

**DEPARTMENT OF CIVIL AVIATION
MALAYSIA
AIRWORTHINESS NOTICE**

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Date: 1 October 2002

PERSONNEL CERTIFICATION FOR NON-DESTRUCTIVE TESTING OF AIRCRAFT, ENGINES, COMPONENTS AND MATERIALS

1. General

- 1.1 This Notice advises the Authority's requirements for the qualification of Non-Destructive Testing (NDT) personnel, which shall be in accordance with European Standards EN473 (See note 1) or EN4179 (See note 2), and the Approved Organisation's written practice/procedures for the authorisation of NDT personnel.
- 1.2 This revision of the Notice clarifies DCA policy relating to the acceptability of organisation-based schemes for the qualification of NDT personnel in accordance with European NDT personnel requirements, and is intended to recognise the competence of Level 3 qualified personnel.
- 1.3 The term NDT is used throughout this Notice to include, but not be limited to, liquid penetrant, magnetic particle, eddy current, ultrasonic, radiographic and other recognised methods as identified in the above referenced standards and shall be applicable to all NDT Methods used by Approved Organisations. Other methods and their associated procedures will be subject to approval by the Authority under the applicable airworthiness approval standard (JAR-145, BCAR etc.). Definitions of other key terms used throughout this Notice are contained in Section 9.

- NOTES: 1) EN473 - General Principle for Qualification and certification of NDT Personnel.
- 2) EN4179 - Qualification and approval of personnel for non-destructive testing.
- 3) All references to Standards within this Notice are to be taken as referring to the latest issue and are available from the British Standards Institute 389 Chiswick High Road, London, W4 4AL.

2. Procedures for the Qualification of NDT Personnel

- 2.1 All Approved Organisations involved in any aspect of NDT shall develop and maintain procedures for the qualification and authorisation of their NDT personnel in accordance with either EN473 for a central personnel Certification scheme (see Section 2.2) or EN4179 for an organisation-based Personnel Certification scheme. In either case, the organisation's procedures and/or written practice as defined by EN4179 shall be approved by the Nominated Level 3 (see Section 3).
- 2.2 Within Malaysia, the DCA currently recognises the national scheme for Personnel Certification in Non-Destructive Testing (PCN) administered by the British Institute of Non-Destructive Testing as meeting the requirements of EN473.

3. Qualified Staff

- 3.1 DCA Approved Organisations undertaking NDT in accordance with BCAR or JAR must satisfy the DCA that they have adequate numbers of suitably qualified staff to discharge the responsibilities of the approval.
- 3.2 Organisations shall nominate in writing, supported with evidence of certification, an individual responsible to the Chief Executive/Accountable Manager, for the technical supervision of NDT. This individual will hold independent Central Certification at Level 3 in the appropriate Industry Sector and will be referred to as the 'Nominated Level 3'. This position shall be identified within the Organisation Exposition, and any change in this position advised to the Authority.
- 3.3 The Authority recognises PCN Level 3 certified personnel under EN473 and independently centrally certified American Society for Non-Destructive Testing (ASNT) Level 3 personnel (including ACCP) suitably experienced in aerospace under EN4179, as qualified for the position of Nominated Level 3.
- 3.4 Where the Nominated Level 3 is not qualified in all methods used by the Organisation, then the additional Level 3s necessary to provide coverage shall be independently centrally certified.

- 3.5 Additional Level 3 Certification holders shall be listed in the Organisation Exposition or reference made in the Exposition to other documents containing the list of Level 3 holders. Any changes to this list are to be notified to the Authority through appropriate amendments.
- 3.6 The Authority may accept persons external to the Organisation as the Nominated Level 3, provided written agreement exists between the individual and the Organisation setting out the individual's responsibilities within the Organisation.

4. Inspections and Certification of Inspections

- 4.1 NDT inspections shall be carried out by personnel approved in accordance with the Organisation's written practice. Where NDT procedures are specified by the organisation responsible for the design and/or manufacture of the aircraft, material, structure or component, then these must be used, except where change is permitted and authorised as defined in paragraph 5 of this Notice. Where non-mandatory inspections are to be undertaken, for which the responsible design/manufacturing organisation has not specified NDT procedures, then the NDT method, technique, procedure and instruction shall be prepared in accordance with paragraph 5 of this Notice and approved by a Level 3 holder qualified in the applicable method.
- 4.2 Normally, certification of inspections will be made by persons who hold Level 2 or above authorisations. However, where an inspection task is determined by the Nominated Level 3 to have clearly defined acceptability and rejection criteria requiring no interpretation, then certification may be carried out by an authorised Level 1, as detailed within the written practice.
- 4.3 Where a Level 3 is required to carry out and certify an NDT inspection then this person must either hold current Level 2 certification in those methods, or be able to provide evidence that they have successfully completed an appropriate Level 2 practical examination and maintained continuity in the application of practical testing as defined in the referenced standards and detailed in the written practice.

5. NDT Techniques and Instructions and their Approval

- 5.1 NDT techniques, procedures and instructions, published and specified by the Type Certificate holder in NDT Manuals, Service Bulletins, Approved Drawings etc. constitute airworthiness data.
- 5.2 Where the airworthiness data published by the Type Certificate holder permits changes (e.g. selection of equipment model, probe type etc.) then such changes must be authorised in writing by a Level 3 qualified in the appropriate method.
- 5.3 Any other change requires the written agreement of the Type Certificate holder responsible for the design of the product/structure before such a change is implemented. NDT Instructions prepared by a Level 2 holder shall be approved by a Level 3 holder qualified in the applicable method. The procedure for the control of all NDT techniques, procedures and instructions, including their preparation and authorisation within any DCA Approved Organisation, shall be detailed in the Organisation's approved Quality Procedures.

6. Suppliers and Sub-Contractors to Approved Organisations

An Organisation utilising suppliers and sub-contractors where NDT processes are employed, shall detail within their written practice how the Organisation ensures that training and approval of NDT personnel in such suppliers or sub-contractors is controlled. Organisations are referred to BCAR AB- Appendix 2 - 'Surveillance of Sub-Contractors', JAR145.75 and associated ACJ material.

7. Transitional Arrangements

- 7.1 Transitional arrangements acceptable to DCA as published in Issue 4 of this notice, are no longer applicable. All organisations shall be in compliance with this notice, effective as of 01 March 2002. This is based on the 24 months transitional arrangements period allowed by Issue 4 of this Notice.

8. Other Means of Compliance

For Organisations seeking DCA approval, the Authority is prepared to consider the following method of complying with this Notice:

8.1 Organisations outside Malaysia

For Organisations located outside Malaysia, the DCA may consider local national qualifications alternative to EN473 and EN4179 provided that they are demonstrated to be equivalent, have the approval of the local airworthiness regulating authority, and the Authority is satisfied that no degradation of airworthiness standards is likely to occur as a result of the acceptance of such alternative arrangements.

NOTE: Personnel holding a current Malaysian Aircraft Maintenance Engineer's Licence may continue to undertake inspections as limited by Airworthiness Notice No.3, paragraph 1.8.

9. Definitions

9.1 Authorisation (of NDT procedures)

The act of signifying approval of NDT procedures by a Nominated Level 3.

9.2 Authorisation (of NDT personnel)

A written statement issued by a Nominated Level 3 based on the individual's competence as specified within the certificate.

9.3 Certificate

Document issued under the rules of either of the certification systems defined in this Notice (EN473 or EN4179) indicating that adequate confidence is provided, that the named person is competent to perform specified non-destructive testing.

9.4 Industry Sector

A particular section of industry or technology where specialised NDT practices are used requiring specific product related knowledge, skill, equipment or training. An industrial sector may be interpreted to mean a product (welds, castings) or an industry (aerospace, petrochemical). In the entire context of this notice, the Appropriate Sector would mean the aerospace sector, shall be applied.

9.5 NDT Technique

A specific way of utilising an NDT method (e.g. ultrasonic immersion technique).

9.6 NDT Procedure

A written description of all essential parameters and precautions to be observed when applying an NDT technique to a specific test, following an established standard, code or specification.

9.7 NDT Instruction

A written description of the precise steps to be followed in testing to an established standard, code, specification or NDT procedure.

9.8 NDT Method

Discipline applying a physical principle in Non-Destructive Testing (e.g. ultrasonic method).

9.9 Nominated Level 3

An independently certified Level 3 certificate holder responsible to the Chief Executive or Accountable Manager for the airworthiness aspects of NDT work undertaken by that Organisation.

9.10 **Qualification**

The proven ability of NDT personnel to meet the requirements of a given specification in terms of physical requirements, training, knowledge and experience necessary to perform the applicable NDT method.

9.11 **Qualification Examination**

An examination administered by an independent certifying body (e.g. PCN), or by a body authorised within the employer's EN4179 compliant written practice, which demonstrates the general, specific and practical knowledge of the candidate.

9.12 **Type Certificate**

For the purposes of this Airworthiness Notice, Type Certificate includes Type Certificates, Supplementary Type Certificates, FAA TSO and Joint Technical Standard Orders (JTSO) Authorisations.

10. **Cancellation**

This Notice cancels Airworthiness Notice No.52 Issue 4, dated 01 March 2000, which should be destroyed.

DIRECTOR GENERAL
DEPARTMENT OF CIVIL AVIATION
MALAYSIA.