ICNDT

The World Organisation for NDT

ICNDT Guide to Qualification and Certification

of Personnel for Condition Monitoring

1 June 2016

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Foreword by Chairman of ICNDT

The competence of those carrying out condition monitoring inspection is an essential pre-requisite for the achievement of quality and reliability. Qualification and certification of CM personnel in accordance with international standards, such as the unified ISO 18436 (Condition Monitoring – Qualification and certification of personnel), helps to assure the competence of CM personnel and thereby assists global business and safety standards.

The ICNDT, with a track record exceeding 50 years in international cooperation in NDT, including CM, is dedicated to supporting best practice in the implementation of standards through this guide. As Chairman, I express thanks to my colleagues in ICNDT and ISCM for their assistance in preparing this document.

Mike Farley
Chairman, ICNDT

Foreword by Chairman of the ISCM and ICNDT WG 6

The first edition of this guide, 'ICNDT Recommended Guidelines for Qualification and Certification of CM Personnel according to ISO 18436', is being published in June 2016 to coincide with the 19th WCNDT in Munich and is based on a draft produced by Mr P Milligan.

ICNDT will update this document periodically and will provide the latest version online via its website (www. icndt. org). Users are strongly advised to check that they have the latest version of this document and the referenced standards. Comments and suggestions are welcome and should be sent to the ICNDT secretariat.

Prof Len Gelman
Chairman, ISCM and Co-chair, ICNDT WG6

1. Background

The prime purpose of this guide, which has been prepared under the auspices of the International Committee for Non-Destructive Testing (ICNDT) Working Group 6, is to promote best practice in the qualification and certification of CM personnel according to the International Standard ISO 18436, Condition monitoring and diagnostics of machines – Requirements for qualification and assessment of personnel*.

The competence of CM personnel is a key element in achieving reliability in condition monitoring (CM) and is vital to ensure the quality and safety of products and installations. This ICNDT guide is of importance to all tiers in the management of CM operations: regulators, inspection bodies, certification bodies, industry, CM service companies and supervisors of CM personnel.

The ICNDT has promoted worldwide dissemination of NDT and CM technologies and the harmonisation of personnel certification schemes for more than 50 years. Such standardisation becomes ever more important as the globalisation of trade increases.

Third-party qualification and certification for both NDT and CM are widely recognised as conferring a number of advantages:

- They comply with an internationally-agreed ISO standard that is increasingly being adopted worldwide;
- An internationally-developed training syllabus is used;
- Examinations are provided directly by certification bodies or through authorised qualifying bodies and authorised examination centres under the control of certification bodies (many of which are linked to national NDT societies);
- Provision of a harmonised standard for training, qualification and certification of personnel and can be used as the base level for more specific employer-based or third-party certification relevant to particular products or installations.

The central role of ISO 18436 among standards for third-party assessment and certification, the historical development of CM personnel certification and the role of ICNDT and ISCM is explained within this guide in Appendices 1 and 2, and a list of ICNDT members at the time of writing is referenced in Appendix 3.

The correct use of third-party qualification and certification of CM personnel is dependent on the employers' recognition of responsibility for CM personnel. This is important in terms of good quality management practices (outlined in ISO 9001[3] at clause 6.2 – Human Resources), product liability, meeting the requirements for accreditation and meeting the requirements of product standards and codes.

In most of the regions where ICNDT has members (Africa, Pan-America, Europe, the Middle East and Asia-Pacific), ISO 18436 has been adopted as a basis for third-party certification schemes. For example, the UK and Australia have accredited certification schemes that comply with ISO 18436. Argentina has established the certification system and many other countries such as USA, Mexico and Brazil are developing national schemes based on ISO 18436.

In many countries around the world, certification bodies that provide ISO 18436 certification have gained accreditation or approval by government agencies or accreditation bodies to ISO/IEC 17024[4] in both voluntary and regulatory sectors. This is discussed in Chapter 4.

The ICNDT is endeavouring to promote international recognition of third-party NDT certification schemes through a global multilateral recognition agreement (MRA), but at the present time the MRA is limited to certification to ISO 9712.

It should be noted that although this guide has been developed to concentrate on certification for condition monitoring issued in compliance with ISO 18436, there is some crossover with NDT given that certification for infrared thermography, acoustic emission and ultrasound is provided in compliance with ISO 9712. ISO 9712's requirements differ from those of ISO 18436, so ICNDT and ISCM recommend users of NDT and CM certification are fully aware of the requirements of *both* of these ISO standards requirements.

** The reference numbers given in square brackets refer to the documents listed in Chapter 5, Bibliography.*

2. Recommendations on qualification and certification

Recommendations to users of central third-party certification

When central third-party certification is appropriate, it is recommended that regulators and industry define the levels of competency of CM personnel who are certificated in accordance with ISO 18436 by a certification body accredited to ISO/IEC 17024[4].

Regulators, users and auditors of CM operations should recognise the importance of employers of CM personnel properly fulfilling their responsibilities to authorise personnel to work after first confirming that their employees are adequately trained, experienced and qualified.

Recommendations to certification bodies

Certification bodies are urged to provide certification to ISO 18436 in order to maximise the value of their certification. Their training syllabuses should encompass the requirements of ISO 18436. Certification bodies should adopt a code of practice as used by NDT certification bodies (see Appendix 5).

National NDT societies seeking to establish national CM certification schemes are recommended to consider seeking cooperation with an existing personnel certification body (PCB) as an alternative or complementary approach. This does not preclude setting up a local PCB.

NDT societies or PCBs that are operating outside their home countries are encouraged to cooperate closely with the national NDT society where they wish to operate. In practice, this should be achieved by means of a signed agreement between the parties. When there is a disagreement, the matter should be referred to ICNDT for mediation.

Guidance for developing countries seeking to establish national certification schemes is provided in Appendix 4.

Recommendations to national standards bodies

In adopting the international standard ISO 18436, the ISO member body is strongly urged to apply it without deviation from the original text in order to ensure that it acts as a harmonising influence. Significant deviations, although permitted under ISO Guide 21[6], could result in a refusal to recognise or accept CM personnel certification.

3. Responsibilities of the employer

An employer of CM personnel carries important responsibilities for the overall quality of CM operations. These should be reflected in the employer's quality procedure for CM (which may be known as the written practice*). The employer retains these responsibilities whether he/she uses third-party certification, in-company certification, or a combination of both.

This section of the ICNDT guide clarifies the employer's responsibilities and gives guidance on how the employer should fulfil these responsibilities. In this context, the employer (or responsible agency) is defined as 'the organisation for which the candidate works on a regular basis'. If the individual is self-employed, he/she will assume all responsibilities specified for the employer or responsible agency.

It is a central tenet of the standard that the employer has overall responsibility for the results of CM operations and is fully responsible for the authorisation of his staff to work. In practice, this must include checking that the CM tasks to be carried out are within the scope of the individual's certification (sector, method and category) as well as their experience. They are also responsible for the organisation of additional company job-specific training and/or examinations, including practical examinations – see Figure 1.

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* *See, for example, SNT-TC-1A[5] published by ASNT.*

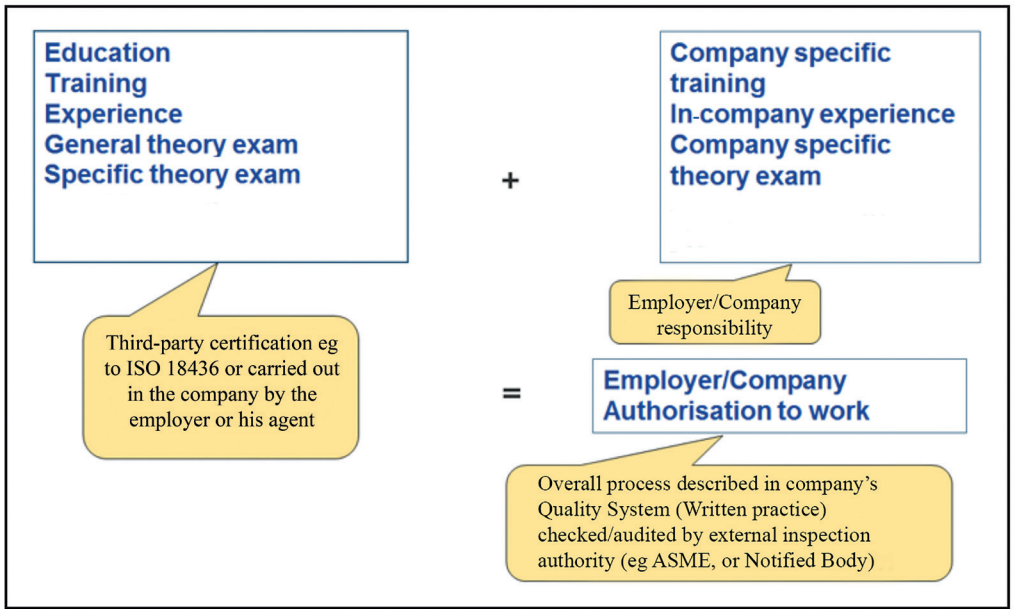

Figure 1. Elements of personnel certification

The employer is responsible for introducing candidates to the certification body and for documenting the candidate's education and prior experience. (If the candidate is unemployed or self-employed, the declaration of education, training and experience shall be attested to by at least one independent party.)

The employer must ensure that employees meet the visual acuity requirements of the certification body (for IRT) on an annual basis and must keep records of work experience that will be needed to demonstrate continuity of satisfactory work activity without significant interruption. This is important both for the employer's own quality assurance and to support renewal/recertification/reassessment.

To fulfil these responsibilities, the employer should prepare and implement a quality procedure (or written practice) covering at least the above responsibilities and maintain adequate records.

The quality procedure, which shall additionally cover the correct administration and control of CM personnel in order to meet the quality requirements of the company, its customers and relevant international or national regulations, will include reference to:

- Applicable codes and standards;
- General responsibilities of categories 1, 2 and 3 (and 4 for VA);
- Certification required (sector, method and category);
- Persons designated by the employer to be responsible for issuing the authorisation to operate;
- Control of in-house training and examination supplementary to that carried out during the ISO 18436 qualification and certification process. This will include job-specific training for tasks outside the scope of the individual's certification and updating with respect to new equipment or techniques;
- Responsibility for maintenance of records. The employer must maintain records for each of his CM personnel including:
  - training;
  - education;
  - work experience;
  - vision test results (for IRT);
  - certification examination results.

The results may be recorded using a suitable checklist – see, for example, Figure 2.

COMPANY NAME:			
OPERATOR'S NAME:			
SCOPE OF CERTIFICATION (sector, method, category):			
Requirement	**Evidence**	**In File**	**Accepted**
Valid test certificate of unimpaired colour vision (for IRT):			
Work experience (in months according to category):			
Training hours (in hours according to category):			
Successful completion of qualification examination:			
Issued ISO 18436 certification:			
Job-specific training:			
Product/materials			
CM equipment/systems			
CM instructions/procedures			
Safety			
Responsible Person Acceptance			
Signature:			
Name:			
Position:			
Date:			

Figure 2. Employer checklist leading to authorisation to work

If all of the above are acceptable, and the employer is satisfied that the above-named employee can be authorised to carry out work for this company in respect of the method and level indicated, the authorisation to work is signed for the employer by the company authorised person – see, for example, Figure 3.

COMPANY NAME:						
This authorisation is issued to:						
who has demonstrated having successfully met the requirements of the Company Quality Procedure (COMPANY X – DOCUMENT REF) in respect of education, training, work experience and examination and is authorised to perform CM as follows:						
Method	Technique	Level	Date of ISO 18436 certification	Due date of renewal or recertification	Signature of authorised company representative	Date

Figure 3. Authorisation to perform condition monitoring

4. Requirements for CM personnel certification bodies

Specific requirements for CM personnel certification bodies

ISO 18436 is the latest internationally-recognised and widely-accepted standard for qualification and third-party certification of CM personnel.

General requirements for personnel certification bodies (PCB)

Clause 5.1 of ISO 18436-1:2014 requires that the certification body shall fulfil the requirements of ISO/IEC 17024[4]. A PCB in compliance with ISO/IEC 17024 will be impartial in its decisions on certification and will ensure that assessments leading to certification are fair, valid and reliable.

Quality management system (QMS)

ISO/IEC 17024 requires a QMS 'that is capable of supporting and demonstrating the consistent achievement of the requirements of this international standard' (Clause 10.1 of ISO/IEC 17024:2012). The standard states that an ISO 9001-compliant management system would fulfil the requirement.

Accreditation

Accreditation is third-party attestation related to a conformity assessment body conveying a formal demonstration of its competence to carry out specific conformity assessment tasks. Accreditation is performed by an accreditation body that is an authoritative body. Requirements for accreditation bodies are detailed in ISO/IEC 17011:2004[7].

The accreditation process is intended to increase the confidence of users of certification in the status of a certification body. Accreditation reduces the risk for users of certification by ensuring that accredited certification bodies and appropriate bodies conducting outsourced work, for example qualification bodies, examination centres etc, are competent to carry out the work they undertake within their scope of accreditation.

Accreditation of personnel certification bodies is performed according to ISO/IEC 17024. The latest edition of ISO/IEC 17024 was published in July 2012. Major changes in the standard are the following:

- New terms were added;
- The section for personnel became more detailed;
- The section for management of impartiality became more detailed;
- A new section with more information about the structure of the certification body in relation to training was added;
- More detail was added for records and information requirements;
- There was a more detailed description of certification schemes;
- There was more detail provided for the certification process requirements;
- New sections were added for appeals, complaints and management systems requirements;
- A 'principles' section was added in Annex A.

There is an international grouping of accreditation bodies known as the International Accreditation Forum (IAF) and there is also a European equivalent known as the European co-operation for Accreditation (EA). Accreditation bodies that are members of the IAF and EA are required to operate at the highest standard and to require that the conformity assessment bodies they accredit comply with appropriate international standards, such as ISO 18436 and ISO 9712, which in turn requires conformance to ISO/IEC 17024.

The EA has a multilateral agreement (MLA), which is operated in compliance with the general requirements for peer assessment of conformity assessment bodies and accreditation bodies set out in ISO/IEC 17040[8], covering recognition of accreditations of personnel certification bodies in Europe. At the time of writing, the IAF does not have an MLA covering the operations of its members offering accreditation to ISO/IEC 17024, though it is expected to implement such an MLA in the near future.

Accreditations granted by signatories to the EA MLA facilitate the development of multilateral recognition agreements (MRAs) amongst groups of PCBs operating certification of persons for specific activities such as CM and NDT. This in turn should allow accredited conformity assessment certificates, for example for ISO 9712 and ISO18436, gained in one part of the world, to be recognised elsewhere in the world.

Against this background, the ICNDT has created its own multilateral recognition agreement for NDT personnel certificated to ISO 9712, with criteria and processes that take advantage of and complement accreditation.

5. Bibliography

This section lists all documents referred to in the main text and the appendices. It provides a list of the latest editions (at the time of writing) of standards dealing with or impacting upon the qualification and certification of personnel engaged in NDT and CM.

1. ISO 9712:2012 — Non-destructive testing – Qualification and certification of NDT personnel
2. ISO 18436-1:2012 — Condition monitoring and diagnostics of machines – Requirements for qualification and assessment of personnel – Part 1: Requirements for assessment bodies and the assessment process
3. ISO 9001:2008 — Quality management
4. ISO/IEC 17024:2012 — Conformity assessment – General requirements for bodies operating certification of persons
5. SNT-TC-1A (2011) — ASNT Recommended Practice for Personnel Qualification and Certification in Non-destructive Testing
6. ISO/IEC Guide 21-1:2005 — Regional or national adoption of international standards and other international deliverables – Part 1: Adoption of international standards
7. ISO/IEC 17011:2012 — Conformity assessment – General requirements for accreditation bodies accrediting conformity assessment bodies
8. ISO/IEC 17040:2005 — Conformity assessment – General requirements for peer assessment of conformity assessment bodies and accreditation bodies
9. ISO 18436-2:2014 — Condition monitoring and diagnostics of machines -- Requirements for qualification and assessment of personnel – Part 2: Vibration condition monitoring and diagnostics
10. ISO 18436-3:2012 — Condition monitoring and diagnostics of machines – Requirements for qualification and assessment of personnel – Part 3: Requirements for training bodies and the training process
11. ISO 18436-4:2014 — Condition monitoring and diagnostics of machines – Requirements for qualification and assessment of personnel – Part 4: Field lubricant analysis
12. ISO 18436-5:2012 — Condition monitoring and diagnostics of machines – Requirements for qualification and assessment of personnel – Part 5: Lubricant laboratory technician/analyst
13. ISO 18436-6:2014 — Condition monitoring and diagnostics of machines – Requirements for qualification and assessment of personnel – Part 6: Acoustic emission
14. ISO 18436-7:2014 — Condition monitoring and diagnostics of machines – Requirements for qualification and assessment of personnel – Part 7: Thermography
15. ISO 18436-8:2013 — Condition monitoring and diagnostics of machines – Requirements for qualification and assessment of personnel – Part 8: Ultrasound

It should be noted that the above list is not exhaustive. The status of the referenced documents should be ascertained by reference to the issuing organisation before use.

APPENDICES

Appendix 1: The role of ICNDT and its regional groups in the harmonisation of qualification and certification

Introduction

This appendix highlights the role of the ICNDT members and the regional groups of ICNDT with respect to qualification and certification of NDT personnel and summarises the 60+ years of dedication by ICNDT to this field. It also references the documents produced on qualification and certification of NDT personnel, the very effective liaison with ISO TC135 on the harmonisation of standards and provides some details concerning ongoing work.

Foundation of ICNDT

The first World Conference on NDT was held in 1955 by a group of European countries, USA, Japan, China, India and the USSR. Its main objective was to gather scientists and technologists from all over the world in order that they could pool together their common experiences in promoting the development of the application of NDT.

ICNDT, as an international organisation, was formed on 15 March 1960, just prior to the third World Conference on Non-Destructive Testing, which was held in Tokyo, Japan, from 16-21 March 1960.

ICNDT is a non-profit association devoted to the development of the science and practice of non-destructive testing in conjunction with existing NDT societies and recognised regional groupings of NDT societies.

ICNDT has recently broadened its horizons and has set itself a number of important objectives:

- To be the international organisation that acts as the prime focus on non-destructive testing for the benefit of the involved community and the public in general;
- To promote international collaboration in all matters relating to NDT;
- To encourage the foundation, growth, development and cooperation of national and regional societies;
- To assign the place and organisation of the World NDT Conference to an appropriate NDT society or group of societies, at intervals of four years;
- To establish with continental groupings of NDT societies initiatives for implementing ICNDT policy;
- To encourage the formulation of international standards on non-destructive testing in collaboration with the International Organization for Standardization (ISO) and other standards bodies;
- To establish an ICNDT multilateral recognition agreement (MRA) of NDT personnel certification and the development of a process for the ICNDT assessment and approval of NDT personnel certification bodies.

World Conferences on NDT (WCNDT)

The NDT World Conference organised by ICNDT was the first concrete expression of the desire to cooperate in the dissemination of NDT. The first World Conference was held in Brussels in 1955 as a tribute to Gevaert, the producer of X-ray film, which sponsored international meetings in Antwerp.

A list of all world conferences, including planned venues up to 2020, is given on the ICNDT website.

Besides the need to establish, improve and disseminate NDT techniques, the need for harmonisation of qualification and certification of NDT personnel has grown through the years, with this topic becoming the focus of many ICNDT meetings and an important topic of discussion during the world conferences.

The role of NDT societies

In most countries, the major catalyst for establishing a certification scheme for NDT or CM is the national NDT society. The society provides a focus for information on NDT technologies, training and certification and, through the ICNDT, a link to the international NDT community. More than 60 countries have established NDT societies that are members of ICNDT (see Appendix 3) and ICNDT continues to assist the formation of new societies.

The role of ICNDT regional groups

The regional groups within ICNDT have a primary role in the promotion of NDT and in providing information on how to set up an NDT society. Regional groups also have a strong focus on the recognition and harmonisation of NDT personnel certification schemes within that region and alignment of these certification schemes to ISO 17024.

Four regional groups are active:

- The African Federation of NDT;
- The Asia-Pacific Federation for NDT – www.apfndt.org;
- The European Federation for NDT – www.efndt.org;
- The Pan-American Committee.

Each regional group has their own constitution which, in terms of both strategy and policy, is complementary to that of ICNDT. Regional conferences play an important role in the development and promotion of NDT.

IAEA/ICNDT cooperation

In order to promote NDT in developing countries, the International Atomic Energy Agency (IAEA) and ICNDT have forged a strong relationship based on mutual cooperation. In particular, ICNDT experts participate in many IAEA projects that involve the training, qualification and certification of NDT personnel.

ICNDT achieves legal status in 2008

ICNDT was formally registered as a legal non-profit international association in Vienna in 2008, in accordance with the Austrian Corporations Act. An up-to-date list and contact addresses are given on the ICNDT website at www.icndt.org

ICNDT website

Information on all ICNDT activities is provided on the ICNDT website (www.icndt.org). This site serves to improve and strengthen links between NDT societies and regional groups. ICNDT also publishes a regular journal.

Appendix 2: Qualification and certification of CM personnel in accordance with ISO 18436

The ISO 18436 series of standards cover the qualification and certification of CM personnel in one or more CM methods: acoustic emission testing, vibration analysis, infrared thermographic testing, lubrication analysis and ultrasound.

The responsibilities of the certification body, its authorised qualifying bodies (where used) and examination centres are defined, and the role of the employer is clarified. Levels of qualification are defined (Categories 1, 2 and 3 and Category 4 within vibration analysis).

Eligibility for certification is specified, covering vision requirements (for IRT only), minimum training requirements and the required duration of industrial experience.

Written parts of qualification examinations are defined for each category, with minimum numbers of questions.

Rules are specified governing administration of certification, including the conditions for renewal and recertification.

Note: ISO 18436 does not require practical examinations (though some individual PCBs include a practical element in the course examination).

General requirements are given in Parts 1 and 3 and requirements for specific methods are given in Parts 2, 4, 5, 6, 7 and 8 of the ISO 18436 series:

- Part 1: Requirements for assessment bodies and the assessment process
- Part 2: Vibration condition monitoring and diagnostics

- Part 3: Requirements for training bodies and the training process
- Part 4: Field lubrication analysis
- Part 5: Lubricant laboratory technician/analyst
- Part 6: Acoustic emission
- Part 7 Thermography
- Part 8: Ultrasound

Appendix 3: ICNDT membership directory

The following list shows all ICNDT members at the time of writing, with their ICNDT membership status (Full or Associate). For an up-to-date list of ICNDT member societies and contact details, go to: http://www.icndt.org/Directory.asp

Full members

Country	Society	Internet site
Argentina	Asociación Argentina de Ensayos No Destructivos y Estructurales (AAENDE)	www.aaende.org.ar
Australia	Australian Institute for NDT (AINDT)	www.aindt.com.au
Austria	Austrian Society for NDT (ÖGfZP)	www.oegfzp.at
Bangladesh	Bangladesh Society for NDT (BSNDT)	
Belarus	Belarusian Association for NDT and Technical Diagnostics (BANDT)	http://bandt.basnet.by
Belgium	Belgian Association for NDT (BANT)	http://bant.be/
Brazil	Associação Brasileira de Ensaios Não Destrutivos e Inspeção (ABENDI)	www.abendi.org.br
Bulgaria	Bulgarian Association for Non-Destructive Testing (BGSNDT)	www.bg-s-ndt.org
Canada	Canadian Institute for NDE (CINDE)	www.cinde.ca
China, People's Republic of	Chinese Society for Non-Destructive Testing (ChSNDT)	www.chsndt.com
Chinese Taiwan	Non-Destructive Testing Society of China-Taipei (SNTCT)	www.sntct.org.tw
Colombia	Asociación Colombiana de Soldadura y Ensayos No Destructivos (ACOSEND)	
Croatia	Croatian Society for Non-Destructive Testing (CrSNDT)	www.hdkbr.hr
Czech Republic	Czech Society for Non-Destructive Testing (CNDT)	www.cndt.cz
Denmark	Danish Society for NDT	www.dslsvejs.dk
Egypt	Egyptian Society for Industrial Inspection	
Finland	Finnish NDT Society	
France	French NDT Organisation (COFREND)	www.cofrend.com
Germany	German Society for Non-Destructive Testing (DGZfP)	www.dgzfp.de
Greece	Hellenic Society of Non-Destructive Testing (HSNT)	www.hsnt.gr
Hungary	Hungarian Association for Non-Destructive Testing (MAROVISZ)	www.marovisz.hu
India	Indian Society for Non-Destructive Testing (ISNT)	www.isnt.org.in
Indonesia	Asosiasi Uji Tak Rusak Indonesia (AUTRI)	www.autri.org
Iran	Iranian Society for Nondestructive Testing (IRNDT)	en.irndt.org
Israel	Israeli National Society for Non-Destructive Testing (ISRANDT)	http://www.israndt.org
Italy	Italian Society for NDT (AIPnD)	www.aipnd.it
Japan	Japanese Society for Non-Destructive Inspection (JSNDI)	www.jsndi.jp

Country	Society	Internet site
Kazakhstan	Non-Destructive Testing and Technical Diagnostic Association, Republic of Kazakhstan	www.ndtassociation.kz
Kenya	Non-Destructive Testing Society of Kenya (NDTK)	
Korea, South	Korean Society for Non-Destructive Testing (KSNT)	www.ksnt.or.kr
Latvia	Latvian NDT Society	
Lebanon	Industrial Research Institute (IRI)	www.iri.org.lb
Lithuania	Lithuanian Society for NDT and Technical Diagnostics (LNBD)	www.lnbd.lt
Malaysia	Malaysian Society of NDT (MSNT)	www.msnt.org.my
Mexico	Instituto Mexicano De Ensayos No Destructivos AC (IMENDE)	www.imende.com
Netherlands	Nederlandse Vereniging voor Kwaliteitstoezicht, Inspectie en Niet-destructieve Techniek (KINT)	www.kint.nl
New Zealand	New Zealand Non-Destructive Testing Association Inc (NZNDTA)	www.ndta.org.nz
Nigeria	Nigerian Society for NDT	
Norway	Norwegian NDT Society (NSNDT)	www.ndt.no
Pakistan	Pakistan Society for NDT (PASNT)	www.ncndt.org.pk
Philippines	Philippine Society for Non-Destructive Testing Inc (PSNDT)	www.psnt-ndt.org
Poland	Polish Society for NDT and Technical Diagnostics (PTBNIDT / SIMP)	www.ptbnidt.pl
Portugal	Associacao de Laboratorios Acreditados de Portugal (RELACRE)	www.relacre.pt
Romania	Romanian Association of NDT (ARoENd)	www.aroend.ro
Russian Federation	Russian Society for NDT and Technical Diagnostics (RSNTTD)	www.ronktd.ru
Serbia	Serbian Society for NDT (SDIBR)	
Singapore	Non-Destructive Testing Society (Singapore) (NDTSS)	www.ndtss.org.sg
Slovakia	Slovak Society for Non-Destructive Testing (SSNDT)	www.ssndt.sk
Slovenia	Slovenian Society for Non-Destructive Testing (SSNDT)	
South Africa	Southern African Institute for NDT (SAINT)	www.saint.org.za
Spain	Spanish Association for NDT (AEND)	www.aend.org
Sri Lanka	Society for Non-Destructive Testing, Sri Lanka (SNDT)	
Sudan	Sudanese Society for Non-Destructive Testing (SSNDT)	
Sweden	Föreningen för Oförstörande Provning (FOP)	www.ndtsweden.com
Switzerland	Schweizerische Gesellschaft für Zerstörungsfreie Prüfung (SGZP / SSNT)	www.sgzp.ch
Thailand	Thai Society for NDT (TSNT)	
Tunisia	Tunisian Committee for NDT c/o CETIME (COTEND)	www.cetime.ind.tn
Turkey	The Turkish Society for Non-Destructive Testing (TURK NDT)	www.turkndt.org
Ukraine	Ukrainian Society for NDT (USNDT)	www.usndt.com.ua
United Kingdom	The British Institute of Non-Destructive Testing (BINDT)	www.bindt.org
United States of America	The American Society for Nondestructive Testing (ASNT)	www.asnt.org
Uruguay	Asociaciòn Uruguaya de Ensayos No Destructivos (AENDUR)	
Uzbekistan	Uzbekistan Society for Non-Destructive Testing (UzSNDT)	
Venezuela	Associacion Venezolana de Ensayos No Destructivos (ASOVEND)	

Associate members

Country	Society	Internet site
Algeria	Centre de Recherche Scientifique et Technique en Soudage en Controle/Federation (CSC/FALEND)	
Bosnia & Herzegovina	Bosnian and Herzegovinan Society for NDT	
Costa Rica	National Committee for NDT	
Ecuador	Escuela Politecnica del Litoral (ESPOL)	
Iran	Iranian Institute of Welding and Non-Destructive Testing (IWNT)	
Mongolia	Mongolian Society for NDT (MSNDT)	
South Africa	Southern African Institute of Welding (SAIW)	http://www.saiw.co.za
Vietnam	Vietnam Association for NDT (VANDT)	

Appendix 4: Guidance for developing countries seeking to establish national certification schemes

Background

This guidance has been developed by ICNDT to aid countries seeking to establish national certification schemes – listing merits of co-operation with established personnel certification bodies.

Preamble

1. It is clearly not practical for every single PCB to offer every category of certification (method, sector, etc).
2. NDT/CM societies in developing countries that are considering setting up their own certification schemes face a major task and a long period of time before they can offer a full range of certification and further major hurdles in achieving recognition.
3. On the other hand, management of a national PCB is often a route to some authority and influence for an NDT/CM society in its own country.
4. Some qualification and certification organisations offer training and examinations outside their home countries, using several different models:
   - AINDT offers CM certification through a network of approved training and examination bodies both in Australia and throughout the world;
   - BINDT offers CM certification through a network of approved training and examination bodies both in the UK and throughout the world.

Guidance

National NDT/CM societies seeking to establish national certification schemes are recommended to consider seeking cooperation with an existing certification body as an alternative or complementary approach. This does not preclude setting up a local PCB.

NDT societies and/or PCBs which are operating outside their home countries are encouraged to cooperate closely with the national NDT society where they wish to operate. In practice, this should be achieved by means of a signed agreement between the parties. Possible areas of collaboration are:

- External PCBs should seek to accept local certification and training as an entry level to their examinations;
- Agreement on language for examinations;
- Recognition of local meetings and activities in points schemes for renewal/recertification.

When there is a disagreement, the matter should be referred to ICNDT for mediation.

Appendix 5: Code of practice for personnel certification bodies

NDT personnel certification bodies (PCBs) seeking ICNDT approval and/or registration under the ICNDT multilateral agreement on Recognition of Certification are obliged to sign an undertaking to comply with this code of practice. *Inter alia*, they should:

1. Maintain compliance with the standard(s) and specification(s) detailed on their certificate of accreditation or the ICNDT certificate of conformity, notifying the ICNDT Certification Executive Committee (ICEC) of any change in status, or in the standards with which the certification scheme that they operate to complies;
2. Promote recognition and acceptance in their own country of the certificates of conformance issued by other PCBs registered under the ICNDT MRA;
3. Keep confidential all examination material, including examination questions and specimens, in secure conditions with strictly controlled access only to authorised individuals;
4. Conduct their business in a responsible manner and utilise fair and equitable practices in dealing with clients and candidates;
5. Perform their professional duties with proper regard for the physical environment and the safety, health and well being of certificate holders and candidates for certification;
6. Protect to the fullest extent possible, consistent with the wellbeing of the public and the provisions of this CoP, any information given to them in confidence by an employer of certificated NDT personnel, candidates and certificate holders, or members of the public;
7. Avoid conflicts of interest with employers of certificated NDT personnel or candidates but, when unavoidable, forthwith disclose the circumstances to the employer or candidate;
8. Not falsify nor permit misrepresentation of their accreditation, ICNDT certificate of conformity or certificate of registration under the ICNDT MRA;
9. Refrain from making unjustified statements or from performing unethical acts that would discredit the NDT profession or the ICNDT;
10. Immediately report to the ICEC any perceived violation(s) of this code of practice by any party;
11. Accept the right of the ICNDT, and provide unhindered access to a nominated representative of the ICNDT, to investigate any alleged infringements of this code of practice;
12. Indemnify the ICNDT against liability for the PCB's use or misuse of the ICNDT MRA and/or PCB CA systems, which are administered as a series of signed agreements under the jurisdiction of Austrian law.

Note: In this context NDT includes CM.