



EF European Federation for
Non-Destructive Testing

NDT FORUM FOR AEROSPACE NDT BOARDS

An overview of the activities of the
Forum for National
Aerospace NDT Boards

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What is a NANDTB?

- EASA regulations part 145 (covering NDT in maintenance) mandated compliance with EN 4179:2000, which mandated the requirement to use the services of a National Aerospace NDT Board defined in the standard as:
 - “An independent national aerospace organization representing a nation's aerospace industry that is chartered by the participating prime contractors and recognized by the nation's regulatory agencies to provide or support NDT qualification, examination, and/or certification services in accordance with this standard”.



What is a NANDTB?

- In the event that there was no National Aerospace NDT Board in the aerospace industry of the EASA member state concerned, it was obliged to use the services of another nation's board.
- The requirement resulted in boards being established in many nations, including outside of the EU, wherever EASA regulations were effected.



Present EASA Regulations

- Part 21 (manufacture)
 - An evaluation of the competence of personnel is performed as part of the quality system
- Part 145.A.30(f)(in service) personnel requirements
 - Decision ED 2010/02/R, adopted April 2010, amends AMC 145.A.30 (f), as follows:
 - *“Appropriately qualified means to Level 1, 2 or 3 as defined by the European Standard EN 4179 dependant upon the non destructive testing function to be carried out”*
 - dated reference removed



EN 4179 and AIA NAS 410

- October 2002 MoU between
 - European Association of Aerospace Industries - Standardization (AECMA-STAN) and
 - The Aerospace Industries Association of America (AIA)
- Wording of the MoU:
 - In order to promote a common system for quality assurance in the Aerospace Industries of Europe and the United States and to make optimal use of the resources available, AECMA-STAN and AIA agree through a cooperative effort to develop common standards (AIA NAS-410 and AECMA EN-4179) for the certification and qualification of non-destructive test (NDT) personnel.
- Now, AIA NAS 410:2008 = EN 4179:2009



What is the role of NANDTB?

- EN 4179 states:
 - When an NANDTB is used, it shall administer procedures for qualification and certification of NDT personnel in accordance with the requirements of this standard.
 - It is entitled, in conjunction with the employer, to recognize equivalencies of qualification and certification, and may be requested to provide general guidelines in accordance with this standard regarding facilities for NDT training, course outlines, examination questions and examination procedures.



What is the role of NANDTB?

- EN 4179 states:
 - The procedures of the NANDTB shall clearly define what role and tasks, as applicable, are to be performed by the Responsible Level 3.
 - The employer shall designate a Responsible Level 3 in accordance with paragraph 4.5.
 - The Responsible Level 3 is designated by the employer to ensure the requirements of this standard and NANDTB procedures are met and to act on behalf of the employer for those tasks designated herein [the standard] for the Responsible Level 3.



What is the role of NANDTB?

- NANDTBs described in EN 4179 apply solely to boards meeting the definition of paragraph 3.18 of this standard.
- Other agencies performing examination, qualification and/or training activities shall be considered outside agencies as defined in paragraph 3.22.
- ... where no NANDTB exists, countries may use the services of other NANDTBs, but are not required to do so



The role of the employer

- EN 4179 clause 4.4. states:
 - The employer is responsible for the implementation of, and compliance with, this standard and for certifying qualified personnel.
 - In addition, the prime contractor shall be responsible for compliance to this standard by their suppliers and sub-contractors.
 - Employers using outside agencies shall be responsible for assuring that the appropriate requirements of this standard are met.



The role of the employer

- EN 4179 clause 4.4. states:
 - The employer is solely responsible for the certification of its employees and cannot certify for another employer. Individuals cannot qualify themselves.
 - Self-employed individuals may certify themselves provided they have a written practice and have been qualified to the requirements of this standard by another individual certified to Level 3 in accordance with this standard



The Responsible Level 3

- EN 4179 clause 4.5 states:
 - The employer shall identify in writing a “Responsible Level 3” to act on its behalf in matters regarding the NDT qualification and certification process.
 - The Responsible Level 3 shall be certified in accordance with this standard as a Level 3 in one or more NDT methods and shall have a thorough knowledge of the written instructions, codes, specifications and standards, materials, components, product technologies, NDT methods and NDT techniques used by the employer.



The Responsible Level 3

- EN 4179 clause 4.5 states:
 - Additional Level 3 Examiners as defined in this standard may be identified and delegated in writing as necessary to provide coverage for all methods used by the employer.
 - The Responsible Level 3 may be an outside agency but in this case he/she can only qualify personnel, as only the employer can certify personnel



The Responsible Level 3

- EN 4179 paragraph 4.5.1 states
 - When an NANDTB is not used, the Responsible Level 3 shall be responsible for the implementation of this standard and the overall administration of the qualification and certification program.



Why is a Forum necessary?

- With such a wide remit, and without some form of harmonising influence, it was considered that NANDTB would address the requirements of EN 4179 in diverse ways
- A Forum would provide opportunities for discussion between Boards on the best common approach to achieve the intent of the EN 4179 requirement
- It would also provide information and advice to all participants on how a NANDTB could best serve its national industry



When was the Forum set up?

- An open meeting of interested parties was held during the 9th European Conference on NDT in Berlin on 29th September 2006
- It was unanimously agreed to establish a European Forum for NANDTB under the umbrella of the European Federation for NDT (EFNDT)
- The inaugural meeting of the Forum was convened in Paris during December 2006 and attended by 40 individuals representing 16 NANDTB



Aims and objectives

- The Forum provides
 - Opportunities to discuss matters of common interest to all NANDTB;
 - an advisory body for new NANDTB implementing applicable regulations and standards;



Aims and objectives

- The Forum provides
 - harmonisation of methodology for the control of aerospace NDT qualification and certification provided at the national level;
 - formal representation of the common concerns of the ANDTBF members to EASA;
 - formal input to rule making and standards making processes



Aims and objectives

- The Forum has
 - agreed common specifications for qualifying agencies providing training and examinations at the national level;
 - initiated a mechanism for interpretation in cases of dispute regarding the implementation of applicable regulations and standards;



Aims and objectives

- The Forum has
 - Established lines of communication with
 - EASA on rulemaking
 - ASD-Stan on interpretation and implementation of EN 4179, and with
 - NADCAP on recognition of qualifications under control of NANDTB



Aims and objectives

- The Forum will
 - Develop and aerospace specific training syllabus for adoption by all members and implementation at the national level;
 - Disseminate information on the international level, through NDT journals and websites;



Aims and objectives

- The Forum will encourage multilateral recognition
 - between its members,
 - with organisations having similar aims, e.g., IAQG, and
 - with any other pertinent body in order to benefit the aerospace industry and minimise duplication and multiple audit.



Representation

- In order to obtain the widest possible representation, the ANDTBF encourages NANDTB or similar organisations outside of the European Union and Free Trade area to apply for membership or otherwise to seek involvement in it's activities.



Constitution

- The ANDTBF is comprised of two duly nominated representatives of each of the NANDTB members.
- The Boards and additional observers in current membership are listed in document reference ANDTB/02.
- Such other bodies as the ANDTBF may determine will be invited to join, or to attend meetings of the Forum with Observer status.



Constitution

- The chairman and vice chairman are elected from the members representatives for a period of office of two years
- The secretary is appointed by the Forum for a term of office of two years



Membership

- Australia
- Austria
- Belgium
- Czech Rep
- Denmark*
- EASA (observer)
- FAA (observer)
- Finland
- France
- Germany
- Greece
- Hungary
- Iceland
- Ireland
- Italy
- Luxemburg (observer)
- Malta (observer)
- Netherlands
- Norway*
- Poland
- Portugal
- Russia
- Serbia (observer)
- Slovakia (observer)
- Slovenia (observer)
- Spain
- Sweden*
- Switzerland
- Turkey
- UK

*Scandinavian Board



Membership

- Any organisation wishing to apply for membership of the ANDTBF, and to nominate a representative to attend meetings, should contact the Secretary to the ANDTBF through www.efndt.org
- The secretary will submit the application for membership to the next meeting of the Forum



Method of working

- The Forum has at least one ordinary meeting per year.
- Approval of changes to the constitution, terms of reference and method of working, and invitations for other bodies to be represented on the ANDTBF require a majority of not less than three fourths of those present at an ordinary meeting;
- Other matters are decided by a simple majority.



Method of working

- The ANDTBF is empowered to set up working groups and committees, establish their terms of reference and set out the procedures whereby they report to the ANDTBF.



Action plan

- The Board has agreed an action plan, which continues to evolve.
- The plan includes a number of objectives in line with the aims of the Forum.
- A convener is responsible for delivery of the agreed outcomes ...



EASA Regulations

- Objectives:
 - Interpret and apply the regulations in a uniform manner through all NANDTB
 - Request that EASA harmonise or combine EASA Regulations parts 21 and 145.
 - Offer to assist with or contribute to the work involved



Harmonisation of operations

- Objectives

- Draft ANDTBF policy document proposing harmonisation of the operations of the national Boards.
- Propose Outside Agency audit criteria.
- Recommend policy on recognition of approvals issued under the control of other national Boards.

- Status:

- Achieved



Interpretation of standards

- Objectives:
 - Provide a mechanism for interpretation of applicable qualification standards, e.g. EN 4179 and EN 473, for the aerospace sector.
 - Make recommendations concerning experience – reductions in duration.
 - Make recommendations concerning practical examination content (initial and recertification)
- Status:
 - Established a formal liaison with ASD-Stan



Conferences

- Objective:
 - Manage a half day aerospace NDT personnel qualification / certification session within the four yearly European Conference on NDT
 - Offer presentations promoting the work of The Forum at any other relevant conference, symposium or workshop.



Training Syllabuses

- Objectives:
 - Develop an aerospace specific training syllabus covering five principle NDT methods and aerospace product technology
- Status:
 - Scope of work is initially limited to UT and product technology
 - a draft syllabus is to be tabled at a meeting during 2010



Conclusions

- The Forum has made an excellent start with an action plan that addresses its aims and objectives
- Meetings are well attended, and the Forum is well supported
- The forum has opened good communication channels between national boards



Further information

- The EFNDT has provided a space on it's website for the work of the Forum to be publicised
- Further information
 - at www.efndt.org
 - or from john.thompson@ms2.org.uk