

BOILER-HOUSE RECORD & LOG KEEPING

'Guidance on Safe Operation of Boilers Ref: BG01', Section 8.2, focuses on recording controls, limiters and water quality tests. Clear written instructions describing how and when to carry out routine tests shall be kept on-site and be followed by competent boiler operators. Where boiler controls are monitored off-site, under 'IEC 61508', these instructions should also be available at the off-site location of the responsible person.

Routine testing of controls, limiters and feedwater quality is essential to ensure continued safe, reliable and efficient operation. As further defined in Section 13 of 'BG01 Guidance Note', records should be kept for the following items (as a minimum):

WATER LEVEL CONTROLS (LIMITERS): Depending on the site specific 'Boiler-house Technical Risk Assessment' and the categorisation of 'Typical Arrangements 1-4' under 'BG01 Guidance Note', these limiters must be checked at regular intervals and the results of the test recorded. These tests include the functional evaporation test (once weekly) and the more frequent limiter checks for 'Typical Arrangement No. 1' installations. These checks should also include the routine gauge glass drill for steam boilers.

BURNERS AND COMBUSTION TESTS: Routine testing of the photocell to prove lock-out on flame failure, and other safety interlocks including fuel leak and shut-off checks should be tested regularly. Analysis of the burner combustion performance is advisable as this highlights changes in the burner's operation enabling corrective action to be taken to maintain optimum performance. Ideally these tests should include; CO (Carbon Monoxide) levels, CO₂ (Carbon Dioxide) levels and O₂ (Oxygen) levels. As a bare minimum, routine visual inspection of the flame where possible should be completed on a regular basis. Sites with a dual fuel installation should be run at least once a month on the stand-by fuel to check the auxiliary equipment.

FEEDWATER CHECKS: A feedwater specialist should undertake regular checks on the feedwater treatment plant and test water quality. In addition, a suitably competent boiler operator should make the following checks when in attendance or at scheduled intervals:

- The feed tank level is adequate and there are no contaminants.
- The chemical dosing and metering equipment is topped up to the correct level and appears to be operating correctly.
- The in-house routine sample tests are completed and within stated operational parameters as provided by the water treatment specialist.
- The temperature is above the required level for the treatment doses specified for oxygen scavenging.

Notes:

The records should be maintained on a daily basis and signed off by a trained boiler operator. On completion of a week's records, the site owner/user (defined in 'BG01 Guidance Note' Section 3.3) should check and countersign the log. The actual logging of the records should be completed in a bound book and not a loose leaf system that is stored in a folder. A loose leaf system is not deemed as admissible evidence in a court of law in the United Kingdom. Records should be kept for a minimum of at least two years following completion.

These notes are intended for guidance only, and SAACKE Combustion Services Ltd exclude all liability for their accuracy or relevance to specific plant or sites who are responsible for carrying out regular risk assessments and introducing site specific procedures.

SAACKE can supply a purpose-made log book for your boiler plant that meets all of these guidelines and recommendations, as well as upgrades, service, spare parts and training.

