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Report from 5th Int. Conf. on Certification and Standardisation in NDT "Certification 2007", Berlin, September 2007

by David Burnett from Australia

Since the first publication of ISO 9712, in 1992, several conferences have taken place regarding certification of NDT personnel. In most instances these have been held to foster harmonisation of certification schemes with the eventual vision that the qualifications of NDT personnel could be recognised, more or less, on a universal basis. To date, 15 years later, this proposition has proved to be elusive; as soon as any subsequent revision to ISO 9712 has been made, corresponding changes to EN 473 were quickly in the pipeline differentiating the two standards to such an extent that nations of the European Union were not able to embrace ISO 9712 as being equivalent to EN 473, thus avoiding true harmonisation between the two standards.

Ulrich Kaps, of the German Society for Non-Destructive Testing (DGZfP), who organised "Certification 2007" in Adlershof, Berlin last September, explained this in the pre-conference literature:

"From the very beginning, most countries in the world were asking for only one standard covering the qualification and certification of personnel. More political than technical problems prevent the affiliation of ISO: 9712 and EN 473. "Certification 2007" will promote dialogues between accreditation and certification bodies to get better procedures for the certification of NDT personnel in the future."

It was in this climate, even before the conference began, that certain political agenda's were believed to have been at play again. It was rumoured, as long ago as the

A-PCNDT conference in Auckland, last year, that the latest draft of EN 473 was sufficiently different to ISO 9712 to cause members of the European Federation of Non-Destructive Testing (EFNDT) to draw back from adopting ISO 9712. In effect this would force the member states of the European Union to comply with legislative requirements of the latest Euronorm standard rather than the universally accepted ISO 9712:2005.

It was with this air of uncertainty that delegates to the conference attended "Certification 2007" to see how the two standards differed and where possible, resolve any existing differences or problems. Such were the potential implications of these changes and the threats to harmonisation of certification schemes concerning Australian interests, particularly in SE Asia, David Barnett, Chairman of the Certification Board, attended the conference to represent the CB and also to present a paper on "Harmonisation of Certification Schemes in SE Asia."

The following sheds some light on the proceedings of the conference as well as some of my own personal views on the current state of affairs regarding world-wide recognition and harmonisation of certification for NDT personnel: -

Unlike a recent trip to Goa, the flight to Berlin, via Frankfurt, went like clockwork although I took an immediate dislike to the rather officious guy manning the check-in counter at Sydney airport. Arguing the point with him didn't work and unbeknown to me he sought out his revenge by seating me right next to the galley on the long flight from Sydney to Frankfurt. Sleeping was out of the question with the clatter and constant banging of trays along with the to and fro of the cabin staff, an experience I shared with those seated near to me. Lesson to be learnt -never get the person who checks you in offside - even if you are in the right.

Without question the first day in Berlin was spent catching up on some sleep before using Berlin's excellent suburban transport rail system to get around the following day to see this intriguing and historical city. There was always someone to help on directions before I got used to it, which was pretty quickly, I might add. Despite getting on a train, which went back in the wrong direction after it went a few stops forward, I worked out that something was not quite right. I didn't realise that track-work had closed the track ahead and that I had to get off and catch a bus to take me around the closure to catch another train on the other side. Helps to be able to read the notices but a nice fellow helped with the translation and under his guidance I was able to get into the centre of Berlin to do a little sight-seeing. Met another person with a sign leading a group of people outside Zoo Garten and asked him if he was taking a walking tour around the local tourist spots. Yes, he was. It was a free tour and you paid him what you thought it was worth. The walk was popular with around 45 people tagging along. Over the course of 3 hours many of the more interesting aspects of Berlin were covered such as the Brandenburg Gate, the Reichstag, Holocaust Memorial, Hitler's Bunker, the Berlin Wall, Checkpoint Charlie and so on. Some interesting stories too and at the end I was glad to part with 10 Euro's for his efforts although some of the tour members slipped away without paying anything, whilst others gave him a modest couple of Euro's, well below the normal going rate.

Although a little bonus, sightseeing gave way to the more serious aspects of the visit ? the conference. It was a healthy walk from the hotel, which was situated about 4kms away in Kopernick, in the eastern part of Berlin. It was not the wealthiest part of town and the surrounding streets had that pre-unification, proletariat feel about them, dark and dismal in the earl morning drizzle. The view from the hotel was simply great.

The organisers, however, were very much impressed with the attendance, consisting of something like 120 delegates from 25 countries, testament to the interest that

certification was generating on the world stage. By and large, the papers to be presented at the conference were to be at the cutting edge of the latest developments in certification and qualification.

Rick Murphy, Canada, well-known for his support of international harmonisation of certification for NDT personnel, put together a well-structured paper on the "Global Impact of International Standard ISO 9712". He stressed that ISO 9712 now underpinned an estimated 40+ countries around the world and that the latest draft version of EN 473 made little effort to adopt the guidelines of ISO 9712 and, indeed, had opened up some significant differences.

These differences had caused the ICNDT, A-PCNDT and even the EFNDT to write letters of protest to the CEN/TC138 committee who had drafted the Euronorm standard. Rick Murphy commented further that the changes transgressed several provisions of the World Trade Organisation (WTO) in that they prohibited free trade and the acceptance of certified inspectors and inspected goods from outside the European Union and vice versa.

Appropriately enough Albert Kowalski's response from CEN/TC 138 came shortly after Rick Murphy's presentation. His paper - "What is new in EN 473?" ? was aimed at explaining the difference between the two standards. In his address to an expectant audience, Kowalski said it was the opinion of the majority of members of the CEN/TC138 committee that the latest revision of ISO: 9712 was not at a level that could be accepted and that the main object of the latest revision to EN 473 was not to address harmonisation but to provide a better standard suited to current industry needs.

By any analysis, retrospectively at least, the changes proposed to EN 473, compared with ISO: 9712, are not great. They centre on minimum training and experience requirements and other criteria surrounding renewal and recertification, arguments which have been going on in ICNDT and ISO/TC 135-SC7 circles for sometime now and have still yet to be resolved. Certainly the latest revision of EN473 didn't completely address all of these issues either.

Matters of opinion differ widely on the correct approach and Mike Turnbrow, ASNT and Chairman of TC135-SC7, commented that training hours have changed to some degree almost every time a revision of national and international NDT standards have taken place. I thought, to myself, why doesn't each of these committees get together before final publication of these standards to iron out any differences and then agree on a common standard acceptable to all. Surely it can't be that difficult since several members of CEN/TC 138 actually sit on ISO/TC 135-SC7 making such a task so much easier.

Nevertheless, the unilateral nature of the changes to EN 473 drew critical comment, notably from the USA, Canada, Australia and the IAEA (Isaac Einav), more so from the fact that the opportunity to harmonise both standards into a common format had been lost, at least for another 5 years.

Of common interest to many in the audience was the establishment of a pool of examination questions and Ulrich Kaps (DGZfP) showed how a multi-lingual data bank could be set up by peer review. There were lessons for AINDT to be learnt from this, of course, including the process of reviewing all questions/answers in its existing data base to ensure that they can be verified accurately from a known reference source. The ultimate aim of the data bank of questions, as suggested by Ulrich, was for a body such as EFNDT or ICNDT to take up the challenge of funding further development of the data base to the ultimate good of all parties, including developing countries that do not have a data bank of questions to start with.

One of the virtues of EN 473 extolled by CEN/TC138 was that within its scope a comprehensive scheme of certification existed for new methods or techniques which

have been demonstrated to be effective through a formal qualification process in accordance with another Euronorm (EN) standard ? CEN/CR14748 “NDT - Methodology for qualification of NDT tests”. Within the framework of the AINDT scheme (and ISO9712) there is no need to have a standard to cover the methodology to qualify what a NDT test is. Why would you want that, and if you did, why should it be used as a basis to differentiate strongly the difference between the two standards? I mean, how Euro-centric can you get? To emphasise this to some degree the last paper of the day, given by Michael Moles, Olympus (Canada), covered the growing role of training for a new NDT method - phased array testing. Due to the portability of phased array units there has been an exponential increase in demand for both the equipment and training. Currently this is being done through “private” in-house means and Olympus has created a training academy to cope with demand since these units have application in a wide variety of industrial problems.

Other private providers of training are becoming involved and Lavender International has also commenced training courses in phased array testing conforming to EN 473 and ISO 9712 Level II guidelines, which corresponded to almost identical aims by AINDT and ATTAR to provide a route to achieve certification for operators using both phased array and time of flight (TOFD) techniques.

The existence of a standard methodology to qualify such tests is not likely to influence whether or not a certification body takes on such methods or techniques, and neither would it affect the level of competency of the person being qualified. If it had been necessary in the past we would not be at the current high level to take on new sectors. With this in mind I cannot see why any reference to a standard such as CEN/CR14748 by EN 473 should be a stumbling block to the acceptance of ISO 9712. Any reference, if required, should be of an advisory nature and not a normative one so that no essential difference exists between the two standards that would set them apart.

Differences of opinion were put to one side as everyone assembled together and enjoyed the private 4 hour evening cruise and buffet along the canals and rivers of Berlin. There was great bonhomie and a challenging array of German food and wines to partake of and to meet friends old and new. Spent some time with history buff, Charles (Chuck) Hellier, former President of ASNT, and well known for his several publications for ASNT on non-destructive testing. I passed on the AINDT book “History of Non-Destructive Testing in Australia” to him and in exchange he gave me a signed copy of his latest publication “Handbook of Non-Destructive Evaluation” by McGraw-Hill ? it is a great read and a worthy addition to any library on the latest use of non-destructive testing.

John Thompson (PCN), Ulrich Kaps (DGZfP), Mike Farley (Doosan Babcock), Mike Turnbrow (ASNT), Chuck Hellier (ASNT), and myself, caught the “midnight special” from Spittel-markt station back to the hotel, ending a long day, tired and happy, at around 1.30 in the morning. So much for an early night to prepare for my lecture the next day.

The opening lecture, you guessed it, was strictly by myself, forthright, I hope, and not marred by the festivities of the night before. Applying some conscious thought on the way to the venue I decided to emphasise more fully the strength of the S.E Asian region in its commitment to embrace harmonisation, and that cross-border barriers to recognition of certified NDT personnel, imposed by the adoption of EN 473, would only be counter-productive in the long run for the EFNDT. Why? Well, the S.E Asian region already contains many of the world’s largest economies, or would in the next five years, and like the rest of the world in time will care little

regarding EN 473 as a standard for certification of personnel.

It was once said to the U.S delegation, at an ICNDT Conference some years ago, that “you may be a big country but you only have one vote and we in the E.U have many votes.” That situation has been reversed

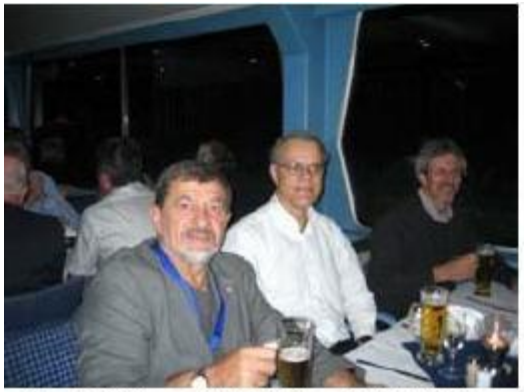
? the USA, importantly, who has fought hard to swing opinion around from an employer based scheme, is now part of a substantial group of nations who are supportive of ISO 9712. It would appear, as significant as the EU is to the NDT scene; it is the EU that is becoming isolated on the subject of harmonisation of certificated personnel.

Countries such as China (already outstripping the U.S), India (4th largest and a with middle-class greater than that of Europe), Japan (3rd largest) plus the “tech-savvy” countries of South Korea, Malaysia and Singapore, backed by a resource rich Australia would be a formidable trading block within the next five years if not so already. Indeed, it was pointed that many of the manufactured imports currently coming into the EU, computers, white goods, plasma televisions, cars, etc., already came from the SE Asian region. All of these countries, including nations in N. America, S. America, and Africa, will be embracing ISO 9712 as a global standard by 2012, irrespective of whether the European Union went its own way or not on certification of NDT personnel.

The audience comprised mainly of delegates from the European countries and the words of those from the U.S, Australia, IAEA and Canada (including the president of ICNDT, Doug Marshall) appeared to have some effect. Mike Farley, current President of the EFNDT, commented that his company, Doosan Babcock Energy Limited, was now a global enterprise, with affiliations in many countries world-wide. In their latest venture, the boiler components of a new power station will be manufactured and tested in South Korea, other components in an another country outside the E.U, and so on. It was a telling argument that supported the common acceptance of a universally recognised scheme for certification of NDT personnel.

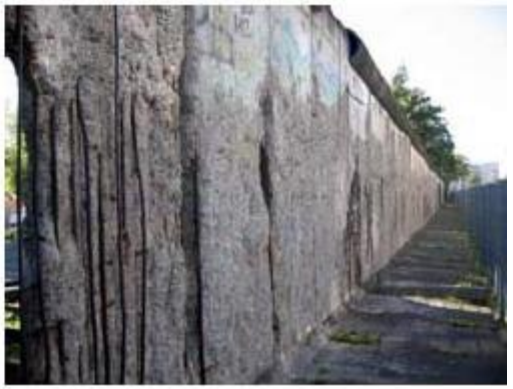
The points made about achieving greater consensus on certification to achieve harmonisation between the respective countries must have had some resonance since Mike Farley, in his final summation, said that the number one priority of the EFNDT would be to achieve a convergence of the two standards. If that was to happen then the 5th International Conference on Certification and Standardisation would be judged a success.

(This report had been also published in the Journal-NDT Australia)



Mr. I. Einav (IAEA) and M. Moles (Olympus).

Berliner Dome.



Berlin Wall

Workshop on NDT for enhancement of cooperation with the Asia Pacific Countries, 5-7 November, 2007, Tokyo Japan

by Bultger Tumendemberel from Mongolia

The Workshop on NDT for enhancement of cooperation with the Asia Pacific Countries was held in 5-7 Nobember, 2007, Tokyo Japan. The Japanese Society for Nondestructive Inspection (JSNDI) organized this workshop with representatives from selected Asian Countries. Because this is another activity in relation to the NDT field in the RCA region, it is worth to inform to the RCA member countries. Mr. Tumendemberel from Mongolia summarized the workshop.

The workshop was successfully conducted according to the schedule of workshop, which was planned by the JSNDI. At the workshop 10 delegate were introduced activities of present NDT technology prevalence and future framework in each country (see list of participants). It made deepen mutual understanding among the participating societies for NDT. Intensive exchange of comments and discussions on NDT strategies were enabled to make tight cooperation between following countries from Asia Pacific Region:

1 Bangladesh
2 Chinese Peoples Republic
3 Indonesia
7. Mongolia
8. Myanmar
9. Taiwan

4 Japan

5 Republic of Korea

6 Malaysia

10. Vietnam

CONCLUSION:

It was agreed that

a) Participation in ISO/TC 135 be expanded.

b) It needs to establish ASNDT (Asian Society for NDT) for implementing ISO 9712 to harmonize standard for training, qualification and certification among Asian societies for NDT.

c) Some countries need to have test specimens, examination bank and training materials from advanced countries such as Japan and Korea.

d) Some countries require assistance from advanced countries information and training of new
NDT techniques

e) Advanced countries were requested to provide experts for conducting Level 3 training course.

f) Further workshops of this kind be continued until formation of ASNDT is achieved

List of participants

Ahsan Qumrul	Bangladesh Society for Non Destructive Testing
Shen Jianzhong	Chinese Society for Non Destructive Testing
Setjo Renaningsih	Center for the Application of Isotopes and Radiation Technology, Indonesia
Han Chi Hyun	Korean Society for Non Destructive Testing
Lee Jong Po	Korean Society for Non Destructive Testing
Khazali Bin Haji Mohd Zin	Malaysian Society for Non Destructive Testing
Yeo Yan Teng	Malaysian Society for Non Destructive Testing
Bultger Tumendemberel	Mongolian Society for Non Destructive Testing

Khin Myo Sett	Myanmar Society for Non Destructive Testing
Cheng Sheng Wen	The Society for NDT & Certification of Taiwan
Chu Shyr Liang	The Society for NDT & Certification of Taiwan
Proongmuang Somyoty	Thailand Institute of Nuclear Technology
Nguyen Van Hung	Nuclear Training Center, NRI of Vietnam
Kiyoshi Kato	The Japan Society for Non Destructive Inspection
Norikazu Ooka	The Japan Society for Non Destructive Inspection
Yoshikazu Yokono	The Japan Society for Non Destructive Inspection
Yukio Ogura	The Japan Society for Non Destructive Inspection
Toshimitsu Ishii	The Japan Society for Non Destructive Inspection
Hydeyuki Hirasawa	The Japan Society for Non Destructive Inspection

Optimization of Digital Industrial Radiography (DIR) Techniques for Specific Applications: An IAEA Coordinated Research Project

by Yong Moo Cheong from Korea

(This paper was presented Mr. U. Ewert (BAM, Berlin, Germany) in IV PANNDT, Buenso Aires, Argentina, 22-26, October 2007. It wouldl be an excellent reference to our project and maybe next RTC on portable Digital Industrial Radiography and Tomography systems. For further information, contact to author at e-mail: uwe.ewert@bam.de .)

Abstract

In June 2007, the International Atomic Energy Agency (IAEA) convened a meeting of technical specialists from a dozen member states to initiate a coordinated

research project (CRP) focusing on optimization of DIR techniques for specific applications. The objectives of this CRP are to test and validate simple and low cost DIR techniques and the optimization of X-Ray detector, detector source configuration, data processing and evaluation accuracy, spatial resolution and contrast sensitivity for steel and special light alloys. Participating organizations will evaluate both computed radiography (CR) and fluoroscopic techniques, based on scintillation screens being imaged with a digital CCD camera. The advance in PC-based computer technology and integrated data acquisition hardware for camera systems allows a low budget design of fluoroscopic DIR. New accumulation and calibration procedures enable the increase of contrast resolution, which will be comparable to modern detector systems. Digitized film radiographs, taken corresponding to USA and European standards, will be applied as reference in image quality. Comparative data will be collected for a series of test blocks, standard weld specimens and a variety of industrial castings. In this paper, the authors will describe the basis for the ongoing project, indicate the major milestones and suggest the probable outcomes when the project is completed in 2010.

Tentative schedule of RCA Regional Event in 2008

by Ibrahim Nassir from Malaysia

Date	Project Number	Title	Host Country	Comments
24-28 Mar 2008	RAS/8/105	Mid-term Progress Review Meeting	Vietnam	Suggested Host Country
21-25 Apr 2008	RAS/8/105	RTC on Quality Management System (QMS) and Strategic planning.	Thailand	Indonesia proposed to host
3-7 Nov 2008	RAS/8/105	RTC on portable Digital Industrial Radiography and Tomography systems.	MAL	Suggested Host Country

News from RCA Countries

Austlalia:

Technical expert in training of digital and computed radiography

Two technical experts who can assist in the training of people in the use of digital and computed radiography are introduced. Both, although coming from the same company, are the most knowledgeable people in Australia on the subject and are willing to assist if requested. They are:

Gregg Voak
GE Industrial Inspection Technologies
2 Central Boulevarde, Fisherman's Bend, Victoria
3207, Australia
Telephone +61 3 8698 0206
Fax +61 3 9646 1527
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Fax 61 7 3720 0806
Mobile 61 410 669 077
Email anthony.mcpherson@ae.ge.com

Korea, Republic of:

Special Session on the Standardization in the Annual KSNT Fall Conference

A special session on the qualification and certification of NDT personnel was held in the annual KSNT (Korean Society for Nondestructive Testing) Fall Conference on 9th November 2007, Seoul. Mr. Yong Moo Cheong from KAERI (Korea Atomic Energy Research Institute) gave a presentation on the "IAEA/RCA Activities in relation to Harmonization of NDE Personnel Qualification and Certification". Other presentations are:

-The Status and Results of the 16th ISO/TC 135 Plenary, Subcommittee, and Working Group Meetings (Y. K. Chang, KTL)
-The Status of ISO/TC 135/SC 8: Thermal Methods; Infrared Thermography for NDT (Man Yong Choi, KRISS)
-A Proposal to establish Korean systems of NDT Personnel Qualification and Certification Complying with ISO 9712 (J. P. Lee, NPROTEC)
-Appropriate Renewal Method of NDT Level III based on the evidence of Continuing Satisfactory Performance (by Hyung Taik Lim, KAITEC).

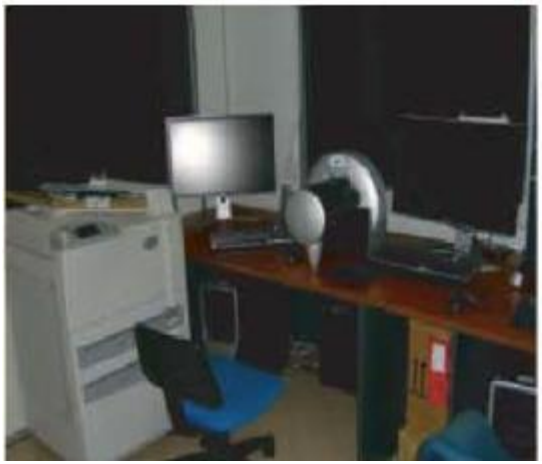
Malaysia:

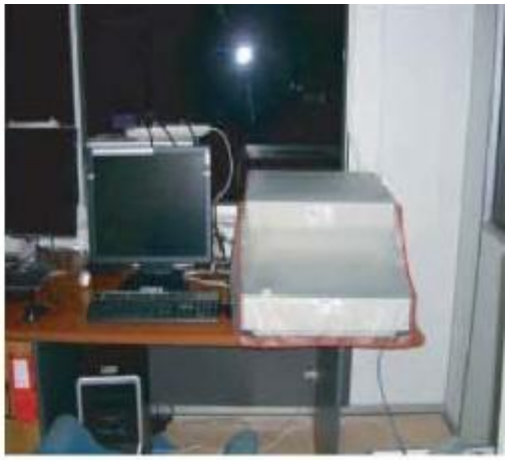
ISO 17020 or ISO 17025 for NDT Laboratories!!!

Informal discussion between the MSNT President and representatives from the Department of Standards, Malaysia was held the Malaysian Nuclear Agency in 21st September 2007. The main agenda of this discussion was on the subject of an accreditation of NDT Companies in Malaysia to have their laboratories accredited. Following this discussion the Department of Standard decided to offer NDT laboratories in Malaysia to be accredited under Malaysian Inspection Bodies Accreditation Scheme (MIBAS). This means that practically, Malaysian NDT laboratories will be accredited under ISO 17020. The Department of Standard is currently establishing a Technical Working Group that will help to facilitate the implementation of the Scheme.

RTC on Digital Radiography

The National RCA NDT Project Coordinators (MAL/8/015) in their meeting in Goa agreed that a regional training course (RTC) on Advanced Portable Digital Radiography should be made as one of the project activities to be conducted under the project in 2008. Following this recommendation, Malaysia Nuclear Energy has expressed its interest and commitment to host this event sometime in November 2008. In anticipation for this event, Malaysian Nuclear Energy has equipped itself with necessary facilities required for the course. A computed radiography and more recently a laser film digitizer was acquired to be made as a part of the facilities for the course. Part of digital radiography facility at the Malaysian Nuclear Agency:





Philippines

Left picture shows the Board of Directors of the Philippine Society for Nondestructive Testing, Inc. (PSNT) during the opening ceremonies of the 22nd Annual Convention and General Membership Meeting of the Society held at the Island Cove, Kawit, Cavite on November 16, 2007. The PSNT Convention provided technical sessions that presents advances and well related topics on NDT, among which are; Phased Array-New Ways in Manual UT presented by Eng'r. Peter Renzel, Quality Manager of Krautkramer, In-Service Inspection Program for Geothermal Facilities by Eng'r. Sergio Gildore, QC/Reliability Manager of CHEVRON/UNOCAL Geothermal Phil., Inc., Advances in CR Radiography by Dr. Dirk Clinkemaillie, Technical Support Manager of AGFA/GE Inspection Technologies and Infrared Thermography by Eng'r James F. Porter, Executive Vice-Presedent of Filconfab Inc. and also a member of the PSNT Board OF Directors. The Philippine Nuclear Research Institute (PNRI) in collaboration with the PSNT has trained more than 300 NDT Personnel in the various NDT training

courses from January 2007 up to November 2007. The PNRI/PSNT conducts regular Training Courses on various NDT Methods in accordance with the IAEA TECHDOC 628 and the certification is in accordance with the ISO 9712:2005. The Philippine National Certifying Body (Phil NCB) has adopted the latest ISO 9712: 2005 edition and was approved as a National Standard. The Phil NCB regulates the certification in accordance with this New Philippine National Standard PNS/ISO 9712: 2006.

Sri Lanka:

Success Stories in NDT

UT at Rep. of Maldives

The Atomic Energy Authority (AEA) is the pioneer of Non Destructive Testing technology in Sri Lanka. The demand for AEA inspection services from Government and private sector industrial institutions has increased remarkably. More-than 60 major inspections have been undertaken during this year. Recently AEA extended its NDT inspection services to neighboring countries in the Region. Figure shows an undertaking of Ultrasonic Testing on steel weldments in a large construction of a school building in Republic of Maldives.

The AEA is the national focal point to train NDT personnel as per ISO 9712. The Atomic Energy Authority is in the process of establishing a National Certification Body conforming to ISO 17024 in order to obtain personnel certification for its trainees.
The Annual General meeting of the Society for NDT was held recently and steps have been taken to strengthen activities of the society for further promotion of NDT. The SNDT has obtained the membership of APCNDT ICNDT. A request has been made to hold the 14th NC NDT in Sri Lanka in 2015.
The AEA has taken initial steps to establish a National Centre for NDT by the year 2015 to provide better service to the nation through accredited NDT laboratories.

List of National NDT Project Coordinators

RAS/8/185 NATIONAL NDT PROJECT COORDINATORS

(updated 28 Nov. 2007)

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