Nondestructive Testing

SNT – TC – 1A

CONTENT PAGE

1.0 PURPOSE

The purpose of this International Personnel Certification Schemes (IPCS) is to define RSA minimum qualification and certification requirements of Non-Destructive Testing (NDT) personnel in accordance with The American Society for NDT (ASNT) Recommended Practice SNT-TC-1A.

2.0 SCOPE

2.1 This IPCS has been developed to assist in meeting the minimum requirements for qualification and certification of personnel seeking for NDT personnel certification in accordance with ASNT's Recommended Practice No. SNT-TC-1A, 2020 edition.

2.2 The Methods and Levels of NDT personnel certification covered by this IPCS are listed in Section 6.0 as used in accordance with the applicable codes, standards, specifications and regulations referenced below.

2.3 Certification to this IPCS provides an attestation of general competence of the NDT personnel. It does not represent an authorization to operate, since this remains the responsibility of the employer, and the certified personnel may require additional specialized knowledge of parameters such as equipment, NDT procedures, materials and products specific for the employer.

2.4 Authorization to operate shall be given in writing by the employer in accordance with a quality procedure that defines any employer-required job-specific training and examinations designed to verify the certificate holders's knowledge of relevant industry code(s), standard(s), NDT procedures, equipment, and acceptance criteria for the tested products.

3.0 REFERENCES

a. ASNT SNT-TC-1A, 2020 Edition, Personnel Qualification and Certification in Nondestructive Testing, 2020 edition.

b. ASNT CP-105, 2020 Edition, ASNT Standard - Topical Outlines for Qualification of Nondestructive Testing Personnel.

c. RSA-QM-1001 Revision 0, Quality Manual - RSA Certification Body Quality Management System.

4.0 ABBREVIATIONS, TERMS AND DEFINITIONS

For the purposes of this document, the abbreviations, terms and definitions given in the reference documents listed in 3.0 above shall apply.

5.0 JOB AND TASK DESCRIPTION

5.1 Functions

5.1.1 NDT is a quality control phase in the manufacturing, fabrication and construction of steel structures that, by means of examination or measurement to determines the structures to predetermined quality requirements.

5.1.2 The NDT personnel are responsible to the owner/user to assure the quality manufacturing, fabrication and construction of steel structures meet the specifications and codes requirement during one or more of the following processes;

a. welding,
b. machining,
c. casting,
d. rolling,
e. forging, and
f. heat treatment.

5.1.3 All NDT activities shall be performed by personnel certified as qualified to perform NDT as Level 1, Level 2, or Level 3 as described in Section 6.0 below.

5.2 Job Tasks

The NDT personnel shall be competent in performing the following tasks;

a. Select NDT methods, techniques and procedure by the given type and configuration of steel structures.
b. Select equipment, accessories and consumables required by the procedure.
c. Check the equipment performance and calibration.
d. Set-up equipment for NDT works.
e. Make the proper surface preparation of the test object for NDT works.
f. Perform the required NDT works.
g. Identify, evaluate and measure the test indications produced by NDT works.
h. Accept or reject the measured indication against the relevant acceptance criteria.
i. Write a precise NDT report for used by production and/or client's disposal.
j. Explain the detail finding to the supervisor and/or engineer in-charge, when required.

6.0 CERTIFICATION

6.1 NDT Methods

This IPCS is applicable to each of the following methods:

a. Magnetic Particle Testing (MT).
b. Electromagnetic Testing (ET).
c. Ground Penetrating Radar (GPR).
d. Guided Wave Testing (GWT).
e. Radiographic Testing (RT).
f. Thermal/Infrared Testing (TT).
g. Leak Testing (LT).
h. Ultrasonic Testing (UT).
i. Liquid Penetrant Testing (PT).
j. Magnetic Flux Leakage Testing (MFL)
k. Visual Testing (VT).

6.2 Level of Certification

6.2.1 Level 1

6.2.1.1 An NDT Level 1 individual shall have sufficient technical knowledge and skills to be qualified to properly perform specific standardizations, specific NDT, and specific evaluations for acceptance or rejection determinations according to written instructions and to record results.

6.2.1.2 The NDT Level 1 shall receive the necessary instruction and supervision from a certified NDT Level 2 or 3 individual.

6.2.2 Level 2

6.2.2.1 An NDT Level 2 individual shall have sufficient technical knowledge and skills to be qualified to set up and standardize equipment and to interpret and evaluate results with respect to applicable codes, standards, and specifications.

6.2.2.2 The NDT Level 2 shall be thoroughly familiar with the scope and limitations of the methods for which qualified and should exercise assigned responsibility for on-the-job training and guidance of trainees and NDT Level 1 personnel.

6.2.2.3 The NDT Level 2 shall be able to organize and report the results of NDT tests.

6.2.3 Level 3

6.2.3.1 An NDT Level 3 individual shall have sufficient technical knowledge and skills to be capable of developing, qualifying, and approving procedures; establishing and approving techniques; interpreting

codes, standards, specifications, and procedures; and designating the particular NDT methods, techniques, and procedures to be used.

6.2.3.2 The NDT Level 3 shall be responsible for the NDT operations for which qualified and assigned and should be capable of interpreting and evaluating results in terms of existing codes, standards, and specifications.

6.2.3.3 The NDT Level 3 shall have sufficient practical background in applicable materials, fabrication, and product technology to establish techniques and to assist in establishing acceptance criteria when none are otherwise available.

6.2.3.4 The NDT Level 3 shall have general familiarity with other appropriate NDT methods, as demonstrated by an ASNT Level III Basic examination or other means.

6.2.3.5 The NDT Level III, in the methods in which certified, shall have sufficient technical knowledge and skills to be capable of training and examining NDT Level 1, 2, and 3 personnel for certification in those methods

7.0 PRE-REQUISITE

7.1 Applicants for certification in NDT shall have sufficient education and experience to ensure qualification in those NDT methods in which they are being considered for certification.

7.2 Documentation of prior certification may be used as evidence of qualification for comparable levels of certification.

7.3 The applicant documents required include a listing of all educations, relevant work and employment. The documents shall include:

a. an education background with relevant supporting documents,
b. a listing of all relevant employers and their contact information when available,
c. the nature of the work performed, the dates of employment, and
d. a letter of verification from the employer or client.

7.4 The educations, relevant work and employment documentation is subject to verification by Certification Department and false information is caused to reject the application and can disqualify the applicant from testing to become NDT Level 1, Level 2 or Level 3 personnel.

7.5 Table 1 lists the required hours experience to be considered for the pre-requisite of NDT Level 1 and Level 2 application.

7.6 Table 2 lists the required hours experience for limited certifications. Limited certification applies to individuals who do not meet the full experience of Table 1.

7.7 Table 3 lists the required education and experience to be considered for the pre-requisite of NDT Level 3 application.

7.8 If the applicant is being qualified directly to Level 2, with no time at Level 1, the experience shall consist of the sum of the times required for Level 1 and Level 2.

7.9 If the applicant is being qualified directly from Level 1 to Level 3, with no time at Level 2, the experience shall consist of the sum of the times required for Level 2 and Level 3.

Table 1: Requirements for Initial Training and Experience Levels

Examination Method	NDT Level	Technique	Training Hours	Experience	
				Minimum Hours in Method or Technique	Total Hours in NDT
Electromagnetic Testing	1	AC Field Measurement	40	210	400
	2		40	630	1200
	1	Eddy Current Testing	40	210	400
	2		40	630	1200
	1	Remote Field Testing	40	210	400
	2		40	630	1200
Ground Penetrating Radar	1		8	60	120
	2		20	420	800
Guided wave Testing	1		40	240	460
	2		40	240	460
Leak Testing	1	Bubble Leak Testing	2	3	15
	2		4	35	80
	1	Pressure Change Leak Testing	24	105	200
	2		16	280	530
	1	Halogen Diode Leak Testing	12	105	200
	2		8	280	530
	1	Mass Spectrometer Leak Testing	40	280	530
	2		24	420	800
Liquid Penetrant Testing	1		4	70	130
	2		8	140	270
Magnetic flux Leakage	1		16	70	130
	2		12	210	400
Magnetic Particle Testing	1		12	70	130
	2		8	210	400
Radiographic Testing	1	Radiography	40	210	400
	2		40	630	1200
	1	Computed Radiography	40	210	400
	2		40	630	1200
	1	Digital Radiography	40	210	400
	2		40	630	1200
Thermal/Infrared Testing	1		32	210	400
	2	Electrical and Mechanical	34	1260	1800
	2	Materials Testing	34	1260	1800
Ultrasonic Testing	1		40	210	400
	2		40	630	1200
	2	Phased Array Ultrasonic Testing	80	320	n/a
	2	Time of Flight Diffraction	40	320	n/a
Visual Testing	1		8	70	130
	2		16	140	270

Table 1 Notes:

a. A person may be qualified directly to NDT Level 2 with no time as a certified NDT Level 1, providing the recommended training and experience consists of the sum of the hours recommended for NDT Level 1 and Level 2.

b. For NDT Level 3 certification, the experience should consist of the sum of the hours for NDT Level 1 and Level 2, plus the additional time in 8.3, as applicable. The formal training should consist of the NDT Level 1 and Level 2 training, plus Level 3 training.

c. If an individual is currently certified in an ET technique and a full-course format was used to meet the initial qualifications in that technique, the minimum training hours to qualify in another ET technique at the same NDT level may be reduced up to 40%. If an individual is

certified in an ET technique, the minimum experience to qualify for another ET technique at the same level or to the next level may be reduced by up to 50%.

d. While fulfilling total NDT experience requirement, experience may be gained in more than one method, however, the minimum hours must be met for each method.

e. If an individual is currently certified in an RT technique and a full-course format was used to meet the initial qualifications in that technique, the minimum additional training hours to qualify in another technique at the same level should be 24 hours (of which at least 16 hours should be equipment familiarization). If an individual is certified in a technique, the minimum additional experience required to qualify for another technique at the same level may be reduced by up to 50%.

f. Independent of the training recommended for RT Level 1 and Level 2 certification, a trainee is required to receive radiation safety training as required by the regulatory jurisdiction.

g. If an individual is currently certified in one IR technique and a full-course format was used to meet the initial qualifications in that technique, the minimum additional training hours to qualify in another technique at the same level should be 20 hours (of which at least 16 hours should be specific technique familiarization). If an individual is certified in a technique, the minimum additional experience required to qualify for another technique at the same level may be reduced by up to 50%.

h. Time of Flight Diffraction and Phased Array Ultrasonic Testing require Ultrasonic Testing Level 2 certification as a prerequisite.

i. In addition to the training recommended in this table for TOFD, and PAUT, supplemental specific hardware and software training should be required for automated or semiautomated technique applications.

Table 2: Requirements for NDT Level 2 Limited Certifications

Examination Method	Limited Certification Technique	Technician's Starting Point	Formal Training	Minimum Work Experience in Technique (Hours)
Radiographic Testing	Film Interpretation	Non-Radiographer	40	220
	Film Interpretation	RT Level 1	24	220
Ultrasonic Testing	Digital Thickness Measurement (numeric output only)	Trainee	8	40
	A-scan Thickness Measurement	Trainee	24	175

Table 3: Requirements for Education and Experience for NDT Level 3

No.	Education	Experience (years)
1	Have a bachelor's degree (or higher) in engineering or science	1
2	Have a diploma in engineering or science	2
3	None	4

Experience: additional year of experience beyond the Level 2 requirements in NDT in an assignment comparable to that of an NDT Level 2 in the applicable NDT method(s).

8.0 TRAINING

8.1 The applicant shall provide documentary evidence, acceptable to RSA, that he has satisfactorily completed training in the method and level for which the certification is sought in accordance with Table 1 and Table 2.

8.2 The training may include instructor-led training, personalized instruction, 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 applicant examinations in accordance with 8.1.

8.3 The sufficiently organized training shall be such as to ensure the applicant 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.

8.4 Guidelines for NDT applicant training syllabuses are given in *ANSI/ASNT CP-105: ASNT Standard - Topical Outlines for Qualification of Nondestructive Testing Personnel*.

9.0 INDUSTRIAL EXPERIENCE

9.1 For all levels, experience in accordance with Section 7.0 may be sought following successful examination, the results of the examination shall remain valid for two (2) years after examination.

9.2 Documentary evidence of experience shall be confirmed by the employer and submitted to RSA.

10.0 VISION REQUIREMENTS

10.1 Requirements

The applicant shall provide documentary evidence of satisfactory vision in accordance with the requirements described in Sections 10.2 through 10.4 below.

10.2 Administration

The vision examinations shall be administered by an optometrist or a qualified person authorized by the employer. The tests of near visual acuity shall be carried out at initial certification and subsequent annually and verified by the employer.

10.3 Near-Vision Acuity

The examination shall ensure natural or corrected near-distance acuity in at least one eye such that the applicant is capable of reading a minimum of

Jaeger Number 1 or Times Roman N4.5 or equivalent letters (having a height of 1.6mm) at the distance not less than 30.5cm.

10.4 Color Contrast Differentiation

The examination shall demonstrate the capability of distinguishing and differentiating contrast among colors or shades of gray used in the method, as specified by the employer.

11.0 CONDUCT OF EXAMINATION

11.1 The applicant shall fulfil the minimum requirements of Training and Vision prior to the qualification examination.

11.2 All examinations shall be conducted in examination centers established, approved, and monitored by Certification Department.

11.3 At the examination, the applicant shall have in his possession valid proof of identification and an official notification of the examination, which shall be shown to the examiner or invigilator upon demand.

11.4 Any applicant who, during the course of the examination, does not abide by the examination rules or who perpetrates, or is an accessory to, fraudulent conduct shall be excluded from all further qualification examinations for a period of at least one (1) year.

11.5 Applicant shall not be permitted to bring into the examination area personal items, unless specifically authorized to do so by the examiner.

11.6 During the examination, applicants will be expected to choose the best answer from the options provided.

11.7 The Examination Department shall be responsible for the administration and initial grading of examinations. However, practical examination shall be invigilated by a person certified as NDT Level 2 or Level 3.

11.8 All examination questions shall be approved by the Certification Department. The examination shall include only questions selected in an unpredictable way from RSA collection of questions valid at the date of examination.

11.9 Written examination (whether e-assessment or conventional) shall be invigilated by an examiner or by one or more trained invigilators placed under an examiner's responsibility.

11.10 An examiner shall not be permitted to examine any applicant:

a. that he has trained for the examination for a period of two years from the date of the conclusion of the training activities.

b. who is working (permanently or temporarily) in the same facility as the examiner.

11.11 Final grading shall be the responsibility of Certification Department.

12.0 EXAMINATION

12.1 General (Written – for NDT Levels 1 and 2)

12.1.1 The general examinations shall address the basic principles of the applicable method.

12.1.2 In preparing the examinations, the Certification Department shall select or devise appropriate questions covering the applicable method to the degree required.

12.1.3 The minimum number of questions that shall be given and times are shown in Table 4.

12.2 Specific (Written – for NDT Levels 1 and 2)

12.2.1 The specific examination shall address the equipment, operating procedures, and NDT techniques that the applicant may encounter during specific assignments to the degree required.

12.2.2 The specific examination shall also cover the specifications or codes and acceptance criteria used in the NDT procedures.

12.2.3 The minimum number of questions that should be given and times are shown in Table 4.

12.3 Practical (for NDT Level 1 and 2)

12.3.1 The applicant shall demonstrate familiarity with and ability to operate the necessary NDT equipment, record, and analyze the resultant information to the degree required.

12.3.2 At least one flawed specimen or component shall be tested and the results of the NDT analyzed by the applicant.

Table 4: Minimum Number of Examination Questions

Methods/Techniques	General		Specific	
	Level 1	Level 2	Level 1	Level 2
Electromagnetic Testing				
Alternating Current Field Measurement	40	40	20	20
Eddy Current Testing	40	40	20	20
Remote Field Testing	30	30	20	20
Ground Penetrating Radar	30	40	20	20
Guided Wave Testing	40	40	20	20
Leak Testing				
Bubble Leak Testing	20	20	15	15
Pressure Change Leak Testing	20	20	15	15
Halogen Diode Leak Testing	20	20	15	15
Mass Spectrometer Leak Testing	20	20	20	40
Liquid Penetrant Testing	40	40	20	20
Magnetic Flux Leakage Testing	20	20	20	15
Magnetic Particle Testing	40	40	20	20
Radiographic Testing				
Radiography	40	40	20	20
Radiographic Film Interpretation Non-Radiographer		40		20
Radiographic Film Interpretation Radiographer (Certified RT NDT Level I)		20		15
Computed Radiography	40	40	20	20
Digital Radiography	40	40	20	20
Thermal/Infrared Testing	40		20	
Electrical and Mechanical Testing		50		40
Materials Testing		50		40
Ultrasonic Testing	40	40	20	20
Phased Array Ultrasonic Testing		40		30
Time of Flight Diffraction		40		30
Digital Thickness Measurement (numeric output only)		20		10
A-scan Thickness Measurement		30		15
Visual Testing	40	40	20	20

Examination time: General - 75 minutes for 50 questions Specific - 90 minutes for 40 questions

60 minutes for 40 questions 75 minutes for 30 questions

45 minutes for 30 questions 60 minutes for 20 questions

30 minutes for 20 questions 45 minutes for 15 questions

12.3.3 For Phased Array and Time of Flight Diffraction Practical Examination, flawed samples used for practical examinations shall be representative of the components and/or configurations that the applicants would be testing under this endorsement and approved by the Certification Department.

12.3.4 For Film Interpretation Limited Certification, the practical examination shall consist of review and grading of 20 radiographs to demonstrate satisfactory performance to the satisfaction of the Examiner.

12.3.5 The description of the specimen, the NDT procedure, including checkpoints, and the results of the examination shall be documented. At least ten (10) different checkpoints requiring an understanding of test variables and the procedural requirements shall be included in this practical examination (see Table 5).

12.3.6 For Level 1, proficiency shall be demonstrated in performing the applicable NDT technique on one or more specimens or machine problems approved by the Certification Department and in evaluating the results to the degree of responsibility.

12.3.7 For Level 2, proficiency shall 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 Certification Department.

12.3.8 The applicant shall detect all discontinuities and conditions specified by the Certification Department. Reporting a false call shall result in failure of the examination. Failure to successfully complete will result in failure of the practical examination.

12.4 NDT Level 3 Examinations

12.4.1 Basic Examinations

Basic Examination shall be taken once and need not be retaken to add another test method as long as the candidate holds a current Level 3 certificate or certification. The minimum number of questions that shall be given is as follows:

a. 15 questions on understanding the *SNT-TC-1A* document.
b. 20 questions on materials, fabrication, and product technology.
c. 20 questions on other appropriate NDT methods Level 2.

12.4.2 Method Examination (for each method)

Method Examination shall be taken for each method. The minimum number of questions that shall be given is as follows:

a. 30 questions on fundamentals and principles for each method.
b. 15 questions on application and establishment of techniques for each method.
c. 20 questions on capability for interpreting codes, standards, and specifications relating to the method.

12.4.3 Specific Examination (for each method)

Specific Examination shall be taken for each method. The minimum number of questions that shall be 20 questions relating to specifications, equipment, techniques, and applicable procedures.

Table 5: Practical Exam Check Points

No.	Categories	Points	Score	Remarks
1.	**Knowledge of NDT Procedure** • Familiarity • Utilization • Consideration for limitations • Adherence to procedural details	10		Record the presence or absence of actions that support your score. Was the procedure picked up, thumbed through, read ahead of time, highlighted or marked up. Did the candidate refer to the procedure when questions arose? Did the output comply with the procedure?
2.	**Equipment and Material** • Stated in procedure or user experience • Proficiency in set up, utilization, and calibration • Proficiency in technique and standardization	5		Record the presence or absence of actions that support your score. Note the equipment and materials used. Evaluate the procedure for calibration adequacy, ease of use, and care.
3.	**Test Specimen Care and Custody** • Appropriate pre-cleaning • Maintenance/control • Appropriate post-cleaning	5		Record the presence or absence of actions that support your score. Note preparation adequacy, specimen care, final cleaning, and final specimen condition.
4.	**Operations** • Calibration verification • Adhering to procedures • Adherence to the sequencing requirements • Utilization of appropriate testing media • Inspecting designated areas of interest	10		Record the presence or absence of actions that support your score. State if calibration was verified or not. List steps followed. Note any steps missed. Describe actual test media used, area of interest, and area(s) missed.
5.	**Detection of Indications**(1) • Adherence to procedure requirements • Accuracy (detection of critical indications) • Finding detectable indications	15		Record the presence or absence of actions that support your score. List all procedure requirements not followed. Note number of hits, misses, and false calls. Reference attached report annotated.
6.	**Interpretation of Indications** • Adherence to procedure requirements • Accuracy (interpreting the critical indications) • Interpreting relevant indications	15		Record the presence or absence of actions that support your score. Identify metrics reflecting inspection accuracy or inaccuracy. Refer to attached report and interpretation standards compared to known defect map and characterization.
7.	**Evaluation of Indications**(2) • Following procedure requirements • Accuracy (evaluating the critical indications) • Evaluating relevant indications	20(3)		Record the presence or absence of actions that support your score. Quantify discrimination accuracy and margin of error between relevant and nonrelevant indications.
8.	**Documentation and Records** • Accurate documentation • Proper data processing • Appropriate control of records • Compliance with procedural routing	10		Record the presence or absence of actions that support your score. State degree of completeness, legibility, clarity, correctness, and appearance of reports with errors and omissions.
9.	**General Health and Safety** • Familiarity with health and safety of method • Volatile substances • Electrical hazards • Respiratory concerns • Compliance with specific site procedures	5		Record the presence or absence of actions that support your score. State violations of industry standards and practices. General statement of compliance is acceptable if no violations.
10.	**General Observable Conduct** • Proficiency in knowledge of the method • Proficiency in application of the method • Proficiency in the results • Adherence to a professional behavior	5		Record the presence or absence of actions that support your score. List comments or behavior that supports or detracts from examinee performance.

(1) The candidate should detect all discontinuities and conditions specified by the NDT Level III.
(2) No more than 10% false calls allowed.
(3) 80% of designated defects correctly classified (16 points required to pass).

13.0 GRADING

13.1 For NDT Level 1 and 2 applicants, a composite grade shall be determined by simple averaging of the results of the general, specific, and practical examinations described below.

13.2 For NDT Level 3 applicant, the composite grade shall be determined by simple averaging of the results of the basic, method, and specific examinations described below.

13.3 Examinations for qualification shall result in a passing composite grade of at least 80%, with no individual written examination having a passing grade less than 70%. The practical examination shall have a passing grade of at least 80%.

14.0 RE-EXAMINATION

14.1 Applicant failing for reasons of unethical behaviour shall wait at least twelve (12) months before reapplying.

14.2 Applicant who fails to obtain the pass grade for any examination part, may be re-examined two (2) times in the failed part(s), provided that the re-examination takes place not sooner than thirty (30) days, unless further training acceptable to RSA is satisfactorily completed, nor later than two (2) years after the original examination.

14.3 Applicant failing all permitted re-examination shall apply for and take the examination in accordance with the procedure established for new personnel.

15.0 QUALIFICATION ASSESSMENT

15.1 The applicant shall fulfil the minimum requirements of education, training, experience, examinations and vision prior to certification.

15.2 The applicant shall provide documentary evidence, acceptable to RSA, the following:
a. education,
b. experience,
c. satisfactorily completed training, and
d. recent vision test.

15.3 Certification Department shall verify the examination grades given by the Examination Department.

15.4 For RT, the applicant shall hold a valid radiation safety certification from the relevant local authority.

16.0 IPCS CERTIFICATION

16.1 Certification of IPCS NDT personnel shall be based on demonstration of satisfactory qualification in accordance with Section 15.0 on a serialized (unique number) certificate and a wallet card stating that the applicant has met the IPCS certification requirements.

16.2 Certification certificates and wallet cards shall contain the following:

a. the family name and forename of the certified inspector,
b. the date of issue of the certification,
c. the date upon which certification expires,
d. a reference to SNT-TC-1A reference document and year of revision,
e. the level of certification,
f. the name of RSA,
g. if applicable, the scope of limitations to the certifications and the special applications,
h. a unique inspector identification number,
i. the signature of the certified inspector,
j. a photograph of the certified inspector in the case of the wallet card,
k. a device to prevent falsification of the wallet card, e.g. use of a cold seal, welding into plastic,
l. name and signature of Level 3 that verified the qualifications, and
m. the signature of Certification Manager.

16.3 Qualification certificates shall be fully completed at the time of signing by the Certification Manager. No fill-in-the-blank data remains to be completed by others.

17.0 CERTIFICATION VALIDITY

Certification becomes effective from the date of completion of the initial examination and shall be valid for five (5) years unless revoked for reasons defined in Sections 18.0 and 20.0.

18.0 CONDITION OF CERTIFICATION

The period of validity shall commence (date of issue of the certification) when all of the requirements for certification (education, training, experience, satisfactory vision test, success in examination) are fulfilled. Certification becomes invalid:

a. at the discretion of RSA, e.g. after reviewing evidence of behaviour incompatible with the certification procedures or failure to abide by a code of ethics,
b. if the NDT personnel becomes physically incapable of performing his duties based upon failure of the visual acuity examination taken annually under the responsibility of his employer,
c. if the NDT personnel has not been actively engaged in the performance of the certified NDT method for a period of six (6) months or more during the certification period,
d. if the NDT personnel fails recertification, until such time he/she meets the requirements for recertification or initial certification, and
e. if examination or certification fees are not paid when due.

19.0 CERTIFICATION VERIFICATION

19.1 RSA shall release certification test results only to the applicant, or to a person or agency designated by the applicant upon written request, and with notarized and witnessed release.

19.2 Requests for verification of status and certification number of NDT personnel shall be provided to the requestors. Only the certification number, date certified, expiration date, photo, current status (current, revoked, etc.), and certification limitations (corrected vision, etc.) shall be provided by the RSA staff members without the express written approval of the inspector or certificate holder.

20.0 SUSPENSION AND WITHDRAWAL

20.1 The Certification Department shall have the power to suspend, refuse renewal, revoke, place on probation, or reprimand the NDT personnel certification for misrepresentation of facts regarding personal qualifications, status, assignments, etc., relating to personnel certifications whether such misrepresentation was made at the time of application or on subsequent applications (renewal, etc.).

20.2 The Certification Department may suspend, refuse renewal, revoke, place on probation, or reprimand a certificate holder, if found guilty of any unauthorized practice as outlined in Code of Ethics, Rules of Conduct, and Practice.

20.3 Reinstatement of a revoked certificate shall be allowed with no penalty or prejudice to the individual provided the reason for such revocation has been rectified to the Certification Committee's satisfaction.

21.0 CERTIFICATION RENEWAL

21.1 The renewal application shall be presented within six (6) months before the date of expiration of the certification. Application presented within twelve (12) months after the date of expiration shall require recertification in accordance with Section 22.0 below. Over this period, no exception is admitted and the NDT personnel shall take full examination in accordance with the procedure established for new applicant.

21.2 The applicant shall submit the following renewal documentation to RSA for verification and acceptance:

a. documentary evidence of a satisfactory visual acuity examination taken within the preceding 12 months,
b. documentary evidence of being actively engaged as NDT personnel in certified NDT method within the most recent one (1) year certification period
c. for RT, documentary evidence of valid radiation safety certification from the relevant local authority,

21.3 "Actively engaged as NDT personnel in NDT method certified" shall be defined as "no time period the NDT personnel not performing the certified NDT method for a period of six (6) months or more during the certification period".

21.4 Certification may be renewed for a new period of five (5) years upon acceptance by the Certification Department of documentation in Section 21.2 and passed the following written examination:
   a. for Level 1 and Level 2, practical examination in accordance with Section 12.3, and
   b. for Level 3, specific examination in accordance with Section 12.4.3.

21.5 The NDT personnel are allowed to attempt two (2) renewal re-tests and shall not exceed the expiry of the certificate.

21.6 NDT personnel failing renewal shall be re-certification in accordance with Section 22.0.

22.0 RE-CERTIFICATION

22.1 Re-certification by written examination is required for any one of the following reasons:
   a. NDT personnel fails renewal due to:
      i. does not satisfy Section 21.2b requirements, or
      ii. fails the renewal examination as specified in Section 21.4.
   b. certification has expired but does not exceed twelve (12) months after expiry,
   c. every ten (10) years renewal from the date of initial certification.

22.2 The NDT personnel may be re-certified, and the certification be renewed for a new period of five (5) years upon acceptance by the Certification Department of documentation in Section 21.2a and 21.2c, and passed the following written examination:
   a. for Level 1 and Level 2, specific examination and practical examination in accordance with sections 12.2 and 12.3 respectively, and
   b. for Level 3, method examination and specific examination in accordance with section 12.4.2 and 12.4.3 respectively.

22.3 The NDT personnel are allowed to attempt two (2) re-certification re-tests and shall not exceed one (1) year after the expiry of the certificate.

22.4 NDT personnel failing re-certification shall apply for and take full examination in accordance with the procedure established for new applicant.

23.0 CERTIFICATION LEVEL UPGRADE

23.1 IPCS NDT Personnel Level 1 may upgrade to Level 2 by satisfying the Level 2 requirements for education, training, experience, vision test and examination.

23.2 IPCS NDT Personnel Level 2 may upgrade to Level 3 by satisfying the Level 3 requirements for education, training, experience, vision test and examination.

24.0 RECORDS

Personnel certification records shall be maintained and updated for the duration of 10 years after expiry and shall include the following:

a. Name of certified individual.
b. Level of certification and limitations (if any), as applicable.
c. Educational background and experience of certified individuals.
d. Records indicating satisfactory completion of training.
e. Results of the vision examinations for the current certification period.
f. Current examination copy(ies) or evidence of successful completion of examinations.
g. Composite grade(s) or suitable evidence of grades.
h. Dates of certification and/or recertification.
i. Certification expiration date.