

Directive 97/23/EC

Keywords :

Boiler

Assembly

Essential requirement

National regulation

Directive references:

Annex I § 1.1, 1.2, 1.3 -  
97/23 ECAnnex U § 2.9, 2.10, 2.11 -  
97/23 EC

Annex I § 3.4 - 97/23 EC

Annex I § 5 - 97/23 EC

Adopted by WPG: 18/03/2004

Adopted by CLAP: 18/03/2004

Subject:

ESR particular – Boilers for generating steam or superheated water intended for operation without continuous supervision

Question:

How should the ESRs (essential safety requirements) of Annex I be interpreted in regard of boilers for generating steam or superheated water intended for operation without continuous supervision?

Answer:

1/2

All the ESRs from Annex I apply if the corresponding hazards exist. The following observations, which are not necessarily exhaustive, explain how some of the ESRs can be understood in the context of operation without continuous supervision.

EES	Explanation
1.1	The boiler shall be able to operate automatically, and include a control mode "operation without continuous supervision".
1.3, 5a	The heating system shall be able to operate only if all the boiler safety systems are operational.
2.10	Protection against exceeding allowable limits on pressure, temperature and water level shall be ensured by safety accessories (see also CLAP 228 - Guideline 1/43).
2.10	When specific aspects of water quality are subject to rapid variation giving rise to dangerous situations within the period of unattended operation, protection against exceeding such limit shall be ensured by safety accessories
2.10	Adequate monitoring devices, which enable adequate action to be taken automatically to keep the boiler within the allowable limits, shall be provided.
2.10	Warning devices, such as indicators or alarms, which enable the origin of anomalies to be displayed, shall be provided.
2.10	In the case of failure of the power supply to electrical boilers a safe shutdown or continuous operation of the control circuit of the boiler shall be ensured.
2.11	Safety accessories shall be designed to cause a safe shutdown of all or part of the boiler, in case of failure of their power supply.
2.11.1	If for certain operations, the boiler shall be able to operate with some safety accessories neutralised, this shall simultaneously disable the control mode "operation without continuous supervision".

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Answer:

2/2

EES	Explanation
3.4 1.2	The instructions for use shall explicitly state that the boiler is designed and equipped to be operated without continuous supervision. It shall inform of residual hazards and special measures to be taken during operation to eliminate them. It shall state: - how to test the safety accessories (logic diagram for instance) and what are the recommended intervals for such inspections; - the requirements for boiler feed water; - the instructions to restart the boiler, for every stop origin
5a	After a boiler shutdown caused by anomaly, the boiler shall not be able to restart automatically.
5d	After shutdown, residual heat shall be safely removed without human intervention.
5e	After a heating system has been locked in the stop position due to failure in its supply, a manual reset shall be necessary to unlock it.

The following examples are frequently used requirements to check the function of the safety system periodically as stated in CLAP 248 – Guideline 9/20. The requirements are related to ESRs section 5 and section 2.11.1 of Annex I: 24 hours operation without continuous supervision is permitted if functional tests of the limiting devices are carried out periodically at adequate intervals.

A functional test carried out by the boiler attendant includes the shut-down of the burner-valves, or, when the boiler is fed by solid fuels, the stopping of conveyor system. This functional test also includes checking of the quality of water. Member states may have specific requirements to allow duration greater than 24 hours, e.g. provision of advice for automatic monitoring of water quality.

Modifications compared to the previous adopted version: Editorial correction on 2004-09-16