CELEBRATING 20 YEARS OF MCERTS

November 2018 Marked the 20th Anniversary of the Launch of the MCERTS Scheme. The first MCERTS standard for Continuous Emissions Monitoring Systems (CEMS) was published in November 1998, with the first certificate (Sira MC990001/00) being awarded to ABB Ltd in September 1999 for the ZFG2 in-situ Zirconia Oxygen Probe with ZDTOxygen Indicator/Transmitter.
It's taken an incredible amount of work from all stakeholders for MCERTS to grow the way it has over the years, and its success should be acknowledged.

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

What is MCERTS?

MCERTS is the Environment Agency's Monitoring Certification Scheme for equipment, personnel, and organisations. It provides a delivery vehicle for compliance with European Directives which regulate industrial emissions, through a series of MCERTS performance standards. The scheme is built around proven international and European standards to ensure monitoring data is of a high standard.

CSA GROUP™

CSA Group (under Sira Certification Service) is the MCERTS certification body providing certification of equipment, personnel, and inspection services. Sira is accredited by the United Kingdom Accreditation Service (UKAS) according to the ISO/IEC 17000 series of conformity assessment standards. UKAS accreditation provides confidence in the impartiality, competence, and consistency of the certifications provided by Sira.

The Environment Agency was established in 1996 and is responsible for protecting and improving the environment of England. It is a "licensing authority" and issues Environmental Permits to industrial process operators which specify emission limits and monitoring requirements. It is also a "regulatory authority" with power to regulate and prosecute process operators who fail to comply with the requirements of their Environmental Permits.

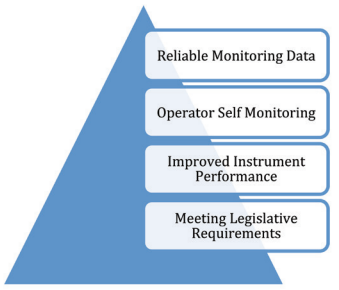
The portfolio of MCERTS standards developed by the Environment Agency (EA) has expanded significantly since the first standard for CEMS in 1998 and now includes:

Certification of Monitoring Equipment and Software
Continuous Emissions Monitoring Systems (CEMS) and Transportable CEMS (T-CEMS)
Continuous Ambient Air Quality Monitoring Systems (CAMS)
Indicative Ambient Particulate Monitors
Handheld Emission Monitoring Systems (HEMS)
Automated Dust Arrestment Plant Monitors
Automatic Isokinetic Samplers
Continuous Water Monitoring Systems
Part 1 - Automatic Samplers
Part 2 - Online analysers
Part 3 - Flowmeters
Portable Water Monitoring Equipment
Environmental Data Management Software
Certification of Personnel
Manual Stack Emission Monitoring
Site Inspection
Self-Monitoring of Flow
Laboratory Accreditation
Sampling and Chemical Testing of Water
Radio-analytical Testing of Environmental and Waste Waters
Chemical Testing of Soils

Drivers for MCERTS

OSM and OMA

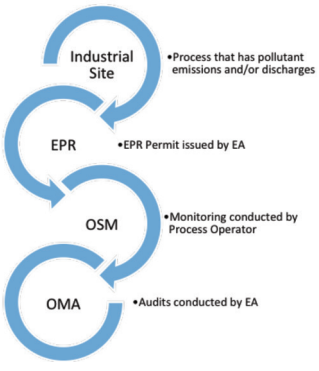
MCERTS was the first regulatory step towards Operator Self-Monitoring (OSM), and its success was crucial for it to be as widely accepted within environmental monitoring as it is today. Since the late 90's the emphasis has shifted from the Environment Agency carrying out its own monitoring on industrial processes to process operators becoming responsible for their own monitoring of emissions to air and discharges to water.



OSM Explained

The EA issues permits (under Environmental Permitting Regulations – EPR) to industrial site operators detailing strict limits on pollutants in accordance with environmental legislation – for example the Industrial Emissions Directive (IED). Site operators must demonstrate compliance with their permit through the monitoring they either conduct themselves or through a test laboratory they have placed a contract with. This process is Operator Self Monitoring – OSM.

OMA



Operator Monitoring Assessment (OMA) is an auditing tool used by the EA to assess the quality and reliability of operators' self monitoring, identify any monitoring shortfalls or areas for improvement, and to review the overall monitoring conditions specified in the permit.

The Environment Agency originally introduced OMA in 2001 to monitor emissions to air from industrial installations regulated under the Environmental Permitting Regulations (EPR). It has since been extended to include discharges to controlled water (including public sewers and groundwater) from EPR installations.

The OMA scheme is divided into four sections as follows:

OMA 1	Management of Monitoring
OMA 2	Periodic Monitoring and Test Laboratories
OMA 3	Continuous Monitoring
OMA 4	Quality Assurance

Each of the four sections contains a series of elements which the EA award a score of 1-5, with 1 being poor, 3 being acceptable and 5 being excellent. If a score of 1 or 2 is obtained on any element, improvements need to be made. The overall OMA score is the sum of the scores for all elements expressed as a percentage of the total maximum score. There are also 'critical elements' which have been highlighted by the EA, for example; calibration methods, sampling provisions, and location of CEMS. Any shortcomings (a score of 1 or 2) on any critical element must be addressed as a matter of priority.

Where does MCERTS fit in?

MCERTS sets the standards for OSM and ensures the monitoring data that is collected and reported is reliable and of good quality. EPR permits specify MCERTS – for monitoring equipment, personnel, and laboratories where applicable. The monitoring conducted by process operators, as detailed by their permit, must be in accordance with the relevant MCERTS performance standards.

The EA's auditing tool – OMA, also marks operators on compliance with monitoring requirements – and as you would expect, MCERTS features within the scoring matrix for a number of the elements.

MCERTS promotes public confidence in monitoring data, equipment, and personnel, and it provides a framework for choosing monitoring equipment and services that meet the Environment Agency's specifications.

MCERTS Statistics:

- 350 Product conformity certificates issued
- 1,000 Personnel registered on the Manual Stack Emission Monitoring Scheme
- 4,000 Sites inspected under MCERTS for the self monitoring of flow

Progression through the MCERTS Personnel Competence Scheme

The MCERTS personnel competency standard defines the competence requirements for personnel carrying out manual stack-emission monitoring. Although MCERTS-accredited organisations must use MCERTS-certified personnel to carry out stack-emission monitoring activities, MCERTS personnel certification is awarded to individuals and not to the organisation for which they work. It is therefore the responsibility of the individual to keep all records associated with their personnel certification. The MCERTS standard enables stack-emission monitoring personnel to be certified as competent based on experience, training, and examinations.

The diagram below summarises the structure of the standard.

MCERTS Entry Level (trainee)

- Register with Sira Certification Service
- Receives formal induction (can be "on the job") to stack-emission monitoring
- Must take an approved health and safety course relevant to stack-emission monitoring
- Can work on-site but must be under direct supervision by a Level 2 person at all times
- Should progress to Level 1 within 6 - 12 months

- Minimum of 6 months experience as trainee
- Carried out monitoring on at least 10 occasions
- Pass multiple-choice and written exam

MCERTS Level 1 (technician)

- Can work as part of a team under a Level 2 person
- May obtain technical endorsements
- Cannot be responsible for authorising risk assessments, site reviews and reports

- Minimum of 6 months experience at Level 1
- Carried out work on 10 occasions at Level 1
- Sampled at 5 different sites
- Pass Level 2 multiple choice and oral exams
- Obtain at least one Technical Endorsement (TE)

MCERTS Level 2 (team leader)

- Can lead monitoring work, authorise risk assessments, site reviews and site specific protocols provided they have the relevant technical endorsements
- Can supervise trainees
- Responsible for overall work of the team and final report to customer

Hazard Identification & Risk Assessment relating to Stack Emissions Monitoring

Attendance at an approved Hazard Identification and Risk Assessment course specific for stack emission monitoring is a pre-requisite for Trainees wanting to become MCERTS Level 1 Certified, and must be attended every 5 years by all MCERTS Certified Personnel in order to maintain their Competence Certificate. The course covers the content of the Source Testing Association's (STA) risk assessment guide and the health and safety section in Environment Agency Technical Guidance Note M1.

MCERTS Awareness

Under OMA, one of the components that process operators are marked on is competence of personnel, including the management understanding of monitoring requirements (OMA Section 1, element E). Attendance at training courses is evidence of developing and maintaining competence.

Courses Provided by CSA Group:

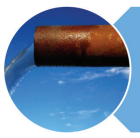
	Dates 2019	
MCERTS Awareness	2nd May	10th September
MCERTS Flow Monitoring	7th March	4th July
Hazard Identification & Risk Assessment relating to Stack Emissions Monitoring	21st June	25th November

Further dates available on request or on site – subject to demand and lecturer availability.

International Recognition

CSA have certified personnel in Hong Kong, Ireland, Spain and New Zealand to the Manual Stack Monitoring Scheme, with enquiries also being received from South Africa

Manufacturers from 16 countries across Europe, Asia, North America and Australia have obtained MCERTS certification of their environmental monitoring equipment



The self monitoring of effluent flow scheme has also been of great interest to Abu Dhabi

MCERTS has also evolved into an international brand. Many organisations overseas specify MCERTS in tender documents

The Environment Agency's MCERTS scheme has been a success due to a number of factors, including support from industry and manufacturers of monitoring equipment. It provides a framework for process operators and the regulator to work within, and a clear benchmark of acceptability for monitoring data. It is now an international brand, recognised as a badge of quality.

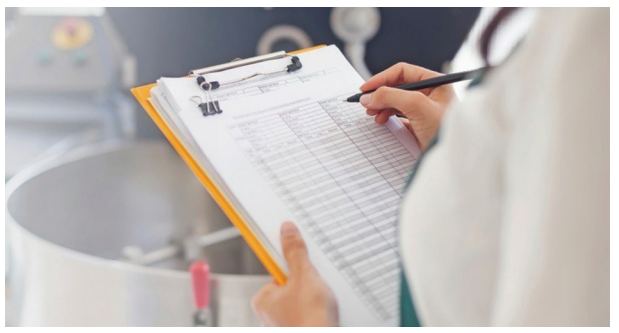
MCERTS at the Forefront of Standards Development

In order to enable innovation, certification is based on the performance of the instrument. The Environment Agency's MCERTS performance standards are not technology specific, allowing new and innovative technologies to be certified. The standards assess performance characteristics over a series of laboratory and field tests such as mean error, repeatability, response time, influence of voltage, temperature, cross-sensitivity, up-time, and maintenance.

The MCERTS performance standards are aligned with British, European, and international Standards. Where there has been no existing standards to work from, new performance requirements have been developed.

An example of this is the MCERTS standard for automatic water samplers, which has resulted in the publication of a European standard – EN16479. This standard for automatic water samplers was published in 2014 as a result of the work conducted by CEN TC240/WG4, with the MCERTS performance standard used as the seed document. There is now a push to also develop a European standard for flowmeters in the same way - based heavily on the experience gained from testing and certifying flow monitoring equipment in accordance with the MCERTS standard.

MCERTS – the Environment Agency's Monitoring Certification Scheme, ensures good quality robust monitoring data that can be trusted by both the Environment Agency and the public. It allows for real time, continuous measurement to monitor trends and to improve process efficiency. MCERTS underpins Operator Self Monitoring (OSM), acting as the delivery tool for environmental monitoring compliance.



For more information on MCERTS, or to get in touch with CSA Group please contact the MCERTS Team on +44(0)1244 670 900 or mcerts@csagroup.org

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