

HARMONISATION AND RECOGNITION OF NDT PERSONNEL CERTIFICATION – EXPERIENCE IN EFNDT

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Abstract: The paper describes the experience in Europe starting from the development of training guidelines leading to the preparation of EN473 and ISO9712. The main drivers for harmonisation have been these standards, the existence of the EFNDT's Qualification and Certification Working Group, the trend to harmonised standards in Europe and the requirements of regulators/external bodies such as the Pressure Equipment Directive. It has been possible to achieve a significant degree of harmonisation whilst also allowing national certification bodies to vary their schemes according to national needs.

A large number of national NDT Societies have agreed to recognise the Certification Schemes registered with EFNDT through the EFNDT Mutual Recognition Agreement, which has now been extended outside Europe.

Information will be provided on the latest developments and the author's views on the best modern practice and directions for future development will be outlined.

Standards: The competence of the people who carry out Nondestructive Testing is an essential pre-requisite for the achievement of quality and reliability. Qualification and Certification of NDT personnel in accordance with International Standards such as EN473 ISO 9712 helps to ensure that people are competent and assists global business and safety standard.

The first steps towards harmonisation in third-party NDT personnel certification were taken with the preparation of internationally agreed Recommendations on International Harmonisation of Training Qualification and Certification of NDT personnel published on behalf of ICNDT in November 1985.

At the same time, the ICNDT also took a leading position in pressing ISO TC135 to prepare a standard for third-party personnel certification.

Standards: Good progress was made in TC135 SC7 but the pace was not sufficiently fast to meet the needs of the European countries which foresaw the need for a standard to be in place by the time of the Single Market in 1998. As a result CEN TC138 was tasked with preparing a European Standard and this was published as EN473:2000 Qualification and Certification of NDT personnel – General Principles (1)

In practice the ISO standard (ISO 9712) (2) and the EN standard are very similar and many schemes fulfil the requirements of both.

At the present time ISO9712 is being revised, primarily to make it still closer to EN473. The latest version of ISO9712 will give more detailed requirements for practical examinations (including details of testpieces and references) to determine the performance level of the candidate and better harmonisation of practical examinations. It also gives guidance on the definition of industrial and product sectors to aid international harmonisation. The final draft FDIS 9712 will be subject to vote late 2004/early 2005.

It is hoped that, in due course, the presently separate EN473 and ISO9712 standards will merge into a single International/European standard. This would be accomplished using the Guidelines for TC/SC Chairmen and Secretariats for implementation of the agreement on technical co-operation between ISO and CEN (Vienna Agreement) which was approved by ISO executive Board on 17 May 1001, and by the CEN Administrative Board on 27 June 1991. A decision will be made by CEN TC138 in 2005 whether to update EN473:2000, or replace it by ISO9712.

ICNDT and EFNDT have each expressed the view that convergence to a single standard is important for harmonisation and to facilitate world trade.

Training Syllabi: Both EN473 and ISO9712 reference several published training syllabi. It should be noted that at the time of preparation of this paper a joint Working Group of ISO/TC135/WG2 and CEN/TC 138/AHG8 is in the process of revising and updating the Training

Syllabus to be referenced in future editions of the Standards. ICNDT has assisted in this process by issuing drafts of the update on its own WH/85 documents. Otherwise the most up-to-date training syllabi are those published by the IAEA as IAEA TECDOC-628 Revision 1 (2002) (3).

Schemes: A large number of Certification Bodies offer Certification Schemes which comply with ISO9712 or EN473 or both. These include 19 countries in Europe and at least 10 outside Europe. An up-to-date listing is available from ICNDT or EFNDT.

Accreditation: ISO9712 (1999) requires that the certification system should be controlled and administered by a certification body which conforms to the requirements of the standard EN45013 (General criteria for Certification Bodies operating certification of Personnel), while ISO DIS 9712: 2003 requires that certification bodies comply with ISO/IEC 17024:2003 (Conformity assessment - General requirements for bodies operating certification of persons). These standards are designed to ensure that a Certification Body is adequately qualified for its role and is independent of any single interest.

In many countries of the world Certification Bodies have gained Accreditation by independent agencies – many of which are government sponsored – generally known as Accreditation Bodies. There is an international body of Accreditation Bodies known as the IAF and a European equivalent EA. Some Accreditation Bodies operate outside their national boundaries. The Accreditation process is intended to increase the confidence of users in the status of a Certification Body.

Accreditation reduces risk for business and its customers by assuring them that accredited bodies are competent to carry out the work they undertake within their scope of accreditation. Accreditation bodies which are members of the International Accreditation Forum, Inc. (IAF) are required to operate at the highest standard and to require the bodies they accredit to comply with appropriate international standards and IAF Guidance to the application of those standards (In 2003, the IAF drafted guidelines for the application of the standard by accreditation and certification bodies).

Accreditation granted by accreditation body members of the IAF Multilateral Recognition Arrangement (MLA), based on regular surveillance to assure the equivalence of their accreditation programs, allows companies and persons with an accredited conformity assessment certificate in one part of the world to have that certificate recognized everywhere else in the world.

It is foreseen that the present MLA for recognition of accreditation of personnel certification bodies operated under the European co-operation for Accreditation (EA) organisation will be mirrored by a similar MLA operated under the IAF.

The EN45013 standard has now been superseded by an International Standard ISO17024:2003 and audits will be against this document from 1 April 2005. The International Accreditation Forum (IAF) has published guidance on the application of ISO/IEC17024:2003. A key new requirement arising from these publications is the specification of practical examinations as part of the Re-Certification process ten years after initial certification.

There is some disquiet in EFNDT circles as to the uniformity of accreditation in different countries. EFNDT is therefore considering how approval/accreditation of certification bodies might be better standardised.

Mutual Recognition: Background: The publication ICNDT WH85 included a model agreement (WH23 – 85) adopted 7 November 1985, on the mutual recognition of qualification and certification schemes for NDT personnel.

It was envisaged that what was initially a model bilateral agreement for use by two Certification Bodies might, due to the extension of such agreements between parties, effectively develop into a multilateral agreement between several bodies.

Bi-lateral Agreements: a number of bilateral recognition agreements, based upon the model in WH23 – 85, emerged in the late 1980s and early 1990s. Some of these are still in force.

Mutual Recognition: In early 1993, an ad hoc meeting was arranged in Brussels with the intent of harmonising the implementation of the European Standard EN 473 (Non-Destructive Testing – qualification and Certification of NDT Personnel – General Principles) through three CEC funded projects:

- i) establishing a European bank of multiple choice questions
- ii) documentation of a system for administering examinations
- iii) interpretation of EN 473

At a subsequent meeting in Berlin on 21 October 1993, the then European Committee on NDT (ECNDT) established a Working Group of European Union national NDT societies and their associated certification bodies. This was given a remit to establish a European-wide multilateral agreement on mutual recognition of certification. The group involved in this meeting became known as the European Working Group on Qualification and Certification.

At a meeting in Paris on 27 April 1994, the first draft of the European Multilateral Agreement was tabled. It was subsequently amended and ratified at the 6th European Conference on NDT in Nice, France, in October 1994. On this auspicious occasion the first 20 or so of the eventual 30 plus ECNDT members signed the very first truly multi-lateral agreement to recognise mutually certificates issued by Certification Bodies registered under the agreement.

Today, the European Federation for NDT (EFNDT) MLA has 28 signatories and 20 registered Certification Bodies, all of which are accredited as complying with European Standard EN 45013 and issuing certification in compliance with EN 473 (and/or ISO 9712).

Under Version 8 of the Agreement (26 October 2002), participation is open to schemes outside Europe providing either EN473 or ISO9712 Certification. A copy of the Agreement is published on the EFNDT Website (www.efndt.org) along with listings of the participant schemes.

The EFNDT MRA takes advantage of accreditation where appropriate but can substitute its own approval, following an independent audit when necessary.

Employer's Responsibilities: Correct use of Third Party Qualification and Certification of NDT personnel is dependent on the Employer of personnel recognising his own responsibilities. These are similar to those when using in-house certification and should be reflected in the Employer's quality system/Written Practice. This is important in terms of quality assurance (meeting the requirements of ISO9000), product liability, meeting the requirements for Accreditation and meeting the requirements of product standards and codes such as the ASME Boiler and Pressure Vessel Codes.

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 shall assume all responsibilities specified for the employer or responsible agency.

The responsibilities of the Employer are:

- a. The Employer has overall responsibility for the results of NDT operations.
- b. The Employer shall introduce the candidate to the Certification Body or the Authorised Qualifying Body and endorse the validity of the personal information provided. The documentation provided shall include the declaration of education, training and experience needed to establish the eligibility of the candidate.
- c. The Employer shall be fully responsible for the authorisation to operate, including checking that NDT tasks to be carried out are within the scope of the individual's certification Method, Level, Sector, and if not organising additional job-specific training and/or examinations.
- d. The Employer shall ensure annually that employees meet the visual acuity requirements.
- e. The Employer shall maintain records of work experience necessary as a basis for confirming continuity of satisfactory work activity (to support renewal/recertification).

To fulfil these responsibilities the Employer must prepare a Quality Procedure (or Written Practice) and maintain adequate Records.

The Quality Procedure shall cover the correct administration and control of NDT personnel in order to meet the quality requirements of the company, its customers and relevant international or national regulations.

Acknowledgment: Information in this paper has been extracted from a new document soon to be published by ICNDT (4).

References:

1. CEN Standard EN473:2000 Qualification and Certification of NDT Personnel – General Principles, published as BS EN473 by BSI
2. ISO Standard ISO9712 Non-Destructive Testing – Qualification and Certification of Personnel. 2nd edition 1999. Published by ISO.
3. IAEA-TECDOC-628 Revision 1 (2002 edition): Training Guidelines in Non-destructive Testing Techniques. International Atomic Energy Agency
4. ICNDT Recommended Guidelines for Qualification and Certification of NDT Personnel according to ISO9712.