**THE 28th ICNDT MEETING**

Barcelona, Spain

**Report from Barcelona 2002**

**THE ICNDT FLAG AROUND THE WORLD**

**THE ICNDT MEETING**

Barcelona, June 2002. A relevant recommended guidelines for qualification and certification of NDT personnel based on ISO 9712 has been presented in draft form by ICNDT.

**HIGHLIGHTS**

- **AMSE ANNOUNCE THE ACCEPTANCE OF ISO 9712/EN 473**
  - The new wording in the Article I of Section V of the ASME Boiler and Pressure Vessel Code will be as the following:
  - “National and international central certification programs, such as the ASNT Central Certification Program (ACCP), may be alternatively used to fulfill the examination requirements in T-120 (e) as specified in the employer’s written practice.”
  - The revision will be published on July 1, 2003 in the 2003 Addenda

**COMMENT BY B. RAJ, CHAIRMAN OF PGP**

**Dear Mr. Nardoni**

It is wonderful to hear from you the success with ASME. We are all together to work and achieve harmonization of certification internationally and acceptance of ISO 9712/EN 473 standard internationally. The next step would be education, tapping frontline research for industry, eminent journal and sustaining excellence by rewarding the best among the professionals. God bless you and all associated with ICNDT.

**Baldev Raj**

**THE 28th ICNDT MEETING**

Chennai, India, 6 December 2002
2002 Events

The 8th European Conference on NDT

The most important event of the year has been held in Barcelona last June.

More than 2000 persons, including 788 registered attendees, 401 exhibitor’s staff officially accredited and more than 1000 visitors of exhibition made the 8th ECNDT a very successful NDT event. The exhibition was enriched by 104 booths, including 90 NDT companies and 14 National NDT Societies from Europe and overseas. The technical programme included 400 papers by authors coming from 45 world wide countries; the presence of 67 papers by authors from 13 countries outside of Europe geographic area, underlined the international feature of this Conference.

Several important meetings were also held in conjunction with the Conference, namely: the 28th Meeting of ICNDT, the Meeting of Board of Director of EFNDT, the PGP Meeting, the ICNDT Seminar on ISO 9712, the presentation of ICNDT Recommended Guidelines for Qualification and certification of NDT personnel according to ISO 9712, the presentation of the adopted EFNDT flag.

Mr. Thompson receives a special honour plaque for his contribution to ISRANT Conference.

AEA Technology – CBI Technicians take a break after a training course on austenitic steel.

September 2002 - BINDT Board of Directors discussed active co-operation with ICNDT.

Mr. Murphy (left) has presented the ISO 9712 Certification Procedure at the special session of NDT. (Vancouver 2002)

The ASME secretariat staff is looking the ASME news published on ICNDT Journal (Vancouver 2002).

The opening

The conference hall

EFNDT Board of Directors

The new EFNDT flag

ICNDT meeting

FEATURES OF TECHNICAL PAPERS PRESENTED AT THE 8th ECNDT

49 papers by authors coming from 45 worldwide countries were presented at the 8th ECNDT, held in Barcelona last June. Of these papers, 39 (80%) were of interest to the conference, while 10 (20%) were of interest to the exhibition. The sectors with the highest interest were: Materials (39%), Structural (18%), Non Destructive Testing (10%), and Quality Assurance (9%). Nuclear was the most faded sector. Ultrasonic (39%) was the most adopted method, followed by Electr...
The basic change of ISO 9712 from reference to the certification process. 

This global effort began in 1985 when the International Organization for Standardization (ISO) was identified to be the logical choice for ISO 9712 as primary reference for the certification of personnel. This was identified for a guide to the development of a quality management system for use by the certifying bodies. The idea of having a single International NDT accreditor to replace accreditation by national accreditation bodies was also advanced.

In October 2001 at the Asia-Pacific NDT Conference in Dacha, the European Federation for Non-destructive Testing (EFNDT) and the International Atomic Energy Agency (IAEA) along with the Asia-Pacific Committee on NDT (APCNDT) promoted a Multilateral Recognition Agreement (MRA) based upon compliance with ISO 9712:1999. Ten countries (Australia, Bangladesh, India, Malaysia, Myanmar, New Zealand, Pakistan, Philippines, the Republic of Korea and Sri Lanka) signed this MRA. However, a need was identified for a guide to the development of a quality management system for use by the certifying bodies. The idea of having a single International NDT accreditor to replace accreditation by national accreditation bodies was also advanced.

In June 2002 in Barcelona Spain, during the 28th meeting of ICNDT, the representative of IAEA stated that the IAEA would promote, ISO 9712:1999, to support the establishment in developing countries of only one NDT standard - ISO 9712. ICNDT announced official support in its strategic policy for ISO 9712 as primary reference for the certification of NDT personnel. ICNDT was charged with the responsibility to develop a simple guide to the establishment of a quality management system for certifying bodies. It was also noted that several countries, not just developing countries, have difficulty with accreditation by their national accreditation body. ICNDT was identified to be the logical choice to assume the role of International NDT accreditor for all certifying bodies. This would ensure that all national certifying bodies would be assessed in exactly the same way and provide assurance that certified personnel would be assessed everywhere in the world. Such accreditation would be in accordance with the provisions of recently published standard ISO 17024, “General requirements for bodies operating certification systems of persons”, the replacement document for EN 4501:1999.

Also in Barcelona, at meetings of CEN and ISO, work packages were allocated for the establishment of standardized curricula for each of the main NDT methods. This work will be followed by the revision of training hours specified within ISO 912. There will also be standardized criteria for assessment of training organizations implementing the new standardized curricula.

At the beginning of this paper, I posed the question, “How can we ensure the competency of the NDT inspectors?” I believe that through ISO 9712 and EN 45013, the African Federation for Non-destructive Testing (EFNDT), the International Committee for Non-destructive Testing (ICNDT), the Pan-American Committee on NDT (PACNDT), the Asia-Pacific Committee on NDT (APCNDT) and International Atomic Energy Agency (IAEA), we are approaching true global harmonization of the NDT certification process. ISO 9712 will set the minimum requirements for education, training and experience and establish a commonality and equality of written examinations and practical examinations/test specimens. A common training curriculum for each NDT method and standardized criteria for assessment of the training organizations will assist this normalization. We are headed toward International accreditation by ICNDT through a National certifying body. In summary, we are building the key components of a global certification scheme that will ensure the competency of NDT inspectors throughout the world.
STATUS OF THIRD PARTY CERTIFICATION ACCORDING EN 473/ISO 9712 - EUROPE AND CANADA

Status of NDT Personnel Certification in Europe:
A survey among EFNDT members

The survey was performed at the request of EFNDT BoD meeting held in Madrid in October 2001. Answers were received from 17 members, all of them performing certification in accordance with EN 473:
AEND Spain; AlpND Italy; AraEND Rumania; OgZP Austria; BANT Belgium; BANK Belarus; BINDT United Kingdom; Bulgarian Society for NDT Bulgaria; COFRENDE France; CrSNDT Croatia; CNNDT Czech Republic; DGZIP Germany; KINT The Netherlands; MAROVISZ Hungary; RSNDDTTD Russia; Serbian Society for NDT Serbia; SGZIP Switzerland.

The first table gives the total number of valid certifications on 31/12/2001 per industrial sector (as far as possible, sectors have been labelled according to the definitions given in EN 473 Annex A).

The second table gives the number of certified operators per sector at the industrial sector (as far as possible).

The survey was performed at the request of EFNDT BoD meeting held in Madrid in October 2001. Answers were received from 17 members, all of them performing certification in accordance with EN 473:
AEND Spain; AlpND Italy; AraEND Rumania; OgZP Austria; BANT Belgium; BANK Belarus; BINDT United Kingdom; Bulgarian Society for NDT Bulgaria; COFRENDE France; CrSNDT Croatia; CNNDT Czech Republic; DGZIP Germany; KINT The Netherlands; MAROVISZ Hungary; RSNDDTTD Russia; Serbian Society for NDT Serbia; SGZIP Switzerland.

The first table gives the total number of valid certifications on 31/12/2001 per industrial sector (as far as possible, sectors have been labelled according to the definitions given in EN 473 Annex A).

The second table gives the number of certified operators per sector at the industrial sector (as far as possible).

TOTAL NUMBER OF CERTIFIED OPERATORS AS PER 31/12/2001: 102.347

TOTAL NUMBER OF VALID CERTIFICATIONS AS PER 31/12/2001: 130.523

TOTAL CERTIFIED PERSONS 4,000

Natural Resources Canada (NRCan), a Ministry of the Federal Government of Canada, implemented third-party NDT certification in 1960 based upon a National Standard of Canada issued by the Canadian General Standards Board. Currently, there are 4,000 certificated persons holding 10,500 NDT certificates. The Canadian certification scheme is in accordance with the National Standard of Canada, CAN/CGSB-48.9712-2000 which is compliant with ISO 9712:1999 and EN 473:2000.

NRCan’s Certifying Agency has a permanent staff of eight: one manager, three administrators and four technical experts. The Certifying Agency has fifteen examinations centres, generally located in Technical Colleges, sited across Canada. Ten centres offer practical and written examinations and five centres offer only written examinations. Examinations are ‘on-demand’; the candidate may schedule his/her examinations at any of the appropriate test centres at any convenient and available time. Each test centre possesses three different sets of examinations for each of the NDT methods. One set of examinations is changed each year so that all examinations are changed every three years. A total of 664 test specimens are used in the practical examinations and these specimens are the property of and are controlled by Certifying Agency. Most specimens for magnetic particle and liquid penetrant examination contain real flaws; parts industry rejected as no longer fit for service. All examinations (written and practical) are invigilated at the test centres but are graded by Level 3 examiners at the Certifying Agency. The Certifying Agency is supported by a twelve member Advisory Body (50% Level 3’s) to guide the implementation of the National certification scheme.
SYNOPSIS
The subject embraced by the title of this paper is probably the most widely and intensively debated topic within the field of non-destructive testing, which has generated immense passions, often divided into two camps - pro or anti 2nd party approach to NDT. It was the development of the ASNT Code of Practice that provided the impetus to develop a structured approach to training and qualification in NDT.

The most widely and intensely debated topic within the field of non-destructive testing (NDT) is the issue of 2nd party certification. This paper will explore the arguments for and against 2nd party certification, with a focus on the experiences of the European NDT community.

STANDARDS
As part of the worldwide movement of the concepts dealt with in NDT-TC-1A, there was a perceived need to develop a European Code to establish harmonised standards for NDT personnel. This was based on the recognition that the requirements of the relevant ASME code.

A primary objective of JAS-ANZ is to establish international links so that the certifications that are issued by an accredited certification body, such as JAS-ANZ, will be recognised in any other market. JAS-ANZ has been working with the European Committee for Standardization (CEN) to develop international standards for NDT personnel.

The European NDT community has been working towards the development of a European Code of Practice for NDT personnel. This Code is intended to provide a harmonised approach to the training and qualification of NDT personnel throughout Europe.

ICNDT will now work with JAS-ANZ to market this system and should help with the promotion of trade and the acceptance of NDT certification programmes. This is a primary objective of JAS-ANZ, which is working towards the development of a European Code of Practice for NDT personnel.

During the last three years, the European NDT community has been working towards the development of a European Code of Practice for NDT personnel. This Code is intended to provide a harmonised approach to the training and qualification of NDT personnel throughout Europe.

European NDT personnel may be required to participate in international certification programmes, such as the European NDT Certification Scheme (EUCS), which is intended to allow implementation of the Vienna Agreement (AIPnD). All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!

All are invited to take part in this Journal alive!
The 28th ICNDT Meeting was attended by a total of 45 persons representing 33 world-wide countries (27 of which voting). Many important items were approved. Among these are the following: ICNDT Recommendation Guidelines for Qualification and Certification of NDT Personnel according to ISO 9712, Fine tuning of Constitution, ICNDT Financial Statement. The Minutes of the 28th ICNDT meeting are available on ICNDT web site: http://www.icndt.org

**ICNDT Journal**

**Secretariat**

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secretariat</td>
<td>0</td>
<td>0.00</td>
<td>2916.26</td>
<td>1255.16</td>
</tr>
<tr>
<td>Maintenance</td>
<td>0</td>
<td>0.00</td>
<td>309.87</td>
<td>0.00</td>
</tr>
<tr>
<td>Phone/Internet</td>
<td>0</td>
<td>0.00</td>
<td>671.16</td>
<td>1591.35</td>
</tr>
<tr>
<td>Printing of Documents</td>
<td>2001.15</td>
<td>4464.18</td>
<td>63.2</td>
<td>4642.00</td>
</tr>
<tr>
<td>Mail</td>
<td>0</td>
<td>2272.41</td>
<td>672.63</td>
<td>0.00</td>
</tr>
<tr>
<td>Consumables</td>
<td>0</td>
<td>2076.16</td>
<td>61.97</td>
<td>225.16</td>
</tr>
<tr>
<td>Cost of personnel</td>
<td>6510.04</td>
<td>7538.98</td>
<td>2852.39</td>
<td>11284.00</td>
</tr>
<tr>
<td>Reimbursements and subsistence</td>
<td>672.49</td>
<td>1048.92</td>
<td>11687.42</td>
<td>437.82</td>
</tr>
</tbody>
</table>

**Total**

13793.97 11986.96 11986.96 11986.96

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>4255.83</td>
<td>4103.00</td>
<td>3486.08</td>
<td>1070.16</td>
<td></td>
</tr>
<tr>
<td>4255.83</td>
<td>4103.00</td>
<td>3486.08</td>
<td>1070.16</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>8443.91</td>
<td>11986.96</td>
<td>11986.96</td>
<td>11986.96</td>
<td></td>
</tr>
<tr>
<td>4255.83</td>
<td>4103.00</td>
<td>3486.08</td>
<td>1070.16</td>
<td></td>
</tr>
<tr>
<td>4255.83</td>
<td>4103.00</td>
<td>3486.08</td>
<td>1070.16</td>
<td></td>
</tr>
</tbody>
</table>

**Secretariat**

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.00</td>
<td>138.97</td>
<td>11.32</td>
<td>0.00</td>
</tr>
<tr>
<td>0</td>
<td>0.00</td>
<td>536.70</td>
<td>117.10</td>
<td>225.00</td>
</tr>
<tr>
<td>0</td>
<td>0.00</td>
<td>536.70</td>
<td>117.10</td>
<td>225.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>854.74</td>
<td>2754.26</td>
<td>14984.12</td>
<td>3035.00</td>
<td></td>
</tr>
<tr>
<td>1713.09</td>
<td>0.00</td>
<td>2730.89</td>
<td>3797.00</td>
<td></td>
</tr>
</tbody>
</table>

**Average**

1928.79 1928.79 1928.79 1928.79

**ICNDT Meeting Participants**

Mr Romero President of AEND presents a painting as reminder of 8th ECNDT

Mr Marshall Chairman of 16th WCNDT and Mrs Gebrael Chairman of 3rd PANNDT.

**ICNDT Financial Accounts (Euros)**

**ICNDT Journal**

**1. Printing of ICNDT International Guide, folders and photocopies**

**2. Printing of ICNDT Journal**

**3. Reimbursement to relevant members**

**4. Cost of ICNDT meeting in Barcelona**
An international panel discussion on qualification and certification of NDT personnel was held in conjunction with the 6th Far-East Conference on Non Destructive Testing. Objective of the panel was to provide an opportunity for each panellist to present information and examination specimens. The NDT Societies of France, Germany and Britain have announced that they will each adopt ECP. Responding to the need for greater harmonisation, the EFNDT has created ECP – the European Certification Process which provides Certification Bodies with a common definition of sectors, a bank of examination questions, specifications for practical exams and examination specimens. The role of “proficiency testing” to complement the relative proficiency of certificate holders (~2,500). However none of the three schemes complies with ISO9712 and a unified National Certification Body is being set up through the Chinese National Bureau of Technical Supervision.

Mr Roy Gilmour (AINDT) stated that ISO9712-1999 soon to be AS 3998-2002 is now being used as a basis for certification in Australia and the Australian Institute AINDT has been awarded accreditation as a certifying body to EN40113 by the Australian equivalent of UKAS (JAS-ANS). Dr Dr Yukio Ogura (JSNDI) explained that JSNDI will move to Japanese standard JIS Z 2305 based on ISO9712. The NDT Society is seeking to develop their own standard (roughly equivalent to Levels 1, 2 and 3 plus a Professional Engineer Level). Large numbers (43,000) of these Korean national certificates have been issued. There are also smaller numbers of ASNT Level III Certificate holders (514) and Korean Electric Power Industry Codes Certificate holders (~2,500). However none of the three schemes complies with ISO9712 and a unified National Certification Body is being set up through the Chinese National Bureau of Technical Supervision. Mr Dr Jun Po Lee (KSNT) described the present position in Korea with four levels (ROC-NP-Q-81, itself based on SNT-TC-1A). In 1996 the national standard CNS-15588 was established in compliance with ISO9712. The NDT Society is seeking to implement this new standard as a step towards the goal of international mutual recognition.

Discussion centred on how ISO9712 schemes could gain recognition (by European PED Notified Bodies, ASME etc.). The role of “proficiency testing” to compare the relative proficiency of certificate holders from the various international schemes was outlined by Mr Gilmour. Dr Mike Farley (ICNDT/EFNDT) described the present status of PCN as an accredited third party certification scheme run by BInstNDT to meet the needs of industry whilst complying with EN473 and ISO9712. PCN is healthy and growing (both geographically and in technical scope) and is a founder member of ECP. Speaking on behalf of ECP, Dr Yukio Ogura (JSNDI) explained that JSNDI is preparing a Handbook of Guidelines on Qualification and Certification of NDT Personnel according to ISO9712. The draft had been circulated for comment in Barcelona to the full ICNDT and so far comments have been positive. More will therefore be known about the NDT Society is seeking to develop their own standard (roughly equivalent to Levels 1, 2 and 3 plus a Professional Engineer Level). Large numbers (43,000) of these Korean national certificates have been issued. There are also smaller numbers of ASNT Level III Certificate holders (514) and Korean Electric Power Industry Codes Certificate holders (~2,500). However none of the three schemes complies with ISO9712 and a unified National Certification Body is being set up through the Chinese National Bureau of Technical Supervision. Mr Dr Jun Po Lee (KSNT) described the present position in Korea with four levels (ROC-NP-Q-81, itself based on SNT-TC-1A). In 1996 the national standard CNS-15588 was established in compliance with ISO9712. The NDT Society is seeking to implement this new standard as a step towards the goal of international mutual recognition.

Discussion centred on how ISO9712 schemes could gain recognition (by European PED Notified Bodies, ASME etc.). The role of “proficiency testing” to compare the relative proficiency of certificate holders from the various international schemes was outlined by Mr Gilmour. Dr Mike Farley (ICNDT/EFNDT) described the present status of PCN as an accredited third party certification scheme run by BInstNDT to meet the needs of industry whilst complying with EN473 and ISO9712. PCN is healthy and growing (both geographically and in technical scope) and is a founder member of ECP.
Draft of ICNDT Recommended Guidelines presented in Barcelona at the 28th ICNDT Meeting

ADVENTAGE OF ISO 9712 CERTIFICATION

- Increased training hours
- Training syllabus up dated by ICNDT Working Group and ISO-TC 135 - SC7 - WG2
- Examination made independent examination under control of the certification body
- More detailed requirements for practical examination (description of test pieces and references)
- Audits of certifying body through the authorized qualification authority

Forward to ISO 9712

by Mikio Takagi Form Chairman of ISO TC 135

Since the effectiveness of any application of non-destructive testing depends upon the capabilities of the persons who perform or who are responsible for the test, a procedure for evaluating and documenting the competence of personnel whose duties require the appropriate theoretical and practical knowledge of the specific non-destructive test or tests they perform, etc. specificity, is required.

An added incentive to the industrial world wide comparability of a wide range of non-destructive testing approaches.

Any certification body adopting this International Qualification and certification, and it is permitted a transition period of up to five years to implement level 1 and 2. The aim is to permit the granting of the system is in a phase of being implemented.

The application to industry will improve reliability of industrial products and safety of the worldwide community.

EMPLOYER RESPONSIBILITY

The requirements of this standard are designed to ensure that the employer...
- Consciences of the employees' qualifications to perform the work.
- Has the necessary resources to ensure that the employees...
- Has the necessary resources to ensure that the employees...

Appreciation

Appreciation to the ICNDT journal May 2003 – n. 1  —  page 8

The draft of this document was issued to ICNDT Members and others for comments in Barcelona. A revision of the Guidelines is being prepared and will be issued during 2003 following approval by the Policy and General Purpose Committee.