

Ameritube LLC 1000 N. Hwy 77, Hillsboro TX 76645	Revision Level: DE	Procedure No. SOP 500
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<i>Date</i>	<i>Description Of Change</i>	<i>Signature</i>	<i>Rev. Level</i>
12/27/2011	Initial release	Jeremy Wilson	-
3/21/2012	Revised Para. 1.0 and 2.0 added Quality Manager	Jeremy Wilson	A
10/22/2015	Revised Para. 4.0,5.0, 6.0, 7.0, Added Para. 8.0, 9.0, 10.0	Joseph Ravitsky	B
10/27/2015	Revised Para 1.0, 5.0, 6.0, 7.0, 10.0, 11.0, Added Para 9.0		C
<u>11/16/2015</u>	<u>Revised Para 1.0, 2.3,2.4 4.1, 6.0, 5.1, 6.1, 6.3.4 and 6.6</u>	<u>S.B Prasad</u>	<u>D</u>

Quality Manager:
Jeremy Wilson

Date:
3/21/2012

S.B Prasad (ASNT NDT Level III)

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NDT Level III:



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1.0 SCOPE

This document sets forth the minimum requirements for qualification and certification of inspection personnel. Those minimum requirements satisfy the American Society for Nondestructive Testing SNT-TC-1A Edition 2011, Recommended Practice, and latest edition. Any deviations from this procedure or procedures covered by this procedure shall be requested by the customer in writing and outlined on the purchase order. **Ameritube works under its QM-001 Revision D 10/29/2013**

2.0 RESPONSIBILITY FOR CONTROL

2.1 It shall be the responsibility of the Quality Manager to insure the following:

- 2.1.1 That training and experience requirements are established.
- 2.1.2 That the inspection personnel training program is properly administered.
- 2.1.3 That all exams are properly established and administered.

2.2 It shall be the responsibility of the Quality Manager to insure that all personnel maintain proper training and experience requirements for the job functions they are performing

2.3 **NDT Level III** - The designated ASNT NDT Level III for **Ameritube LLC** is responsible for attesting the qualification and certification document of each individual performing NDE work for **Ameritube LLC**.

2.4 **Quality Manager** - The Quality Manager individual has the overall responsibility for the implementation of this procedure. He is responsible for developing and implementing this program of training and certification for all levels of NDT personnel. He is responsible for maintaining qualification, training and certification records for all NDT personnel.
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3.0 LEVELS OF QUALIFICATION AND CERTIFICATION

3.1 There are three levels of qualification and certification, plus trainee.

- 3.1.1 Trainees – In the process of being qualified and certified to at least Level 1, an individual will be considered a Trainee. A Trainee will work along with a certified individual and will not interpret any results of a test, or write a report of test results.
- 3.1.2 Level I – NDT Level I person should be qualified and have sufficient experience, training and knowledge to perform specific NDT and specific evaluations for acceptance or rejection determinations according to instructions developed by a Level II or III personnel. The Level I person will be required that he be capable of setting up and calibrating equipment (where applicable), evaluating and reporting specific test results

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with respect to the applicable codes or specifications according to instructions from Level II or Level III personnel. His training and examination for qualification will be appropriate to the type of testing he performs

3.1.3 Level II – NDT Level II person will be qualified to perform direct tests and evaluate test results by the method for which he is certified. He will be thoroughly familiar with the scope and limitations of that method. He will be able to set up and calibrate equipment (where applicable), interpret and report indications, and evaluate them with reference to applicable codes and specifications. He will exercise assigned responsibility for on-the-job training and guidance for trainees and Level I personnel. He will be able to prepare written instructions and to organize and report NDT investigations.

3.1.4 Level III – An NDT Level III individual will be capable of establishing techniques, interpreting specifications and codes, designating the particular test methods and techniques to be used, and interpreting the results. He will be capable of evaluating the results not only in terms of existing codes and specifications, but he also will have sufficient theoretical and practical background in applicable materials technology to assist in establishing test and acceptance criteria where none are otherwise available. He will be responsible for all technical phases of the NDT operation and for training, material, references and examination material for Level I and Level II personnel. There will be at least one Level III person who will conduct training and examinations.

4.0 Education, Training and Experience Requirements for Qualification

4.1 Minimum High School or GED is required for formal training of a candidate.

~~4.14.2~~ Candidates for certification in NDT should 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 an employer as evidence of qualification for comparable levels of certification.

~~4.24.3~~ Documented training and/or experience gained in positions and activities comparable to those of Levels I, II, and/or III prior to establishment of the employer's written practice may be considered in satisfying the criteria of Section 4.3.

~~4.34.4~~ To be considered for certification, a candidate should satisfy one of the following criteria for the applicable NDT level:

~~4.3.14.4.1~~ NDT Levels I and II

Table below lists the recommended training and experience hours to be considered by the employer in establishing the written practices for initial qualification of NDT Level I and Level II individuals.

Test Method	ET	
Level of Certification	I	II

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Minimum Classroom Training (Hours)	40	40
Experience in Method (hours)	210	630
Total Work Hours in NDT	400	1200

~~4.3.24.4.2~~ NDT Level III

~~4.3.2.14.4.2.1~~ Have graduated from a minimum four year college or university curriculum with a degree in engineering or science, plus one additional year of experience beyond the NDT level II requirements in NDT in an assignment at least comparable to that of an NDT level II in the applicable NDT method(s), or:

~~4.3.2.24.4.2.2~~ Have completed with passing grades at least two years of engineering and or science study at a university, college, or technical school, plus two additional years of experience beyond the NDT Level II requirements in NDT in an assignment at least comparable to that of an NDT Level II in the applicable NDT method(s), or:

~~4.3.2.34.4.2.3~~ Have four years experience beyond the NDT Level II requirements in NDT in an assignment at least comparable to that of an NDT level II in the applicable NDT method(s).

The above NDT Level III requirements may be partially replaced by experience as a certified NDT Level II or by assignments at least comparable to NDT Level II as defined in the employer's written practice.

5.0 TRAINING PROGRAMS

- 5.1 Personnel being considered for initial certification should complete sufficient organized training. The organized training may include instructor led training, self-study, virtual instructor led training, computer based training or web based training. Computer based training and web based training should track hours and content of training with student examinations in accordance with 7.2. The sufficiently organized training shall be such as to ensure the student is thoroughly familiar with the principles and practices of the specified NDT method related to the level of certification desired and applicable to the processes to be used and the products to be tested. ~~All training programs should be approved by the responsible NDT Level III. The responsible NDT Level III should approve all training programs.~~
- 5.2 The training program should include sufficient examinations to ensure understanding of the necessary information.
- 5.3 Recommended training course outlines and references for NDT Levels I, II, and III personnel, which may be used as technical source material, are contained in ANSI/ASNT CP-1 05- Topical Outlines for Qualification of Nondestructive Testing Personnel.
- 5.4 The employer who purchases outside training services is responsible for assuring that such services meet the requirements of the employer's written practice.

6.0 EXAMINATIONS

- 6.1 For ASME Section III, all certification levels shall be certified by examination. (Customer specific requirement)
- 6.2 Administration and Grading

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- 6.2.1 An NDT Level III should be responsible for the administration and grading of examinations
- 6.2.2 For Level I and II a General, Specific, and Practical Exam shall be administered.
- 6.2.3 For NDT Level I and II personnel, a composite grade should be determined by simple averaging of results of the general, specific, and practical examinations
- 6.2.4 All Examination grading shall be a composite arithmetic average
- 6.2.5 Examinations administered by the employer for qualification should result in a passing composite grade of at least 80 percent, with no individual examination having a passing grade less than 70 percent. When utilizing an outside agency, which utilizes pass/fail criteria only, the minimum grade may not be less than 80%
- 6.2.6 When an examination is administered and graded for the employer by an outside agency and the outside agency issues grades of pass or fail only, on a certified report, then the employer may accept the pass grade as 80 percent for that particular examination.
- 6.2.7 For Level III a candidate must pass a basic, method, and specific examination.
- 6.2.7.1 The employer or an outside agency may prepare and administer Level III Examinations
- 6.2.8 Questions used in Level I and II exams must be approved by the Level III
- 6.3 Content of Level I and II General, and Specific Questions, and Practical Exam
- 6.3.1 General and Specific Exam

	General	Specific
Level	I and II	I and II
ET	40	20

- 6.3.2 Practical Exam
- 6.3.3 NDT Level I Practical Examination. Proficiency should be demonstrated in performing the applicable NDT on one or more specimens or machine problems approved by the NDT Level III and in evaluating the results to the degree of responsibility as described in the employer's written practice. At least ten (10) different checkpoints requiring an understanding of test variables and the employer's procedural requirements should be included in this practical examination. The candidate should detect all discontinuities and conditions specified by the NDT Level III.
- 6.3.4 NDT Level II Practical Examination. ~~Proficiency should be demonstrated in selecting and performing the applicable NDT technique within the method and interpreting and evaluating the results on one or more specimens or machine problems approved by the NDT Level III.~~ The NDT Level II should demonstrate proficiency in selecting and performing the applicable NDT technique within the method and interpreting and evaluating the results on one or more specimens or machine problems approved. At least ten (10) different checkpoints requiring an understanding of NDT variables and the employer's procedural requirements should be included in this practical examination. The candidate should detect all discontinuities and conditions specified by the NDT Level III.
- 6.4 Content of Level III Basic, Method and Specific Examinations.
- 6.4.1 Basic Examination
- 6.4.1.1 Content includes SNT-TC-1A questions (15 question), Materials fabrication and product technology questions (20 questions), Level II questions for other appropriate questions for other appropriate NDE methods (20 questions)

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6.4.2 Method Examination

6.4.2.1 Content includes ASNT level III questions, Fundamentals and Principal (30 questions), Techniques and Procedures (20 questions), and code, standards and specification questions (20 questions).

6.4.3 Specific Examination

6.4.3.1 Content includes questions on specifications, equipment, techniques and procedures questions (20 questions)

6.5 Reexamination

6.5.1 Those failing to attain the required grades should wait at least thirty (30) days or receive suitable additional training determined by the NDT level III before reexamination.

6.6 Physical Examination

6.6.1 Near-Vision Activity. The examination should ensure natural or corrected near distance acuity in at least one eye such that the applicant is capable of reading minimum of Jaeger Number 2 or equivalent. Jaeger Number 1 is required for ASME section III work (Customer Specific).

6.6.2 All personnel shall receive a color vision exam to verify ability to distinguish colors and/or differentiate contrast between colors used in the method.

6.7 Specified Copies of the standard can be provided at customer request. This includes the following sections:

- 6.7.1 Administration and Grading
- 6.7.2 Vision Examination
- 6.7.3 General (Written for NDT Levels I and II)
- 6.7.4 Specific (Written for NDT Levels I and II)
- 6.7.5 Practical (for NDT Level I and II)
- 6.7.6 Sample questions
- 6.7.7 Additional written, Specific and Practical Examination Criteria
- 6.7.8 NDT/PdM Level III Examinations
- 6.7.9 Reexamination

7.0 CERTIFICATION

7.1 Certification of all NDT Levels of NDT personnel is the responsibility of the employer.

7.2 Ameritube uses an outside agency for NDT Level III services. Ameritube retains the responsibility of certification of its employees. **Certification will be performed by the outside agency**

7.3 Ameritube shall furnish a certificate recognizing personnel who satisfied all requirements stated in this procedure. The Level III shall sign the certificates.

7.3.1 The prescribed records of qualification and certification will be maintained for each employee that performs nondestructive testing and will include the following:

- A. Name of certified individual
- B. Level of certification and method of testing
- C. Educational background and experience

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- D. Statement indicating satisfactory completion of training in accordance with the employer's written practice.
- E. Results of vision examination (SOP 901 Jaeger Test)
- F. Current examination copies or evidence of successful completion of examinations.
- G. Composite grade of examinations or suitable evidence of grades
- H. Signature of the NDT Level III that verified qualifications of candidate for certification.
- I. Dates of certification and recertification with the signature of the NDT Level III
- J. Certification expiration date.

7.4 Interrupted Service

- 7.4.1 If there is a lapse of six months in performance within Eddy Current NDT certification shall be revoked by the Level III for level I and II personnel.
- 7.4.2 Personnel shall be recertified by written examinations as identified above in section 6.0 or as deemed necessary by the Level III or designated representative.

7.5 Technical Performance Evaluation

- 7.5.1 NDT personnel may be reexamined any time at the discretion of the employer and have their certificates extended or revoked.
- 7.5.2 Periodically, every 3 years, NDT Level I and II personnel should be reevaluated by the NDT Level III administering a practical examination. The practical examination should follow the format and guidelines described above in section 6.0.

8.0 RECERTIFICATION

- 8.1.1.1 NDT personnel may be recertified based upon satisfactory technical performance, without reexamination.
- 8.1.1.2 NDT personnel may be reexamined and their certification extended or revoked any time at the discretion of Ameritube.
- 8.1.1.3 Requalification shall be required prior to operating inspection equipment if the individual has not operated that equipment in the last six months, or if an individual changes employers.
- 8.1.1.4 NDT personnel will be recertified every five (5) years. If there is any reason whatsoever for the company to question an employee's capabilities, the employee shall be recertified by examination. The examination requirements shall be identical to those stated in section 4.4 above.

9.0 TERMINATION

- 9.1 The employer's certification shall be deemed revoked when employment is terminated.
- 9.2 An NDT Level I, Level II, or Level III whose certification has been terminated may be certified to the former NDT level by a new employer based on examination, as described in Section 6, provided all of the following conditions are met to the new employer's satisfaction:
 - 9.2.1 The employee has proof of prior certification.

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- 9.2.2 The employee was working in the capacity to which certified within six (6) months of termination.
- 9.2.3 The employee is being recertified within six (6) months of termination.
- 9.2.4 Prior to being examined for certification, employees not meeting the above requirements should receive additional training as deemed appropriate by the NDT Level III.

10.0 REINSTATEMENT

- 10.1 An NDT Level I, Level II, or Level III whose certification has been terminated may be reinstated to the former NDT level, without a new examination, provided all of the following conditions are met:
 - 10.1.1 The employer has maintained the personnel certification records required in section 11.0
 - 10.1.2 The employee's certification did not expire during termination.
 - 10.1.3 The employee is being reinstated within six (6) months of termination.

11.0 RETENTION OF CERTIFICATION RECORDS

- 11.1 Records of certified NDT personnel at Ameritube shall be maintained indifferently, and for 3 years after the personnel has been terminated.

