Testing	(PT)
Ultrasonic Testing	(UT)
Visual Testing	(VT)

SUPPLEMENTARY DOCUMENTS

Certain supplementary documents are to be used in conjunction with this procedure in establishing qualification criteria for NDE personnel. These documents are:

SNT-TC-1A (1980, 1996 w/1998 addendum, & 2001 Edition)
ASNT Question and Answer Supplements A, B, C, D
ASME Section III (as applies to qualification and certification)
MIL STD 410E
NAS 410

DEFINITIONS

Terms included in this procedure are defined as follows:

NDE - Non-destructive Examination Qualification - Demonstrated skill, training, knowledge, and experience required for personnel to properly perform the duties of a specific job.

Certification - Written testimony of qualification.

Training - the program developed to impart the knowledge and skills necessary for qualification.

NDT Specialists, Inc

Personnel Qualification Procedure

Procedure No.	NDT-S-PQ1	Page 2 of 10	Revision	504
Approved By	Lawrence J. Schneider Sr.	Level III	Date	04/11/05

Experience - the process of learning by personal observation or participation.

Outside Agency - A vendor contracted by NDT SPECIALISTS, INC. to provide NDE Level III Services, Certification Services, or similar work.

Candidate - an individual who is seeking or pursuing certification.

LEVELS OF QUALIFICATION

There shall be three basic levels of qualification. These levels may be further subdivided as required to meet specific applications.

In the process of being qualified and certified to at least NDE Level I, an individual shall be considered a Trainee. A Trainee shall work along with a certified individual and shall not conduct independently any test, interpret any results of a test, or write a report of test results.

The three basic levels of qualifications are as follows:

NDE Level I - An NDE Level I individual shall be qualified to properly perform specific calibrations, specific tests, and specific evaluations for acceptance or rejection determinations under the direct guidance of a Level II or III individual, and record the results. This shall be done in accordance with written instructions or procedures. He shall receive the necessary guidance or supervision from a certified NDE Level II or III individual.

NDE Level II - An NDE Level II individual shall be qualified to set up and calibrate equipment and to interpret and evaluate results with respect to applicable codes, standards, and specifications. He shall be thoroughly familiar with the scope and limitations of the method, and shall exercise assigned responsibility for on-the-job training and guidance of trainees and NDE Level I Personnel. He shall be able to prepare written instructions, and to organize and report nondestructive testing results.

NDE Level III - An NDE Level III individual shall be capable of and responsible for establishing techniques and procedures; interpreting codes, standards, specifications, and procedures; and designating the particular test method, techniques, and procedures to be used. He shall be responsible for the complete NDE operation he is qualified for and assigned to, and shall be capable of evaluating results in terms of existing codes, standards, and specifications. He shall have sufficient practical background in applicable materials, fabrication and/or product technology to establish acceptance criteria where none are otherwise available. The NDE Level III shall have general familiarity with other appropriate NDT test methods, as demonstrated by the ASNT Basic Level III examination or other means. He shall be responsible for the training and examination of NDE Level I and Level II personnel for certification. The actual administration of training may be delegated to a duly selected representative of the Level III and so recorded.

EDUCATION, TRAINING AND EXPERIENCE REQUIREMENTS FOR QUALIFICATION

NDT Specialists, Inc

Personnel Qualification Procedure

Procedure No.	NDT-S-PQ1	Page 3 of 10	Revision	504
Approved By	Lawrence J. Schneider Sr.	Level III	Date	04/11/05

Personnel considered for certification in non-destructive testing shall have sufficient education, training, and experience to ensure understanding of the principles and procedures of those areas of testing in which they are considered for certification.

Documented training and/or experience gained by NDT SPECIALISTS, INC. Personnel in positions and activities equivalent to those of Level I, II, or III prior to the establishment of this procedure, or at a former place of employment may be considered by the Level III in satisfying the requirements of Table 1.

Adjustment to work experience requirements: A percentage of the time gained in the laboratory portion of a NDT program (course, seminar, etc.) may be included by the Level III in satisfying the work experience requirements of Table 1. This shall only be permitted after a thorough evaluation of the education curriculum involved.

To be considered for Level I and II certification, the training and experience requirements listed below must be met:

Training and Experience Minimum Levels I & II										
UT		RT		MT		PT		VT		
I	II	I	II	I	II	I	II	I	II	
30	40	29	35	8	4	4	4	4	4	Completion with a passing grade with at least 2 years of engineering or science study at a university, or technical school
40	40	40	40	12	8	8	8	8	16	High School graduation or equivalent
Work Time – Experience in Months										
3	9	3	9	1	3	1	2	1	2	All educational levels

NOTES:

1. For Level II Certification, the experience should consist of time as Level I or equivalent. If a person is being qualified directly to Level II with no time at Level I, the required experience should consist of the sum of the times required for Level I and Level II, and the required training should consist of the sum of the hours required for Level I and Level II.

2. Initial experience may be gained simultaneously in two or more methods if:
 The candidate spends a minimum of 25% of his work time on each method for which certification is sought, and;
 The remainder of his work time claimed as experience is spent in NDE related in NDE related activities, i.e. Radiography, Magnetic Particle, Liquid Penetrant, Visual, and Ultrasonic Inspection methods.

3. The experience factor in months is based on a normal 40hour week (175 hours per month). Weeks are not required to be consecutive.

To be considered for Level III certification, one of the following requirements must be met.

NDT Specialists, Inc

Personnel Qualification Procedure

Procedure No.	NDT-S-PQ1	Page 4 of 10	Revision	504
Approved By	Lawrence J. Schneider Sr.	Level III	Date	04/11/05

	4 Year Eng. or Science	2 Year Eng. or Science	< 2 year Eng. or Science
Experience required as Level II (or comparable assignment)	1 Year	2 Years	4 Years

When the individual is qualified by examination, the above requirements may be partially replaced by experience as a certified Level II (or comparable assignment) in other NDE methods. The specific experience shall account for at least 25% of the above requirements.

TRAINING (FORMAL)

Personnel considered for Level I and II certification shall complete an organized training course in the appropriate test method and level in which certification is desired.

The training course shall be based on the recommended training guideline that is published in SNT-TC-1A (Table 1A-1D).

When an outside training school is utilized, NDT SPECIALISTS, INC. Level III shall examine the format of the course to be sure it meets the equivalent of the "SNT-TC-1A 1992 as needed Recommended Training Course Guideline". The NDT SPECIALISTS, INC. Level III shall teach or supervise teaching of courses held at NDT SPECIALISTS, INC.

The training program shall include sufficient examinations to assure that the necessary information has been comprehended.

EXAMINATIONS

To be eligible for examination, the candidate must meet all applicable training and experience requirements of this procedure.

Physical - before certification and annually thereafter, NDE Personnel shall receive a visual acuity examinations. The candidate shall have natural or corrected acuity to read the J1 letters on a standard Jaeger test chart or equivalent at 12 inches. Color deficiencies do not restrict a candidate, except to the extent that he is not allowed to perform any examination that requires distinguishing between colors he is deficient in. A medically qualified individual or Level III must perform this examination.

A Level I and Level II candidate must pass a general specific, and practical examination; approved, administered, and graded by the Level III or his designated representative. The minimum number of questions for the general and specific portions shall be as follows:

Level	General		Specific	
	I	II	I	II
RT/UT	40	40	30	30
MT/PT	40	40	30	30

NDT Specialists, Inc

Personnel Qualification Procedure

Procedure No.	NDT-S-PQ1	Page 5 of 10	Revision	504
Approved By	Lawrence J. Schneider Sr.	Level III	Date	04/11/05

The general examination shall address the basic principles of the applicable method. Questions selected for the general examination may be taken from the SNT-TC-1A supplements (Questions and Answer Booklet A-D).

The general examination administered and graded by an outside training school may be used to fulfill the general examination requirements of this procedure provided it meets the requirements herein. If so used, it shall then be filed and recorded with the individual's qualification and certification records, along with the specific and practical examinations, which shall be administered by NDT SPECIALISTS, INC.

The specific examination shall cover equipment, operating procedures, and test techniques that the candidate may encounter in his specific assignments. The specific examinations shall also cover the specifications or codes, and acceptance criteria used in NDT SPECIALISTS, INC. procedures.

The general examination shall be a closed book test. The specific examination shall be a closed book test with the exception of material supplied by the Level III.

Practical examinations shall be performed on one or more test samples approved by the Level III. A checklist of at least ten points shall be used to evaluate each candidate.

LEVEL I Practical - the individual shall show proficiency in performing the test (i.e. operating equipment, demonstrating technique, recording results, etc.).

LEVEL II Practical - the individual shall show proficiency in selecting and performing the inspection, and interpreting and evaluating the results with reference to a known standard or code.

A Level III candidate must pass a basic, method, and specific examination administered and graded by the NDT SPECIALISTS, INC. designated representative.

Basic Examination (required only once when more than one method of examination is taken).

Fifteen (15) questions relating to understanding the SNT-TC-1A document.

Twenty (20) questions relative to applicable materials, fabrication, and product technology.

Twenty (20) questions, which are selected from or are similar to published Level II questions for other appropriate NDE methods.

Method Examination (for each method).

Thirty (30) questions relating to fundamentals and principles, which are selected from or are similar to published ASNT Level III questions for each method.

Fifteen (15) questions relating to application and establishment of techniques and procedures, which are selected from or are similar to the published ASNT Level III questions for each method.

Twenty (20) questions relating to capability for interpreting codes, standards, and specification relating to the method.

NDT Specialists, Inc

Personnel Qualification Procedure

Procedure No.	NDT-S-PQ1	Page 6 of 10	Revision	504
Approved By	Lawrence J. Schneider Sr.	Level III	Date	04/11/05

Specific Examination (for each method).

Thirty (30) questions relating to specifications, equipment, techniques, and procedures used at NDT SPECIALISTS, INC. and to the administration of this procedure.

On the basis of demonstrated ability, achievement, experience and education, examination requirements for Level III may be wholly or partially waived when NDT SPECIALISTS, INC. elects to certify a Level III with a written statement. In such cases the certification shall indicate that certification was established without examination. Evidence supporting the certification shall be held on file and made available when verification is required.

When performing work to ASME Section VIII, or MIL-STD-271F Level III certification shall be by examination. An individual who is nationally certified Level III by ASNT shall be considered as satisfying the requirements of this procedure and shall be certified by NDT SPECIALISTS, INC. with a written statement after passing a specific examination with a minimum Grade of 80%.

Grading - the individual grade for each examination shall not be less than 70% and the composite grade shall not be less than 80%. The composite grade is determined by adding the three scores together and dividing by three (3).

When the examination is administered and graded by an outside agency and the outside agency issues grades of pass or fail only on a certified report, then a pass grade may be accepted as 80% for that particular examination.

Re-examination - those failing to attain the required grades must wait at least 30 days or show evidence of having received suitable additional training as determined by NDT SPECIALISTS, INC. before re-examination.

CERTIFICATION

Level I and Level II personnel shall be certified by the NDT SPECIALISTS, INC. Level III or designated representative.

At NDT SPECIALISTS, INC. option, an outside agency may be engaged to provide Level III services and certification services. In such cases, NDT SPECIALISTS, INC. shall retain responsibility for all certifications, and assure that the requirements of this procedure are met.

The qualification and certification records shall be maintained on file and shall include the following:

Name of certified individual.

Level of Certification and test method.

Education, experience, and background of individual.

Statement of certification and compliance to this procedure.

NDT Specialists, Inc

Personnel Qualification Procedure

Procedure No.	NDT-S-PQ1	Page 7 of 10	Revision	504
Approved By	Lawrence J. Schneider Sr.	Level III	Date	04/11/05

Results of vision examination.

Current examination copies or evidence of successful completion of the examinations.

Grades of examinations.

Date of certification, re-certification, and start of training.

Signature of appropriate representative - i.e. Level III, President, or outside agency.

All levels of NDE Personnel shall be recertified at least once every three years in accordance with one of the following criteria:

Evidence of continuing satisfactory performance.

All Individuals shall be re-certified by examination for any work done in accordance with MIL-STD-271 or applicable codes every three years.

Re-examination in those portions of the examinations deemed necessary by the Level III or designated representative.

NDE Personnel may be re-examined at any time at the discretion of the Level III or designated representative, and have their certification extended or revoked.

A lapse of six months in the performance of any method of NDE shall result in revocation of certification in that method by the Level III for Level I and Level II individuals.

TERMINATION

The employee's certification shall be revoked when employment is terminated.

A Level I, II, or III whose certification has been terminated may be re-certified to his former level by NDT SPECIALISTS, INC. based on examination as described in this procedure, provided all of the following conditions are met:

The employee has proof of prior certification.

The employee was working in a capacity to which he certified within six months of termination.

The employee is recertified within six months of his termination.

RECORDS

Record of NDE Certification Page 8

Vision Test Report Page 9

NDE Certification Statement Page 10

NDT Specialists, Inc

Personnel Qualification Procedure

Procedure No.	NDT-S-PQ1	Page 8 of 10	Revision	504
Approved By	Lawrence J. Schneider Sr.	Level III	Date	04/11/05

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701 W. Waterford Ave. ▪ Milwaukee, WI 53221 ▪ 414) 483-9700 ▪ fax (414) 483-1392 ▪ web site www.ndtspecialists.com

- X-RAY ▪ GAMMA RAY ▪ ULTRASONICS ▪ MAGNETIC PARTICLE ▪ DYE PENETRANT ▪
- WELDING PROCEDURE/PERFORMANCE QUALIFICATION ▪
- HYDRO TESTING ▪ HARDNESS TESTING ▪ LEVEL III SERVICES ▪ AWS QC-1 CWI ▪
- ISO / IEC 17025:1999 ▪

RECORD OF NDE CERTIFICATION

EMPLOYEE _____ LEVEL OF CERTIFICATION _____

NDE METHOD _____ DATE TRAINING STARTED _____

EDUCATION LEVEL (CHECK HIGHEST LEVEL)

GRAMMAR SCHOOL _____ HIGH SCHOOL _____ COLLEGE _____ YEARS COMPLETED _____

TRAINING COMPLETED:

COURSE & DATE	HOURS
_____	_____
_____	_____
_____	_____

Examination Results:

<u>Test</u>	<u># Wrong</u>	<u># Questions</u>	<u>Raw Score</u>
Genera	*	*	*
Specific	*	*	*
Practical	*	*	*

Composite Score:

EXPERIENCE:

	REQUIRED		ACHIEVED
TRAINEE	_____	_____	FOR LEVEL I CERTIFICATION
LEVEL I	_____	_____	FOR LEVEL II CERTIFICATION
LEVEL II	_____	_____	FOR LEVEL III CERTIFICATION

NDT Specialists, Inc

Personnel Qualification Procedure

Procedure No.	NDT-S-PQ1	Page 9 of 10	Revision	504
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VISION TEST REPORT

NAME _____ DATE OF BIRTH _____

RESULTS of EXAMINATION

NEAR VISION RIGHT EYE LEFT EYE

UNCORRECTED _____ _____

CORRECTED _____ _____

COLOR VISION - DESCRIBE METHOD USED AND RESULTS

METHOD _____ RESULTS

THE ABOVE EMPLOYEE HAS BEEN EXAMINED FOR NEAR VISION ACUITY AND COLOR VISION. THE EMPLOYEE HAS SATISFACTORY VISION FOR:

NEAR VISION _____ COLOR VISION

NOTE : THE EMPLOYEE MUST BE ABLE TO READ JAEGER J-1 LETTERS OR EQUIVALENT WITH EITHER UNCORRECTED OR CORRECTED VISION IN AT LEAST ONE EYE.

RESTRICTIONS: _____

COLOR DEFICIENCY: _____

BRIGHTNESS DISCRIMINATION:

TEST ADMINISTERED BY _____ DATE _____

TEST APPROVED BY _____ DATE _____

NEXT EXAMINATION DUE _____

NDT Specialists, Inc

Personnel Qualification Procedure

Procedure No.	NDT-S-PQ1	Page 10 of 10	Revision	504
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- ISO / IEC 17025:1999 ▪

<h3>NDT SPECIALISTS, INC.</h3> <h2>QUALIFICATION CERTIFICATION</h2>

This is to certify that **XXXXXX XXXXXXXX** is a qualified NDE Level X Technician for the **XXXXXXXXXX XXXXXXXXX** Method of nondestructive examination. His qualification is based upon the satisfactory fulfillment of the training, experience and examination requirements in accordance with the NDT Specialists, Inc. Personnel Qualification Procedure NDT-S-PQ1 Rev. 504 and ASNT-SNT-TC-1A 2001 Edition Recommended Practice for Non-Destructive Testing Personnel Qualification and Certification. This certification is valid for three years from date below.

Approved: _____
Level III Examiner Date

RECORD OF REVISION

Date	Revision	Detail of Revision
03/06/2005	504	Reformat to current style & ASME Addendum A04

Approval by: Lawrence J. Schneider Sr.