

MCERTS Flow Certification – A Guide to Compliance with the New Regulations

The Environment Agency (EA) is extending its Monitoring Certification scheme: MCERTS regulations on the self-monitoring of effluent flow to apply to trade and industrial dischargers with PPC permits. Site managers have until December 2008 to complete the audit process and put in plans for remedial action where it is required.

Under the scheme processors, who have been granted Consent to Discharge by the EA, or a permit under the Pollution Prevention and Control regulations must have their sites certified by a qualified MCERTS inspector whose job it is to check that flow structures and instrumentation

comply with the relevant legislation.

This article sets out the basics, aiming to help make processors understand what they have to do to comply, and further, how they can turn a compliance issue to commercial advantage.

MCERTS Self-monitoring

MCERTS has been in place for the Water Utilities companies since 2004, and since then it has applied to all flow monitoring for Consents to Discharge issued by the EA.

From February 07 it has been extended to include permits issued under the Pollution, Prevention and Control regulations (PPC). This includes all types of trade effluent discharged to the watercourse or the sewer, and importantly, there is no minimum volume; if a site has a PPC permit and effluent flow monitoring is included as one of the conditions, then the MCERTS scheme applies.

How it works

MCERTS inspectors are appointed by Sira Certification Service, which runs the scheme on behalf of the EA. The scheme is delivered through a number of companies operating in a competitive market, of which Emerson Process Management's Mobrey Measurement Division is one.

The MCERTS self-monitoring scheme sets minimum requirements for -

- flow structures and devices e.g. flumes/weirs/electromagnetic meters
- monitoring equipment eg level sensors
- data gathering and transmission eg analogue to digital
- and associated quality management systems (QMS),

all of which are to be inspected and verified by the appointed MCERTS inspector. The regulations require dischargers to be able to show that their effluent measurement system can provide accurate measurement of the total daily volume to within +/- 8%.

The scheme operates as follows: an MCERTS inspector is contracted to provide an independent assessment of each site. The inspector makes a detailed analysis of the flow measurement installation and prepares a report putting forward his or her expert opinion as to whether or not the site meets the MCERTS standard. This includes an assessment of the flow application, type of flow measurement device and the effectiveness of the site maintenance arrangements. If the site fails to meet the standard, then remedial work must be undertaken and the site re-audited to show compliance. Vendor neutral recommendations for remedial work may also be made.

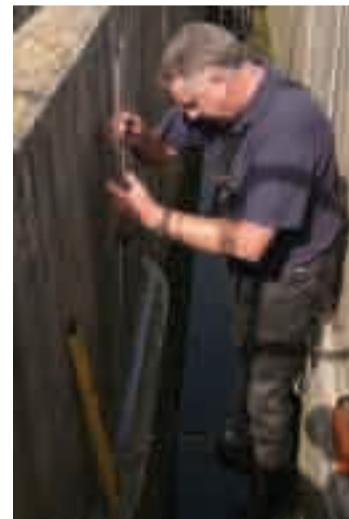
On the basis of the inspector's successful report, the Operator's QMS will then need to be audited

by a UKAS accredited Quality Assurance Inspection Body. This audit can be carried out by the Operator's own QA inspection body provided they meet the necessary requirements to address the issues of effluent flow monitoring. Alternatively, Sira Certification Service can be contracted to undertake an audit of the MCERTS QMS.

When the MCERTS site inspection and QMS audit have been completed, the MCERTS inspection report and confirmation of a compliant QMS are then passed to Sira Certification Service, who will issue the MCERTS Site Conformity Certificate for the site in question, which is valid for five years.

Beyond compliance

Successful effluent flow monitoring depends on operators correct installations, combined with appropriate equipment, calibration, maintenance, quality assurance and data management. These should be managed within a quality system that can be routinely audited to ensure that performance can be maintained over time.



An MCERTS inspector carries out an inspection.



When it comes to MCERTS some of the more progressive processors are saving significant resources by looking beyond simple compliance and keeping their focus on the wider business case. By investing in more intelligent solutions now - systems that provide total flow data for example - not just the immediate MCERTS requirement, puts them ahead of the game.

On a simple level, for processors discharging to sewer for example, accurate effluent flow data means accurate bills from their water utilities company. Since poorly maintained flow instrumentation has a tendency to measure high, a good quality system can have a direct impact on the bottom line by preventing the possibility of overcharging caused by inaccurate data.

Further, MCERTS requires that "The location of the flow monitoring installation shall ensure representative measurement of the total volume discharged." (Minimum requirements for the Self-Monitoring of Effluent Flow paragraph 3.2.2).

On some processing sites, the most obvious solution may be flow measurement at the outflow. However, an inlet measurement, may also meet the requirement, and by including data logging equipment, a single installation could be set up to provide both total daily volume (to MCERTS) and overflow event data.

Although the initial investment would be marginally greater, there would be significant long-term savings in having access to the additional data.

MCERTS says that "The total daily volume of effluent must be measured with a target uncertainty of better than $\pm 8\%$ and a confidence level of 95%.." (Minimum requirements for the Self-Monitoring of Effluent Flow paragraph 3.2.1).

This can sometimes be somewhat misleading as they apply to the entire flow measurement system, which may comprise several flow measurement points, not just to the primary flow structure and



Waste management services company Waste Recycling Group is auditing its landfill sites and bringing their flow measurement up to MCERTS standards. The company has commissioned Emerson Process Management's Mobrey Measurement Division to provide a complete MCERTS compliant flow measurement package for each site, consisting of a self-calibrating Rosemount magmeter and a combined controller and data logging unit, the Mobrey MCULOG.

secondary instrumentation. For complete legislative compliance, it is the ultimate data recorded at the data archive, which must achieve the $\pm 8\%$ criteria. On sites where the data acquisition systems include some sort of telemetry or other data network and acquisition and analysis software, which, by definition, must introduce some error to the final data. It is therefore essential to check the accuracy of the combined system, including the signalling network and software, to ensure compliance.

Conclusion

The EA describes MCERTS as being there to provide assurance about the reliability of flow measurement data to all stakeholders, and to establish a level playing field in the competitive flow measurement

market. The scheme will do this, and more, not least in helping to raise professional standards in flow auditing.

MCERTS does not replace all previous legislative compliance requirements. The EA's own pioneering 'P150' document and 'Procedure for Flow Measurement of Discharges' (Sep 2000) are still the fundamental basis for the interpretation of the Water Resources Act 1991. The much wider and far reaching obligations for PPC permit holders described in these documents, along with specific site consent conditions, are still enforceable by the EA.

There is a strong business case for a long term, balanced approach to planning and compliance. For processors and manufacturers who make this the basis of their business strategy, MCERTS compliance is one complementary component, of a long-term plan.

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