

## Background knowledge for EPR Operators Operator Monitoring Assessment V4

### 1 Introduction

- 1.1 We have introduced Operator Monitoring Assessment (OMA) to strengthen our assessment of operators' self-monitoring arrangements. OMA applies to the monitoring of emissions to air and discharges to water from industrial processes regulated under the Environmental Permitting Regulations (EPR).
- 1.2 We use OMA to:
- assess operators' self-monitoring (including monitoring undertaken on behalf of operators by contractors) using a consistent and transparent approach
  - provide a driver for necessary improvements
  - contribute to targeting and prioritising our independent auditing of water and air monitoring.
- 1.3 This document provides guidance for the appropriate level of knowledge required by personnel responsible for implementing monitoring. The guidance could also be used as the basis for a "high level" training course specific to personnel responsible for monitoring.
- 1.4 The OMA scheme is now described in detail in two documents "Guidance on undertaking an Operator Monitoring assessment: emissions to air" and "Guidance on undertaking an Operator Monitoring assessment: discharges to water". The latest version of these documents are available at: [www.mcerts.net](http://www.mcerts.net)
- 1.5 We have also produced detailed examination syllabuses for the certification of monitoring personnel under our Monitoring Certification Scheme, MCERTS. These are specifically designed for establishing the competence of monitoring personnel involved in stack monitoring. Currently, there is no equivalent for discharges to water. The detailed examination syllabuses are available at: [www.mcerts.net](http://www.mcerts.net)

### 2 The objective of this document

- 2.1 The objective of this document is to detail the "high level" monitoring knowledge that a person responsible for monitoring, for example, an environment manager should be able to demonstrate in order to obtain the highest OMA score for element OMA 1E.
- 2.2 Developing knowledge and understanding of the syllabus content below will provide competence to assess the quality of monitoring data, measurement techniques and data calculation. It will increase awareness of technical innovation in respect to monitoring. It will also be important during negotiations with monitoring contractors.

**2.3** The syllabus includes both emissions to air and discharges to water. Personnel involved with monitoring should concentrate on parts of the syllabus with direct relevance to the monitoring of their installation. However, there may be benefit in obtaining a wider perspective by viewing the entire syllabus.

**2.4** The potential benefits to the operator would be:

- a better understanding of emissions monitoring and legislation
- enhanced quality of monitoring and monitoring data
- increased assurance that monitoring is being carried out correctly
- improvements in health and safety, for example, set up of sampling platforms
- improved auditing/management of contractors
- potentially achieving a higher score for their OMA.

**2.5** If training providers design a specific course to encompass the syllabus we would support the inclusion of an end of course assessment and appropriate certificate. This certificate could be regarded as relevant evidence when scoring OMA and specifically element OMA 1E “Understanding the requirements of the permit and monitoring methods”.

### **3 Monitoring syllabus**

#### **3.1 Introduction to major pollutants**

This includes particulate matter, NO<sub>x</sub>, SO<sub>2</sub>, CO, CO<sub>2</sub>, O<sub>2</sub> and TOC for air emissions and suspended solids, BOD, COD, TOC, ammonia, nitrogen, phosphorus, metals and persistent organic pollutants for discharges to water. For each of these it is important to have an understanding of the following:

- typical sources
- factors affecting formation and removal
- typical emission concentration limits
- typical ambient air concentrations/ background concentration in watercourses
- health effects
- potential impacts of air and water pollution.

#### **3.2 Legislation and Guidance**

- Environmental Permitting Regulations
- Pollution Prevention Control Regulations 2000
- Directives – WID, LCPD, IED and Water Framework Directive
- Standards including – CEN/ISO/BS
- MCERTS

##### *Technical Guidance Notes*

- M1
- M2
- M18
- M20

### **3.3 Principles of monitoring**

- MCERTS
- CEMs (continuous emissions monitors)
- CWMs (continuous water monitors)
- portable monitoring instruments
- manual techniques, automatic sampling and isokinetic sampling
- management systems and quality control
- uncertainty of measurement
- validation of analytical methods

### **3.4 Health and safety requirements**

- health and safety risk assessment
- hazards associated with monitoring
- PPE requirements
- STA Health and safety booklet.

### **3.5 Designing the monitoring programme**

- the role and contents of a site review
- the role and contents of a site specific protocol
- objectives and scope of work
  - type of process and production timings – batch or continuous
  - parameters to be measured
  - emission limits
  - number of tests/samples and duration
  - suitability of measurement equipment
- liaison between test team and process operator.

### **3.6 Choice of sampling location and timing**

- Reference to the requirements of M1 and or M18
- Ensure that platform arrangements and sampling locations are designed to meet sampling requirements
- Process operational timings – normal operational conditions, testing to provide representative data.

### **3.7 Overview of equipment operation and sampling procedures**

Provide an overview of the types of sampling equipment, their set up and calibration procedures for:

- CEMs
- Manual extractive systems (manual and portable sampling trains)
- CWMs
- portable water monitoring equipment
- sampling procedures manual (as part of QMS)
- sampling preservation and transport
- chain of custody.

### **3.8 Review of results and reporting requirements**

- MCERTS standard monitoring reports
- reporting requirements in permits
- units
- review of monitoring data

Demonstration of some simple calculations, for example, how to convert an analytical measurement to an emission concentration at reference conditions such as standard temperature and pressure, oxygen and moisture.

### **3.9 Auditing the monitoring team**

- personnel competence/training of monitoring team
- equipment suitability and calibration/maintenance records
- completion of risk assessments
- adherence to site specific protocols
- adherence to test procedures
- evidence of calibration
- completion of on site calibration/leak checks
- sample preparation and recovery, storage, transportation and chain of custody.

### **3.10 OMA**

An overview of the requirements of OMA including preparation and planning.

## **4 Additional information**

If you have any questions about the OMA scheme please contact:

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## **5 Status of this document**

This document may be subject to review and amendment following publication. The latest version is available at: [www.mcerts.net](http://www.mcerts.net)

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