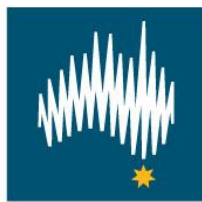


NDT005 Guide to Qualification and Certification Non-Destructive Testing



AINDT

Australian Institute
for Non-destructive Testing

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LIST OF CHANGES

THE MAIN CHANGES COMPARED TO ISSUE 23 REV 02 ARE AS FOLLOWS:

- Clarification of training requirements (3.6)
- Amended Level 3 industrial NDT experience requirements (3.7)
- Revised satisfactory work activity requirements for renewal (3.18) and re-certification (3.19)
- Added Annex B – Engineering of NDT

THE MAIN CHANGES COMPARED TO ISSUE 23 REV 01 ARE AS FOLLOWS:

- FMC prerequisites clarified (3.8)

THE MAIN CHANGES COMPARED TO ISSUE 22 REV 06 ARE AS FOLLOWS:

- Updated references (1.4)
- Updated 3.1 to include PAUT endorsements
- Amended 3.13 to clarify examination pre-requisites
- Amended 3.16 to improve clarity
- 3.19 Aerospace removed
- Clarification of forms for applications (4.1)
- Exam fees clarification (4.2 & 4.3)
- Separated written instruction from practical (5.2, 5.2.3, 5.2.4, 5.2.5)
- Specimen correction PAUT (5.2.6.1 & 5.2.6.2, ToFD 5.2.6.3)
- Updated and clarified international transfers (6.1)
- Updated and clarified MRA (7.1)
- General: clarification on open and closed book examinations throughout

THE MAIN CHANGES COMPARED TO ISSUE 22 REV 05 ARE AS FOLLOWS:

- Added UT2W austenitic certification endorsement (page 13)
- Added full matrix capture method certification (page 13)
- Revised handling of international qualifications (para 6)
- Revised pre-requisite training requirements for RT (refer Note 7 on page 19)
- Removed trainee
- Added list of tables

1 GENERAL INFORMATION

1.1 INTRODUCTION

The qualification and certification of non-destructive testing personnel is carried out in accordance with the international standards ISO 9712-2021 and AS ISO 20807:2020.

The national certification body managing certification to ISO 9712 and ISO 20807 is the Australian Institute for Non-Destructive Testing (AINDT) Certification Board (CB).

The purpose of this guide is to provide information for NDT practitioners and other interested parties on the requirements, procedures and arrangements that apply to the ISO 9712 and ISO 20807 qualification and certification schemes.

The AINDT is now offering an in-house qualification scheme for operators of electrical resistance equipment to heat treat welds in steel. Certification of this process has been based on the general requirements of ISO 20807.

NOTE All references to standards in this document relate to the latest edition of that standard unless otherwise specified.

1.2 THE AINDT CERTIFICATION BOARD

AINDT operates the qualification and certification scheme through the National Certification Board.

The Federal Council (FC) of the AINDT constitutes a CB and delegates to it the responsibility for maintaining a management overview of the operations of its Certification Services Division (CSD). Membership of AINDT boards and committees is open to the participation of financial members and individuals representing stakeholder organisations. Further information on the work of committees and committee membership is available from the CSD of the AINDT. The CB fulfils the requirement for a scheme committee in terms of ISO/IEC 17024 (personnel certification).

The AINDT CB (scheme committee) comprises:

- The chair (an independent person with considerable NDT experience)
- The manager (CSM, AINDT employee)
- The honorary secretary
- The chair of the panel of examiners (PoE)
- The chair of the applications committee
- Impartial representatives of stakeholder organisations (approved by the AINDT Federal Council) to ensure a balanced scheme and may include sister NDT societies, NDT providers, NDT users, NDT trainers, National Association of Testing Authorities (NATA), Australian Institute for Certification of Inspection Personnel (AICIP), Standards Australia, and certified persons.
- Representative of other certification bodies as deemed appropriate by the AINDT

The CB is supported by a CSD and:

- A panel of examiners
- An applications committee.

Panel of examiners (PoE)

This panel, under the direction of its chair, is responsible for the database of examination questions and the management of the AINDT's database listing, of approved examiners.

Applications committee

This sub-committee of the CB meets at the direction of the CSM for the review and appraisal of NDT qualification/certification applications. The CSM, under approval of the CB, may undertake these duties solely as part of his/her responsibilities or in conjunction with the applications committee as the CB deems appropriate. The applications committee will appoint one or more of its members to review the applications process undertaken by the CSD at least yearly and provide a written report to the CB confirming the CSD's compliance to AINDT NDT CB policy or any deviations and the respective corrective actions implemented.

Certification decisions for NDT personnel are the responsibility of the CB and are not delegated or subcontracted to another body.

The AINDT has been accredited by the Joint Accreditation Scheme of Australia and New Zealand (JAS-ANZ) as a certifying body in accordance with ISO 17024. The JAS-ANZ accreditation number is P2120700AM.

1.3 SCOPE

This document describes the AINDT process for the qualification and certification of personnel who perform industrial non-destructive tests.

Specific details of the certification available at each level in the various NDT methods and industry/product sectors are contained within this document.

1.4 REFERENCES

Standards

- AS 4635: Non-destructive testing—Qualification of personnel for limited applications of non-destructive testing
- ISO/IEC 17024: General requirements for bodies operating certification systems of persons
- ISO 18490-2015: Non-destructive testing—Evaluation of vision acuity of NDT personnel
- ISO 20807: Non-destructive testing—Qualification of personnel for limited application of non-destructive testing
- CEN ISO/TR 25107: Non-destructive testing—Guidelines for NDT training syllabuses (ISO/TR 25107)
- CEN ISO/TR 25108: Non-destructive testing—Guidelines for NDT personnel training organisations (ISO/TR 25108)
- ISO 9712-2021: Non-destructive testing—Qualification and certification of personnel

1.5 TERMS AND DEFINITIONS

For the purposes of this document, the following terms and definitions apply. For additional applicable definitions refer to ISO 9712.

authorised qualification body (AQB)

Body, independent of the employer, authorised by the certification body to prepare and administer examinations

basic examination

Written examination, at Level 3, which demonstrates the candidate's knowledge of the materials science and process technology and types of discontinuities, the specific qualification and certification system, and the basic principles of NDT methods as required for Level 2

candidate

Individual seeking qualification and certification who gains experience under the supervision of personnel having a qualification acceptable to the certification body

certificate

Document or digital medium issued by the certification body under specified provisions, indicating that the named person has demonstrated the competence(s) defined on the certificate, and has met all the requirements for certification

certification

Procedure used by the certification body to confirm that the qualification requirements for a method, level and sector have been fulfilled, leading to the issuing of a certificate

certification body

Body that administers procedures for certification according to specified requirements

employer

Organisation for which the candidate works on a regular basis

NOTE An employer can also be a candidate at the same time.

examination centre

Centre approved by the certification body where qualification examinations are carried out

examiner

Person certified to Level 3 in the method for which they are authorised by the certification body to conduct, supervise and grade the qualification examination

general examination

Written examination, at Level 1 or Level 2 concerned with the principles of an NDT method

industrial experience

Experience, acceptable to the certification body, gained under qualified supervision, in the application of the NDT method in the sector concerned, needed to acquire the skill and knowledge to fulfil the provisions of qualification

invigilator

Person authorised by the certification body to supervise examinations

job specific training

Training, provided by the employer (or his agent) to the certificate holder in those aspects of non-destructive testing specific to the employer's products, NDT equipment, NDT procedures, and applicable codes, standards, specifications and procedures, leading to the award of operating authorisations

main method examination

Written examination, at Level 3, which demonstrates the candidate's general and specific knowledge, and the ability to write NDT procedures for the NDT method as applied in the industrial or product sector(s) for which certification is sought

multiple choice examination question

Wording of a question giving rise to four potential replies, only one of which is correct, the remaining three being incorrect or incomplete

NDT instruction

See "written instruction"

NDT method

Discipline applying a physical principle in non-destructive testing

EXAMPLE Ultrasonic testing.

NDT procedure

Written description of all essential parameters and precautions to be applied when non-destructively testing products in accordance with standard(s), code(s) or specification(s)

NDT technique

Specific way of utilising an NDT method

EXAMPLE Immersion ultrasonic testing.

NDT training

Process of instruction in theory and practice in the NDT method in which certification is sought, which takes the form of training courses to a syllabus approved by the certification body

operating authorisation

Written statement issued by the employer, based upon the scope of certification, authorising the individual to carry out defined tasks

NOTE Such authorisation can be dependent on the provision of job specific training.

practical examination

Assessment of practical skills, in which the candidate demonstrates familiarity with, and the ability to perform, the test

qualification

Demonstration of physical attributes, knowledge, skill, training and experience required to properly perform NDT tasks

qualification examination

Examination, administered by the certification body or the AQB, which assesses the general, specific and practical knowledge and the skill of the candidate

qualified supervision

Supervision of candidates gaining experience by NDT personnel certified in the same method under supervision or by non-certified personnel who, in the opinion of the certification body, possess the knowledge, skill, training, and experience required to properly perform such supervision

recertification

Process for revalidation of a certificate by examination or by otherwise satisfying the certification body that the published criteria for recertification are satisfied.

renewal

Process for revalidation of a certificate without examination at any time up to five years after success in an initial, supplementary or recertification examination

sector

Particular section of industry or technology where specialised NDT practices are used, requiring specific product-related knowledge, skill, equipment or training.

NOTE A sector can be interpreted to mean a product (welded products, castings) or an industry (aerospace, in-service testing).

significant interruption

Absence or change of activity which prevents the certified individual from practising the duties corresponding to the level in the method and the sector(s) within the certified scope, for either a continuous period in excess of one year or two or more periods for a total time exceeding two years.

NOTE Legal holidays or periods of sickness or courses of fewer than 30 days are not considered when calculating the interruption.

specific examination

Written examination, at Level 1 or Level 2, concerned with testing techniques applied in a particular sector(s), including knowledge of the product(s) tested and of codes, standards, specifications, procedures and acceptance criteria

specification

Document stating requirements

specimen

Sample used in practical examinations, possibly including radiographs and data sets, which is representative of products typically tested in the applicable sector

NOTE A specimen can include more than one area or volume to be tested.

specimen master report

Model answer, indicating the optimum result for a practical examination given a defined set of conditions (equipment type, settings, technique, specimen, etc.) against which the candidate's test report is graded

structured experience program

Program approved by the certification body to reduce industrial experience

supervision

Act of directing the application of NDT performed by other NDT personnel, which includes the control of actions involved in the preparation of the test, performance of the test and reporting of the results

validation

Act of demonstrating that a verified procedure works in practice and fulfils its intended function, normally achieved by actual witnessing, demonstration, field or laboratory tests or selected trials

work activity

Performance of NDT related functions and tasks

work instruction

See “written instruction”

written instruction

Written description of the precise steps to be followed in testing to an established standard, code, specification or NDT procedure

FURTHER INFORMATION

NDT practitioners, and other interested parties seeking more information or current application forms are asked to contact:

The Certification Administrator, AINDT Certification Board at the Federal Office

Mail: PO Box 52 Parkville, VIC, 3052

Telephone: +61 3 9486 9267

Email: ndtcertification@aindt.com.au

Alternatively, application forms, and a copy of this guide can be downloaded from the institute’s website:

www.aindt.com.au

1.6 RESPONSIBILITIES

Responsibilities of the Certification Body (AINDT)

AINDT will fulfil the requirements of ISO/IEC 17024 and will ensure that the AINDT Scheme(s) for qualification and certification of personnel, are controlled and operated so as to ensure, amongst other things, that they are impartial, and that decisions taken and implemented at all levels, including management and committees, are free from commercial or other pressures that may prevent the objective provision of certification services.

Applicants are required to pass written, and practical examinations in the relevant NDT method, product, and industry sector depending upon the level of certification sought.

These examinations may be conducted by AINDT or by an Authorised Qualifying Body (AQB). candidates may sit AINDT approved examinations through AQBs, or a CB Approved Examination Centre (AEC). Examination fees for AINDT examinations are published in the AINDT's "Schedule of Fees – NDT" document. AQB fees and charges can be obtained from the relevant AQB. A list of AQBs by state is available on the AINDT website.

Applicants are expected to finalise qualification and certification no later than five (5) years from the date of examination. Applicants who have not finalised certification after 5 years has elapsed from the first examination date or have failed a second resit shall be required to sit all examinations as for a new candidate. Applicants who can prove exceptional circumstances may have an exemption granted by the CB but may be required to resit the practical exam. Initial certifications will have an expiry date five (5) years from the date of successful practical examination.

Responsibility of the employer

An AINDT method specific certificate does not authorise the individual to perform work. It is the employer's responsibility to ensure the certified person is appropriately trained and experienced to conduct specific job tasks. This may involve specific training in company test procedures, use of specialised equipment, OH&S processes etc.

Some tasks associated with or are a necessary precursor to the NDT test may require specific licenses from regulatory bodies, e.g. licence to operate radioactive isotopes, electrical registration and licence to work on live systems.

NOTE Where the certified person is self-employed then they assume the same responsibility of an employer.

ISO 9712 identifies employer responsibilities including:

The employer shall confirm the validity of the personal information provided by the candidate to the AINDT or the authorised qualifying body. This information shall include the declaration of education, training and experience needed to determine the eligibility of the candidate. If the candidate is unemployed or self-employed, the declaration of education, training and experience shall be attested to by one or more independent parties.

In respect of certified personnel under their control, the employer shall be responsible for:

- All that concerns the authorisation to operate, i.e. providing job specific training (if necessary)
- Issuing the written authorisation to operate
- The results of NDT activities
- Ensuring that vision requirements are met
- Maintaining documentary evidence confirming the continuous application of the NDT method in the relevant sector(s) without significant interruption; this action shall be done every 12 months
- Ensuring that personnel hold valid certification and approvals relevant to their tasks within the organisation
- Maintaining appropriate records.

The employer shall detail these responsibilities in a documented procedure.

Authorised Qualification Body (AQB)

Where established, the AQB shall:

- Work under the control of and apply the specifications issued by AINDT
- Be independent of any single predominant interest
- Ensure that it is impartial with respect to each candidate seeking qualification, bringing to the attention of AINDT any actual or potential threat to its impartiality
- Apply a documented quality management system /audited/approved by AINDT
- Have the resources and expertise necessary to establish, monitor and control examination centres, including examinations and the calibration and control of the equipment
- Prepare, supervise and administer examinations under the responsibility of an examiner authorised by AINDT
- Maintain appropriate qualification and examination records according to the requirements of AINDT.

Examination centre responsibilities

Where established the examination centre shall:

- Work under the control of AINDT or AQB

An examination centre can be situated at an employer's premises. In this case, AINDT shall require additional controls to preserve impartiality, and the examinations shall be conducted only in the presence of, and under the control of, an authorised representative of the AINDT.

Candidate responsibilities

Candidates, whether employed, self-employed or unemployed shall:

- Provide documentary evidence of satisfactory completion of a course of training
- Provide evidence of successful completion of an AINDT examination/s
- Provide verifiable documentary evidence that the required experience has been gained under qualified supervision
- Provide documentary evidence of vision satisfying the requirements of AINDT.

Certificate holder's responsibilities

Certificate holders shall:

- Abide by a code of ethics published by the certification body
- Undergo and meet the vision requirements as per Section 7, and submit the results of tests to the employer
- Notify the certification body and the employer in the event that the conditions for validity of certification are not fulfilled. At the discretion of the certification body, certification can be withdrawn when verifiable evidence is received from the employer stating that the individual has become physically incapable of performing their duties.

2 LEVELS OF QUALIFICATION

2.1 LEVEL 1

An individual certified to AINDT Level 1 has demonstrated competence to carry out NDT according to written instructions and under the supervision of Level 2 or Level 3 personnel. Within the scope of the competence defined on the AINDT certificate, Level 1 personnel may be authorised by the employer to perform the following in accordance with NDT instructions:

- Set up NDT equipment
- Perform the tests
- Record and classify the results of the tests according to written criteria
- Report the results.

AINDT certified Level 1 technicians shall neither be responsible for the choice of test method or technique to be used, nor for the interpretation of test results.

2.2 LEVEL 2

An individual certified to AINDT Level 2 has demonstrated competence to perform NDT according to NDT procedures. Within the scope of the competence defined on the AINDT certificate, Level 2 personnel may be authorised by the employer to:

- Select the NDT technique for the testing method to be used
- Define the limitations of application of the testing method
- Translate NDT codes, standards, specifications, and procedures into NDT instructions adapted to the actual working conditions
- Set up and verify equipment settings
- Perform and supervise tests
- Interpret and evaluate results according to applicable standards, codes, specifications or procedures
- Carry out and supervise all tasks at or below Level 2
- Provide guidance for personnel at or below Level 2
- Report the results of NDT.

2.3 LEVEL 3

An individual certified to AINDT Level 3 has demonstrated competence to perform and direct NDT operations for which they are certified. AINDT certified Level 3 personnel have demonstrated:

- The competence to evaluate and interpret results in terms of existing standards, codes, and specifications
- Sufficient practical knowledge of applicable materials, fabrication, process, and product technology to select NDT methods, establish NDT techniques, and assist in establishing acceptance criteria where none are otherwise available
- A general familiarity with other NDT methods.

Within the scope of the competence defined on the AINDT certificate, AINDT certified Level 3 personnel may be authorised to:

- Assume full responsibility for a test facility or examination centre and staff
- Establish, review for editorial and technical correctness, and validate NDT instructions and procedures
- Interpret standards, codes, specifications, and procedures
- Designate the particular test methods, procedures, and NDT instructions to be used
- Carry out and supervise all tasks at all levels
- Provide guidance for NDT personnel at all levels.

3 QUALIFICATION AND CERTIFICATION

3.1 NDT CERTIFICATIONS AVAILABLE

Eddy current

| Level | Sector | Technique/Endorsements | Designator |
|-------|---------------------|------------------------|------------|
| 1 | General engineering | Welds | ET1GE |
| 2 | Multi sector | | ET2MS |
| 3 | Multi sector | | ET3MS |

Magnetic particle

| Level | Sector | Technique/Endorsements | Designator |
|-------|---------------------|---------------------------------------|------------|
| 1 | General engineering | | MT1GE |
| 2 | Multi sector | Welds, castings, forgings, in-service | MT2MS |
| 3 | Multi sector | Welds, castings, forgings, in-service | MT3MS |

Penetrant testing

| Level | Sector | Technique/Endorsements | Designator |
|-------|---------------------|---------------------------------------|------------|
| 1 | General engineering | | PT1GE |
| 2 | Multi sector | Welds, castings, forgings, in-service | PT2MS |
| 3 | Multi sector | Welds, castings, forgings, in-service | PT3MS |

Radiography

| Level | Sector | Technique/Endorsements | Designator |
|-------|----------|------------------------------------|-------------------|
| 2 | Welds | Film – Capture and interpretation | RT2W (C&I) |
| 2 | Welds | CR/DR – Capture and interpretation | RT2W, CR/DR (C&I) |
| 2 | Castings | Film | RT2C |
| 2 | Castings | CR/DR | RT2C, CR/DR |
| 3 | Welds | Film | RT3W |
| 3 | Welds | CR/DR | RT3W, CR/DR |
| 2 | Profile | CR/DR | RT2 PR CR/DR C&I |

Ultrasonics

| Level | Sector | Technique/Endorsements | Designator |
|-------|---------------------|---------------------------------|------------|
| 1 | General engineering | | UT1GE |
| 2 | Welds | Pipe, plate, tee | UT2W |
| 2 | Welds | Nozzles | UT2W, Nozz |
| 2 | Welds | Nodes | UT2W, Node |
| 2 | Welds | Austenitic | UT2W, Aust |
| 2 | Castings | | UT2C |
| 2 | Forgings | | UT2F |
| 2 | Corrosion | Corrosion detection and mapping | UT2CDM |
| 3 | Welds | Pipe, plate, tee | UT3W |
| 3 | Welds | Nozzles | UT3W, Nozz |
| 3 | Welds | Nodes | UT3W, Node |
| 3 | Welds | Austenitic | UT3W, Aust |
| 3 | Castings | | UT3C |
| 3 | Forgings | | UT3F |

Ultrasonics - full matrix capture (FMC)

| Level | Sector | Technique/Endorsements | Designator |
|-------|--------|------------------------|------------|
| 2 | Welds | TFM, PCI | FMC2W |
| 3 | Welds | TFM, PCI | FMC3W |

Ultrasonics – phased array (PAUT)

| Level | Sector | Technique/Endorsements | Designator |
|-------|--------------|---------------------------------|------------|
| 2 | Corrosion | Corrosion detection and mapping | PAUT2CDM |
| 2 | Multi sector | Corrosion and welds | PAUT2MS |
| 3 | Multi sector | Corrosion and welds | PAUT3MS |

Ultrasonics – time of flight diffraction (ToFD)

| Level | Sector | Technique/Endorsements | Designator |
|-------|--------|------------------------|------------|
| 2 | Welds | | TOFD2W |
| 3 | Welds | | TOFD3W |

Visual testing

| Level | Sector | Technique/Endorsements | Designator |
|-------|--------------|------------------------|------------|
| 2 | Multi sector | | VT2MS |
| 3 | Multi sector | | VT3MS |

3.2 LIMITED NDT QUALIFICATION UNDER ISO 20807

The AINDT offers certificates for limited qualification under ISO 20807 to persons who perform NDT applications of a limited, repetitive or automated nature in the following applications:

| Method | Abbreviations |
|---------------------|---------------------------------------------------|
| Tank bottom testing | TBT (incorporating magnetic flux leakage testing) |

3.3 HEAT TREATMENT CERTIFICATION

The AINDT offers an in-house qualification/certification for heat treatment of welds in steel using electrical resistance equipment based on the requirements of ISO 20807.

The minimum theoretical training and required competence has been provided by industry and documented in AINDT document HT-01. This document identifies the purpose of this scheme, its administration, structure and assessment criteria and is only being offered via AINDT AQB's.

For advice on which AQB's are offering this service please refer to the AINDT website or contact the federal office.

3.4 CERTIFICATION REQUIREMENTS

The basic requirements for NDT certification as specified in ISO 9712 and ISO 20807 are:

- a) Satisfactory vision
- b) Adequate training
- c) Adequate experience
- d) Satisfactory performance in written and practical examinations.

Additionally, applicants must provide a passport size and quality photograph with applications for initial, renewal and recertification. The photograph can be provided electronically and uploaded via the AINDT portal.

3.5 VISION REQUIREMENTS

Near vision acuity

Prior to certification, and annually thereafter, near vision acuity shall be verified to be in accordance with the requirements of ISO 18490 or shall permit reading a minimum of Jaeger number 1 or Times Roman N4.5 or equivalent letters at no less than 30 cm with one or both eyes, either corrected or uncorrected.

Colour vision

Prior to certification, recertification or renewal, the candidate/certificate holder shall demonstrate that a colour vision test has been administered within the previous 5 calendar years.

It is required that colour vision and/or grey scale perception be sufficient for the individual to be able to distinguish and differentiate between the colours or shades of grey used in the NDT methods/ techniques concerned as specified by the employer. The colour vision test shall either confirm that the individual has acceptable colour vision without restriction or shall state any limitation(s) on colour perception.

Where any limitation in colour perception exists, the employer shall confirm whether or not this condition results in any limitation(s) to method or application specific techniques.

NOTE The Ishihara 24 plate test is an example of a suitable colour vision test.

Personnel administering vision tests

Near vision acuity testing, colour vision and/or grey scale perception verification(s) shall be administered by a licensed physician, nurse, ophthalmologist or optometrist; or by another trained professional who is approved and documented by a Level 3 certified person acting on behalf of the employer.

NOTE Company in-house vision test certificates will be accepted by AINDT once the company test procedure has been provided to the CB for review and approval. This procedure must identify the company Level 3 responsible for the vision testing scheme, the training process, administration documentation and actions on deficiency.

3.6 NDT TRAINING

The applicant shall have successfully completed an approved program of training at the sought level in the relevant NDT method and product/industry sector in accordance with the requirements of ISO 9712 or ISO 20807, and/or complying with the published training modules for the particular NDT method, product/industry sector and level. The applicant is required to produce validated evidence of completing and reaching an acceptable level of comprehension for the required training.

Example: A candidate seeking Level 3 Ultrasonics will be required to show evidence of successfully completing the required hrs of training against the UT3 syllabus.

Training shall only be recognised in the following cases:

- a) provided by an AINDT Approved Training Organisation (ATO) with the method/level/sector in their scope
- b) approved international transfers from certifying bodies approved by the AINDT
- c) approved self-training (see below)
- d) approved in-house training (see below)

Self-training

The AINDT recognises that formal training courses provided by ATOs are not always accessible to candidates.

Under special circumstances, the AINDT may accept self-training provided the training is fully documented and submitted to the CB for review and acceptance. In such cases the candidate is expected to have appropriate equipment available for training purposes and to provide information on study time/hours, course notes used, syllabus followed, textbooks used and other relevant information.

In-house training

The AINDT recognises that formal training courses provided by ATOs are not always accessible to candidates.

The AINDT may accept company in house training provided the training scheme is fully documented and submitted to the CB for review and acceptance. In such cases the company is expected to have appropriate equipment available for training purposes and to provide information on study time/hours, course notes used, syllabus followed, textbooks used and other relevant information.

The company must also provide an examination at the completion of the training to demonstrate the candidate has achieved an acceptable level of comprehension (70% or greater pass mark would be considered acceptable).

The company will provide each candidate who has successfully completed the training an in-house certificate of training signed by the officer responsible for the training scheme. Such training shall be approved in advance by the certification body and shall be available for audit by the certification body.

Reductions

The possible reductions in training duration are as described hereafter, provided that, when several reductions are applicable, the total reduction does not exceed 50% of the training duration. Any reduction requires acceptance by the AINDT.

For all levels:

- For candidates seeking certification in more than one method (e.g. MT, PT) or for those already certified and seeking certification in another method, when the training syllabus concerned duplicates certain aspects (e.g. product technology), the total number of training hours for these methods (e.g. PT, MT, VT) may be reduced in line with the training syllabus
- For candidates who have graduated in a relevant subject from a technical college or university or have completed at least two years of relevant engineering or science study at college or university, the total required number of training hours may be reduced by up to 50%.

NOTE The college or university study must be relevant to the NDT method (chemistry, mathematics or physics) and/or to the product or industry sector (chemistry, metallurgy, engineering, etc.).

3.7 INDUSTRIAL NDT EXPERIENCE

Level 1 and Level 2

The applicant is required to have had a period of experience relevant to the certification sought in addition to any experience gained during training courses, such as practical training time. The applicant is required to produce evidence of experience during the application process. The experience requirements for the relevant methods and levels of certification are given in ISO 9712 or ISO 20807 and are summarised in section 3.8 to 3.11.

Level 3

Level 3 responsibilities require knowledge beyond the technical scope of any specific NDT method. This broad knowledge may be acquired through a variety of combinations of education, training and experience. Table 2 details the minimum experience for candidates who have successfully completed a technical school or at least two years of engineering or science study at an accredited college or university.

Level 3 applicants must provide details and evidence of a variety of the following elements:

- Establishing techniques and procedures
- Interpreting codes and standards
- Designating test methods
- Interpreting test results
- Supervising Level 1 & 2 activities
- Training and/or mentoring

Possible reductions

The possible reductions in duration of experience are as described hereafter, provided that, when several reductions are applicable, the total reduction does not exceed 50% of the experience duration. Any reduction shall require acceptance by the AINDT.

Experience reduction due to qualification/education

For Level 2 certification, work experience consists of time as a Level 1 & Level 2. If the individual 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.

No reduction in the period of experience based on educational attainment shall be allowed. The level and quality of education possessed by the candidate should also be considered. This is particularly the case for the Level 3 candidate, but it can also be applicable for other levels.

Additional methods

A certified Level 1, 2, or 3 adding an additional method may be permitted a reduction of required experience of 25% for that additional method.

Changing or adding sector

A certified Level 1, 2, or 3 individual changing sector or adding another sector or technique for the same NDT method shall be required to gain additional experience of at least 25% of the experience required in Table 1 and Table 2; and this shall never be fewer than 15 days (105 hours) in duration.

Changing from a GE section to W, C, or F sector when changing level, for example UT1GE to UT2W, is not considered a change in sector for purposes of requesting a reduction of experience.

Structured Experience Program (SEP)

Up to 50% of the required industrial experience time (after any reductions have been applied) may be achieved by a structured experience program.

One day of attendance at the SEP may be equivalent to a maximum of five days industrial experience.

The SEP shall include all typical tasks of the level, method and sector concerned. The additional intent is to gain specific product and technique knowledge.

The SEP shall be approved in advance by the certification body and shall be available for audit by the certification body.

Limited application

When the certification sought is limited in application (e.g. thickness measurement or automated testing), experience duration may be reduced by up to 50% but shall not be fewer than 15 days (105 hours) in duration.

Additional requirements – Radiography

In addition to the above requirement for experience hours, candidates seeking RT2 & RT3 certification will be required to show evidence of having viewed and assessed a minimum of 1000 radiographs/images for each sector/endorsement sought.

Evidence as a minimum shall be in the form of a log detailing:

- Date
- Applicable standards
- Techniques
- Name of supervisor/referee.

Additional requirements – PAUT, FMC and ToFD

In addition to the above requirement for experience hours, candidates seeking PAUT, ToFD or FMC, certification will be required to show evidence of having analysed a minimum of 250 data files for each sector/endorsement sought.

Evidence as a minimum shall be in the form of a log detailing:

- Date
- Applicable standards
- Techniques
- Name of supervisor/referee.

Referee suitability

For initial certification, referees must be in a position to direct and control the activities of the candidate. Colleagues and acquaintances would not typically meet this requirement and may as such, be rejected as a suitable referee.

ISO 9712 allows for candidates to gain experience under the supervision of NDT personnel certified in the same method or by non-certified personnel who, in the opinion of the certification body, possess the knowledge, skill, training, and experience required to properly perform such supervision.

For renewal and recertification applications, the chosen referee need not meet the requirements for initial certification in terms of being in a position to direct and control the activities of the candidate, but must still show evidence of necessary knowledge, skill, training, and experience required to attest that the candidate has satisfactorily carried out the stated range of NDT activities.

For any type of certification, referees not holding appropriate ISO 9712 certification must supply evidence of knowledge, skill, formal training, and experience commensurate with the nature of the supplied referee statement, as described above. Where extenuating circumstances exist, the candidate may request in writing special consideration from the CB.

A pre-approval process for referees is available and recommended for use by candidates whose referee does not hold recognised certifications. Refer to the download section of www.aindt.com.au.

3.8 MINIMUM NDT TRAINING & EXPERIENCE (CUMULATIVE TOTALS) – ISO 9712

Table 1 — Level 1 and 2 training and experience requirements

| NDT method | Level 1 | | Level 2 cumulative | |
|----------------------------------|------------------|--------------------|--------------------|--------------------|
| | Training (hours) | Experience (hours) | Training (hours) | Experience (hours) |
| Computerised/Digital radiography | Not available | | 105 | 1260 |
| Eddy current testing | 35 | 315 | 77 | 1260 |
| FMC | Not available | | 70 | 840 |
| Magnetic particle testing | 21 | 105 | 35 | 420 |
| Penetrant testing | 21 | 105 | 35 | 420 |
| Phased array (PAUT) | Not available | | 70 | 840 |
| Radiographic testing | Not available | | 105 | 1260 |
| ToFD | Not available | | 70 | 840 |
| Ultrasonic testing | 56 | 315 | 126 | 1260 |
| Visual testing | Not available | | 35 | 420 |

Table 2 — Level 3 training and experience requirements

| NDT method | Level 3 cumulative | | |
|----------------------------------|--------------------|----------------------------------------------------|-------------------------------------------------|
| | Training (hours) | Experience (hours) <i>without</i> higher education | Experience (hours) <i>with</i> higher education |
| Computerised/Digital radiography | 56 | 1680 | 1260 |
| Eddy current testing | 119 | 4410 | 3150 |
| Magnetic particle testing | 63 | 2100 | 1680 |
| Penetrant testing | 56 | 2100 | 1680 |
| Phased array (PAUT) | 91 | 1680 | 1260 |
| Radiographic testing | 140 | 4410 | 3150 |
| ToFD | 91 | 1680 | 1260 |
| Ultrasonic testing | 161 | 4410 | 3150 |
| Visual testing | 56 | 2100 | 1680 |

- Note 1** Training and experience requirements for Level 2 include training and experience at Level 1. In addition, it should be noted that examination results from AINDT's AQB's remain valid for a maximum period of 5 years from the exam date to enable accumulation of the specified experience hours.
- Note 2** Persons seeking direct access to Level 2 must complete the Level 2 training and experience as shown in the table.
- Note 3** The prerequisite for PAUT (MS), FMC, or ToFD Level 2 is ISO 9712 ultrasonic testing Level 2 welds certification (pipe, plate & tee).
- Note 4** The prerequisite for ultrasonic testing phased array (MS) or ultrasonic testing ToFD (W) Level 3 is ultrasonic testing Level 3 welds ISO 9712 certification (pipe, plate & tee).
- Note 5** The prerequisite for ultrasonic testing phased array CDM Level 2 is ISO 9712 ultrasonic testing Level 2 CDM certification.
- Note 6** Ultrasonics Level 2 CDM is offered as a limited certification as per ISO 9712 certification. Minimum total training hours 80, minimum experience 9 months (1260 hours)
- Note 7** The prerequisite for radiography Level 2 is completion of a minimum of 40 hrs of training following the training syllabus as set out in ISO TS 25107 F/D for training ISO 9712 RT Level 1.
The possession of a state/territory radiation use license does **not** exempt candidates from this requirement.
- Note 8** Candidates attempting RT2 profile CR/DR who already hold ISO 9712 RT2 W (CR/DR) certification may be credited with 16 hrs of training, requiring them to complete a minimum of 56 hrs of formal training for this endorsement. This credit is at the discretion of the AQB and may not be credited on grounds of practicality and safety.

3.9 MINIMUM TRAINING & EXPERIENCE FOR LIMITED APPLICATION – ISO 20807

| NDT application | Training | Experience |
|---------------------------|----------|------------|
| Tank Bottom Testing (TBT) | 40 hours | 160 hours |

3.10 PRE-REQUISITES FOR LIMITED APPLICATION QUALIFICATIONS TO ISO 20807

3.10.1 TANK BOTTOM TESTING (TBT)

The applicant must have a current ISO 9712 certification for ultrasonic testing Level 2.

This requirement is to ensure the operator of TBT equipment is also capable of proving up MFL indications produced from the test.

3.11 MINIMUM TRAINING & EXPERIENCE – HEAT TREATMENT – AINDT HT-01

| NDT application | Training | Experience |
|------------------------------------------------------------------------|----------|------------|
| Heat treatment of welds in steel using electrical resistance equipment | 40 hours | 160 hours |

NOTE Applicants must provide a certificate of training from an AQB and a declaration from their employer attesting to the minimum experience required, to be considered for certification.

3.12 NDT MODULE DESCRIPTORS

Module descriptors (syllabi) for NDT examinations are available on request from the AINDT CB secretariat, or they can be downloaded from the Institute's website – www.aindt.com.au.

3.13 ARRANGEMENTS FOR NDT EXAMINATIONS

Only applicants who have met all the specified minimum requirements for approved training are eligible to sit examinations.

Only applicants who have met all the specified pre-requisite requirements are eligible to sit examinations.

Minimum industrial experience required prior to examination is tabled below. Candidates are encouraged to hold experience above the minimum to increase likelihood of success in examinations.

Table 3 — Prerequisite experience required

| Exams | Required minimum % of experience | Recommended minimum % of experience |
|----------------------------|-----------------------------------------|-------------------------------------|
| All Level 1 | 0% | 0% |
| MT2, PT2, VT2 | 0% | 25% |
| PA2, ToFD2, RT2 CRDR, FMC2 | Refer to prerequisite requirements | 25% |
| All other Level 2 | 0% | 25% |
| All Level 3 | That required for Level 2 in the method | 50% |

Provision of examinations is provided by AINDT AQB's. Further details can be found in Annex A.

Practical examinations are normally held in conjunction with the written examinations but may (due to availability of test pieces and test equipment) require special arrangements.

Applicants for radiographic testing should note that they are required to produce radiographs as part of the practical examination.

Furthermore, applicants for radiographic testing may be required by their state radiation health authority to carry a licence and a personal radiation monitoring device at the examination centre.

Persons certified to Level 2 or Level 3 in ultrasonic testing (UT) may obtain endorsements to the certification.

For complex geometries of nozzle joints and node joints. Nozzle endorsement is a prerequisite for node endorsement. Persons seeking these endorsements must apply using the application for endorsement form and pass a practical examination (including a written instruction) for UT of the applicable geometry. The application for endorsement form is available from the AINDT website or by contacting the certification administrator.

For attenuative material weldments such as coarse-grained austenitic welds (stainless steel, corrosion resistant alloy [CRA] and clad joints), persons seeking this endorsement must apply using the application for endorsement form and pass a practical examination (including a written instruction) for UT. The application for endorsement form is available from the AINDT website or by contacting the certification administrator.

In the case of a certified Level 2 or Level 3 person achieving nozzle or node endorsement or austenitic endorsement, the candidate's certificate is re-dated to an issue 1 from the time of the endorsement.

NOTE Radiographic practical examination candidates may need to arrange a suitable AEC facility or their employer's premises using their equipment, to undertake the practical test. This may be necessary due to regulatory and/or OH&S issues affecting the AEC site.

3.14 UNSCHEDULED EXAMINATIONS

Unscheduled examinations can be arranged for groups of applicants subject to a minimum charge dependent on costs to provide the service. It should be noted that the AINDT, sometime in the future, intends to only offer examinations through AQB's. Ample notice will be provided to potential candidates before this process is implemented.

The conditions for these examinations are available on request from the CSD.

3.15 RESIT EXAMINATIONS

An initial candidate who fails to obtain the pass grade for any examination section, may seek re-examination up to two times in the failed sections.

The re-examination may not take place sooner than one month unless further training acceptable to the certification body is satisfactorily completed; nor later than two years after the original examination.

Applicants who fail the second resit examination shall be required to sit **all** examinations as for a new candidate.

Applicants who fail examinations should download an application to resit form from the AINDT website. This form must be completed and returned with the appropriate payment before the applicant can resit the failed examination(s). Payment comprises the appropriate examination fee(s) and is provided in the AINDT's schedule of fees, available from the AINDT website or secretariat.

For resits taken at AINDT examination centres, resit applications must be received prior to the closing date for the particular examination session.

3.16 CERTIFICATION AND PERIOD OF VALIDITY

Successful applicants receive a certificate.

Issue 1 certificates are issued for initial and recertifications (i.e., the process includes a practical examination element).

Issue 2 certificates are issued for renewals (i.e., the process *typically* does not include a practical element).

Issue 1 certifications are valid from the date of issue and up to five years from the date of successful completion of the practical exam.

Issue 2 certifications are valid from the date of issue and up to five years from the date of successful renewal.

Recertification will be required after 10 years from the date the practical examination was successfully completed.

To avoid penalising candidates who recertify *prior* to expiry of their certificate, the recertification shall have a validity of five (5) years from expiry of current certification, up to a maximum of 6 months. Recertification *after* expiry will be dated as per initial certifications.

EXAMPLE A candidate's certification expires in January 2015. The candidate recertifies in September 2014. The validity of the certificate will be dated from the initial expiry date of January 2015.

One passport photograph is required to be supplied by the applicant for entry to examinations and for use on the identification cards and for AINDT records.

3.17 APPLICATIONS FOR CERTIFICATION – INITIAL, RENEWAL AND RECERTIFICATION

All applications are made through the AINDT online portal (<https://portal.cbdb.aindt.org/>)

All applications shall be supported by the required AINDT forms and documentation.

For initial applications, the supply of a detailed log of industrial experience signed by an appropriate referee is mandatory.

For renewal and recertifications, the supply of evidence of continued satisfactory work performance is mandatory. Those using the structured credit system for renewal or recertification (where applicable), may be required to provide a detailed log of continued industrial experience signed by an appropriate referee as supporting evidence.

Further details on the application process are provided in the AINDT Application Outline document. The outline document and all relevant forms can be downloaded here (<https://aindt.com.au/documents/ndt/>)

3.18 RENEWAL OF CERTIFICATION

Prior to the completion of the first period of validity (i.e., 5 years from the last successful full practical examination, including written instruction), certification may be renewed by the certification body for a new period of five years on production of:

- a) documentary evidence of a satisfactory near vision acuity examination taken within the preceding 12 months
and
- b) documentary evidence of a satisfactory colour vision and/or grey scale perception examination taken within the preceding 60 months
and
- c) providing verifiable documentary evidence of continued satisfactory work activity¹ (a minimum of 50 hrs per year averaged over the relevant 5-year period) without significant interruption in the method and sector for which certificate renewal is sought
and either:
 - d) successful completion of a practical examination, including written instruction in accordance with clause 5
or
 - e) successfully meeting the requirements of the structured credit system.

If the criterion c) for renewal is not met, the individual shall follow the same rules as for recertification.

¹ Provided the work activity does not meet the definition of having a significant interruption, the hours per year may be averaged over the preceding 5-year period. This means that the total work activity for a single year may be less than 50 hours, provided sufficient additional activity has been obtained over subsequent years within the same 5-year period.

E.g. Year 1—40 hours
Year 2—60 hours
Year 3—90 hours
Year 4—10 hours
Year 5—50 hours
Yearly average over 5-years—50 hours per year, no significant interruption (*acceptable*)

E.g. Year 1—250 hours
Year 2—0 hours
Year 3—250 hours
Year 4—0 hours
Year 5—0 hours
Yearly average over 5-years—100 hours per year, significant interruption (*unacceptable*)

3.19 RECERTIFICATION

Prior to the expiry of the second 5-year period (i.e. 10 years from successful full practical examination including written instruction), persons are required to recertify for a further period of five years.

3.19.1 ISO 9712 NDT ALL LEVELS

Certification may be recertified by the certification body for a new period of five years on production of:

- a) documentary evidence of a satisfactory near vision acuity examination taken within the preceding 12 months
and
- b) documentary evidence of a satisfactory colour vision and/or grey scale perception examination taken within the preceding 60 months
and
- c) providing verifiable documentary evidence of continued satisfactory work activity² (a minimum of 50 hrs per year averaged over the relevant 5-year period) without significant interruption in the method and sector for which certificate renewal is sought
and
- d) shall successfully complete the full practical examination, including written instruction as per clause 5.

Where the criterion for c) for recertification is not met, candidates will need to provide documentary evidence to justify why a significant interruption to the method is not applied.

Where a significant interruption is applied by the AINDT, the certificate will not be recertified. The certificate can only be regained by applying for certification as an initial candidate, including resitting all relevant examinations.

If the individual fails to achieve a grade of at least 70% for each specimen tested, and, for Level 2, for the instruction, two retests of the whole recertification examination shall be allowed after at least 7 days and within twelve (12) months of the first attempt at the recertification examination.

Applications for recertification may be conducted up to 6 months prior to the expiry date of the current certification. Expiry date of the recertified certificate will be 5 years from the expiry date of the current certification period.

EXAMPLE A candidate's certification expires in January 2015. The candidate recertifies in September 2014. The validity of the certificate will be dated from the initial expiry date of January 2015 for a period of 5 years.

Should the recertification formalities be completed after the expiry date of the existing certificate, the recertification certificate shall be issued on the date that the recertification formalities were completed.

In the event of failure in the two allowable re-examinations, the certificate shall be withdrawn.

In order to reinstate certification, a candidate shall:

- complete further training, acceptable to the certification body via discussion with the AQB whom delivered the recertification examination. In such cases the candidate will apply to the CB using the AINDT special consideration form for further guidance
and
- retake all examination elements required for initial certification.

The date of expiration of the reinstated certificate shall be no more than 5 years from the date of expiration of the original certificate.

In this case, no examination exemptions shall be awarded by virtue of any other valid certification held.

² See footnote 1 on page 22.

3.19.2 ISO 9712 NDT LEVEL 3 RECERTIFICATION:

Certification may be recertified by the certification body for a new period of five years on production of:

- a) documentary evidence of a satisfactory near vision acuity examination taken within the preceding 12 months
and
- b) documentary evidence of a satisfactory colour vision and/or grey scale perception examination taken within the preceding 60 months
and
- c) providing verifiable documentary evidence of continued satisfactory work activity³ (a minimum of 50 hrs per year averaged over the relevant 5-year period) without significant interruption in the method and sector for which certificate renewal is sought
and either:
 - d) satisfactory completion of the full practical examination as required for Level 2, including written instruction and an examination paper consisting of a minimum 20 questions on the application of the test method in the sector(s) concerned (Main Method Examination Part E), demonstrating an understanding of current standards, codes or specifications and applied technology and 20 questions on the certification body's certification scheme (Basic Exam Part B),
or
 - e) satisfactory completion of a full practical examination as required for Level 2, including written instruction and meeting the requirements of a structured credit system.

Where the criterion for c) for recertification is not met, candidates will need to provide documentary evidence to supply why a significant interruption to the method is not applied.

Where a significant interruption is applied by the AINDT, the certificate will not be recertified. The certificate can only be regained by applying for certification as an initial candidate, including resitting all relevant examinations

In the event of failure in the two allowable re-examinations, the certificate shall be withdrawn.

In order to reinstate certification, a candidate shall:

- complete further training, deemed acceptable by the certification body, in consultation with the AQB who delivered the recertification examination
and
- retake all examination elements required for initial certification.

The date of expiration of the reinstated certificate shall be no more than 5 years from the date of expiration of the original certificate.

In this case, no examination exemptions shall be awarded by virtue of any other valid certification held.

3.19.3 OTHER

For heat treatment to AINDT HT-01, recertification will be achieved by completing a practical examination (which includes the competencies covered by HT-01) with a pass mark of 80%.

³ See footnote 1 on page 22.

3.19.4 STRUCTURED CREDIT SYSTEM

3.19.4.1 RENEWAL

Where a candidate elects to use the structured credit system, they shall provide evidence to the certification body to demonstrate achievement of a minimum of 100 points in the 5-year renewal period based on the requirements of Table 4, Table 5, or Table 6 (Parts A & B) as applicable.

3.19.4.1.1 LEVEL 1

- a minimum of 75 of the 100 points is required for any combination of activities listed in Part A of Table 4.

3.19.4.1.2 LEVEL 2 OR 3

- a minimum of 50 of the 100 points is required for any combination of activities listed in Part A of Table 5 or Table 6 respectively.

Where a candidate is seeking renewal for more than one certificate, points granted for a specific activity can be applied to the total points required for each certificate for those activities not specific to a particular method (e.g. “Current individual membership in NDT or NDT related society”). However, candidates shall meet the total number of points required (i.e. 100 points) for each certificate for which renewal is being sought.

3.19.4.2 RECERTIFICATION:

Level 3 certification:

- a minimum of 50 and a maximum of 70 of the 100 points is required for any combination of activities listed in Part A of Table 6
and
- a minimum of 30 and a maximum of 50 of the 100 points is required for any combination of activities listed in Part B of Table 6.

3.19.4.3 EVIDENCE

In order to assess the activities specified in the structured credit system, the certification body may request from the individual seeking renewal or recertification documentation and/or evidence to demonstrate compliance including, but not limited to, the following:

- a) confirmation of the candidate’s work activities by a certified individual or referee
- b) confirmation of the level of activity of the individual in the given method
- c) confirmation of formal documented competency or proficiency test(s) in the given method
- d) dates and protocol numbers of reports
- e) details of any job specific training received
- f) confirmation of employer’s authorisation to operate
- g) summary of activities and outputs
- h) job/position description
- i) annual/regular employer assessments of performance/competence
- j) sample NDT reports
- k) sample procedure(s) developed (Level 3 only)
- l) customer feedback
- m) confirmation of adherence to code of ethics from employer
- n) confirmation of compliance with additional national requirements (i.e. radiation safety).

Other evidence may be deemed acceptable or be requested by the certification body. The certification body may require that some or all of the submitted evidence be confirmed by the employer.

This evidence is to be provided using AINDT supplied reporting processes, either paper based, or web based.

Table 4 — Level 1 structured credit system

| Level 1 | | | | |
|---------------|-------------------------------------------------------------------------------------|-----------------------------|-------------------------|-----------------------------|
| Item | Activity | Points granted per activity | Maximum points per year | Maximum points over 5 years |
| Part A | | | | |
| 1 | Performance of NDT activities | 2 / day | 25 | 95 |
| 2 | Completion of theoretical training in the method | 1 / day | 5 | 15 |
| 3 | Completion of practical training in the method | 2 / day | 10 | 25 |
| 4 | Delivery of theoretical or practical training in the method | N/A | N/A | N/A |
| 5 | Participation in research activities or for engineering ⁴ of NDT | 1 / week | 15 | 60 |
| Part B | | | | |
| 6 | Participation to a technical seminar/ paper in the field of the method or technique | 1 / day | 2 | 10 |
| 7 | Presenting a technical seminar/paper in the field of the method or technique | 1 / presentation | 3 | 15 |
| 8 | Current individual membership in NDT or NDT related society | 1 / membership | 2 | 5 |
| 9 | Technical oversight and mentoring of NDT personnel in the relevant method | N/A | N/A | N/A |
| 10 | Participation or convenorship in standardisation and technical committees | N/A | N/A | N/A |
| 11 | Performing a technical NDT role within a certification body | N/A | N/A | N/A |

Table 5 — Level 2 structured credit system

| Level 2 | | | | |
|---------------|-------------------------------------------------------------------------------------|-----------------------------|-------------------------|-----------------------------|
| Item | Activity | Points granted per activity | Maximum points per year | Maximum points over 5 years |
| Part A | | | | |
| 1 | Performance of NDT activities | 2 / day | 25 | 95 |
| 2 | Completion of theoretical training in the method | 1 / day | 5 | 15 |
| 3 | Completion of practical training in the method | 2 / day | 10 | 25 |
| 4 | Delivery of theoretical or practical training in the method | 1 / day | 15 | 75 |
| 5 | Participation in research activities or for engineering ⁴ of NDT | 1 / week | 15 | 60 |
| Part B | | | | |
| 6 | Participation to a technical seminar/ paper in the field of the method or technique | 1 / day | 2 | 10 |
| 7 | Presenting a technical seminar/paper in the field of the method or technique | 1 / presentation | 3 | 15 |
| 8 | Current individual membership in NDT or NDT related society | 1 / membership | 2 | 5 |
| 9 | Technical oversight and mentoring of NDT personnel in the relevant method | 2 / mentee | 10 | 30 |
| 10 | Participation or convenorship in standardisation and technical committees | 1 / committee | 3 | 15 |
| 11 | Performing a technical NDT role within a certification body | 2 / activity | 10 | 30 |

⁴ See Annex B – Engineering of NDT

Table 6 — Level 3 structured credit system

| Level 3 | | | | |
|---------------|-------------------------------------------------------------------------------------|-----------------------------|-------------------------|-----------------------------|
| Item | Activity | Points granted per activity | Maximum points per year | Maximum points over 5 years |
| Part A | | | | |
| 1 | Performance of NDT activities | 2 / day | 25 | 95 |
| 2 | Completion of theoretical training in the method | 1 / day | 5 | 15 |
| 3 | Completion of practical training in the method | 2 / day | 10 | 25 |
| 4 | Delivery of theoretical or practical training in the method | 1 / day | 15 | 75 |
| 5 | Participation in research activities or for engineering ⁵ of NDT | 1 / week | 15 | 60 |
| Part B | | | | |
| 6 | Participation to a technical seminar/ paper in the field of the method or technique | 1 / day | 2 | 10 |
| 7 | Presenting a technical seminar/paper in the field of the method or technique | 1 / presentation | 3 | 15 |
| 8 | Current individual membership in NDT or NDT related society | 1 / membership | 2 | 5 |
| 9 | Technical oversight and mentoring of NDT personnel in the relevant method | 2 / mentee | 10 | 40 |
| 10 | Participation or convenorship in standardisation and technical committees | 1 / committee | 4 | 20 |
| 11 | Performing a technical NDT role within a certification body | 2 / activity | 10 | 40 |

Note 1: One day duration is at least 7 hrs

Note 2: A year is defined as certification year, not calendar year.

Further details of the structured credit system and the required evidence to be provided can be found in the relevant application forms. Contact AINDT for more details.

3.19.5 LAPSED QUALIFICATIONS/CERTIFICATIONS

All effort will be made by AINDT to give adequate forewarning that a certificate is due to expire. The onus of maintaining certification belongs to the person identified on the certificate, who should begin renewal or recertification procedures at a suitable time before expiry.

NOTE The authority to operate is given by the employer, and if a certificate expires then the employer may disallow continued employment. If an operator continues to work with an invalid certificate without informing his employer or client, then all responsibility remains with the operator.

If requirements for renewal or recertification are not met on the date of expiry, then the certification shall lapse.

If renewal is applied for after expiry and up to 12 months from this date, then a late renewal fee shall apply. If the operator fails to renew after 12 months, then the certificate can only be regained by applying for certification as an initial candidate, including resitting all relevant examinations.

If recertification is applied for after expiry and up to 12 months from this date, then a late recertification fee shall apply. If recertification is applied for more than 12 months after expiry, then it can only be regained by applying for certification as an initial candidate, including resitting all relevant examinations.

NOTE Renewal or recertification issued after expiry but before lapsing will commence from the date of approval only, resulting in a certification period that is less than, but not exceeding the 5-year or 10-year total allowed by the standard.

⁵ See footnote 4 on page 26

4 FEES

4.1 APPLICATION FORMS

All applications are to be made via the AINDT portal. A link to the portal can be found on the Institute's website (<https://portal.cbdb.aindt.org/login.php>).

The application will need to be supported by specific completed forms dependant on the application type.

Refer to the AINDT website for the downloadable forms. (www.aindt.com.au)

It should be noted that all applications must be accompanied by all relevant information, and the application and examination fees as listed in the latest version of the schedule of fees.

NOTE Incomplete applications will not be processed.

4.2 APPLICATION FEES

An application for certification fee is payable with every application to offset administration costs.

Current application fees are published in the AINDT schedule of fees and are available from the AINDT website (www.aindt.com.au).

Applicants should ensure that they have the latest up-to-date schedule of fees for the current year before submitting their application.

An application is valid for a period of two years. After that time the application will be considered to have lapsed. Extensions to the two-year validity period may be considered in special circumstances.

4.3 EXAMINATION FEES

Where exams are conducted by the AINDT, and not and AQB, an examination fee is payable for every examination to offset preparation, marking, test piece shipping, and exam supervision costs.

Current examination fees are published in the schedule of fees. Applicants should ensure that they have the latest up-to-date schedule for the current year before submitting their application.

4.4 RENEWAL/RECERTIFICATION FEES

Current renewal and recertification fees are published in the schedule of fees. Applicants should ensure that they have the latest up-to-date schedule for the current year before submitting their application for renewal or recertification.

- Note 1:** For renewal of certification, the renewal fee only is payable. An application for renewal form must be completed.
- Note 2:** For recertification, i.e. on expiry of an issue 2 certificate, the recertification including the practical examination fees are payable. The application for recertification form must be completed.
- Note 3:** If practical examinations are completed through an AQB then only the recertification fee (without practical examination) is payable to AINDT.
- Note 4:** Level 3 recertification can be achieved by either undertaking a practical and written examination, or through a credit point system which includes a practical examination, in accordance with ISO 9712 Annex C.

4.5 NON-ATTENDANCE AT EXAMINATIONS

Applicants applying for an examination may request, in writing, a deferral of the examination up to 30 days before the examination date.

Where no deferral is requested and the applicant fails to sit the examination as planned, that part or the entire examination fee shall be forfeited, as detailed in clause 4.7 and the application will lapse.

4.6 CODE OF ETHICS

All applicants for NDT examinations are required to agree to be bound by the AINDT code of ethics and “Regulations for Use of Certificates and Logos/Marks”, a copy of which is provided with the Board’s application for certification forms.

The code of ethics is found on www.aindt.com.au.

4.7 REFUND POLICY

In addition to the above fee structure, AINDT has a refund policy for cancellations and deferrals:

4.7.1 CANCELLATION

Application fee for initial certification, renewal, or recertification:..... **non-refundable**

Application for examination fees:

- Cancelled more than 14 days before the examination date **50% refundable**
- Cancelled fewer than 14 days before the examination date..... **non-refundable**

4.7.2 NOTIFIED DEFERRAL

Application for examination fees:

- Notified more than 30 days before the examination date.....**credited to next exam date**

NOTE If the applicant fails to notify deferral, clause 4.7.1 applies.

5 NDT EXAMINATIONS

For specific details of some examinations, refer to Annex A.

5.1 REQUIREMENTS FOR ISO 9712 – LEVEL 1

Examination requirements for Level 1 certification comprises:

- General examination (closed book)
- Specific examination (typically closed book) – refer to Annex A for details
- Practical examination – refer to Annex A for details.

5.1.1 GENERAL EXAMINATION – LEVEL 1

This examination tests the applicant’s knowledge of the theory and general applications of the particular NDT method. This paper consists of multiple-choice questions to be answered on the examination paper.

- All methods: 40 questions minimum
- Duration: 2 minutes per question
- Minimum pass mark: 70%

5.1.2 SPECIFIC EXAMINATION – LEVEL 1

This examination tests the applicant’s knowledge of the industrial sector and the application of the NDT method to the specific field of non-destructive testing (product sector). The paper consists of multiple-choice questions to be answered on the examination paper.

- ET/MT/PT/UT: 20 questions minimum for single sector
30 questions minimum for multiple sectors
- Duration: 3 minutes per question
- Minimum pass mark: 70%

5.1.3 PRACTICAL EXAMINATION – LEVEL 1

This examination requires the practical application of the NDT method to the Industry Sector for which application is made. The practical examination may include any or all (but is not limited to) of the following requirements:

- Detailed description and illustration of the equipment set-up and/or test procedure and test parameters for a particular application.
- The recognition and identification of discontinuities as shown by the test and which includes general knowledge of the mechanism giving rise to the discontinuities.
- Accurate reporting concerning geometry, location and sizing revealed by the test procedure.

5.1.4 PRACTICAL EXAMINATION DURATION AND ASSESSMENT – LEVEL 1

- ET/MT/PT/UT 3 hours maximum
- A minimum pass mark of 70% is required in each specimen and section
- Applicants who fail to report discontinuities nominated for mandatory detection will not be granted a pass in the practical examination
- Applicants who report excessive false calls (reporting of non-existent discontinuities) will not be granted a pass in the practical examination
- Applicants who fail to comply with specific code compliance areas will not be granted a pass in the practical examination.

Examples include failure to comply with:

- Minimum reporting requirements (all methods)
- Scanning techniques and coverage (UT)

A person failing a practical examination of a particular section need only resit examination of that failed section.

5.2 REQUIREMENTS FOR ISO 9712 – LEVEL 2

Examination requirements for Level 2 certification comprises:

- General examination (closed book)
- Specific examination (closed book with some exceptions*)
- Practical examination
- Written instruction examination

Refer to Annex A for specific details.

5.2.1 GENERAL EXAMINATION – LEVEL 2

This examination tests the applicant's knowledge of the theory and general applications of the particular NDT method. This paper consists of multiple-choice questions.

There is no general examination for PAUT and ToFD as the general paper is covered under the pre-requisite UT2W certification.

- All methods: 40 questions minimum
- Duration: 2 minutes per question
- Minimum pass mark: 70%

5.2.2 SPECIFIC EXAMINATION – LEVEL 2

This examination tests the applicant's knowledge of the industrial sector and the application of the NDT method to the specific field of non-destructive testing (product sector). The paper consists of multiple-choice questions.

- UT/RT/ET/MT/PT/VT: 20 questions minimum for single sector
30 questions minimum for multiple sectors
- Duration: 3 minutes per question
- Minimum pass mark: 70%

5.2.3 PRACTICAL EXAMINATION – LEVEL 2

This examination requires the practical application of the NDT method to the Industry Sector for which application is made. The practical examination may include any or all (but is not limited to) of the following requirements:

- Detailed description and illustration of the equipment set-up and/or test procedure and test parameters for a particular application
- Interpretation of radiographs, where applicable
- The recognition and identification of discontinuities as shown by the test and which includes general knowledge of the mechanism giving rise to the discontinuities
- Accurate reporting concerning geometry, location and sizing revealed by the test procedure

The minimum pass mark for the practical element is 70% for each specimen tested, (for radiography the image set is considered one (1) specimen).

5.2.4 WRITTEN INSTRUCTION – LEVEL 2

The NDT written instruction examination element shall involve the creation of a written NDT instruction by the candidate for all methods and sectors.

Unless otherwise specified, the duration of all written instructions is 1 hour.

Written instructions are closed book with the exception of a copy of the relevant standard as provided by the AQB.

The minimum pass mark for the written instruction element is 70%.

Candidates who fail to comply with specific code compliance areas will not be granted a pass in the written instruction examination.

Refer to Annex A for specific details.

5.2.5 PRACTICAL EXAMINATION DURATION AND ASSESSMENT – LEVEL 2

- UT/RT/ET: 5.5 hours maximum
- MT/PT/VT: 3 hours maximum

Practical examinations are broken into sections.

EXAMPLE Radiography practical exam consists of 2 sections.

- a) Inspection and reporting of minimum 2 specimens
 - b) Interpretation of a set of 12 films
- A minimum pass mark of 70% is required for each specimen and section. The set of films shall be considered as one specimen.
 - Applicants who fail to report discontinuities nominated for mandatory detection will not be granted a pass in the practical examination.
 - Applicants who report excessive false calls (reporting of non-existent discontinuities) will not be granted a pass in the practical examination.
 - Applicants who fail to comply with specific code compliance areas will not be granted a pass in the practical examination.

Examples include failure to comply with:

- Geometric unsharpness (RT)
- Film density (RT)
- Minimum reporting requirements (all methods)
- Scanning techniques and coverage (UT)

A person failing practical examination of a particular section need only resit examination of that failed section.

EXAMPLE UT2 welds practical exam

- Section 1: Specimens
 - Specimen 1 – 80%
 - Specimen 2 – 53%
 - Specimen 3 – 91%

Overall result: Fail (minimum of 70% in each specimen not achieved).

Resit required: Resit of all specimens required.

5.2.6 ADVANCED TECHNIQUES

The additional specific requirements for Level 2 practical examination for the nominated advanced techniques are as follows:

5.2.6.1 PHASED ARRAY (PAUT) – CORROSION

- Exam specimens: Two (2) corroded specimens

Encoded PAUT collection – corrosion

- Assembly and calibration of ultrasonic phased array equipment
 - Time allowed: Maximum 1 hour per specimen

The candidate will be required to carry out a full calibration without the use of previously saved setup files. If this part of the examination is satisfactory the candidate may proceed to the remainder, if not the examination will be discontinued. One of the specimens shall be inspected using an immersion technique.

- Inspection of corrosion specimen
 - Time allowed: Maximum 1 hour per specimen

The candidate will analyse the data on the instrument or on external device (laptop) and provide a report displaying the results in an indicated format and showing the location and size of discontinuities present in the specimen.

The report shall contain information such as characterisation, size and position from known datums. The report shall also contain, phased array images of all data collected and each discontinuity.

5.2.6.2 PHASED ARRAY (PAUT) – MULTISECTOR

- Exam specimens: One (1) corroded specimen, two (2) weld specimens

Encoded PAUT collection – corrosion specimen

- Assembly and calibration of ultrasonic phased array equipment
 - Time allowed: Maximum 1 hour

The candidate will be required to carry out a full calibration without the use of previously saved setup files. If this part of the examination is satisfactory the candidate may proceed to the remainder, if not the examination will be discontinued.

- Inspection of corrosion specimen
 - Time allowed: Maximum 1 hour

The candidate will analyse the data on the instrument or on external device (laptop) and provide a report displaying the results in an indicated format and showing the location and size of discontinuities present in the specimen.

The report shall contain information such as characterisation, size and position from known datums. The report shall also contain, phased array images of all data collected and each discontinuity.

Encoded PAUT collection – weld specimens

- Assembly and calibration of ultrasonic phased array equipment.
 - Time allowed: Maximum 1 hour per specimen

The candidate will be required to carry out a full calibration without the use of previously saved setup files. If this part of the examination is satisfactory, the candidate may proceed to the remainder. If not, the examination will be discontinued.

- Inspection of two (2) welded specimens
 - Time allowed: Maximum 1 hour per specimen

The candidate will analyse the data on the instrument or on external device (laptop) and provide a report displaying the results in an indicated format and showing the location and size of discontinuities present in the specimen.

The report shall contain information such as characterisation, size and position from known datums. The report shall also contain phased array images of all data collected, and each discontinuity.

5.2.6.3 TIME OF FLIGHT (ToFD)

- Two (2) weld specimens (collection and analysis), 3 additional separate data files (welds) for analysis.

ToFD – Test specimens

- Calibrate, test, collect, store, and analyse test data for two (2) linear weld specimens selected by the examiner.
 - Time allowed: Maximum 1.5 hrs per specimen
- Interpret and report on three additional recorded weld scan data files representative of a range of ToFD examinations. Display the results in an indicated format, showing the location and size of flaws present in the weld.
 - Time allowed: Maximum 1.5 hrs

5.2.6.4 FULL MATRIX CAPTURE (FMC) – WELDS

- Exam specimens: Three (3) weld specimens

Encoded FMC collection – welds

- Assembly, setting up, and calibration of ultrasonic equipment
 - Time allowed: Maximum 1 hour per specimen

The candidate will be required to carry out a set up without the use of previously saved setup files. If this part of the examination is satisfactory, the candidate may proceed to the remainder. If not, the examination will be discontinued.

- Inspection of weld specimens
 - Time allowed: Maximum 1 hour per specimen

The candidate will analyse the data on the instrument or on an external device (laptop) and provide a report displaying the results in an indicated format and showing the location and size of discontinuities present in the specimen.

The report shall contain information such as characterisation, size and position from known datums. The report shall also contain, TFM/PCI/PWI images of all data collected, and each discontinuity.

5.2.6.5 COMPUTED RADIOGRAPHY/DIGITAL RADIOGRAPHY (CR/DR)

CR/DR – Image capture

- Radiographic testing of two (2) specimens selected by the examiner as appropriate to the certification sought, in accordance with instructions provided.
 - Time allowed: Maximum 1.25 hours

CR/DR – Image interpretation

- Viewing, interpreting and reporting on a total of twelve (12) images representative of the categories of certification sought.
 - Time allowed: Maximum 1 hour

5.2.7 EXAMINATION EXEMPTIONS – ISO 9712

5.2.7.1 GENERAL EXAMINATION

Exemption from the Level 1 and 2 general examination is available to:

- Applicants who have passed an equivalent examination (as deemed equivalent by the AINDT) in the relevant method, by other ISO 9712 certification body recognised by AINDT.
- Applicants who have passed the general examination in a particular NDT method as part of a qualification for the particular product sector and are seeking certification in the same method in another sector.

5.2.7.2 PRACTICAL EXAMINATION

Successful passing of a weld practical examination component of advanced methods or endorsements may be used as evidence for the base method recertification.

All dates will be based on the date of successful completion of the practical examination. Refer to Table 7 below.

Table 7 — Practical exam recertification exemption matrix

| Method/Sector | Level | Supplementary | Initial |
|-----------------|-------|---------------|---------|
| UT Welds | 2 & 3 | Nodes | Welds |
| UT Welds | 2 & 3 | Nozzles | Welds |
| UT Welds | 2 & 3 | Austenitic | Welds |
| UT Welds | 2 & 3 | PAUT | Welds |
| RT Welds | 2 & 3 | CR/DR | Welds |

EXAMPLE Satisfactory completion of PAUT Level 2 welds examination can be used as evidence for UT welds recertification.

5.3 REQUIREMENTS FOR ISO 9712 – LEVEL 3

All candidates for Level 3 certification in any NDT method shall have successfully passed the practical examination and written instruction for Level 2 in the relevant sector and method.

A candidate who is Level 2 in the same NDT method and product sector or who has successfully passed a Level 2 practical examination element and written instruction examination element for the NDT method in an industrial sector, as specified in Annex A, is exempt from passing again the Level 2 practical examination element. This exemption is only valid for the product sectors covered by the industrial sector concerned and, in any other circumstances, the relevant sector is the sector in which the candidate seeks Level 3 certification

The relevant practical exam shall remain current at all times (at no time shall more than 10 years pass between successful completion of the practical exam and written instruction).

AINDT does not require the Level 3 to hold both Level 2 and Level 3 certification once Level 3 is achieved, provided the requirement for practical currency is maintained.

5.3.1 BASIC EXAMINATION ELEMENT – LEVEL 3

This written examination shall assess the candidate’s knowledge of the basic subjects using at least the number of multiple choice questions shown in Table 8 below.

Table 8 — Minimum required number of basic examination element questions for Level 3

| Part | Subject | Number of questions |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| A | Technical knowledge in materials science and process technology. Closed book. | 25 |
| B | Knowledge of the certification body’s qualification and certification system based on ISO 9712. A copy of the AINDT Guide will be provided for reference during this exam. | 20 |
| C | General knowledge of at least four methods as required for Level 2 and chosen by the candidate from the methods given in clause 3.1. These four methods shall include at least one volumetric method (UT or RT). Closed book. | 15 for each test method (total 60) |

It is recommended that the basic examination be passed first and remain valid, provided that the first main method examination is passed within five years after passing the basic examination. A candidate holding a valid and recognised ISO 9712 Level 3 certificate is exempt from the need to retake the basic examination.

- Part A – two (2) minutes per question
 - Time allowed: Maximum 50 minutes
- Part B – three (3) minutes per question
 - Time allowed: Maximum 1 hour
- Part C – two (2) minutes per question
 - Time allowed: Maximum 2 hours

The minimum pass mark for the basic examination element is 70% for **EACH** part.

5.3.2 MAIN METHOD EXAMINATION ELEMENT – LEVEL 3

This examination will test the applicant’s in-depth knowledge of the theory and general applications of the NDT method in the product/industry sector.

The examinations will consist of Part D – 30 multiple choice questions covering the test method, Part E – 20 multiple choice questions in the industry sector, and Part F – procedure development or review.

Table 9 — Minimum required number of main method examination element questions

| Part | Subject | Number of questions |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| D | Level 3 knowledge relating to the test method applied. Closed book. | 30 |
| E | Application of the NDT method in the sector concerned, including the applicable codes, standards, specifications and procedures. Typically closed book, however applicable codes, standards, or reference materials will be provided where specifically approved. | 20 |
| F | Drafting of one or more NDT procedures in the relevant sector. For a candidate who has already drafted an NDT procedure in a successfully passed Level 3 examination, the certification body may replace the drafting of a procedure with the critical analysis of an existing NDT procedure covering the relevant method and sector and containing errors and/or omissions. The applicable codes, standards and specifications shall be available to the candidate by the AQB. | — |

- Part D – two (2) minutes per question
 - Time allowed: Maximum 60 minutes
- Part E – three (3) minutes per question
 - Time allowed: Maximum 1 hour
- Part F – Time allowed: Maximum 3 hours

The minimum pass mark for the main method examination element is 70% for **EACH** part.

5.3.3 PRACTICAL EXAMINATION LEVEL 3

Applicants at Level 3 must have satisfactorily completed the applicable ISO 9712 Level 2 practical examination and written instruction within the previous 10 years in the NDT method and industry sector for which they are seeking Level 3 certification.

NOTE All applicants granted Level 3 certification must resit the practical examination and written instruction at the completion of 10 years from the previous practical examination.

For example, if a candidate with a Level 2 certificate in year 3 of issue 2 (i.e. in year 8 from the last practical examination) applies for Level 3 certification, and is successful, then they must resit a practical examination after another 2 years. In this case, the Level 3 certificate provided will be at issue 2 with a 2 year expiry date. This rule is to ensure candidates upgrading to Level 3 cannot potentially practice for 19 years without resitting a practical examination.

5.3.4 EXAMINATION EXEMPTIONS: ISO 9712 – LEVEL 3

A certified Level 3 individual changing sectors, or adding another sector in the same NDT method, need not retake the basic examination or the Level 3 knowledge relating to the test method of the main method examination.

Applicants seeking Level 3 certification in more than one NDT method are exempted the basic examination provided it has been satisfactorily passed at the first Level 3 application, and provided that the first main method examination is passed within five (5) years of passing the basic examination.

5.3.5 LIMITED NDT QUALIFICATION – REQUIREMENTS FOR ISO 20807

Examinations under ISO 20807 comprise two examinations:

- A general examination covering the NDT method and specific application of that method
- A practical examination to assess competence

5.3.6 HEAT TREATMENT OF WELDS IN STEEL USING ELECTRICAL RESISTANCE EQUIPMENT – AINDT HT-01

- A general examination consisting of multi choice and short answer questions (maximum two [2] hours duration).
- A practical examination on electrical weld heat treatment set-up and instrument recording (maximum four [4] hours duration)

5.3.7 CANDIDATE REQUIREMENTS FOR EXAMINATIONS

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

Any candidate who 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 year.

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

6 INTERNATIONAL QUALIFICATIONS

This section deals with policy and actions by the AINDT to process applications from persons applying for ISO 9712 certification who hold ISO 9712 NDT certifications not granted by AINDT.

The AINDT is signatory to a multilateral recognition agreement with the ICNDT. Persons with a current and valid certification from an ICNDT signatory certification scheme may be granted entry to the ISO 9712 certification from AINDT, on the condition that a gap analysis is performed on the international ISO 9712 certification, to ensure it is a direct equivalent to the AINDT certification (product sector) the candidate is seeking to transfer to.

AINDT may recognise current and valid certifications from other ISO 9712 schemes on the provision that a sufficient gap analysis has been performed to ensure eligibility for transfer.

Any gaps found with the candidate's theory training may require additional training with an AINDT ATO.

Any gaps found with the candidate's practical examination from the international ISO 9712 certification will require successful completion of a full practical examination, including written instruction, at a recognised AINDT AQB.

Any gaps found with the candidate's theory examinations from the international ISO 9712 certification will require successful completion of the relevant AINDT examination(s) at a recognised AINDT AQB.

6.1 APPLICATION PROCESS

All transfers are treated as an initial application, to ensure that all appropriate evidence is collected and reviewed.

All applicants seeking to transfer current and valid international ISO 9712 certifications shall follow the process detailed below.

- a) Contact the AINDT (ndtcertification@aindt.com.au) seeking transfer and provide the following:
 - Copies of current ISO 9712 certification/s
 - Copies of most recent ISO 9712 examination results for the method/sector seeking transfer
- b) The AINDT will then review your certificate/s and determine:
 - If transfer is possible
 - If any additional requirements are required e.g. training or examinations
- c) Once approved, make application through application portal

The validity of the ISO 9712 certification granted on transfer from an AINDT recognised certification scheme will be the same as the expiry date of the current overseas certification.

Where certificate expiry is close, candidates are encouraged to allow significant time for the approval and application process. Candidates whose certificates have expired will be required to justify special consideration as to approval of any certificate.

For example, the ISO 9712 certification granted for a PCN certification expiring in October 2024 would also expire in October 2024. At that time, the ISO 9712 certification is subject to the procedure for renewal or recertification depending upon whether the international certification is an issue 1 or issue 2.

At the discretion of the AINDT CB, applicants may be subjected to a personal interview to cover issues not clear from the written application.

7 SPECIAL ARRANGEMENTS

7.1 MULTILATERAL RECOGNITION AGREEMENT WITH ICNDT/EFNDT

The Institute is signatory to a multilateral recognition agreement with both the ICNDT, and the European Federation of NDT (EFNDT), for recognition of certification of persons by the signatory certification bodies operating a 3rd party certification programme in accordance with ISO 17024 and providing certification to ISO 9712.

The AINDT procedure for recognition of personnel from overseas is defined in section 6 of this Guide.

8 WITHDRAWAL OF CERTIFICATION

8.1 MISREPRESENTATION OF CERTIFICATION

Applicants who are found to be forging, or otherwise misrepresenting examination results for certification will be referred to the AINDT's discipline committee.

8.2 CERTIFICATION WITHDRAWAL

Certification shall be withdrawn by the certification body:

- a) at the discretion of the certification body, i.e. after reviewing evidence of behaviour incompatible with the certification scheme or failure to abide by a code of ethics
- b) if the individual fails to meet the requirements of renewal, until such time as the individual meets the requirements for renewal
- c) if the individual fails recertification, until such time as the individual meets the requirements for recertification or certification
- d) at the discretion of the certification body, when verifiable evidence is received from the employer stating that the individual has become physically incapable of performing their duties.

The certification body shall specify the conditions for re-certification where an individual's certification has been withdrawn.

In the case of 8.2a), the certification can only be re-granted after a 12 month waiting period.

During the period of certification withdrawal, the individual concerned may not perform the duties of a certified NDT practitioner under this scheme for those methods for which the withdrawal applies, including conducting testing, supervising NDT personnel, or issuing of test documentation or test results (see also clause 8.4 below).

An appeals committee is available if required by the disqualified person.

8.3 SUSPENSION OF CERTIFICATION

Certification may be suspended by the certification body:

- a) if the individual becomes temporarily physically incapable of performing their duties
- b) if the individual fails to provide evidence of meeting the visual acuity requirements of this document annually
- c) if a significant disruption takes place in the method for which the individual is certified
- d) at the discretion of the certification body for any other situations

Reversal of suspension for items a) & b) can be considered when evidence is provided that visual acuity and physical capability requirements are once again met.

Reversal of suspension can be considered for item c) & d) if verifiable documentary evidence of continued satisfactory work activity (a minimum of 50 hrs in the method) in the method and sector for which certificate reinstatement is sought and completion the practical examination requirements of 3.19.1 or 3.19.2 for the applicable method is provided.

8.4 AINDT CODE OF ETHICS

All AINDT certificate holders shall sign to abide by the AINDT code of ethics, in all matters relating to the Institute or when discharging their professional duties:

- Comply with the relevant provisions of the certification scheme
- Make claims only with respect to the scope for which certification has been granted
- Not use the certification in such manner as to bring the AINDT or the CB into disrepute, and not make any statement regarding the certification which may be considered misleading or unauthorised
- Discontinue the use of all claims to certification that contain any reference to the AINDT, or the CB, or to certification upon suspension or withdrawal of certification.

The entire AINDT code of ethics can be found on the AINDT website.

9 COMPLAINTS AND APPEALS

All complaints and appeals will be managed in accordance with the AINDT complaints and appeals policy located on the AINDT website.

ANNEX A – EXAMINATION CONTENT

EDDY CURRENT

Table 10 — AINDT ET1 (general engineering) examination content

| | THEORY | | PRACTICAL |
|------------------------------|---------------------------------|---------------------------------|------------------------------------------|
| | GENERAL | SPECIFIC | SPECIMENS |
| DESCRIPTION | 40 questions multiple choice | 20 questions multiple choice | Inspection of two (2) welds to ISO 17643 |
| DURATION | 1 hour 20 minutes | 1 hour | Contact AINDT AQB for exact requirement |
| MINIMUM PASS MARK | 70% | 70% | 70% in each specimen. |
| RESOURCES | Closed book | Closed book | Open book |

Table 11 — AINDT ET2 (multisector) examination content

| | THEORY | | PRACTICAL | WRITTEN INSTRUCTION |
|------------------------------|---------------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| | GENERAL | SPECIFIC | SPECIMENS | |
| DESCRIPTION | 40 questions multiple choice | 30 questions multiple choice | a) Inspection of one (1) weld to ISO 17643. b) Inspection of four (4) tubes (approx. 400 mm in length). c) Low frequency inspection of one (1) corrosion specimen (approx. 200 mm x 150 mm). d) Manual conductivity sorting of five (5) specimens. | To ISO 17643 |
| DURATION | 1 hour 20 minutes | 1 hour 30 minutes | Contact AINDT AQB for exact requirement | |
| MINIMUM PASS MARK | 70% | 70% | 70% in each specimen. | 70% |
| RESOURCES | Closed book | Closed book | Open book | Copy of ISO 17643 only |

MAGNETIC PARTICLE

Table 12 — AINDT MT1 (general engineering) examination content

| | THEORY | | PRACTICAL |
|------------------------------|---------------------------------|---------------------------------|--------------------------------------------------------------------------------------------|
| | GENERAL | SPECIFIC | SPECIMENS |
| DESCRIPTION | 40 questions multiple choice | 20 questions multiple choice | Inspection of two (2) specimens to ISO 9934. Colour contrast and fluorescent techniques |
| DURATION | 1 hour 20 minutes | 1 hour | Contact AINDT AQB for exact requirement |
| MINIMUM PASS MARK | 70% | 70% | 70% in each specimen. |
| RESOURCES | Closed book | Closed book | Open book |

Table 13 — AINDT MT2 (multisector) examination content

| | THEORY | | PRACTICAL | |
|------------------------------|---------------------------------|---------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------|
| | GENERAL | SPECIFIC | SPECIMENS | WRITTEN INSTRUCTION |
| DESCRIPTION | 40 questions multiple choice | 30 questions multiple choice | Inspection of three (3) specimens to ISO 9934. Colour contrast and fluorescent techniques | To ISO 9934 |
| DURATION | 1 hour 20 minutes | 1 hour 30 minutes | Contact AINDT AQB for exact requirement | |
| MINIMUM PASS MARK | 70% | 70% | 70% in each specimen. | 70% |
| RESOURCES | Closed book | Closed book | Open book | Copy of ISO 9934 and ISO 3059 only |

PENETRANT TESTING

Table 14 — AINDT PT1 (general engineering) examination content

| | THEORY | | PRACTICAL |
|------------------------------|---------------------------------|---------------------------------|--------------------------------------------------------------------------------------------|
| | GENERAL | SPECIFIC | SPECIMENS |
| DESCRIPTION | 40 questions multiple choice | 20 questions multiple choice | Inspection of two (2) specimens to ISO 3452. Colour contrast and fluorescent techniques |
| DURATION | 1 hour 20 minutes | 1 hour | Contact AINDT AQB for exact requirement |
| MINIMUM PASS MARK | 70% | 70% | 70% in each specimen. |
| RESOURCES | Closed book | Closed book | Open book |

Table 15 — AINDT PT2 (multisector) examination content

| | THEORY | | PRACTICAL | |
|------------------------------|------------------------------------------------------------------|---------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------|
| | GENERAL | SPECIFIC | SPECIMENS | WRITTEN INSTRUCTION |
| DESCRIPTION | 40 questions multiple choice | 30 questions multiple choice | Inspection of three (3) specimens to ISO 3452. Colour contrast and fluorescent techniques | To ISO 3452 |
| DURATION | 1 hour 20 minutes | 1 hour 30 minutes | Contact AINDT AQB for exact requirement | |
| MINIMUM PASS MARK | 70% | 70% | 70% in each specimen | 70% |
| RESOURCES | Closed book | Closed book | Open book | Copy of ISO 3452 and ISO 3059 only |
| COMMENTS | Additional time may be granted dependant on ambient temperature. | | | |

RADIOGRAPHY

Table 16 — AINDT RT2 (welds) examination content

| | THEORY | | PRACTICAL | | |
|--------------------------|-----------------------------------------------------------------------------------|---------------------------------|------------------------------------------------------|-------------------|-------------------------|
| | GENERAL | SPECIFIC | SPECIMENS | FILM VIEWING | WRITTEN INSTRUCTION |
| DESCRIPTION | 40 questions multiple choice | 30 questions multiple choice | Inspection of two (2) specimens to AS 2177 | Twelve (12) films | To AS 2177 |
| DURATION | 1 hour 20 minutes | 1 hour 30 minutes | Contact AINDT AQB for exact requirement ¹ | | |
| MINIMUM PASS MARK | 70% | 70% | 70% in each specimen. | 70% per film | 70% |
| RESOURCES | Closed book | Closed book | Open book | Open book | Copy of AS 2177 only |
| COMMENTS | ¹ Additional time may be granted dependant on radiographic facilities. | | | | |

Table 17 — AINDT RT2 (welds) CR/DR examination content

| | THEORY | | PRACTICAL | |
|--------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------|----------------------------|--------------------------------|
| | SPECIFIC | SPECIMENS | IMAGE VIEWING | WRITTEN INSTRUCTION |
| DESCRIPTION | 30 questions multiple choice | Inspection of 2x specimens to ISO 17636-2 | Twelve (12) digital images | To ISO 17636-2 |
| DURATION | 1 hour 30 minutes | Contact AINDT AQB for exact requirement ¹ | | |
| MINIMUM PASS MARK | 70% | 70% in each specimen. | 70% per image | 70% |
| RESOURCES | Closed book | Open book | Open book | Copy of ISO 17636-2 only |
| COMMENTS | ¹ Additional time may be granted dependant on radiographic facilities. | | | |

Table 18 — AINDT RT2 (profile) CR/DR examination content

| THEORY | | PRACTICAL | | |
|--------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------|----------------------------|------------------------|
| | SPECIFIC | SPECIMENS | IMAGE VIEWING | WRITTEN INSTRUCTION |
| DESCRIPTION | 30 questions multiple choice | Inspection of two (2) specimens to ISO 20769 series | Twelve (12) digital images | To ISO 20769 series |
| DURATION | 1 hour 30 minutes | Contact AINDT AQB for exact requirement ¹ | | |
| MINIMUM PASS MARK | 70% | 70% in each specimen. | 70% per image | 70% |
| RESOURCES | Closed book | Open book | Open book | Copy of ISO 20769 only |
| COMMENTS | ¹ Additional time may be granted dependant on radiographic facilities. | | | |

ULTRASONICS

Table 19 — AINDT UT1 (general engineering) examination content

| THEORY | | PRACTICAL | |
|--------------------------|------------------------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| | GENERAL | SPECIFIC | SPECIMENS |
| DESCRIPTION | 40 questions multiple choice | 20 questions multiple choice | Inspection of: One (1) corrosion specimen approx. 150 mm x 150 mm One (1) lamination specimen approx. 150 mm x 100 mm |
| DURATION | 1 hour 20 minutes | 1 hour | Contact AINDT AQB for exact requirement |
| MINIMUM PASS MARK | 70% | 70% | 70% in each specimen. |
| RESOURCES | Closed book | Closed book | Open book |

Table 20 — AINDT UT2 (welds) examination content

| THEORY | | | PRACTICAL | |
|--------------------------|---------------------------------|---------------------------------|--------------------------------------------------------------------------------------------|----------------------|
| | GENERAL | SPECIFIC | SPECIMENS | WRITTEN INSTRUCTION |
| DESCRIPTION | 40 questions multiple choice | 30 questions multiple choice | Inspection of three (3) specimens to AS 2207: a) 1 x plate b) 1 x pipe c) 1 x tee | To AS 2207 |
| DURATION | 1 hour, 20 minutes | 1 hour, 30 minutes | Contact AINDT AQB for exact requirement | |
| MINIMUM PASS MARK | 70% | 70% | 70% in each specimen | 70% |
| RESOURCES | Closed book | Closed book | Open book | Copy of AS 2207 only |

Table 21 — AINDT UT2 (CDM) examination content

| THEORY | | | PRACTICAL | |
|--------------------------|---------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------|------------------------|
| | GENERAL | SPECIFIC | SPECIMENS | WRITTEN INSTRUCTION |
| DESCRIPTION | 40 questions multiple choice | 30 questions multiple choice | Inspection of three (3) specimens to AS 2452.3 a) 1 x plate b) 1 x small diameter pipe c) 1 x large diameter pipe | To ISO 16809 |
| DURATION | 1 hour 20 minutes | 1 hour 30 minutes | Contact AINDT AQB for exact requirement | |
| MINIMUM PASS MARK | 70% | 70% | 70% in each specimen | 70% |
| RESOURCES | Closed book | A copy of ISO 16809 provided by AQB | Open book | Copy of ISO 16809 only |

Table 22 — ToFD2 (welds) examination content

| THEORY | | PRACTICAL | | |
|--------------------------|------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------|
| | SPECIFIC | SPECIMENS | DATA ANALYSIS | WRITTEN INSTRUCTION |
| DESCRIPTION | 30 questions multiple choice | a) Inspection of one (1) weld specimen <15 mm thickness b) Inspection of weld specimen >19 mm thickness | Three (3) weld data files | To ASTM E2373 |
| DURATION | 1 hour 30 minutes | Contact AINDT AQB for exact requirement | | |
| MINIMUM PASS MARK | 70% | 70% in each specimen | 70% per data file | 70% |
| RESOURCES | Closed book | Open book | Open book | Copy of ASTM E2373 only |

Table 23 — AINDT PAUT2 (multisector) examination content

| THEORY | | PRACTICAL | | |
|--------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------|
| | SPECIFIC | WELDS | CORROSION | WRITTEN INSTRUCTION |
| DESCRIPTION | 30 questions multiple choice | a) Inspection of one (1) weld specimen <15 mm thickness b) Inspection of weld specimen >19 mm thickness. | Inspection of one (1) corrosion specimen | To ISO 13588 |
| DURATION | 1 hour 30 minutes | Contact AINDT AQB for exact requirement | | |
| MINIMUM PASS MARK | 70% | 70% in each specimen | 70% | 70% |
| RESOURCES | Closed book | Open book | Open book | Copy of ISO 13588 only |

Table 24 — AINDT PAUT2 (CDM) examination content

| THEORY | | PRACTICAL | |
|--------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| | SPECIFIC | CORROSION | WRITTEN INSTRUCTION |
| DESCRIPTION | 30 questions multiple choice | a) Inspection of specimen <7 mm thickness b) Inspection of specimen >10 mm thickness. One (1) specimen shall be inspected using an immersion technique. | To ISO 16809 |
| DURATION | 1 hour 30 minutes | Contact AINDT AQB for exact requirement | |
| MINIMUM PASS MARK | 70% | 70% in each specimen | 70% |
| RESOURCES | Closed book | Open book | Copy ISO 16809 only |

Table 25 — AINDT FMC2 (welds) examination content

| THEORY | | PRACTICAL | |
|--------------------------|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| | SPECIFIC | SPECIMENS | WRITTEN INSTRUCTION |
| DESCRIPTION | 30 questions multiple choice | Three (3) welded specimens in total to be inspected. a) One (1) specimen to be tested with a minimum two (2) TFM/FMC groups. b) One (1) specimen to be tested with two (2) TFM/FMC groups & one (1) TFM/PCI group. c) One (1) specimen to be tested with PWI/TFM. | To ISO 23864 |
| DURATION | 1 hour 30 minutes | Contact AINDT AQB for exact requirement | |
| MINIMUM PASS MARK | 70% | 70% in each specimen. | 70% |
| RESOURCES | Closed book | Open book | Copy of ISO 23864 only |



VISUAL TESTING

Table 26 — AINDT VT2 (multisector) examination content

| | THEORY | | PRACTICAL | |
|--------------------------|---------------------------------|---------------------------------|--------------------------------------------|---------------------------|
| | GENERAL | SPECIFIC | SPECIMENS | WRITTEN INSTRUCTION |
| DESCRIPTION | 40 questions multiple choice | 30 questions multiple choice | Contact AINDT AQB for exact requirement | To ISO 17637 |
| DURATION | 1 hour 20 minutes | 1 hour 30 minutes | Contact AINDT AQB for exact requirement | |
| MINIMUM PASS MARK | 70% | 70% | 70% in each specimen. | 70% |
| RESOURCES | Closed book | Closed book | Open book | Copy of ISO 17637 only |

ANNEX B – ENGINEERING OF NDT

B.1 DEFINITION

Engineering of NDT covers all the activities linked to NDT, from the design of the equipment to the responsibility of preparation, implementation and verification of NDT (in manufacturing and in service) of the same equipment belonging to industrial or technical installations.

B.2 NON-EXHAUSTIVE LIST OF ACTIVITIES COVERED

The activities covered include:

- a) at design stage, definition of requirements to be taken into account and/or verification of inspectability during manufacturing and, where applicable, in service, of equipment
- b) selection of NDT techniques to be implemented in manufacturing and/or in service
- c) comparison of specific prescriptions of different codes and standards
- d) establishment or validation of the NDT procedures
- e) technical evaluation of NDT suppliers
- f) evaluation of NDT techniques, notably in the frame of expertise
- g) treatment (technical evaluation) of non-conformity
- h) justification to the customers and where applicable, to the associated safety authorities, of practices implemented
- i) responsibility for an NDT facility
- j) co-ordination and supervision of NDT personnel activities
- k) qualification — validation of NDT techniques:
 - 1) establishment of input information's including the inspection objectives
 - 2) definition of the necessary mocks-up for open and, where necessary, blind tests
 - 3) implementation of practical tests
 - 4) preparation of technical justification including when necessary, modelling
 - 5) preparation or validation of NDT procedures
 - 6) preparation or validation of qualification dossiers
- l) establishment of in-service inspection programmes for industrial installations or definition of rules for the establishment of such programmes.

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