

Are there gaps in the PED?

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Overview

The Pressure Equipment Directive (PED)

- NLF – a major success story
- The “new” PED – necessary adjustments?
- Are there REAL gaps in the PED?
 - Technical issues of main text and Annex I
 - New topics
- Summary

New Approach / NLF



A major success story

- Unique European concept – EU-Directives (law) plus harmonized standards (“practical tools”)
- Central objective:
Free circulation of goods on the common market while ensuring a high level of safety
- Advantages for all stakeholders
- Harmonized processes simplify business enormously

Directives



Fields of application

- Virtually all sectors covered – focus on products with inherently high hazard potential
- Directives legally binding, nationally implemented
- Definition of basic safety objectives – technical solutions in standards
- CE-marking shows that product falls under at least one directive and is in conformity with requirements

Directives



Some examples

- Machinery Directive 2006/42/EC
- ATEX 94/9/EC
- Low Voltage Directive 2006/95/EC (LVD)
- Simple Pressure Vessel Directive 2009/105/EC (SPVD)
- **Pressure Equipment Directive 97/23/EC (PED)**

Harmonized standards



General concept

- Preferred “tools” to comply with the essential safety requirements (ESR) of a specific directive
- Presumption of conformity:
Manufacturers who correctly apply harmonized standards may presume that their technical solutions comply with directive(s)
- Harmonized standards provide thus to some extent reversal of the “burden of proof” – other solutions are allowed, but in that case conformity has to be proven by manufacturer

Acceptance of concept outside Europe



Highly successful!

- European safety level widely acknowledged
- System has great appeal to other regions in the world:
 - Technical regulations in Customs Union Russia – Kazakhstan – Belarus with many similar features
 - Many elements of NLF-concept also in Chinese pressure vessel regulation
 - South Africa took over PED almost 1:1

The Pressure Equipment Directive 97/23/EC (PED)



General concept

- Since its coming into force in 2002 greatly simplified trade in Europe
- Remarkable achievement – harmonized approach for plant construction, vessels, piping, valves all across Europe
- Ensures an outstanding safety level in Europe
- PED yielded harmonized standards that contain the most modern concepts worldwide (materials, design)
- PED provides clear advantage in terms of competitiveness

But why this presentation?



Are there really gaps in the PED?

- PED was published in the OJEC in 1997, became mandatory in 2002
- Had to undergo adaptations to the New Legislative Framework (NLF) (harmonization of the structure and common terms/concepts in all EU-Directives)
- PED is mandatory more than 12 years now – various minor (major?) “construction sites” identified

NLF-alignment of PED



General remarks

- Substantial formal revision – aligned PED (new title: 2014/68/EU) will become mandatory on 19 July 2016
- No real “gaps” due to the alignment, but some legal uncertainties to be clarified quite urgently
- Solution: mainly by guidelines or guidance papers to the “new” PED

NLF-alignment of PED



Editorial changes

- Various editorial modifications, e.g.:
 - Articles according to Art. 3(3) (Sound Engineering Practice) are now Art. 4(3)
 - Exclusions 1.3.1 through 1.3.21 are now 1.2a) through 1.2u)
- All(!) existing guidelines refer to specific (old) PED-clauses ⇒ need to be revised
- Fortunately no direct consequences to harmonized product standards such as EN 13445 or EN 13480

NLF-alignment of PED



Formal changes

- Some formal changes may require additional explanations (via guidelines), e.g.:
 - Replacement or amendment of the term “hazard” by the term “risk” in several articles of the new PED
 - Requirement for documented risk analysis/risk assessment in the modules
 - Wording on data plate requirements and language of operating instructions slightly changed

NLF-alignment of PED



Practical issue

- Missing transition period may lead to practical problems:
 - many products on stock
 - large products (e.g. certain assemblies) for which manufacturing process easily reaches two years
- Horizontal issue – concerns other Directives (ATEX, SPVD) as well
- No amendment in PED necessary, rather to be dealt with in separate announcement

Technical “gaps” in the PED?



No! But...

- After 12 years: Broad experience available among stakeholders
- No serious safety issues, but various smaller inaccuracies or inconsistencies in the PED identified
- Feedback about practical difficulties from standardisation groups
- Adaptation of PED to new developments?

Issues for future PED revisions



Controversial topics in main text

- Article 3(3) provides for free placing on the market of such equipment, but does not allow CE-marking
⇒ this often leads to misunderstandings
- Heat exchangers made of tubes are ever-recurring issue (piping or vessel?)

Gaps in the PED?



General issues

- More than 230 guidelines answer technical and formal questions – many of them should be included in PED-text
- Concept of assemblies was introduced in PED:
Until today (after 12 years despite many guidelines) various discussions among all stakeholders on
 - practical implementation
 - scope/extent

Gaps in the PED?



Annex I Clause 7.5

- Clause 7 (esp. 7.5) differs from basic PED-concept:
Fixed values instead of safety objectives, e.g.:
 - elongation after rupture ≥ 14 %
 - impact testing ≥ 27 J
- Application of these values often poses problems for specific applications where brittle fracture is not the problem

Gaps in the PED?



Annex I Clauses 2.10 and 2.11

- Only little information about requirements in
 - Clauses 2.10 & 2.11 – protection against exceeding allowable limits
 - Clause 2.11 – safety accessories
- New concepts developed in recent years (EN ISO 61511 etc.)

New topics for PED

- New equipment – components that were not yet available when 97/23/EC was drafted (e.g. micro-structures)
- New materials, e.g. compound materials, are increasingly becoming important
- New technologies (e.g. additive manufacturing) have been developed
- Extension of scope to oil and gas sector (offshore?) – very controversial discussion

Summary

Full PED-revision not immediately needed since there are no safety concerns, but

- information on open questions after NLF-alignment highly necessary
- after 14 years (i.e. after 2016) it may be worth to start looking at issues mentioned above
- IF such a revision is envisaged in the near future, time frame should be at least 4-5 years!



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Thank you very much
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for your attention!