



European Commission

Enterprise Directorate-General

Directives 87/404/EC and 97/23/EC on Simple Pressure Vessels (SPVD) and Pressure Equipment (PED)

Explanatory part of the "screening" - Croatia, Turkey

Brussels, 16-20 January 2006

Nikolaus Steininger, European Commission, nikolaus.steininger@cec.eu.int



SPVD & PED

First Objective:

Safety

of equipment

- placed on the market
- put into service*



Boiler being removed from house where it landed from a factory a few hundred meters away. Cause - faulty safety valve (yield pressure of boiler about 55bar), Thanks to Philip Papard, HSE UK

Operational aspects e.g. maintenance, repairs, in-service inspections are in national competence



SPVD & PED: suite

Ensures free movement within the EU of products, which fall within its scope and

- which meet the essential safety requirements,
- have completed Conformity Assessment
- bear the CE-mark and the manufacturer's EC Declaration of Conformity (for the PED)

or

- are PED Art 3.3 (SEP) equipment.

➔ “New Approach” SPVD & PED harmonise the previously fragmented European PE market



PED: Scope

Pressure equipment and Assemblies:

- design,
- manufacture,
- conformity assessment

Limited to:

- pressure hazard
- pressure greater than 0.5 bar
- pressure equipment placed on the market OR put into service
- assemblies placed on the market AND put into service



PED: Definitions

- 1- Vessel housing for containment of pressurised fluids
- 2- Piping pipe or system of pipes mainly for transport of fluids - includes hoses, expansion joints, fittings
- 3- Safety accessory protection against exceeding allowable limits
- 4- Pressure accessory operational function e.g. valves, fittings



PED: Assemblies

Several pieces of pressure equipment, provided

1. the result is integrated
2. the result is functional
3. they are a whole
4. they are assembled by one **manufacturer**

NOTE :

- a- the assembly can be built in a workshop or on-site
- b- there is no upper limit to an assembly
- c- when not placed on the market, assemblies are not covered



PED: Essential Safety Requirements (ESRs)

- General obligations for manufacturer
 - e.g. to carry out hazard analysis incl. reasonably foreseeable misuse
 - to establish technical documentation file
- Design and calculation
- Manufacturing
 - manufacturers capabilities
 - manufacturing/joining procedures
- Materials
- Specific requirements
 - for fired or otherwise heated pressure equipment
 - for piping
- Specific quantitative requirements (general rule)



PED: Conformity Assessment

- Category I : Manufacturer Self Assessment
- Category II, III, IV : Notified Body Assessment
- Categories established depending on Hazard Level
- 12 different CA Modules available
- Simplified assessment when using Harmonised Standards



PED: Criteria for classification

Two fluid groups

- Group 1: Positive list of 7 dangerous fluid types as defined by Directive 67/548/EEC
- Group 2: Other fluids

Content

- gaseous
- liquid

PS·V (PS: maximum allowable pressure; V: Volume)

PS·DN (DN: size of piping related to diameter)



Notified Bodies & RTPOs

- Notified by individual Member States to the Commission and other Member States => must be subject to law of a Member State
- Typically have offices and subsidiaries in third countries
- Member States have to assess integrity, independence and technical competence
- Involved in conformity assessment of category II, III, IV PED pressure equipment
- PED annex IV stipulates minimum criteria for notified bodies/RTPOs, Member States may apply additional criteria and are responsible for surveillance



Simple Pressure Vessels (exempt from PED) in a nutshell

- $PS > 0,5$ bar
- serially produced
- made of steel or aluminium or aluminium alloys
- intended to contain air or nitrogen
- “standard” shapes: flat/dished ends with/without cylindrical part
- certain limits on pressure, volume, operating temperatures

Essential safety requirements (ESRs)

- on material properties
- on design (wall thickness, calculation etc.)
- on manufacturing (preparation, welds)

Conformity Assessment ($PS \cdot V > 50$ bar·L):

- Always (design): EC type-examination or certificate of adequacy (if harmonised ENs are used) by notified body
- $PS \cdot V \leq 200$ bar·L (manufacture): EC declaration of conformity by manufacturer
- $200 \text{ bar} \cdot \text{L} < PS \cdot V \leq 3000$ bar·L (manufacture): EC surveillance by notified body
- $PS \cdot V > 3000$ bar·L (manufacture): EC verification by notified body



Transposition

« Normally » easy:

- ESRs (SPVD annex, PED annex I)
- Technical provisions on conformity assessment

« Normally less » easy:

- links to horizontal elements like ENs, notified bodies
- responsibilities of authorities (Member States, Commission)

Attention to be paid at:

- Hidden barriers to free movement of equipment, e.g. undue linguistic requirements for technical file
- Correct legal implementation of free movement
- Correct transposition of article 1.3 PED exemptions



There is also Implementation...

Do not forget:

- Market surveillance
- Proper designation & surveillance of notified bodies/RTPOs
- ...

“Typical” problems:

- Monopoly of certain notified bodies for tasks under national competence
- National regulation/practice of in-service inspections
- National regulation on operation of equipment, “labour protection”
- National regulation at the “borderlines” of PED: regulating other aspects than the pressure hazard, equipment exempt from PED



Market Surveillance

- Member States must ensure market surveillance, i.e. ensure that products meet ESRs and do not endanger health and safety of persons and where appropriate domestic animals or property
- Most identified problems are with relatively cheap mass products (simple pressure vessels, pressure cookers) => “small” risk per item may generate a substantial risk for accidents due to the large number of products
- Concrete measures of individual Member States against products or design principles must be notified to the Commission => Safeguard Clause
- Commission then contacts all parties concerned, analysis, takes decision,...
- Safeguard Clause objectives:
 - EU-wide withdrawal of dangerous products
 - Free movement of goods: avoid unjustified national measures



Administrative Co-operation

- ADCO groups : collaboration of Member States for purposes of
 - Market Surveillance
 - Designation & surveillance of notified bodies

established in 2004

- Comprises representatives from public administrations only
- Information exchange, co-operation, common concepts and actions
- Share resources and responsibilities, avoid “double work”
- Chaired by Member States and supported by the Commission
- Regular meetings, web-based communication platforms (Circa, Rapex, ICSMS)



Further information & The End

- Commission web-site :

http://europa.eu.int/comm/enterprise/pressure_equipment/ped/index_en.html

- Working Group Pressure Guidelines
- National Authorities
- Euro Info Centers
- Industry Associations
- Notified Bodies
- Directive text itself