Scotts OF THRAPSTON

EST. 1920

Management of the Talbott MWE199 Biomass Boiler 'combustion process' to carry out the burning of waste wood as prescribed by **EPR Section 6.6 PGN 6/02(12).**

Added as a directly associated activity to Permit ref. no: **ERP/EN/9b.**

# EMISSIONS MONITORING AND ENVIRONMENTAL MANAGEMENT TECHNIQUES

Bridge Street, Thrapston, Northamptonshire, NN14 4LR

## 1.0 INTRODUCTION

As part of the company's commitment to reduce the impact that it has on the environment, we have invested in a MWE199 biomass boiler. This uses our onsite generated waste wood and produces renewable heat for our factory, therefore minimising the use of fossil fuels and wood waste sent to landfill.

The following document addresses the Emissions Monitoring and Environmental Management Techniques of the plant in line with the **EPR Section 6.6 PGN 6/02(12).** This is not the full Environmental Management System that the company has in place.

## CONTENTS



## 2.0 CLEANING AND MAINTENANCE

Flues and ductwork are to be cleaned regularly to ensure build-up of material does not affect emissions.

Operators will refer to Operation Manual for MWE Range: Regular Maintenance Schedule for Talbott's Boiler Plant. They will carry out all the recommended cleaning frequencies that the Manual for MWE Range sets out in Sect 3.1.

Operators will keep a regular maintenance check list created by the Operations Manager. Any major issues will be reported to the Operations manager following each inspection or relevant line manger in their absence.

## 3.0 STAFF TRAINING AND PLANT OPERATION

Plant is to be operated in accordance with the manufacturer's operating manual to minimise the risk of emissions.

Operators will have completed training checklist in Sect 4.2. Talbott's Operation Manual for MWE Range.

Training certificates shall be kept on site and be available for inspection by the regulator.

## 4.0 COMBUSTION

To optimise combustion conditions and maximise thermal efficiency.

- It is the responsibility of the operators to:
- store fuel under cover to keep it dry
- store different waste wood types separately (this is not relevant to where it is mixed within a common feed silo)
- ensure plant is operating at its optimum conditions

Thermal efficiency shall be maximised through the management of: fuel content and its rate of feed, primary and secondary air, temperature in the combustion chamber and the heat exchanger, oxygen levels

To ensure dispersion is not impaired by either low exit velocity at the point of discharge or deflection of the discharge, the stack exit will be vertical, and a cap or other restriction will not be used.

## 5.0 BOTTOM ASH STORAGE DISPOSAL

Bottom ash is to be handled, stored, and disposed of in a way that prevents escape of dusty waste.

STORAGE: Moving grate in boiler automatically conveys all ash residue to the ash screw, which removes them to an external ash bin.

DISPOSAL: The Operators will empty the dusty waste periodically as required into a self-contained and enclosed skip.

## 6.0 EMISSIONS MONITORING

Emissions monitoring needs to comply with Table 1, Row 5 PGN 6/02(12) Combustion processes.

| Table 1 - Emission limits, monitoring and other provisions | | | | | |
|---|---|---|---|---|---|
| Row | Substance | Source (see also Note e) | Emission limits/provisions | Type of monitoring | Monitoring frequency |
| 1 | Particulate matter | Whole Site | No visible emission | Visual observations<br>Particular attention should be paid to areas where vehicles are filled with wood waste and wood dust | On start-up and on at least two more occasions during the working day |
| 2 | Particulate matter | Arrestment plant (not cyclones) designed with exhaust flow rate >300m$^3$/min | No visible emission | Visual observations | On start-up and on at least two more occasions during the working day |
| 3 | Particulate matter | Arrestment plant (not cyclones) designed with exhaust flow rate <300m$^3$/min | No visible emission | Visual observations | At least daily |
| 4 | Particulate matter | Cyclones | No visible emissions | Continuous indicative monitoring devices with visual and audible alarms which activate on cyclone malfunction and which indicate e.g. blockages (data logging should not normally be necessary). | Continuous to show arrestment equipment is functioning correctly |
| 5 | Particulate matter | Combustion processes (see also Note d) | No visible smoke and must not exceed Ringelmann Shade 1 as described in British Standard BS 2742. | Visual observations | On start-up and on at least two more occasions during the working day |

Flue emissions shall be free from visible smoke at all times during operation and shall be monitored during boiler start-up and shutdown.

Emissions should not exceed Ringelmann shade 1 at any time during operation.

Operators of the plant will visibly monitor smoke emissions on an on-going basis during boiler operation. A Ringelmann Smoke Observation Record is to be kept.

Measurements shall be undertaken while the plant is operating under stable conditions at a representative even load. In this context, start-up and shut-down periods are excluded.

The records shall be kept on site by the operator for a minimum of six years and be made available for inspection by the regulator.

The regulator shall be notified of any exceedances. These exceedances shall be documented and rectified as soon as practically possible.

## 7.0 PLANT FAILURES

It is the responsibility of the operator to refer to the manufacturers operating manual in the event of any faults or failures.

The operator will refer to Section 2 of the Manual for MWE Range.

**Section 2 - Boiler controls**

- **2.1) Starting and stopping the boiler**
- **2.2) Operating mode**
- **2.3) Test menu**
- **2.4) Altering flow temperatures:**
- **2.5) Monitoring boiler performance**
- **2.6) Fuel settings**
- **2.7) Alarm Diagnosis and resolution**
- **2.8) full fault list with descriptions**

## 8.0 RECORD KEEPING

It is the responsibility to the operator to keep all written records.

The records include:

a) all inspections, both by external bodies and internal employees
b) maintenance, including cleaning, maintenance undertaken by external contractors or internal personnel and breakdowns
c) operating procedures with subsequent training records
d) emissions monitoring

The records will be kept for a minimum of 6 years, onsite and will be available for inspection by the regulator upon request.

## 9.0 GENERAL

The best available techniques (BAT) shall be used to prevent or, where that is not practicable, reduce emissions from the installation in relation to any aspect to the operation of the installation which is not regulated by any other condition of the permit.