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For the attention of: Dr George Molteni  
Company: The Energy Group  
From: Richard Brooks  
Date: 9<sup>th</sup> June, 2005  
Subject: Applicability of CE marking to Fossil Fuel stabiliser

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## 1. General commentary

- 1.1. This report is further to our previous report dated 25 February 2005. It determines the applicability of CE marking the products under the Pressure Equipment Directive (PED) for the 1", 2" and 4" flanged models.

## 2. Product Classification

- 2.1. The PED requires the manufacturer to classify the product into one of five categories. The least onerous category is that of 'standard engineering practice' (SEP), which is followed by categories 1 through 4.
- 2.2. The SEP category does not require a CE mark. The other categories do.
- 2.3. The choice of category determines the procedures which have to be applied in order to legitimately apply the CE mark. As the category number increases, there is an increasing need for the involvement of a third party inspection body in the CE marking process.
- 2.3.1. product type (pressure vessel or pipework),
  - 2.3.2. state of contents (gas or liquid) and
  - 2.3.3. fluid group (hazardous or non-hazardous)

- 2.3.4. volume (for vessels) or nominal diameter (for pipework)
- 2.3.5. maximum working pressure
- 2.4. These criteria are used in combination with the categorisation charts contained in the Directive. Essentially, the result is that the greater the potential hazard from failure of the device, the higher the category into which it falls.
- 2.5. Your product falls under the definition of 'pressure accessories' as given in the directive. For your product, the charts corresponding to pipework are applicable (chart 6).
- 2.6. I have included the categorisation chart results in the appendix.
- 2.7. Your product specifications do not provide a maximum a pressure but from information supplied it is presumed that the critical factor in determining the maximum working pressure will be the pressure rating of the flange connection.
- 2.8. From information supplied (fax dated 18 March 2005 from flange suppliers Sifco refers) it is clear that the working pressure of the flanges exceeds the limiting pressure for categorisation under the Directive. These pressures are given in the following table.

Nominal Size	Maximum allowable pressure (Bar)				
	PED does not apply	SEP applies	Category 1 applies	Category 2 applies	Category 3 applies
1"	0 to 0.5	Above 0.5	n/a	n/a	n/a
2"	0 to 0.5	n/a	0.5 to 20	Any > 20	n/a
4"	0 to 0.5	n/a	0.5 to 10	Any > 10	n/a
6"	0 to 0.5	n/a	n/a	0.5 to 23	Any > 23

- 2.9. This indicates that the 1" size should not be CE marked at all. The 2", 4" and 6" sizes should be CE marked if the maximum allowable pressure is above 0.5 Bar (approx 7.5 psi.)
- 2.10. You should note that it is a requirement of the Directive that all pressure equipment should have a designated maximum working pressure, and in

most cases this information needs to be marked on the product itself. You would be advised to address this in your product literature.

### **3. Requirements of the Directive**

- 3.1. All pressure equipment in categories 1 and higher must comply with the Essential Health and Safety Requirements (EHSRs) of the Directive. I have attached these to this report for your information.
- 3.2. Additionally, the manufacturer (or responsible vendor) must compile a file of technical information which shows that the pressure equipment has been assessed against, and complies with, the EHSRs.
- 3.3. The manufacturer must also operate appropriate quality control and production safety checking measures. These usually include a pressure test on every unit at the end of the manufacturing process.
- 3.4. For category 1 equipment, this process may be done by self-certification by the manufacturer. For category 2 equipment, there is a requirement to involve a suitably accredited third party test house (known as a 'Notified Body') in checking that the final product testing procedures have been correctly followed.
- 3.5. A detailed analysis of the requirements of the EHSRs as applied to your products is outside the scope of this report. We would be pleased to provide more information and a quotation for assisting you with this if required.

### **4. Conclusion**

- 4.1. Please do not hesitate to contact me if you require any further information, clarification or assistance.

Regards

Richard Brooks

Reviewed by: Nick Williams.