ICNDT WG1 on qualification and certification – efforts on global harmonization of the process of personnel certification

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Abstract. ICNDT WG1 was created in 2008 with the aim to develop the principles of harmonization of third party certification of NDT personnel. First Chairman John Thompson made a great effort on forming of WG1, development of ICNDT Multilateral Recognition Agreement and procedures of conformity assessment of Personnel Certification Bodies (PCB).

The big task for WG1 was the proper interpretation of ISO 9712 which was published in June 2012. New standard was a real step forward on the way of harmonization of third party certification. Standard became more practicable to use. But when PCBs have started to implement the new standard some questions have been appeared. Some statements of the standard allow the PCB to interpret them in different way. WG1 has felt that it could be a real threat to harmonization process. It was decided that Recommendations on interpretation of ISO 9712:2012 shall be developed. This process was launched in November 2012 and completed in March 2015 as Report of WG1. Recommendations are published on ICNDT web site and can be used for next revision of ISO 9712.

Another deal is administration of practical examination. This process is very difficult to harmonize because of different approaches of PCBs to creation of sectors, assessment of particular parts of practical examination, difficulties of specimens. Ad hoc group within WG1 was created. Good result was achieved.

Introduction

Working Group 1 (WG1) on NDT Qualification and Certification was established by ICNDT in 2008 to provide support for harmonization in the qualification and certification of NDT personnel and to develop documents and procedures needed to achieve this objective.

Now WG1 composed of 20 members. They represent the following countries: Australia, Austria, Brazil, Canada, China, France, Germany, Japan, Russian Federation, Serbia, Singapore, South Africa, South Korea, Spain, Turkey, UK, Ukraine, USA.

The general objectives of WG 1 are
- the harmonization of criteria related to the qualification and certification of personnel, and the processes for the conformity assessment of personnel certification bodies (PCB),
the widespread recognition and acceptance of NDT personnel certification in compliance with specified international standards and ICNDT guidelines.

WG1 has the following tasks:

- To promote best practice in NDT personnel training, qualification and certification.
- To develop any relevant documents as specified in the action plan to assist PCB’s in proper implementation of NDT personnel qualification and certification standards.
- To draft any relevant documents for company based NDT personnel qualification systems as required in the action plan.
- To develop and maintain up to date on request of ICEC the operation procedures and other documents related to Multi-lateral Mutual Recognition Multilateral Recognition Agreement (MRA) and PCB Conformity Assessment.
- To organize workshops and/or seminars on qualification and certification of NDT personnel and conformity assessment & accreditation of PCBs.
- To review and update ICNDT Guide to Qualification and Certification of Personnel for NDT.
- To execute any requests of ICNDT’s Policy and General Purposes Committee (PGPC) or Executive Committee (IEC) related to NDT personnel qualification and certification.
- To maintain liaison with relevant bodies/groups/committees.
- To support best practice in company-based qualification and certification systems and liaise externally (for example with ASNT SNT TC 1A).

WG1 has liaison with ISO TC135 SC7, International Accreditation Forum (IAF), ISO/CASCO WG30 (revising ISO/IEC 17024), International Atomic Energy Agency (IAEA).

1. WG1 harmonization activity.

1.1 ICNDT Multilateral Recognition Agreement

First WG1 Chairman John Thompson made a great effort on forming of WG1, development of ICNDT Multilateral Recognition Agreement and procedures of conformity assessment of Personnel Certification Bodies (PCB). The main task of MRA is to provide the basis for recognition of personnel certification schemes. Actually MRA is in two parts, described as ‘Schedule 1’ and ‘Schedule 2’. Schedule 1 comprises the list of national societies / institutes (Parties) that are members of ICNDT and have signed the agreement, committing to supporting the objectives of the MRA. Schedule 2 comprises a list of personnel certification bodies (PCB) that meet the required criteria and are registered by ICNDT under the Agreement.

PCB seeking registration under MRA Schedule 2 shall meet the following criteria:

- Be proposed for registration under Schedule 2 by a Party to this MRA that is a signatory to Schedule 1;
- Shall have confirmed their acceptance of the ICNDT Code of Practice for Personnel Certification Bodies.
- Shall have provided information on the possible use of Authorised Qualification Bodies and sectorial arrangements and shall have a published code of ethics
- Shall be independently accredited;
• Shall have provided evidence that the accreditation meets ICNDT requirements
• Shall have remitted to the ICNDT the current initial application fee or the renewal fee if applicable.

For registration under Schedule 2 of the MRA, the ICNDT requires evidence of independent accreditation in conformance with ISO/IEC 17024 and ISO 9712. This will usually be provided by an Accreditation Body (AB) meeting the following criteria:
• The AB is a member of an international body acceptable to ICNDT;
• The accreditation process is judged satisfactory by ICNDT on the basis of a review of the Accreditation Body’s Assessment Report;
• The Accreditation Body’s Assessment Report demonstrates in the judgment of ICNDT that the assessment involved an assessor with NDT expertise (for example ISO 9712 certification Level 3 in at least one method) sufficient to be able assess compliance with ISO 9712.

If PCB does not meet the ICNDT requirements, ICNDT Personnel Certification Body Approval Scheme can be applied. This may be a complete conformity assessment or a limited assessment targeted at specific items.

1.2 Recommendation on interpretation of ISO 9712:2012

The next big task for WG1 was the proper interpretation of ISO 9712 which was published in June 2012. ICNDT is an organization which unites more than 60 members. In each ICNDT region (Europe, Africa, the Americas, Asia-Pacific region) ISO 9712:2012 has been implemented as a basis for third-party certification schemes.

The standard was a real step forward on the way of harmonization of third party certification. Standard became more practicable to use. But when PCBs have started to implement the new standard some questions have been appeared. Some statements of the standard allow the PCB, especially young and inexperienced, to interpret them in different way. 26 particular statements of ISO 9712:2012 were defined to be interpreted. WG1 has felt that it could be a real threat to harmonization process. It was decided that Recommendations on interpretation of ISO 9712:2012 shall be developed. This process was launched in November 2012 and completed in March 2015 as Report of WG1 which has advisory nature only. Recommendations are published on ICNDT web site and can be used for next revision of ISO 9712. As example an extract from Report is given in Table 1.

<table>
<thead>
<tr>
<th>Para</th>
<th>Statement to be interpreted</th>
<th>Interpretation of statement</th>
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<tbody>
<tr>
<td>3.3</td>
<td>... under the supervision of personnel having a qualification acceptable to the certification body</td>
<td>It is recommended for CB to define criteria for acceptance of qualification of supervision personnel in order to meet requirements of paragraph 3.25. It is recommended that qualification of supervision should be at least ISO 9712 Level 2 or equivalent (e.g. ASNT Level 2 or ASNT SNT TC 1A Level 2).</td>
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<tr>
<td>3.25</td>
<td>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</td>
<td>WG1 feels that non-certified supervisor is not suitable for qualified supervision. However if it is the case CB should require from applicant to submit CV of candidate’s non-certified supervisor. It is recommended for CB to define requirements to experience of non-certified supervisor. Experience should be not less than Level 3 experience duration according to Table 3 of ISO 9712:2012 for the method concerned.</td>
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1.2 Administering of practical examination

Another deal is administering of practical examination. This process is very difficult to harmonize because of different approaches of PCBs to creation of sectors, assessment of particular parts of practical examination, difficulties of specimens. Ad hoc group within WG1 was created. The main task is to produce a recommendation for certification bodies to draft procedures for the administration of NDT practical examinations in accordance with product sector. The recommendation amplifies the requirement of EN ISO 9712:2012, and aims to develop a minimum common benchmark of test specimens used for the administration of NDT practical examinations. The document acts as a recommendation, individual certification body should establish procedures to meet the requirement of established industrial and product sector.

1.3 Conformity Assessment of PCB conducting qualification and certification of personnel when ‘introducing new NDT methods and techniques’

ISO 9712:2012 specifies requirements for principles for the qualification and certification of personnel who perform industrial non-destructive testing (NDT) using “ordinary” NDT methods.

If Certification Body applies new NDT methods or techniques covered by international standards it is possible to be assessed by ICNDT to be able to register under MRA Schedule 2. This does not necessarily mean international acceptance of the method or technique.

The certification body shall develop a certification scheme according to the requirements of Clause 8 of ISO/IEC 17024:2012. In case of a new technique it is recommended that the candidate shall have valid certification on the main NDT method, e.g. UT certification for TOFD and Phase Array, RT for Digital Radiography, MT for Metal Magnetic Memory Method etc. The procedure of practical examination shall be developed in detail including number of specimens to be tested, requirements to specimens, sample of master report, rules for grading, etc. Together with completed application form and appropriate supporting documents required by OP20 the Certification body shall submit international standard and documentary evidence of the effectiveness of the new NDT method or technique. These documents will enable ICEC to confirm eligibility for assessment.

1.4 Functions and responsibilities of parties involved in certification process for particular candidate

ISO/IEC 17024:2012 defines certification process as activities by which a Certification Body determines that a person fulfills certification requirements including application, assessment, decision on certification, recertification and use of certificates and logos. However, Certification Body may outsource the work related to certification to other bodies excluding decision making process. It means that Certification Body can outsource application and assessment to another body. ISO/IEC 17024:2012 defines examination as a part of assessment. According to ISO 9712:2012 examinations can be prepared and administered by Authorized Qualification Body and carried out by Examination Center. Thus it can be two scenarios for participation in certification process: Certification Body – Examination Center and Certification Body - Authorized Qualification Body - Examination Center. ISO 9712:2012 defines responsibilities of the parties but not the functions. WG1 has prepared the draft of Recommendations which will clarify appropriate provisions of ISO 9712:2012.
3. Future activity.

WG1 will continue its work on development of harmonization process. The main subjects will be possible substitution renewal by recertification, possible creation of unified body of knowledge based on gap analysis between ISO/TR 25107, CP 105 and Tec.Doc 628, development of recommendation for grading of practical examination, participation in maintaining of ICNDT Examination question bank.