Understanding PED will lead to a safer operation

The Pressure Equipment Directive (PED) came into effect over a decade ago, yet many managers, engineers, operatives and importantly procurement managers do not fully understand the implications of non-compliance, specifically the fact that imprisonment can result.

The Pressure Equipment Directive (PED 97/23/EC) came into force in November 1999. It is European legislation covering pressure equipment operating at above 0.5bar (7.25psi). The Pressure Equipment Regulations 1999 implemented PED 97/23/EC and from May 2002 pressure equipment and assemblies, placed on the market and put into service in the United Kingdom, must comply with the PER.

PED is applicable and enforceable throughout the European Economic Area or EEA. The EEA is made up of all of the EC member states plus Iceland, Norway and Liechtenstein. Increasingly, many countries outside Europe are now embracing PED as their default specification for pressure containing devices.

The PED's aim is to ensure pressure equipment is safe. It covers design, manufacture, testing, marking and labelling instructions as well as materials essential for safety reasons. Failure to comply with the PED incurs different penalties and prosecutions for each PED member state. The PED was transposed into UK law by the Pressure Equipment Regulations (PER).

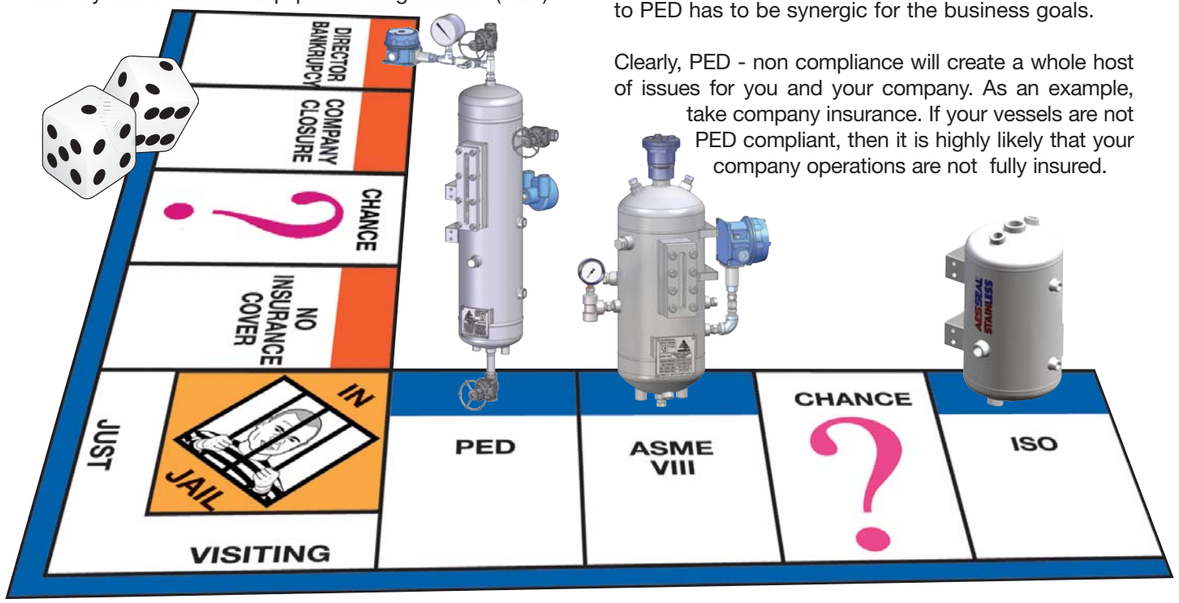
Failure to comply with the PER means the following:

- Equipment which does not comply cannot legally be placed on the market or put into service in the UK or the European Community or EEA.
- The possibility of prosecution and penalties on conviction of a fine or imprisonment or both.

What other issues may result through **PED - non compliance?**

PED's aim is to ensure pressure equipment is safe. Essentially, it is designed to reduce the amount of near misses, minor or serious injuries. Reducing and eliminating health and safety issues is typically at the front of all companies agenda's, therefore compliance to PED has to be synergic for the business goals.

Clearly, PED - non compliance will create a whole host of issues for you and your company. As an example, take company insurance. If your vessels are not PED compliant, then it is highly likely that your company operations are not fully insured.



PED - Non compliance Go straight to Jail, Do not pass Go

In the event of an industrial accident or fatality, on top of the clear human distress such events cause, an un-insured operation will place the company's future and very survival at stake.

Plant health and safety is responsibility of every employee and company stakeholder. PED understanding and compliance is therefore an essential element of an employee's "tool-kit". PED compliance is one of many aspects to help reduce plant health and safety incidents. Another, of worthy note, is that personnel should ensure all plant alarm systems are active and frequently tested. The analogy to this, is frequent checking of your smoke alarms in your home. Many of us know we need to check them, but the reality is that few of us actually have structured regimes to do so. The bottom line is that you don't realise how much you need such systems until you need them.

Are your vessels compliant with the PED?

Ask the following questions of your pressure vessel manufacturer:

- Does my vessel carry the CE mark? This should be fixed permanently to the vessel.
- Does my vessel have full material traceability for all pressure containing parts through all stages of manufacture?
- Have the welds been carried out by a qualified person?
- Do you have design calculations to ensure your vessel can operate at its intended pressure / temperature limits?
- Has my vessel been properly designed taking all relevant factors into account in order to ensure that the equipment will be safe throughout its intended life?
- For category II, III and IV vessels, have the procedures been approved by a notified body?

If the answer to any of these questions is "NO", then the vessel is not PED compliant and, under UK law, you could fined and imprisoned. Other member states of the EC have similar penalties. Even more serious than this, your actions, or lack of them, are endangering the health and safety of your colleagues and company stakeholders.

Assembly and Component CE Marking
Understand the difference!

Many components can be procured as individual items with CE markings and certification. This does not mean that the assembly, in which they belong, is automatically CE certified.

The best example of this is where an accumulator has been purchased from a reputable PED compliant source and correctly bears the CE mark. With respect to a Category II or III Seal Support System of an item of Rotating Equipment, not only does the pressure vessel need to be CE marked as well as all the instrumentation, but the whole system must also be CE marked as an Assembly.

In practice this means that individual components carry a CE mark and the assembly also carries a CE mark. So in the case of an accumulator which correctly carries a CE mark which then becomes a component in an assembly, then the assembly will carry a CE mark and the systems will have two CE marks or more. However the supplier of the system is duty bound in law to CE mark the assembly and failure to do so is in breach of PED. If the whole system assembly has not been assessed and certified by an appropriate body, then the system is NOT PED compliant thereby carrying the relevant member state penalties.

A further aspect of PED qualifying a "system" is to ensure that ALL materials, that are pressure bearing, have their materials of construction traceable back to the mill certification. In summary it is clearly very easy for a Manager, Procurement Officer, Engineer or Operator to get lost in the pages and pages of legislation and guidance of the PED and PER specifications. This text is not designed to replace those documents and concerned parties are clearly advised to read and understand them.

What is very relevant however is the fact that PED is law in many countries and as such, non-compliance is punishable under law. Just because a group of components are individually CE marked, does not mean the System, in which they belong is CE certified.

AESSEAL® is understood to be the only global mechanical seal and seal support system manufacturer that supplies CE certified system assemblies. AESSEAL® at its Global Technology Centre is certified to Module D, B1 and H1 and its subsidiaries are certified to module D. Module H1 is the highest level of certification in PED and covers AESSEAL® up to and including Category IV systems. This fact should provide "peace of mind" to concerned Plant personnel and businesses.

References:

[1] Pressure Equipment Directive, (PED 97/23/EC)
[2] PRODUCT STANDARDS, Pressure Equipment; Guidance Notes on the UK regulations, April 2005 (URN 05/1074)
[3] Pressure Equipment Regulations 1999, (the PER – SI 1999/2001)