WATER UK
Standards Programme

Topic D. Wastewater – quality

1. Details of objectives

Long Term Objectives for Topic – see Project Plan below for details	Responsible Water UK Policy Advisory Group and contact
D.1: To ensure that standards for wastewater quality monitoring are compatible with the needs of the UK water industry.	Environment - Sarah Mukherjee
Objective D.2: To ensure that the water companies are adequately briefed on the implications of changes.	Environment - Sarah Mukherjee Economic Regulation and Market Reform - James Bullock

Topic	Wastewater - Quality	Sub-topics	Sampling, testing, monitoring, impact on environment

The topic can be divided into the following key stages:

Continuous effluent monitoring	Includes sampling, flow measurement and continuous monitoring.
Emissions	The performance standards and test procedures for continuous emission monitoring systems (CEMs). CEMs are instruments that are used to make measurements in the hostile environments of industrial chimney stacks, flues and ducts, often over widely varying process operating conditions.
Odour emissions	Odour emissions from wastewater treatment works

<u>Current UK practice</u>

Continuous effluent monitoring

- Recent effluent consents set by EA has seen move at some wastewater treatment works for the requirement for continuous monitors, e.g. ammonia monitors.
- The Environment Agency established its Monitoring Certification Scheme, MCERTS, to deliver quality environmental measurements. The scheme is based on international standards and provides for the type-testing and subsequent product certification of

instruments, the competency certification of personnel and the accreditation of laboratories.
- Effluent flow monitoring arrangements are subject to 5 yearly inspections under MCERTS, which includes review of companies', QA systems to ensure appropriate maintenance regimes are in place to maintain performance.
- Equipment is certified and tested under the MCERTS Continuous Monitoring Equipment Scheme which covers three types of equipment; automatic wastewater samplers – automatic collection of water samples for laboratory analysis, online analysers – for substances like ammonia, dissolved oxygen and nitrate, and flow meters – for the continuous monitoring of effluent flow.

Emissions

- EC Directive on waste incineration. Waste Incineration Directive 2000/76/EC
- MCERTS (see above) is the Agency's requirements for the continuous monitoring of industrial wastewater discharges under Integrated Pollution Control (IPC), Pollution Prevention and Control (PPC) and waste incineration legislation. It also has application under the Water Resources Act for consent holders aiming to minimise waste arising and achieve good business use of resources by monitoring fluctuations in their discharges.
- An MCERTS document contains the performance standards and test procedures for continuous emission monitoring systems (CEMs). CEMs are instruments that are used to make measurements in the hostile environments of industrial chimney stacks, flues and ducts, often over widely varying process operating conditions.

Odour emissions

- There are no numerical limits set in UK legislation to define the maximum levels of odour that are acceptable. In planning applications a local council can decide on a maximum level of odour that could be considered to cause a nuisance. An odour concentration of 5 ou/m3 for 2% or greater proportion of the time is sometimes selected. Recent draft guidance notes for sites that come under IPPC control purposes propose that 1.5 ou/m3 at the 98%ile should be a benchmark for wastewater treatment odour. There is an appreciation in the Water Industry that a 98%ile of 1 or 1.5 ou/m3 set at the nearest receptor/habitable building would be extremely difficult to meet.
- Reference documents: CEN/British Standard 12255-9 (Wastewater treatment plants – Part9: Odour control and ventilation, Odour Control in Wastewater Treatment – A Technical Reference Document – Ref No.01/WW/13/3 (Hobson and Yang, 2000) and, Integrated Pollution and Control draft document "Horizontal Guidance for Odour" IPPC H4.

<u>Current issues and pressures</u>

Existing drivers include:

- Wastewater treatment directive and interpretation monitoring by EA
- Water Framework Directive (WFS): Limits are being set on discharges of 'priority substances', many of which were not previously regulated. There will also be more stringent limits on N & P etc. All on a catchment wide basis and inclusive of both point and diffuse sources. Programmes ready for implementation by 2007 with monitoring of progress until 2015. The WFD will require more control over works but utilities wish to avoid more measurement. The EA is moving to a regime of self-monitoring, which requires better process control, and monitoring of essential parameters continuously.
- Increasing standards for odour emissions
- Lack of a standard method for measuring odour emissions.

- Sustainability
- Closure of CSOs – more debris is passed downstream to the wastewater treatment works inlet.

Long-term Objectives

Objective D.1: To ensure that standards for wastewater quality monitoring are compatible with the needs of the UK water industry

Protect the current performance by ensuring:

- The needs of the UK Water Industry are identified
- Future Standards are influenced;
- Development of appropriate MCERTS standards;
- Support for the UKWIR R&D projects examining the effects of MCERTS;
- Water Industry requirements are included in standards for odour emissions
- Any standards developed give cost benefit and value for money;
- Standards take into account wider environmental impact;
- Sustainability of process and deployment of assets are considered;
- Support for the UKWIR R&D projects examining the requirements of the Water Framework Directive;
- Support for the UKWIR R&D projects examining odour emissions.

Objective D.2: To ensure that the water companies are adequately briefed on the implications of changes

Ensure Water Company purchasing departments and product specifiers are fully aware of the implications of changes to European legislation covering wastewater quality through monitoring of developments on WFD in relation to discharges.

2. Project plan to deliver each long-term objective:

Objective/ Project	Potential collaborators	Topic Advisor, PAG and Contact	Project Activity	Specific activity in 2010/11 including Water UK Networks
Objective D.1: To ensure that standards for wastewater quality monitoring are compatible with the needs of the UK water industry				
D.1.1 Identify UK Water Industry needs			Identify activity required.	Allocated to Wastewater Network. Gather view of UK Water Companies.
D.1.2 Influence future standards			Attend CEN TC165 and BSI Committee B/505 Reps – Don Ridgers and Nick Orman	Influence new work items & scope plus early warning of activities.
D.1.3 Developm'nt of appropriate MCERTS standards.		Andy Wall Environment Sarah Mukherjee	Representation on MCERTS technical panel.	Input and review of MCERTS Standards.
D.1.4 Water Industry requirements are included in standards for odour emissions.		Andy Wall Environment Sarah Mukherjee	Identify activity required.	Allocated to Wastewater Network. Gather view of UK Water Companies. Review approach taken by other industries. Ensure regulator is aware of cost implications.
D.1.5 Standards developed give cost benefit and value for money.		Andy Wall Environment Sarah Mukherjee	Identify activity required.	See D.1.4

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D.1.6 Standards take into account wider environmental impact.		Andy Wall Environment Sarah Mukherjee	Identify activity required.	Allocated to Wastewater Network. Gather view of UK Water Companies.
D.1.7 Sustainability of process and deployment of assets are considered.		Andy Wall Environment Sarah Mukherjee	Identify activity required.	Allocated to Wastewater Network. Gather view of UK Water Companies.
Objective D.2: To ensure that the water companies are adequately briefed on the implications of changes				
D.2.1 Implications of changes to European legislation (e.g. Directives).		Andy Wall Francis Rillaerts Environment Sarah Mukherjee Economic Regulation and Market Reform James Bullock	Monitor relevant developments in European legislation.	Allocated to Wastewater Network: Identify and agree UK position and lobby European decision makers. Ongoing monitoring through Water UK. Identify needs for briefing workshop.