

ABL-SOP-08

**Environmental Monitoring
Procedure**

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Version Control

Issue	Date	Revision Details / Summary of Changes	Author	Approved by
1.0	08/03/2024	Issued for Environmental Permit application submission	Earthcare Technical Ltd	Nick McAllister

Document owner

[Department i.e., Engineering & Delivery]

Management approval

[i.e., Director of Engineering and Delivery]

1. Objective & Scope

This document details the procedures which are followed by Acorn Bioenergy Limited to monitor and report emissions from the process at Anaerobic Digestion sites in line with the relevant Environmental Permit and covers:

- Monitoring of Combustion Plant Stacks
- Monitoring of Channelled Emissions to Air
- Leak Detection & Repair Programme
- Reporting to the Environment Agency

2. Combustion Plant Stacks Monitoring Procedure

2.1 Overview

In accordance with the Environmental Permit:

- the reference period is periodic over minimum 1-hour period.
- uncertainty allowance as stated in Environment Agency guidance 'Monitoring stack emissions: maximum uncertainty values for periodic monitoring '
- the gas exit temperature shall be no less than 200°C
- all limits are defined at a temperature of 273.15 K, a pressure of 101.3 kPa and after correction for the water vapour content of the waste gases at a standardised O₂ content of 5% for gas engines and 3% for boilers

2.2 CHP(s) Monitoring Procedure

It is the responsibility of the **Site Manager** to ensure that testing of the CHP stack emissions is carried out annually in accordance with the environmental permit by following these steps:

1. Create diary entry reminders for the correct date for testing, and date for it to be completed.
2. Arrange for an MCERTS contractor to attend site and undertake the stack emissions testing in accordance with [Monitoring stack emissions: environmental permits \(formerly M2\)](#).
3. Ensure that the chosen contractor is in receipt of the current permit and will carry out emission testing of all emission points and parameters that are stipulated in Section 3.1 of the permit and that the stipulated monitoring standard or method is used.
4. Ensure that reporting to the Environment Agency is carried out by 31 January each year.
5. Ensure that this procedure is reviewed and revised if necessary if the environmental permit is varied.

It is the responsibility of the **Site Manager** to ensure that a record of the total annual hours of operation for the CHP(s) is maintained.

2.3 Boiler(s) Monitoring Procedure

It is the responsibility of the **Site Manager** to ensure that testing of the boiler stack emissions is carried out annually, as required, in accordance with the environmental permit by following these steps:

6. Create diary entry reminders for the correct date for testing, and date for it to be completed. The first monitoring measurements shall be carried out within 4 months of the issue date of the permit or the date when the boiler is first put into operation, whichever is later following which the monitoring frequency is annual.
7. Arrange for an MCERTS contractor to attend site and undertake the stack emissions testing in accordance with [Monitoring Stack emissions: low risk MCPs and specified generators \(formerly M5\)](#).
8. Ensure that the chosen contractor is in receipt of the current permit and will carry out emission testing of all emission points and parameters that are stipulated in Section 3.1 of the permit and that the stipulated monitoring standard or method is used.
9. Ensure that reporting to the Environment Agency is carried out by 31 January each year.
10. Ensure that this procedure is reviewed and revised if necessary if the environmental permit is varied.

It is the responsibility of the **Site Manager** to ensure that a record of the total annual hours of operation for the boiler(s) is maintained.

2.4 Flare Monitoring Procedure (Bespoke Permits Only)

It is the responsibility of the **Site Manager** to ensure that a record of the total annual hours of operation for the flare is maintained.

It is the responsibility of the **Site Manager** to ensure that testing of the flare stack emissions is carried out in the event the emergency flare has been operational for more than 10 per cent of a year (876 hours) (following commissioning), in accordance with the environmental permit by following these steps:

11. Arrange for an MCERTS contractor to attend site and undertake the stack emissions testing in accordance with [Monitoring stack emissions: environmental permits \(formerly M2\)](#).
12. Ensure that the chosen contractor is in receipt of the current permit and will carry out emission testing of all emission points and parameters that are stipulated in Section 3.1 of the permit and that the stipulated monitoring standard or method is used.
13. Ensure that reporting to the Environment Agency is carried out by 31 January each year.
14. Ensure that this procedure is reviewed and revised if necessary if the environmental permit is varied.

3. Channelled Emissions to Air Monitoring Procedure

3.1 Overview

In accordance with the Environmental Permit:

- Either the BAT Associated Emission Limit (AEL) for ammonia (NH₃) or odour concentration applies.
- The reference period is periodic over minimum 1-hour period.

3.2 Monitoring of Building(s) Abatement Plant Stack

It is the responsibility of the **Site Manager** to ensure that testing of the abatement plant stack(s) is carried out every 6 months in accordance with the environmental permit by following these steps:

15. Create diary entry reminders for the correct date for testing, and date for it to be completed.
16. Arrange for a contractor to attend site and undertake the stack emissions testing.
17. Ensure that the chosen contractor is in receipt of the current permit and will carry out emission testing of all emission points and parameters that are stipulated in Section 3.1 of the permit and that the stipulated monitoring standard or method is used.
18. Ensure that reporting to the Environment Agency is carried out in a yearly summary report by 31 January every year.
19. Ensure that this procedure is reviewed and revised if necessary if the environmental permit is varied.

4. Leak Detection and Repair Programme Monitoring Procedure

It is the responsibility of the **Site Manager** to ensure that Leak Detection and Repair (LDAR) testing is carried out annually as a minimum in accordance with the environmental permit by following these steps:

20. Create diary entry reminders for the correct date for testing, and date for it to be completed.
21. Arrange for a contractor to attend site and undertake the LDAR testing.
22. Ensure that the chosen contractor monitors volatile organic compounds including methane in accordance with EN 15446 at monitoring points specified in the DSEAR risk assessment and LDAR programme.

- 23. Ensure that reporting to the Environment Agency is carried out in line with the Environmental Permit.
- 24. Ensure that this procedure is reviewed and revised if necessary if the environmental permit is varied.

5. Reporting to the Environment Agency

It is the responsibility of the **Site Manager** to ensure that all reporting to the Environment Agency is carried out in accordance with permit requirements (Table 4.2 for Standard Rules permits and Schedule 4 for Bespoke Permits).

6. Responsibilities

Responsibility of reviewing the procedure : Acorn team
 Responsibility for implementation : Site Manager

Site Manager	To ensure monitoring and analysis carried out from certified MCERTS contractor as stipulated by Environment Agency.
	To ensure reporting to the Environment Agency is carried out in line with the Environmental Permit.

7. References

Monitoring stack emissions: environmental permits (formerly M2)
Monitoring Stack emissions: low risk MCPs and specified generators (formerly M5).
BS EN 15446:2008: Measurement of fugitive emission of vapours generating from equipment and piping leaks
BAT Associated Emissions Limits (AEL).