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ACUREN CANADA – SNT-TC-1A WRITTEN PRACTICE

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ISSUING DEPARTMENT

Quality



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ACUREN CANADA - SNT-TC-1A WRITTEN PRACTICE

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APPENDIX 1 – EXPERIENCE AND TRAINING REQUIREMENTS

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REVISION NOTES:

Revision R02

- Clarified wording in Appendix 1 Tables – No technical changes.

Revision R03

- Removed the note regarding the previous Acuren written practice from the title page.



1.0 PURPOSE

- 1.1 This procedure is for the training, qualification and certification of Acuren nondestructive testing (NDT) personnel which has been developed to meet the requirements of SNT-TC-1A. It provides the minimum requirements that must be met by any individual who performs nondestructive examinations for Acuren when inspecting to codes and standards that require NDT certification in accordance with an SNT-TC-1A written practice.

2.0 SCOPE

- 2.1 This procedure establishes the requirements and provides direction for the training, qualification and certification of nondestructive testing (NDT) personnel in the following:

Electromagnetic:	---
Alternating Current Field Measurement	ACFM
Eddy Current	ET
Remote Field	RFT
Leak:	---
Bubble Testing	BT
Pressure Change Testing	PCT
Halogen Diode Leak Testing	HDLT
Mass Spectrometer Leak Testing	MSLT
Liquid Penetrant Testing	PT
Magnetic Particle Testing	MT
Radiological*:	---
Computerized Radiography	CR
Digital Radiography	DR
Radiographic Testing	RT
Ultrasonics:	---
Phased Array	PA
Time of Flight Diffraction	TOFD
Ultrasonic Testing	UT
Visual Testing	VT

(*) For all radiological methods, personnel shall comply with the requirements of the Acuren Radiation Safety Management System.

- 2.2 Certifications to other codes and standards are addressed (or will be addressed as needed) in an addenda, which supplements this written practice, or in a separate procedure and shall be identified on the certification record as additional endorsements or restrictions (as applicable) for the affected method(s).

2.3 The qualification requirements for an NDT method not addressed by SNT-TC-1A will be addressed by an Appendix to this written practice.

2.3.1 EMAT temate® TG-IS(B) Gage - Personnel qualifying as an Electromagnetic Acoustic Transducers (EMAT) TG-IS(B) Gage Competent User must meet the requirements outlined in Appendix 2 ,Section 1 - Qualification and Endorsement Requirements for EMAT Personnel.

3.0 CENTRAL CERTIFICATION AND TECHNICAL LIMITATIONS

3.1 Provision has been made within this written practice to permit the utilization of certifications gained in national, or international, central certification programs including ACCP, CGSB, PCN, CSWIP, AWS and CWB when it is permitted by the referencing code or standard (e.g. ASME Section I, V, VIII, B31.1, B31.3, Code Case 2239-9, Code Case 181-2 etc.). In such cases the examination and demonstration portions of the certification process described in this document may be fulfilled by a current and valid certification to a central certification program, in the applicable method.

3.2 The use of certifications from national or international central certification programs to fulfill portions of the SNT-TC-1A examinations may be prohibited by certain codes or standards (examples are shown in the table below). Where required to follow such codes or standards it shall be ensured that the individual has been certified to the applicable requirements and that the applicable endorsement and/or restriction is added to the qualification record for the period of validity.

Code or Standard	Clause	Central Certification Endorsement Options and other Technical Cautions
ASME Section III	NB-5500	The ACCP and other Central Certification fulfillment options of this written practice are not permitted for personnel working to this code. Refer to ASME Section III, NB-5500 for specific requirements.
ASME Section XI	IWA-2300	Personnel must be certified in accordance with a written practice prepared in accordance with ANSI/ASNT CP-189 or be qualified per ACCP. Refer to IWA-2300 for specific requirements
AWS D1.1	6, Part G	Refer to the code for specific personnel qualification requirements for methods other than conventional MT, PT, UT and RT (film) as defined in Clause 6, Parts D, E and F.

Code or Standard	Clause	Central Certification Endorsement Options and other Technical Cautions
AWS D1.5	12	AASHTO/AWS Fracture Control Plan (FCP) for Nonredundant Members - Refer to the code for specific personnel qualification requirements
AWS D1.6	6, Part D	Refer to the code for specific personnel qualification requirements for methods other than conventional MT, PT, UT and RT (film) as defined in Clause 6, Parts B and C.

4.0 REFERENCES

- 4.1 Acuren Radiation Safety Management System
- 4.2 ANSI/ASNT CP-105 – Topical Outlines for Qualification of Nondestructive Testing Personnel
- 4.3 ASME Sections I, III, V, VIII, IX, XI, B31.1 and B31.3
- 4.4 AWS D1.1, D1.5 and D1.6
- 4.5 SNT-TC-1A – Recommended Practice for Personnel Qualification and Certification in Nondestructive Testing (1984 through 2011 Editions)

5.0 DEFINITIONS

For the purpose of this document, the following definitions shall apply:

ACCP – ASNT Central Certification Program.

ACUREN – Acuren (Canadian Operations).

ASNT – American Society for Nondestructive Testing.

CMS – Certification Management System.

Certification – Written testimony of qualification.

Certifying Agency – The employer of the personnel being certified.

Certifying Authority – The person or persons properly designated in this procedure to sign certifications on behalf of Acuren.



CGSB – Canadian General Standards Board.

Comparable – An equivalent or similar level of NDT responsibility and difficulty as determined by a Designated NDT Level III.

CSWIP – Certification Scheme for Welding and Inspection Personnel.

Designee - An individual, whose duties are recorded, to act on the behalf of an authorizing person.

Deviation - A documented variance from the requirements of this procedure.

Documented – The condition of being in written form.

Employer – The corporate, private, or public entity which employs personnel for wages, salary, fees, or other considerations, in this case Acuren.

Endorsement - Written approval for the individual to perform specialized examination techniques as identified in the applicable Appendix.

Experience – Work activities accomplished in a specific NDT method under the direction of qualified supervision including performing the NDT method and related activities, but not including time spent in organized training programs.

Grading Unit - A qualification specimen can be divided into sections called grading units, which do not have to be equal in length or equally spaced. Grading units may be flawed or unflawed, as approved by a Designated NDT Level III.

Limited or Restricted Certification – Nondestructive Test methods may be further subdivided into limited disciplines or restricted techniques to meet specific employer's needs; these are Level II certifications, but to a limited scope.

Nondestructive Testing (NDT) – The development and application of technical methods to examine materials and/or components in ways that do not impair future usefulness and serviceability in order to detect, locate, measure interpret, and evaluate flaws. An alternate and equivalent term for Nondestructive Examination (NDE) and Nondestructive Inspection (NDI). Examples: RT, UT, MT, PT, and VT.

Outside Agency – A company or individual who provides NDT Level III services and whose qualifications have been reviewed by the employer.

PCN – Personnel Certification in Nondestructive Testing.

Proctor - an individual trained and authorized in writing by the Director of Quality or a Designated Level III to administer qualification examinations.

Qualification – Demonstrated skill, training and documented knowledge, experience required for personnel to properly perform the duties of a specific method.

Technique - A category within an NDT method; for example, ultrasonic thickness testing.

Training – The organized program developed to impart the knowledge and skills necessary for qualification.

Written Practice – A written procedure developed by the Employer that details the requirements for qualification and certification of employees (this procedure).

6.0 RESPONSIBILITIES

The responsibilities of individuals as they relate specifically to this written practice are:

6.1 Regional General Manager

6.1.1 Implement this procedure.

6.2 Director of Quality

6.2.1 Prepare, select and approve NDT Level III examination questions.

6.2.2 Administer and grade Level III examinations (or delegate these duties to a proctor).

6.3 Director of Quality and Corporate Level III

6.3.1 Review and approve this document and subsequent revisions. Control, update and revise as necessary.

6.3.2 Prepare, select and/or approve training programs (see 6.3.4).

6.3.3 Prepare, select and/or approve NDT Level I and II examination questions (see 6.3.4).

6.3.4 Ensure that all training programs and examination questions have been reviewed and approved by a NDT Level III certified in the applicable method. A signature by a Designated NDT Level III on the certification record is considered approval.

6.3.5 Perform or delegate to a Designated NDT Level III or proctor, the administration and grading of Level I and Level II examinations in all methods. See also 6.4.3.1.

6.3.6 Control examination materials.

6.3.7 Certifying Authority for all NDT levels.

6.4 Designated NDT Level III (Designee of the Director of Quality or Corporate Level III)

- 6.4.1** Approve training programs.
- 6.4.2** Approve NDT Level I and II examination questions
- 6.4.3** Administer and grade NDT Level I and II examinations in all methods (or delegate these duties to a proctor).
 - 6.4.3.1** The practical exam shall be administered by a person certified in the applicable method as NDT Level II or III.
- 6.4.4** Control examination materials.
- 6.4.5** Certifying Authority for NDT Level I and Level II personnel.

Note: The Corporate Level III may also function as a Designated NDT Level III as described throughout this written practice.

6.5 Regional Quality Representative

- 6.5.1** Control examination materials.
- 6.5.2** Control and maintain the completed examinations and personnel certification documentation required by this procedure.

7.0 LEVELS OF QUALIFICATION

There are four levels of qualification. Prior to qualification, an individual is considered a trainee. A trainee shall be supervised by a certified technician and shall not independently conduct any test, interpret results or report on a test.

- 7.1 NDT Level I** – A technician certified to Level I shall demonstrate competence to carry out specific inspections according to written instructions as follows. A Level I technician shall receive instruction and supervision from an NDT Level II or III.

- 7.1.1** Set up and calibrate NDT equipment.
 - 7.1.2** Perform the test.
 - 7.1.3** Evaluate for acceptance.
 - 7.1.4** Record the results.

- 7.2 NDT Level II Limited [IIA]** – A technician certified to NDT Level II Limited shall demonstrate competence to perform calibrations, tests, and evaluations for acceptance or rejection determinations according to written instructions and to record results. Certification is limited to the use of specific equipment identified in the certification record. Examples are:

- 7.2.1** Magnetic Particle – Yoke
 - MT IIA (Yoke)

- 7.2.2** Ultrasonic – Straight Beam
 - UT IIA (Straight Beam)
 - 7.2.3** Ultrasonic – A-scan Thickness Measurement
 - UT IIA (A-scan Thickness Only)
 - 7.2.4** Ultrasonic – Digital Thickness Measurement (numeric output only)
 - UT IIA (Digital Thickness – Numeric Output Only)
- 7.3 NDT Level II** – A technician certified to NDT Level II shall demonstrate competence to perform inspection to established procedures. He shall also be competent to:
- 7.3.1** Understand the limitations of the application of the testing method.
 - 7.3.2** Set up and calibrate equipment.
 - 7.3.3** Evaluate results according to the applicable acceptance standards.
 - 7.3.4** Supervise and provide guidance to trainees or Level I technicians.
 - 7.3.5** Report results.
- 7.4 NDT Level III** – A technician certified to Level III shall demonstrate competence to perform and direct inspection in the methods for which he is certified. He shall have a general knowledge of other NDT methods. In the method for which he is certified he shall also be competent to:
- 7.4.1** Assume full responsibility for a test facility or examination centre and staff.
 - 7.4.2** Establish, review and approve NDT procedures, and techniques.
 - 7.4.3** Interpret codes, standards, specification and procedures.
 - 7.4.4** Designate the test methods and procedures to be used.
 - 7.4.5** Perform and supervise all tasks at all levels.
 - 7.4.6** Provide guidance and training for personnel at all levels.
 - 7.4.7** Administer certification examinations for Level I and II personnel
 - 7.4.8** Assist in the establishment of acceptance criteria where none otherwise exist.
 - 7.4.9** Approve instructional documents, procedures and techniques.

8.0 QUALIFICATION REQUIREMENTS

In order to be certified, an individual must satisfy the qualification requirements listed for the applicable level in each of the following categories:

- 8.1** Education
- 8.2** Experience
- 8.3** Training
- 8.4** Examination
 - 8.4.1** NDT Level I and II examinations shall consist of three (3) segments for initial certification (general, specific and practical).

- 8.4.2** NDT Level III examinations shall consist of three (3) segments for initial certification (basic, method, and specific). The basic examination is required only once and need not be repeated when more than one method examination is taken.

9.0 EDUCATION, EXPERIENCE AND TRAINING – GENERAL

- 9.1** Candidates shall have sufficient education and experience for the method for which they are being considered for certification. For NDT Level I and II certification, the experience factor is based on hours of documented NDT activities. Records substantiating qualification shall be kept on an hourly basis. Credit for overall experience may be gained simultaneously in two or more methods. Overall experience time may be credited in NDT work related activities such as job preparation, equipment maintenance, or other activities directly related to an NDT method. Minimum experience hours in each method shall be met prior to certification (see Appendix 1, Table 1).
- 9.2** Candidates being considered for certification as a NDT Level I or Level II shall have sufficient training to be thoroughly familiar with the principles and practices of the specified NDT method and the defects and discontinuities normally found in the material or product being tested. The training program shall include sufficient examinations to ensure understanding of the necessary information. This training shall be consistent with the outlines provided in ANSI/ASNT CP-105. Modifications may be made to the outline to reflect the application for which certification is intended. Training programs shall be approved by a NDT Level III. The signature of a Designated NDT Level III on the certification record is considered to be sufficient approval.

10.0 EDUCATION, EXPERIENCE AND TRAINING – NDT LEVEL I AND II

- 10.1** For NDT Level I or Level II certification, an employee must satisfy the following requirements:
- 10.1.1** Experience as specified in Appendix 1, Table 1.
 - 10.1.2** Training as specified in Appendix 1, Table 2.
- 10.2** Training shall be in the form of an organized program of classroom, laboratory or programmed self-study as approved by a Designated NDT Level III. The time required for each method and level is found in Table 1.
- 10.3** For Level II Limited Certifications not listed in Appendix 1, Table 1.
- 10.3.1** The experience and training hours required shall as a minimum be equivalent to Level I in the method.
 - 10.3.2** A Designated NDT Level III shall determine and document that the hours specified in 10.3.1 are sufficient or identify if additional experience and/or training

hours are required for the particular limited certification. This documentation shall be maintained along with the individual's certification records.

10.4 A newly hired individual who has been certified by a prior employer may be certified to a former level of certification by examination if all of the following conditions are met:

10.4.1 The employee has documented proof of prior certification, including training and experience comparable to the requirements of this written practice and satisfactory to the Director of Quality or Designated NDT Level III (as applicable).

10.4.2 The employee was working in the capacity to which certified within six (6) months of termination. The employee is being certified within six (6) months of termination.

10.4.3 Documented refresher training is given to individuals with training from prior employment and includes the following:

- a) Operation of applicable test equipment
- b) Specific test procedures
- c) Interpretation and evaluation of test results
- d) Applicable codes, specifications and standards

The length of refresher training shall be determined by the Director of Quality or Designated NDT Level III (as applicable).

11.0 EDUCATION AND EXPERIENCE – NDT LEVEL III

11.1 For NDT Level III certification an employee must satisfy at least one (1) of the following education and experience criteria.

11.1.1 Have graduated from a minimum four year college or university curriculum with a degree in engineering or science, plus one (1) additional year of experience in nondestructive testing beyond the Level II requirements in an assignment comparable to that of a Level II in the applicable test methods(s).

11.1.2 Have completed with passing grades at least two (2) years of engineering or science study at a university, college, or technical school plus two (2) additional years of experience beyond the Level II requirements in assignments at least comparable to that of a Level II in the applicable test method(s).

11.1.3 Have four (4) years of experience beyond the Level II requirements in an assignment comparable to that of a Level II in the applicable testing method(s).

12.0 EXAMINATION – GENERAL

- 12.1** The Director of Quality and/or a Designated NDT Level III (as applicable) shall be responsible for the creation, administration and grading of examinations. The administration and grading duties may be delegated to a proctor, when documented. The NDT Level I and II practical exams shall be administered by a person certified in the applicable method as NDT Level II or III. The signature of the Director of Quality or Designated NDT Level III (as applicable) on the examination results is considered to be sufficient approval and documentation of both the examination and the proctor.
- 12.2** In no case shall an examination be administered by one's self or by a subordinate.
- 12.3** Sample questions as presented by ASNT and other uncontrolled sources shall not be used verbatim for qualification examinations.
- 12.4** Vision tests may be performed by a recognized medical practitioner or any responsible individual that has completed vision examination training acceptable to the Director of Quality or a Designated NDT Level III.

13.0 EXAMINATION – NDT LEVEL I AND II

- 13.1** NDT Level I and Level II technicians shall be examined in each of the method(s) and level(s) of certification sought. Examinations shall consist of three (3) segments for initial certification (general, specific, and practical) as follows:

13.2 General examination – NDT Level I and II

- 13.2.1** A written test consisting of at least forty (40) questions in the applicable method and level of certification sought. For LT (BT) and UTT, a minimum of twenty (20) questions are required. The questions shall be of a general nature covering the theory and basic test principles relative to the applicable method. The questions shall be administered without access to external reference material (closed book).

13.3 Specific examination – NDT Level I and II

- 13.3.1** A written test consisting of at least twenty (20) questions related to specifications, equipment, techniques and procedures used by Acuren in the applicable method and level of certification sought. For LT (BT) and UTT, a minimum of fifteen (15) questions are required. For LT (MSLT) Levels I and II, the minimum numbers of questions is twenty (20) and forty (40), respectively. The questions shall address equipment, operating procedures, codes and acceptance criteria that the employee may encounter in an assignment.

- 13.3.2** Except for necessary data, such as graphs, tables, specifications, procedures and codes the exam is to be administered without access to additional reference

material (closed book). Questions utilizing such reference material shall require and understanding of the material rather than merely locating the answer.

13.4 Notes

13.4.1 Personnel seeking certification as Radiographic Level II Film Interpretation shall be required to satisfactorily complete the Radiographic Level II general and specific written examinations.

13.5 Practical examination – NDT Level I and II

13.5.1 Practical exams shall be administered by a person certified in the applicable method as NDT Level II or III.

13.5.2 The candidate shall demonstrate familiarity with and the ability to operate the necessary NDT equipment, record, and analyze the resultant information to the degree required for the individuals level and scope of certification.

13.5.2.1 For Phased Array and TOFD practical examination, the flawed samples used shall be representative of the components and/or configurations that the candidates will be testing, and approved by a Designated NDT Level III.

13.5.3 The candidate shall detect all discontinuities and conditions specified by a Designated NDT Level III. Practical examination check sheets shall contain at least 10 checkpoints including those where failure to successfully complete shall result in failure of the examination.

13.5.4 The documentation of the examination shall include:

- a) Description of the specimen
- b) The test procedure
- c) Check points
- d) Results of the examination recorded on an inspection form.

13.5.5 NDT Level I – For Level I practical examinations, proficiency shall be demonstrated in performing the applicable nondestructive tests on a minimum of one (1) flawed specimen or component, approved by a Designated NDT Level III. At least ten (10) different checkpoints requiring an understanding of test variables and Acuren's procedural requirements shall be included in this practical examination.

13.5.6 NDT Level II Limited [IIA] – For Level II Limited practical examinations, proficiency shall be demonstrated utilizing the specific equipment or technique for which certification is sought on a minimum of one (1) flawed specimen or component, approved by a Designated NDT Level III. At least ten (10) different checkpoints requiring an understanding of test variables and Acuren's procedural

requirements shall be included in this practical examination. This type of certification is limited to only the type of equipment demonstrated and the scope of certification is to be recorded on the certification record.

13.5.6.1 For Level II Limited UT straight beam certification [UT IIA (Straight Beam)], proficiency shall be demonstrated utilizing a flaw detector.

13.5.6.2 For Level II Limited UT A-scan thickness only certification [UT IIA (A-scan Thickness Only)], proficiency may be demonstrated utilizing a flaw detector or an A-scan thickness meter.

13.5.6.3 For Level II Limited UT Digital Thickness Meter (numeric output only) certification [UT IIA (Digital Thickness – Numeric Output Only)], proficiency shall be demonstrated utilizing a digital thickness meter.

13.5.6.4 For Level II Limited Radiographic Film Interpretation certification, proficiency shall be demonstrated by reviewing and evaluating a minimum of twenty (20) film images.

13.5.7 NDT Level II – For Level II practical examinations, proficiency shall be demonstrated in selecting and performing the applicable nondestructive testing technique within the method and interpreting and evaluating the results on a minimum of one (1) flawed specimen or component, approved by a Designated NDT Level III. At least ten (10) different checkpoints requiring an understanding of test variables and Acuren's procedural requirements shall be included in this practical examination.

13.5.7.1 For Radiological Level II certification, in addition to the samples noted above, an additional number of images, applicable to the technique(s) involved, will be administered such that the total number of images evaluated for the practical examination is a minimum total of twenty (20).

13.6 Certification Endorsements for NDT Level I and II (When permitted by the referencing code or standard)

13.6.1 A valid endorsement on an ASNT or ACCP Level II Certificate fulfills the requirements of the general examinations for each applicable NDT method.

13.6.2 When approved by a Designated NDT Level III, the specific exam may be deleted if the candidate has a valid ASNT or ACCP Level II Certificate in the method/industrial sector, has an understanding of the Acuren method procedures, and if documented evidence of experience exists to permit such.

13.6.3 A valid endorsement on a successfully completed ACCP Level II practical examination fulfills the requirements of the practical examinations for each applicable NDT method.

13.6.4 When approved by a Designated NDT Level III a valid endorsement on an additional central certification (e.g. CGSB, PCN or CSWIP) may be used to fulfill the requirements of the general and practical examinations for each applicable NDT method. The specific exam may also be deleted if the candidate has an understanding of the Acuren method procedures and if documented evidence of experience exists to permit such.

13.6.4.1 Note: If AWS and CWB Visual Weld Inspection certifications are utilized to fulfill portions of the VT method requirements; additional documented evidence of VT Direct and Remote Testing experience shall exist to permit such.

13.7 Visual Acuity

13.7.1 Near vision, colour contrast differentiation and shades of grey examinations as described in 15.3 must be completed prior to initial certification and annually thereafter. Results shall be recorded on the Acuren vision test form. Alternate forms are acceptable provided they meet the minimum requirements specified and are attached to a completed Acuren vision form.

14.0 EXAMINATION – NDT LEVEL III

NDT Level III candidates shall be examined in the method(s) of certification sought. Examinations shall consist of three (3) segments for initial certification (method, basic, and specific) and two segments for certification in additional methods (method and specific). If the Level III is to also perform examinations, then the practical requirement of 14.4 is also required.

14.1 Basic Examination – NDT Level III

14.1.1 The basic examination is required only once when more than one method examination is taken.

14.1.2 A written test consisting of at least;

- a)** Fifteen (15) questions relating to understanding the SNT-TC-1A document.
- b)** Twenty (20) questions relating to materials, fabrication and product technology.
- c)** Twenty (20) questions other NDT methods. These questions shall be similar to published ASNT Level II questions.

14.1.3 The Basic Examination shall be administered without access to external reference material (closed book).

14.2 Method Examination – NDT Level III

14.2.1 A written test consisting of at least;

- a)** Thirty (30) questions related to the fundamentals and principals similar to the published ASNT Level III questions for the method.
- b)** Fifteen (15) questions related to the application and establishment of techniques and procedures that are similar to the published ASNT Level III questions for each method.
- c)** Twenty (20) questions that relate to the capability of interpreting codes, standards and specifications related to the method.

14.2.2 The Method examinations, except for necessary data, such as graphs, tables, specifications, procedures and codes are to be administered without access to additional reference material (closed book). Questions utilizing such reference material shall require an understanding of the material rather than merely locating the answer.

14.3 Specific Examination – NDT Level III

14.3.1 A written test consisting of at least twenty (20) questions related to specifications, equipment, techniques and procedures used by Acuren.

14.3.2 The Specific examinations, except for necessary data, such as graphs, tables, specifications, procedures and codes are to be administered without access to additional reference material (closed book). Questions utilizing such reference material shall require an understanding of the material rather than merely locating the answer.

14.4 Practical Examination (optional)

14.4.1 If the Level III will perform examinations, demonstration of proficiency of examinations, at least equal to NDT Level II, shall additionally be performed. The practical exam composite grade shall be determined by simple averaging and shall result in a passing composite grade of at least 80% with no individual specimen having a passing grade less than 70%. Section 15.1.3 also applies to these examinations. The practical exam is not averaged against or included in the Level III qualification grading outlined in 15.0. If the individual holds a current Acuren Level II in the method at the time of examination or meets the practical requirements outlined in 13.6.3 or 13.6.4, the Level II proficiency demonstration is not required.

14.5 Certification Endorsements for NDT Level III (When permitted by the referencing code or standard)

14.5.1 A valid endorsement on an ASNT NDT Level III or ACCP Level III Certificate fulfills the requirements of the basic and method examinations for each applicable NDT method.

14.5.2 When approved by the Director of Quality, the specific exam may be deleted if the candidate has a valid ASNT or ACCP Level III Certificate in the method, has an understanding of the Acuren method procedures, and if documented evidence of experience exists to permit such; including the preparation of NDT procedures to codes, standards, or specifications and the evaluation of test results.

14.5.3 When approved by the Director of Quality a valid endorsement on an additional central certification (e.g. CGSB, PCN or CSWIP) may be used to fulfill the requirements of the method and basic examinations for each applicable NDT method. The specific exam may also be deleted if the candidate has an understanding of the Acuren method procedures and documented evidence of experience exists to permit such; including the preparation of NDT procedures to codes, standards, or specifications and the evaluation of test results.

14.5.3.1 Note: If AWS and CWB Visual Weld Inspection certifications are utilized to fulfill portions of the VT method requirements; additional documented evidence of VT Direct and Remote Testing experience shall exist to permit such. AWS and CWB certifications may not be used to fulfill the requirements of the basic examination.

14.6 Visual Acuity

14.6.1 Near vision, colour contrast differentiation and shades of grey examinations as described in 15.3 must be completed prior to initial certification and annually thereafter. Results shall be recorded on the Acuren vision test form. Alternate forms are acceptable provided they meet the minimum requirements specified and are attached to a completed Acuren vision form.

15.0 EXAMINATION GRADING

15.1 Qualification

15.1.1 For NDT Level I and II personnel, a composite grade shall be determined by simple averaging of the results of the general, specific and practical examinations. For NDT Level III personnel, the composite grade shall be determined by simple averaging of the results of the basic, method, and specific examinations.

15.1.2 Examinations administered for qualification shall result in a passing composite grade of at least 80% with no individual examination having a passing grade less than 70%.

15.1.3 When an 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 passing grade of 80% shall be assumed for that particular exam.

15.2 Re-examination

15.2.1 Candidates failing to pass any examination shall receive additional training documented and approved by the Director of Quality or Designated NDT Level III (as applicable) or wait at least 30 days prior to re-examination. The re-examination shall not use the same test specimens and must contain a minimum of 25% new questions.

15.3 Vision Examination.

15.3.1 Near Vision Acuity

15.3.1.1 The technician must be capable of reading a minimum of Jaeger Number 2 (Jaeger Number 1 for VT) or equivalent type and size letter at the distance designated on the chart but not less than 305 mm (12 inches) on a standard Jaeger test chart.

15.3.1.2 Note: Vision tests using a type smaller than Jaeger Number 2 may also be required by specific codes, endorsements to this written practice or by other certification programs. A vision test criteria shall be selected that is appropriate for the types of certification held by the individual.

15.3.2 Colour Contrast Differentiation

15.3.2.1 The technician must be able to distinguish between contrasting colours in the method involved. This may be accomplished by using the Ishihara Colour Plates.

15.3.2.2 Technicians not meeting this requirement may be examined by alternate means to ensure that they can differentiate the contrast among colours that are used in the method or methods for which they are being certified.

15.3.3 Shades of Gray

15.3.3.1 The technician must be able to distinguish between contrasting shades of gray. This may be accomplished with the Acuren shades of gray chart, or by an alternate means approved by the Director of Quality or Designated NDT Level III.

16.0 CERTIFICATION

- 16.1** Responsibility for certification of NDT Level III individuals shall rest with the Director of Quality.
- 16.2** Responsibility for certification for NDT Level I and Level II personnel shall rest with a Designated NDT Level III.
- 16.3** The Director of Quality or Designated NDT Level III shall sign the certification record of each employee they certify. A copy of all certifications shall be maintained by Acuren for reference purposes.
- 16.4** The certification date will be the date the applicable Certifying Authority (e.g. Director of Quality or Designated Level III) certifies that all education, training, experience and examination requirements for the applicable certification have been met.

16.5 Certification record

The certification summary and personnel record for a successful candidate shall contain:

- a)** Name of certified individual.
- b)** Level of certification and NDT method.
- c)** Certification endorsements or restrictions.
- d)** Educational background.
- e)** Statement indicating satisfactory completion of training and related experience.
- f)** Results of the vision examinations.
- g)** Current examination copy(ies) or result(s).
- h)** Other suitable evidence of satisfactory qualifications when such qualifications are used in lieu of the examinations prescribed in this written practice (e.g. CGSB certification).
- i)** Composite grade(s).
- j)** Dates of certification and/or recertification
- k)** Certification expiry date(s).
- l)** Dates of assignment to NDT.
- m)** Signature of the NDT Level III that verified the candidate's qualifications (or Director of Quality in the case of NDT Level III certification).
- n)** Signature of Certifying Authority.

The information on the certification summary is to be entered into the CMS and supporting documents are to be scanned and attached electronically.



17.0 EXCEPTIONS, TERMINATION, INTERRUPTED SERVICE AND SUSPENSION, RECERTIFICATION, AND REINSTATEMENT

17.1 Exceptions

17.1.1 Candidates with a valid certificate that were certified under previous versions of Acuren's SNT-TC-1A written practice are considered certified until that certificate expires.

17.2 Termination

17.2.1 Certification in accordance with this document shall be deemed revoked when employment with Acuren is terminated.

17.3 Interrupted Service and Suspension

17.3.1 Certification in accordance with this document is suspended if:

- a) The individual does not perform the duties in the method(s) for which he is certified within any consecutive twelve-month period, or
- b) Performance is determined by the Director of Quality or NDT Level III to be deficient or unethical.

17.4 Recertification

17.4.1 All levels of NDT personnel shall be recertified periodically in accordance with one of the following criteria:

- a) Evidence of continuing satisfactory technical performance.
- b) Re-examination in those portions of the examinations in Section 13.0 or 14.0 deemed necessary by the Director of Quality or Designated NDT Level III as applicable.
- c) Unless otherwise specified in an addenda or separate procedure referenced to this written practice, the maximum recertification intervals are five (5) years for all certification levels.

17.5 Reinstatement

17.5.1 A Level I, Level II, or Level III technician whose certification has been terminated, or suspended may be reinstated at the discretion of the Director of Quality or Designated NDT Level III (as applicable), without examination, provided all of the following conditions are met:

- a) Personnel certification records have been retained on file

- b) The employee's certification did not expire during termination.
- c) The employee is being re-instated within six months of termination.

18.0 TECHNICAL PERFORMANCE EVALUATION

- 18.1** NDT personnel may be re-examined any time at the discretion of the employer and have their certificates extended or revoked.
- 18.2** For NDT Level I and II personnel a technical performance evaluation shall be conducted and documented for each applicable method at least once in every certification period. This evaluation shall be conducted by the Director of Quality, Designated NDT Level III or proctor as applicable and in a manner consistent with the practical examination identified in Section 13.5.



Appendix 1

Experience and Training Requirements

APPENDIX 1, TABLE 1 - MINIMUM EXPERIENCE REQUIREMENTS

METHOD	HOURS	CONDITION					
		1	2	3	4	5	6
ELECTROMAGNETICS							
AC FIELD MEASUREMENT	Total in NDT	400 hrs	1200 hrs	1600 hrs	4 yrs	2 yrs	1 yr
	Minimum in Method	210 hrs	630 hrs	840 hrs			
EDDY CURRENT	Total in NDT	400 hrs	1200 hrs	1600 hrs	4 yrs	2 yrs	1 yr
	Minimum in Method	210 hrs	630 hrs	840 hrs			
REMOTE FIELD	Total in NDT	400 hrs	1200 hrs	1600 hrs	4 yrs	2 yrs	1 yr
	Minimum in Method	210 hrs	630 hrs	840 hrs			
	Minimum in Method	70 hrs	140 hrs	210 hrs			
LEAK TESTING							
BUBBLE TESTING	Total in NDT	4 hrs	65 hrs	69 hrs	4 yrs	2 yrs	1 yr
	Minimum in Method	3 hrs	35 hrs	38 hrs			
PRESSURE CHANGE	Total in NDT	200 hrs	520 hrs	720 hrs	4 yrs	2 yrs	1 yr
	Minimum in Method	105 hrs	280 hrs	385 hrs			
HALOGEN DIODE	Total in NDT	200 hrs	520 hrs	720 hrs	4 yrs	2 yrs	1 yr
	Minimum in Method	105 hrs	280 hrs	385 hrs			
MASS SPECTROMETER	Total in NDT	520 hrs	800 hrs	1320 hrs	4 yrs	2 yrs	1 yr
	Minimum in Method	280 hrs	420 hrs	700 hrs			
LIQUID PENETRANT TESTING	Total in NDT	130 hrs	270 hrs	400 hrs	4 yrs	2 yrs	1 yr
	Minimum in Method	70 hrs	140 hrs	210 hrs			
MAGNETIC PARTICLE TESTING	Total in NDT	130 hrs	400 hrs	530 hrs	4 yrs	2 yrs	1 yr
	Minimum in Method	70 hrs	210 hrs	280 hrs			
MAGNETIC PARTICLE TESTING LEVEL II LIMITED - MT IIA (YOKE)	Total in NDT	130 hrs	-	-	-	-	-
	Minimum in Method	70 hrs*	-	-			
RADIOLOGICAL							
COMPUTED RADIOGRAPHY	Total in NDT	400 hrs	1200 hrs	1600 hrs	4 yrs	2 yrs	1 yr
	Minimum in Method	210 hrs	630 hrs	840 hrs			
DIGITAL RADIOGRAPHY	Total in NDT	400 hrs	1200 hrs	1600 hrs	4 yrs	2 yrs	1 yr
	Minimum in Method	210 hrs	630 hrs	840 hrs			
RADIOGRAPHIC	Total in NDT	400 hrs	1200 hrs	1600 hrs	4 yrs	2 yrs	1 yr
	Minimum in Method	210 hrs	630 hrs	840 hrs			

METHOD	HOURS	CONDITION					
		1	2	3	4	5	6
RADIOGRAPHIC LEVEL II LIMITED - RT IIA (FILM INTERPRETATION)	Minimum in Method (See Note 6)	220 hrs****	-	-			
ULTRASONICS							
ULTRASONIC	Total in NDT	400 hrs	1200 hrs	1600 hrs	4 yrs	2 yrs	1 yr
	Minimum in Method	210 hrs	630 hrs	840 hrs			
ULTRASONIC II (PHASED ARRAY)	Minimum in Method	-	-	160 hrs*****	-	-	-
ULTRASONIC II (TOFD)	Minimum in Method	-	-	160 hrs*****	-	-	-
ULTRASONIC LEVEL II LIMITED - UT IIA (STRAIGHT BEAM) - UT IIA (A-SCAN THICKNESS ONLY)	Total in NDT	400 hrs**	-	-	-	-	-
	Minimum in Method	210 hrs	-	-			
ULTRASONIC LEVEL II LIMITED - UT IIA (DIGITAL THICKNESS – NUMERIC OUTPUT ONLY)	--	N/A	-	-	-	-	-
	Minimum in Method	40 hrs***	-	-			
VISUAL TESTING	Total in NDT	130 hrs	270 hrs	400 hrs	4 yrs	2 yrs	1 yr
	Minimum in Method	70 hrs	140 hrs	210 hrs			

(See next page for legend)

APPENDIX 1, TABLE 1 - MINIMUM EXPERIENCE REQUIREMENTS**Legend:**

1. Trainee experience for Level I and Level IIA Limited Certification (as detailed).
 - *Trainee experience for MT IIA (Yoke)
 - ** Trainee experience for UT IIA. Note: Experience for UT IIA (Straight Beam) and UT IIA (A-scan Thickness Measurement Only) are gained concurrently.
 - *** Trainee experience for UT IIA (Digital Thickness – Numeric Output Only)
 - **** Trainee experience for RT IIA (Film Interpretation)
2. Level I experience for Level II.
3. Trainee experience for direct certification to Level II.
 - ***** Level II certification and experience hours listed are required in the particular technique
4. Level II experience required for Level III with no college degree.
5. Level II experience for Level III with technical associate degree.
6. Level II or equivalent work experience required for Level III with technical bachelor's degree.

Note 1. Work experience time for any method is gained by meeting the "Minimum in Method" hours supplemented by additional hours in the same method, other methods, or NDT related activities (See 9.1) to meet the total NDT hours for a method and level.

Note 2. If an individual is currently certified in an Electromagnetic technique and has met the experience requirements as listed in Table 1 in that technique, the minimum additional experience hours required to qualify in another technique at the same Level may be reduced by 50%.

Note 3. If an individual is currently certified in a Radiological technique and has met the experience requirements as listed in Table 1 in that technique, the minimum additional experience hours required to qualify in another technique at the same Level is 24 hours.

Note 4. Time of Flight Diffraction and Phased Array requires completion of Level I and Level II Ultrasonic Testing training and experience as a prerequisite.

Note 5. MT IIA (Yoke), UT IIA (Straight Beam), UT IIA (A-scan Thickness Only) and UT IIA (Digital Thickness – Numeric Output Only) are considered limited certifications.

Note 6. For RT IIA Limited Film Interpretation, in addition to the minimum experience hours specified, experience shall include a practical review of a minimum of 1000 radiographs.

**APPENDIX 1, TABLE 2 - MINIMUM TRAINING HOURS, LEVEL I AND II
FOR MINIMUM OF A HIGH SCHOOL EDUCATION OR EQUIVALENT**

<u>METHOD</u>	<u>CONDITION</u>		
	A	B	C
AC Field Measurement	40	40	80
Eddy Current	40	40	80
Remote Field	40	40	80
LT - Bubble Testing	2	4	6
LT - Pressure Change	24	16	40
LT - Halogen Diode	12	8	20
LT - Mass Spectrometer	40	24	64
Liquid Penetrant	4	8	12
Magnetic Particle	12	8	20
Magnetic Particle (Yoke-only)	20 *	-	-
Computed Radiography	40	40	80
Digital Radiography	40	40	80
Radiographic	40	40	80
Radiographic IIA (Film Interpretation)	24 or 40 (See Note 5)	-	-
Ultrasonic	40	40	80
Ultrasonic II (Phased Array)	-	-	80 ****
Ultrasonic II (TOFD)	-	-	40 ****
Ultrasonics IIA (Straight Beam) or (A-scan Thickness Only)	40 **	-	-
Ultrasonics IIA (Digital Thickness – Numeric Output Only)	8 ***	-	-
Visual	8	16	24

(See next page for legend)

APPENDIX 1, TABLE 2 - MINIMUM TRAINING HOURS, LEVEL I AND II**Legend:**

- A. Level I and Level IIA Limited Certification (as detailed).
- B. Level II, with prior Level I Certification
- C. Level II, with no prior Certification

* MT IIA (Yoke) with no prior certification

** UT IIA (Straight Beam), (A-scan Thickness Only) with no prior certification

*** UT IIA (Digital Thickness – Numeric Output Only) with no prior certification

**** Level II certification and training hours listed are required in the particular technique

Note 1. If an individual is currently certified in an Electromagnetic technique and a full course format was used to meet the initial qualifications in that technique, the minimum additional training hours required to qualify in another technique may be reduced by 40%.

Note 2. If an individual is currently certified in a Radiological technique and a full course format was used to meet the initial qualifications in that technique, the minimum additional training hours required to qualify in another technique at the same level is 24 hours.

Note 3. Time of Flight Diffraction and Phased Array requires completion of Level I and Level II training as a prerequisite.

Note 4. MT IIA (Yoke), UT IIA (Straight Beam), UT IIA (A-scan Thickness Only) and UT IIA (Digital Thickness – Numeric Output Only) are considered limited certifications.

Note 5. For RT IIA Limited Film Interpretation a minimum of 24 hours training is required, provided the candidate holds an RT Level I certification. Non-radiographer candidates require a minimum of 40 hours training.



Appendix 2

Qualification Requirements for Methods Not Addressed By SNT-TC-1A

APPENDIX 2 – SECTION 1**QUALIFICATION AND ENDORSEMENT REQUIREMENTS
FOR EMAT (temate® TG-IS (B) gage) COMPETENT USERS**

The following represents the minimum qualification and endorsement requirements for personnel performing TG-IS (B) gage thickness examinations. Personnel must meet the Visual Acuity requirements of CAN-CP-02P001 and the minimum education requirement of a high school diploma or equivalent. Unless otherwise specified in this Appendix, all other CAN-CP-02P001 Qualification and Certification requirements apply.

1.0 EMAT COMPETENT USER**1.1 Definition**

- 1.1.1** In addition to the skills of a UT Level IIA, the EMAT Competent user is qualified to utilize the temate® TG-IS(B) gage for boiler tube thickness examinations.

1.2 Qualification Requirements

- 1.2.1** Must be certified UT Level IIA, as a minimum.
- 1.2.2** Must have completed twenty-four (24) hours of classroom training. Training is to be conducted by an instructor approved by the Subject Matter Expert (SME) or the Director of Quality.
- 1.2.3** Must have at least six (6) months of total work experience with a minimum of 10% of the time dedicated to EMAT technology, and have completed three (3) jobs of thickness data logging and three (3) jobs of Scan and Detection under the direct supervision of an EMAT Competent user.
- 1.2.4** Must have demonstrated basic computer skills and understanding of electronic media reporting.

1.3 Endorsement Examinations

- 1.3.1** Must have completed a practical examination of a specimen and located 100% of the known indications, as identified by the Subject Matter Expert.