Durham University

Environmental Management System – Documented Information

3.5.5 Emissions to Air

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Purpose

This document is to explain how air-conditioning/refrigeration equipment, boilers and fume cupboards are managed at the Institution in order to:

- address the risks and opportunities associated with aspect 'Emissions to air';
- minimise emissions to air;
- minimise pollution risks by ensuring equipment is maintained;
- ensure compliance with relevant environmental legislation.

Scope

This procedure covers all air-conditioning/refrigeration equipment, boilers and fume cupboards across the institution.

Definitions (ISO14001:2015)

Risks and Opportunities – potential adverse effects (threats) and potential beneficial effects (opportunities).
Process – Set of interrelated or interactive activities which transforms inputs into outputs.

Responsibilities

Engineering Maintenance Team	Responsible for compliance with relevant F-Gas legislation, managing the air-conditioning maintenance contract, maintaining the equipment asset registers and ensuring contractor control. Responsible for ensuring fume cupboards are serviced and storing test reports for 5 years. Responsible for managing contract for boiler plant maintenance and emissions testing.
Catering Department	Responsible for the ownership, monitoring and logging of F-gases from catering operations.
Appointed Air-Conditioning Contractor	Conduct air-conditioning/refrigeration maintenance including leak testing.
Appointed contractor for boiler and emissions testing (ENGIE)	Carry out boiler maintenance and emissions testing.

Related Documents

Relevant environmental aspects and associated environmental impacts are detailed within the **Aspects and Impacts Register**.
Air-conditioning maintenance records are stored by the Engineering Maintenance Department Manager.

Process

Air-conditioning and refrigeration equipment:

- The Institution uses equipment containing Fluorinated Greenhouse Gases (F-gases) including air conditioning units, refrigeration units, and fire protection equipment.
- The appointed Air-Conditioning contractor are employed to maintain the air-conditioning and refrigeration equipment across university buildings.
- An asset register which details equipment containing F-gases and the quantity of each type of gas is held by Engineering Maintenance.
- All equipment is serviced, and leak tests conducted, by the air-conditioning contractor at frequencies as required by the F-gas Regulations:
    - at least every 12 months for equipment containing between 5 and 50 tonnes of CO_2 equivalent, or where a leakage detection system is installed, at least every 24 months;
    - at least every 6 months for equipment containing between 50 and 500 tonnes of CO_2 equivalent, or where a leakage detection system is installed, at least every 12 months;
    - at least every 3 months for equipment containing over 500 tonnes of CO_2 equivalent, or where a leakage detection system is installed, at least every 6 months.
- Maintenance records including evidence of leak tests are stored by Engineering Maintenance.
- The appointed Air-Conditioning contractor is certified to handle fluorinated greenhouse gases and a copy of their REFCOM F-GAS certificate is stored by Engineering Maintenance.
- Only engineers from the appointed Air-Conditioning Contractor, with relevant qualifications are authorised to carry out work on equipment containing F-Gases:
    - City and Guilds F GAS and ODS Regulations Certificate
    - Construction Industry Training Board Refrigeration certificate.
- Contracts, maintenance and individual contractor training records are stored by Engineering Maintenance.

Boilers:

- The Institution does not have boilers over 20MW, or over 3MW that burn waste or waste oil, therefore is not required to have an Environmental Permit. However, all boilers are maintained to prevent emissions of dark smoke and ensure compliance with the Clean Air Act 1993.
- The Institution has appointed a contractor to conduct maintenance and emissions testing every twelve months.
- In case of emissions of dark smoke from the boilers, Engineering Maintenance will shut off the boiler and notify the boiler maintenance contractor.
- Contracts, maintenance and training records are stored by Engineering Maintenance.

Fume cupboards:

- Engineering Maintenance are responsible for ensuring that fume cupboards are serviced.
- All fume cupboards must be tested by a competent engineer every 14 months to ensure that they are performing as intended and to demonstrate that adequate control of exposure is achieved.
- Test reports are stored by Engineering Maintenance and must be kept for a minimum of 5 years.
- All laboratory technicians are trained in the use of fume cupboards.
- Training records are stored by relevant departments.

Effects and Actions on Non Conformance

Failure to comply with this procedure may result in:

- Non-conformance with the requirements of EcoCampus and the ISO 14001:2015 standard.

Departure from this procedure is addressed in the procedure **4.3.1 Non Conformance, Corrective and Preventive Action.**

Version Control

Date:	Version:	Author:	Authorised by:
09/06/2020	1.0	M. Harkness	S. Park
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