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## PED/20 APPROVAL OF NDT PERSONNEL UNDER THE PRESSURE EQUIPMENT DIRECTIVE (97/23/EC)

The United Kingdom Secretary of State has appointed the British Institute of Non-Destructive Testing as a Recognised Third-Party Organisation (RTPO) under regulation 20 of the European Pressure Equipment Regulations 1999 which implement the provisions of Directive 97/23/EC of the European Parliament concerning pressure equipment.

The scope of the appointment is for the approval of personnel to carry out non-destructive tests on permanent joints for pressure equipment in categories III and IV in accordance with section 3.1.3 of Schedule 2 to the Regulations.

There are three routes (A, B and C) to gaining 'approval' through BINDT, all of which satisfy the provisions of the Directive 97/23/EC:

- A). The British Institute of Non-Destructive Testing offers PCN qualification examinations through it's network of Authorised Qualifying Bodies in the United Kingdom and in many locations throughout the world (details of examination availability are published in PCN document PSL/4). Success in these qualification examinations results in the award of PCN certification covering the testing of permanent joints (welds), which complies with EN 473 and fully satisfies Directive 97/23/EC and the applicable harmonized standards. No additional procedure is necessary to apply for separate approval
- B). The British Institute of Non-Destructive Testing also offers approval of NDT personnel certificated by the following certification bodies with which it has contractual arrangements:
  - Australian Institute for NDT: [http://ndt.AINDT.gc.ca/home\\_e.htm](http://ndt.AINDT.gc.ca/home_e.htm) or email [certification@aindt.com.au](mailto:certification@aindt.com.au)
  - Brazilian Association for NDT (ABENDE): <http://www.abende.org.br> or email: [info@abende.org.br](mailto:info@abende.org.br)
  - Natural Resources (Canada): <http://ndt.nrcan.gc.ca> or email: [jlachape@NRCan.gc.ca](mailto:jlachape@NRCan.gc.ca)
  - RTC Testing and Diagnostics (Russia): email: [control@df.ru](mailto:control@df.ru)
  - UKREPERT (Ukraine): email: [assoc@i.kiev.ua](mailto:assoc@i.kiev.ua)
- C). NDT personnel qualified through 'in-house' or 'second party' NDT personnel qualification systems for companies seeking to satisfy the provisions of the PED. This involves an on-site audit of relevant training and examinations conducted either by the employer or an external agency against the qualification requirements of EN 473, the witnessing of non-destructive tests carried out by the NDT personnel to be approved, and the issue of a statement of approval for specified personnel conducting particular non-destructive tests. However, it is emphasized that this is **not** EN 473 certification.

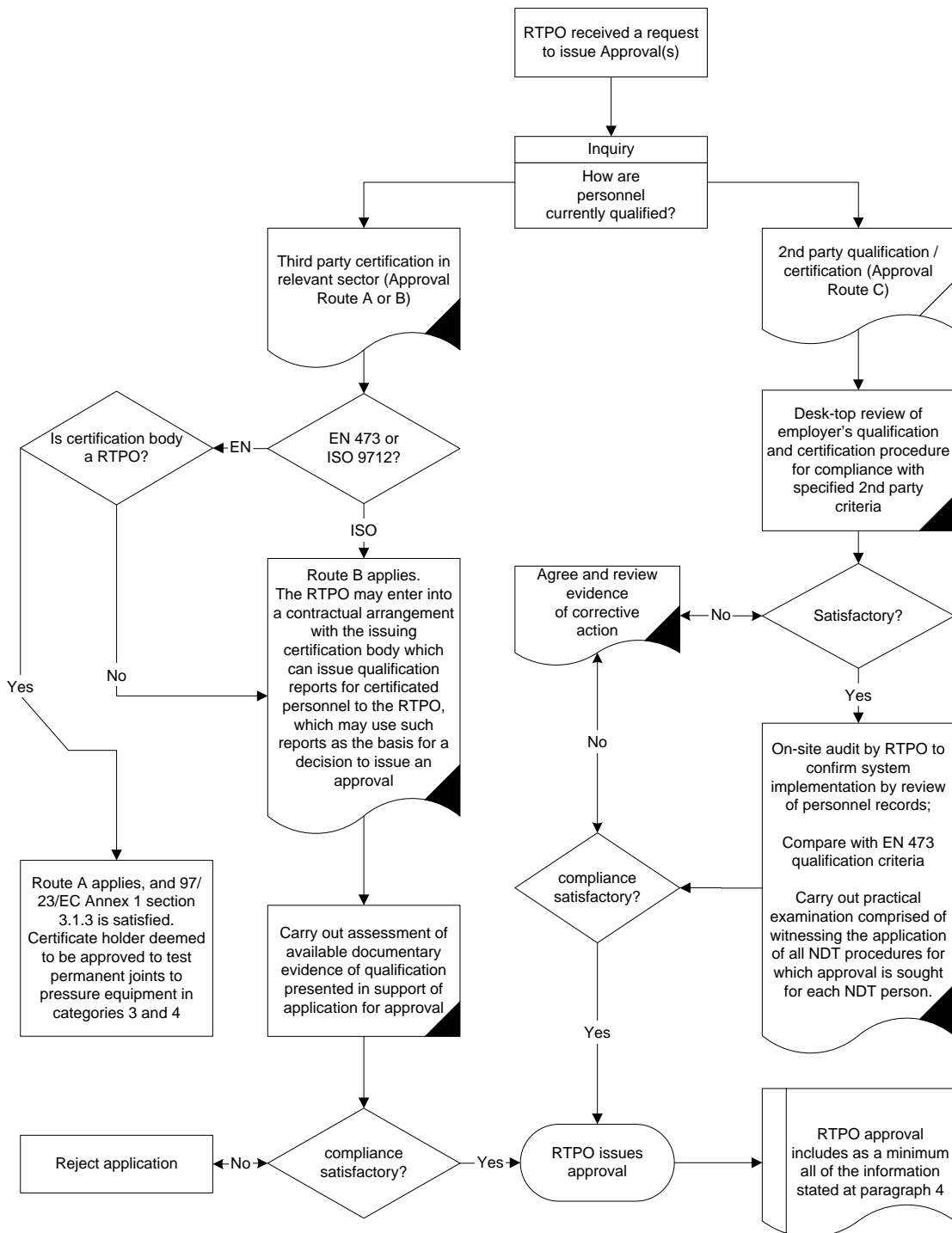
Further information may be obtained through The British Institute of NDT. Tel: +44 (0)1604 259056; Fax: +44 (0)1604 231489. Email: [pcn@bindt.org](mailto:pcn@bindt.org) or visit [http://www.bindt.org/Certification/General\\_Information/Pressure\\_Equipment\\_Directive.html](http://www.bindt.org/Certification/General_Information/Pressure_Equipment_Directive.html)



The British Institute of Non-Destructive Testing is an accredited certification body offering personnel and quality management systems assessment and certification against criteria set out in international and European standards through the PCN Certification Scheme.



# PROCESS FOR APPROVAL OF NDT PERSONNEL BY A RECOGNISED THIRD PARTY ORGANISATION



# AN INTRODUCTION TO THE EUROPEAN PRESSURE EQUIPMENT DIRECTIVE (PED) 97/23/EC

## ■ Introduction

The Pressure Equipment Directive - 97/23/EC - was formally adopted by the European Parliament and Council on 29th May 1997, and was published in the Official journal of the European Communities No. L181 of 9th July (ISBN 011 916 0927). It entered into force on 29th November 1999 but compliance with its requirements will be optional until 29th May 2002.

The purpose of the directive is to harmonise national laws regarding design, manufacture and conformity assessment of pressure equipment and assemblies (vessels, storage containers, heat exchangers, shell and water tube boilers, industrial pipework, safety devices and pressure accessories) subject to an internal pressure greater than 0.5 bar.

Equipment is categorised within four levels (I to VI) according to degree of hazard: category III and IV equipment will require conformity assessment by 'notified bodies' and 'recognised third party organisations'.

Equipment manufactured to harmonised ENs (e.g., prEN13445 : Unfired pressure vessels; prEN 13480 : Metallic industrial piping) developed in support of the directive will be presumed to comply with the essential safety requirements.

## ■ A 'New Approach'

With the PED, a single certification scheme replaces the former national systems and applies to any pressure equipment being placed on the European market - whatever the country of manufacture. It applies to new equipment and also to secondhand equipment.

Manufacturers are responsible for ensuring compliance of equipment to the Essential Safety Requirements.

The manufacturer is under an obligation to analyse the hazards in order to identify those that apply to equipment on account of pressure.

In article 10 and annex III, the directive presents 13 procedures, called "modules". Some of these modules concern only product design, while others concern only manufacturing. Some apply to batch series and some to one-off production, and some require the manufacturer to operate a quality system. The manufacturer chooses the module(s) to be applied, according to the category in which the equipment is classified (I to VI).

**The PED is one of the "New Approach" European directives intended to ease the circulation of products within Europe.**



**Pressure equipment must be subjected to conformity assessment procedures before being placed on the market in order to ensure that they comply with the Essential Safety Requirements of the directive.**

## ■ Design Considerations

Adequate strength, experimental design, safe handling and operation, means of examination, means of draining and venting, corrosion or other chemical attack, wear, assemblies, provisions for filling and discharge, protection against exceeding the allowable limits of pressure equipment, safety accessories, external fire.

## ■ Manufacturing Processes

Processes and procedures, final assessment, marking and labeling, operating instructions.

## ■ Materials

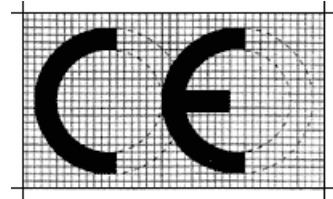
Appropriate properties, use in conformance with required specification, European harmonised standards, European approval for materials, particular appraisal of materials.

## ■ Testing

For pressure equipment, non-destructive tests of permanent joints must be carried out by suitably qualified personnel. For pressure equipment in categories III and IV, NDT and welding personnel must be approved by a 'Third Party Organisation' recognized by a member state pursuant to Article 13.

## ■ CE Marking

Pressure equipment and assemblies subject to conformity assessment procedures must bear the CE mark. This provides an indication that the product complies with the requirements of all applicable directives. Equipment is categorised within four levels (I to VI) according to degree of hazard: category III and IV equipment will require conformity assessment by 'notified Bodies' and 'Recognised Third Party Organisations'.



## ■ References

- 97/23/EC : The Pressure Equipment Directive
- WPG6/13 Guideline for RTPO approving NDT personnel - final version adopted 2004-03-17
- TRG 0034 rev 0 - COP NDT Personnel - Silent TRG 041124 (Code of practice for the approval of NDT personnel by Recognised Third Party Organisations under the provisions of Directive 97/23/EC)
- EN13445 : Unfired pressure vessels (part 5 : Inspection and testing)
- EN 13480 : Metallic industrial piping (part 5 : Inspection and testing)
- EN 473 : 2000 Non-destructive testing – Qualification and certification of personnel – General principles
- EN ISO/IEC 17024 : 2004 Conformity Assessment – General requirements for bodies operating certification of persons

## ■ Relevant extracts

- 97/23/EC Article 13 clause 1: Member states shall notify the Commission and the other member states of the third party organizations which they have recognised for the purposes of the tasks referred to in Annex 1, sections 3.1.2 and 3.1.3.
- 97/23/EC Annex I clause 3.1.3: Non-Destructive Tests. For pressure equipment, non-destructive tests of permanent joints must be carried out by suitably qualified personnel. For pressure equipment in categories III and IV, the personnel must be approved by a third party organisation recognized by a member state pursuant to Article 13.
- 97/23/EC Annex IV: Criteria to be met when designating the notified bodies referred to in Article 12 and the recognised third party organizations referred to in Article 13. (*attached hereto for reference*).
- EN 13480 : part 5 - Inspection and testing - clause 8.4.3 (Personnel qualifications). Personnel performing tests shall be qualified and certified in accordance with EN 473 for the appropriate testing method (this requirement is repeated in clauses 8.5 to 8.9 which cover NDT methods VT, MT, PT, RT and UT).
- EN13445 part 5 - Inspection and testing - clause 2 (Normative references) includes reference to EN 473.
- EN13445 part 5 - Inspection and testing - clause 6.1.3.5.7 (Qualification of NDT personnel): NDT personnel shall be qualified and certified in accordance with EN 473 except for visual examination and leak testing (for which personnel shall be qualified but not certified). NDT personnel shall hold an appropriate certificate of competence at level 1, 2 or 3, as appropriate, which is delivered as described in tables H-1 and H-2 depending on the conformity assessment module (tables H-1 and H-2 state that for category III and IV equipment, qualification and certification of NDT personnel *may be* (is?) carried out by recognised third party organisation).