



Environmental Management System: Emissions to Air Management Procedure

Approval Page

Version	Governance Group	Date Approved
1.0	Sustainability Committee	7 May 2021
2.0	Sustainability Committee	1 April 2022

Emissions to Air Management Procedure

Lead:	Assistant Director Engineering and Estates Management, EAF
Reviewed by:	Peter Milewski, Environmental Associate
Approved by:	Sustainability Committee
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ISO 14001:2015 Clause:	8.1

Purpose

This procedure details how emissions from air-conditioning/refrigeration equipment, boilers and fume cupboards are managed across Queen Mary, University of London (Queen Mary) UK and Malta campuses in order to:

- Address the risks associated with “Emissions to Air”
- Minimise emissions to air
- Minimise pollution risks by ensuring equipment are appropriately maintained
- Ensure compliance with relevant environmental legislation

Scope

This procedure covers all air-conditioning/refrigeration equipment / heating, ventilation and air conditioning (HVAC) systems, fossil fuel boilers, fume cupboards and stand-by electricity generators across our Queen Mary UK and Malta Campuses.

Definitions (ISO14001:2015)

- *Risks and Opportunities*: potential adverse effects (threats) and potential beneficial effects (opportunities).
- *Procedure*: Set of interrelated or interactive activities, which transforms inputs into outputs.

Responsibilities

Role / Position	Responsibilities
Assistant Director Engineering and Estates Management, Estates and Facilities	Responsible for managing the air-conditioning and fire extinguisher maintenance contract and ensuring compliance with relevant F-Gas and environmental regulations and the custodian of the air-conditioning maintenance records for all our

Role / Position	Responsibilities
	UK campuses.
Facilities and Resources Manager (Malta Campus)	Responsible for managing the heating, ventilation and air-conditioning (HVAC) system and fire extinguisher maintenance contract and ensuring compliance with relevant F-Gas and environmental regulations as well as the custodian of the air-conditioning maintenance records of our Malta Campus.
Head of Sustainability	Coordinates training and learning opportunities for all interested parties and relevant stakeholders on environmental compliance and risks associated with air pollution.
Sustainability and Environment Manager	Responsible for the periodic audit of this procedure and associated activities against relevant regulations and ISO 14001:2015 EMS clauses and ensure that corrective actions are put in place to address any non-conformance(s).
Engineering and Estates Management Team, EAF	Collating, documenting and reporting all faults
Appointed Air Conditioning Contractor	<ul style="list-style-type: none"> • Responsible for maintaining the equipment asset registers and ensuring contractor control. • Conduct air-conditioning/refrigeration maintenance including leak testing. • Conduct general equipment maintenance and repairs.
Senior Laboratory Technicians / Managers	Responsible for coordinating the maintenance and repairs of fume cupboards.
Queen Mary's Environmental Associates	Responsible for the review of this procedure in conjunction with all relevant stakeholders and interested parties.

Related Documents

This procedure is linked to:

- [Queen Mary's Environmental Policy 2021](#)
- [Queen Mary's Environmental Sustainability Action Plan \(2020-23\)](#)
- [Queen Mary's Environmental Management System \(EMS\) 2022](#)
- [Queen Mary's Environmental Aspects and Impact Register 2022](#)
- [Queen Mary's EMS Emergency Preparedness and Response Procedure 2022](#)

Procedure

Air-conditioning and refrigeration equipment / HVAC (UK Campuses):

1. The heating, ventilation air conditioning (HVAC) units, refrigeration units, and firefighting equipment used across our UK campuses contain fluorinated greenhouse gases (F-Gases)
2. Queen Mary's appointed HVAC is responsible for maintaining the air-conditioning and refrigeration equipment across Queen Mary UK campuses
3. An asset register which details all equipment containing F-Gases and the quantity of each type of gas is held by the Assistant Director of Operations, Estates and Facilities Directorate
4. All equipment is serviced and leak tested by Queen Mary's Air Conditioning contractor at frequencies dependent on the F-gas Regulations:
 - a. at least every 12 months for equipment containing between 5 and 50 tonnes of CO₂ equivalent
 - b. at least once every 24 months for equipment containing between 5 and 50 tonnes of CO₂ equivalent where a leakage detection system have been installed
 - c. at least every 6 months for equipment containing between 50 and 500 tonnes of CO₂ equivalent,
 - d. at least every 12 months for equipment containing between 50 and 500 tonnes of CO₂ equivalent where leak detection system have been installed
 - e. at least every 3 months for equipment containing over 500 tonnes of CO₂ equivalent
 - f. at least every 6 months for equipment containing over 500 tonnes of CO₂ equivalent where a leakage detection system is installed
5. Maintenance records including evidence of leak tests are stored by the Assistant Director Engineering and Estates Management (Estates and Facilities Directorate).
6. The appointed Air Conditioning Contractor is certified to handle fluorinated greenhouse gases and a copy of their REFCOM F-GAS certificate is held by the Assistant Director Engineering and Estates Management (Estates and Facilities) and stored in the Sustainability SharePoint Folder.
7. Only Engineers from the appointed HVAC Contractor, with relevant qualifications are authorised to carry out work on equipment containing F-Gases:
 - a. City and Guilds F GAS and ODS Regulations Certificate
 - b. Construction Industry Training Board Refrigeration certificate
8. Contracts, maintenance and individual contractor training records are held by the Assistant Director Engineering and Estates Management, Estates and Facilities

Air-conditioning and refrigeration equipment / HVAC (Malta Campus):

1. The heating, ventilation air conditioning (HVAC) units, refrigeration units, and firefighting equipment used across our UK campuses contain fluorinated greenhouse gases (F-Gases)
2. Queen Mary's appointed facilities management service provider is responsible for maintaining HVAC equipment across Queen Mary Malta Campus buildings
3. All equipment is serviced, and leak tested by Queen Mary's facilities management service provider at frequencies dependent on SFG20 guidelines
4. Maintenance records including evidence are kept by the Facilities and Resources Manager
5. The appointed HVAC is certified to handle fluorinated greenhouse gases.
6. Only Engineers from the appointed facilities management service provider, with relevant qualifications are authorised to carry out work on equipment containing F-Gases.
7. Contracts, maintenance, and individual contractor training records are held by the Facilities and Resources Manager.

Boilers (UK Campuses only):

1. Queen Mary has a register of all its boiler emission points.
2. Queen Mary does not have boilers over 20MW, or over 3MW that burn waste or waste oil, therefore is not required to have a Greenhouse Gas (GHG) emission Environmental Permit. However, all its boilers are maintained to prevent emissions of dark smoke and ensure compliance with the Clean Air Act 1993.
3. Queen Mary's appointed Boiler Maintenance Contractor is responsible for carrying out maintenance and emissions testing every six months
4. In case of emissions of dark smoke from its boilers, the Estates Operations team shut off such boiler(s) and notify the boiler maintenance contractor
5. Contracts, maintenance and training records are stored in the Record Management System (RMS) of the Estates and Facilities Directorate

Diesel Electric Generator (Malta Campus):

1. The diesel electricity generator is used rarely and used during power outage.
2. The generator is maintained regularly by the supplier via the appointed Facilities Management Service provider based on the SFG20 guidelines and the manufacturer's manual.

Fume Cupboards (UK Campuses):

1. Queen Mary have a record of all its buildings with fume cupboard emission points
2. The Senior Laboratory Technicians or Managers for each department are responsible for ensuring that fume cupboards are serviced and maintained
3. All fume cupboards are scheduled to be tested by a competent Engineer at least every 14 months to ensure that they are performing as intended and to demonstrate that adequate control of exposure is achieved
4. Test reports are stored by the Senior Laboratory Technician or Manager and must be kept for a minimum period of 5 years
5. All Laboratory Technicians are trained in the use of fume cupboards.
6. Training records are stored by the Senior Laboratory Technicians or Managers.

Fume Cupboards (Malta Campus):

Currently, there are no fume cupboards at our Malta Campus.

Monitoring System

In order to ensure an adequate control system over continuous compliance with this procedure, Head of Sustainability will delegate annually to a specific and named staff member, a task of spot check verification of documentation covering air conditioning and refrigeration equipment (points 5-8), boilers (point 5) and fume cupboards (points 4-6). This will provide early warning surveillance in case of the procedural's responsibilities not being demonstrated and will allow the corrective actions to be applied.

Effects and Actions on Non-Conformance

Failure to comply with this procedure may result in:

- Non-conformance with the requirements of 14001:2015 standard
- Civil and / or criminal prosecution

Departure from this procedure is addressed within the **Non-Conformance, Corrective and Preventive Action Section** of Queen Mary's Environmental Management System

Version Control

Date	Version	Lead	Due for Review
7 May 2021	1.0	Assistant Director Operations, Estates and Facilities	6 May 2022
1 April 2022	2.0	Assistant Director, Engineering and Estates Management	31 March 2023

EMS: Emissions to Air Management Procedure

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