



CERTIFICATION

OPSIS System 300 wins MCERTS approval

A first for air quality monitoring system

Enviro Technology is pleased to announce that the OPSIS System 300 is the first ambient air quality monitoring system to receive MCERTS approval. Not only is the system the first to receive MCERTS for CAMs (continuous air monitoring systems) but it is also unique. It differs from any other system in that it utilises an open-path measurement technique, making it far more representative than traditional ambient analysers that measure air pollution from just one point.

The gases covered under the MCERTS certificate are SO₂ NO₂ O₃ and benzene (C₆H₆). The system has received the approval for the criteria pollutants as well as benzene which, coupled with the extremely low maintenance needs of the

system, means that it is ideal for local authorities and industry alike for urban and fenceline air quality monitoring applications.

"We have seen steady growth in local authorities choosing this system for street canyon and dispersion model validation exercises. Now, with MCERTS approval and a price comparable with traditional monitoring techniques, we anticipate increased levels of interest and expect to be installing many new systems during 2005," says Operations Director Duncan Mounsor.

The System 300 is a complete 'all-inclusive' package which



ABOVE: An Opsis Open Path Air Quality Monitoring Station installed on a rooftop in Milan, Italy

includes the OPSIS analyser (AR500), an emitter/receiver set for path lengths up to 500m (longer paths and additional gases are optional) and software for data collection and analysis.

BELOW: Sira Chief Executive Ian Knott (left), presents the certificate to Duncan Mounsor

● Enviro Technology is fully committed to the MCERTS scheme with various analysers for continuous emissions monitoring already MCERTS approved and other ambient analysers being approved over the next 12 months.



Mini system soon

Good news for customers looking to downsize. In the next few weeks we will be launching our new 'mini' AQM system named Roadbox. This monitor, used on the roadside or mounted on a fence, can measure NO_x with the capability of expanding to CO, SO₂ and O₃. More information will follow.

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INTRO

Now that winter is over and spring is well and truly here it is time for our first newsletter of 2005. As always I hope that you enjoy reading this edition and will find that the articles and stories are relevant and informative.

This edition seems to be full of firsts. Here at Enviro Technology we have always tried to lead the way with by providing instrumentation and service that are world class. The award of the first Environment Agency MCERTS approval for ambient air quality analysers is an achievement that we are very proud of. See the full article on page 1.

Air Science, our sister company, has also got a great first with its Health Protection Agency grading for medical air cleaning – see page 4

The quality of the service we provide is, as always, our top priority. To help us to continually improve we are launching another first. An e-mail feedback service that you can use to tell us how we are doing, what we could improve on or even what you would like to see in our next newsletter. In fact we would like to you to tell us anything about our company that you want. All feedback e-mails will be forwarded to me and I will ensure any action need is taken. The address for this new service is feedback@et.co.uk and in due course there will be links on our web site which will go to the same address. I look forward to reading all of your comments.



Steve Read
Managing Director



MONITORING

Black Carbon monitoring

It's time to get intelligent with our new instrument

In response to demand from various UK organisations we have launched the *Magee Aethalometer* which provides a real-time readout of the concentration of 'black carbon' aerosol particles.

This self-contained, automatic device can be fitted into any AQ instrumentation rack. It needs no consumable materials, no special gas cylinders and, most importantly, no operator attention. A simple annual calibration is sufficient to ensure its smooth running.

"Although in the UK we measure particulates as a matter of course, there is a growing interest within the scientific community in the dangers of 'black carbon' particulates in the air," says Duncan Mounsor, Operations Director. "Less than 5% of UK AQM stations measure black carbon particulates, yet as recently as August 2004 the AQEG (Air Quality Expert Group) recommended to the government the expansion of black carbon monitoring stations nationwide. Our response is the introduction of the *Magee Aethalometer*."



▲
The Magee Aethalometer needs no consumable materials, no gas cylinders and no operator attention

The Aethalometer draws a sample through its 'aerosol inlet' port using an internal pump. Flow rate is monitored by an internal mass flow meter and is stabilized electronically to the value entered in software. The analysis gives one new reading every timebase period. The user can set the timebase period to reflect how rapidly they want the data.

The *Magee Aethalometer* is currently analysing black carbon emissions at our Gloucestershire HQ and results are being fed to our www.airqualitydata.com website. Log on to find out more!

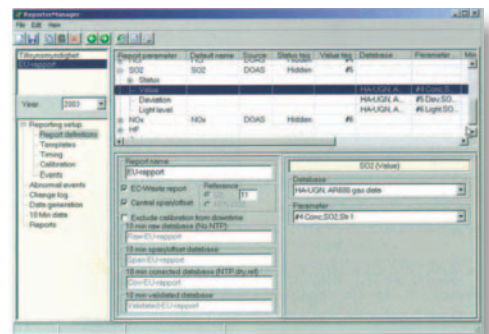
SOFTWARE

Taking the pain out of reporting

In response to the launch of a new EC directive for waste incinerators we have extended our offering to customers by providing an innovative new software package, *ReporterManager*. The new EC directive (2000/76/EC) has strict guidelines for incinerator reporting. Many UK plants have seen the implementation of the guidelines severely increasing the time spent by an operator when reporting.

"The new EC directive's requirements have stretched the amount of money and time incineration plants have had to expend," says Operations Director Duncan Mounsor. "*ReporterManager* enables incinerator operators to produce reports that comply with the regulations."

Traditionally, obtaining data from incinerator monitoring equipment and transferring it into



the correct reporting format was difficult and time consuming. *ReporterManager* allows the operator to report events such as exceeding limits and alarm, parameter changes and abnormal operating conditions. The software generates basic and summary reports as mean values in 10-minute, 30-minute and hourly intervals and as daily, weekly, monthly and annual reports.

"In the minefield of incinerator monitoring we are here to remove stress from a sometimes lengthy reporting job. We have started incorporating *ReporterManager* at plants we service across the UK and the feedback has been good," says Duncan.





MONITORING

Delivering a rock-solid service for Gibraltar

In February, two market leaders in the air quality services and technology fields – Enviro Technology and the National Environmental Technology Centre (Netcen) – joined forces to deliver an intelligent air monitoring and data management system to the Government of Gibraltar.

ET and Netcen, an operating division of AEA Technology Environment, installed two automatic air pollution monitoring stations on the Rock of Gibraltar. Measurements will fulfil the Gibraltar Government's obligations under the EU Air Quality Framework and Daughter Directives. Like the UK, Gibraltar is obliged to transpose EU environmental laws into national legislation. The air quality measurements are also disseminated as a service to the Gibraltar public.

The installation followed a preliminary assessment of air quality in Gibraltar by Netcen under Article 5 of the EU

Framework AQ Directive. This estimated baseline air quality concentrations and identified the scale of ambient monitoring necessary to fulfil Gibraltar's obligations under the Framework and Daughter Directives. Following the assessment, the Gibraltar Government commissioned Netcen to establish two multi-pollutant monitoring stations on the Rock; this is where Enviro Technology came on board.

"We have often worked with Enviro Technology in recent years" says Sean Christiansen, Principal Air Quality

Consultant at Netcen. "In our work with local authorities and national monitoring networks, we have developed good relationships with key players in environmental monitoring products. We selected ET as we knew they would be well suited to this bespoke and demanding installation."

To ensure safe transportation and installation of the equipment, ET engineers travelled to Gibraltar to oversee the commissioning of the stations. After installation, ET worked closely with Netcen staff to train local operators to enable them to operate and troubleshoot the equipment.

"We cater for clients who often need stations in a wide range of environments," says ET's Duncan Mounsor. "The Gibraltar stations must function reliably and accurately, delivering sound data under all conditions, including ambient temperatures up to 40°C."

▲
Pictured above: One of the Gibraltar monitoring stations and (inset) the equipment inside the station

Enviro Technology can work with clients on equipment problems and offer speedy solutions to combat equipment malfunction or breakdown. "We will travel at short notice to remote stations in order to tackle problems 'hands on' - it's part of the service," adds Duncan. "We appreciate that local governments and other customers can't afford to lose data if there's a breakdown. Our clients know that when they use us, they are using a company that supplies high quality, high spec products which will deliver proven performance, 24/7, for many years.

Disseminating data to the public is another key objective of the Gibraltar project. "Netcen has developed new technologies enabling lightning-fast data transfer from Gibraltar to their Oxfordshire HQ. These systems will keep Netcen at the forefront of Air Quality data management," says Sean. "With temperatures rising rapidly, pollution levels in Gibraltar may soon make

interesting viewing. PM10 particle levels are expected to be influenced by Saharan dust, while high temperatures, UV levels and regional precursor emissions could lead to significant photochemical ozone episodes. If that doesn't put off sun-seekers, the website also provides latest temperatures for the area!"
■ To see the Gibraltar data in near real-time, visit www.gibraltarairquality.gi.

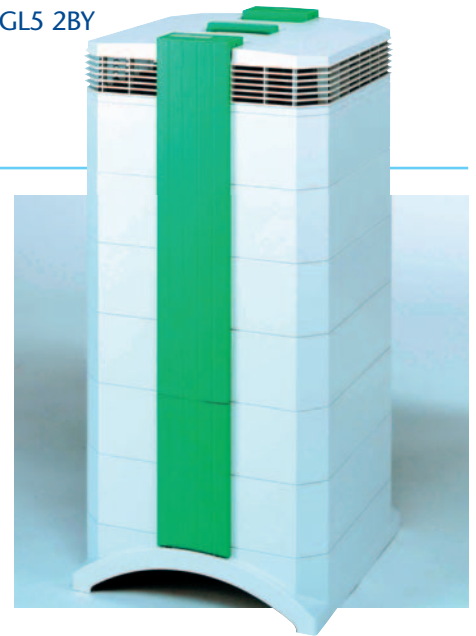
Synspec alpha is due for launch

In the next few months we will be launching the Synspec 'Alpha' – a new analyser designed and manufactured by Synspec BV, one of the world's leading air quality instrumentation manufacturers. This affordable, real-time, compact analyser uses Gas Chromatography to measure Benzene, TNMHC and other VOCs at prices far lower than one would normally expect for a GC. Call us for information.





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Cleanroom H13 is first to win RRP grading

2005 is proving to be a productive year for Air Science. In February the Cleanroom H13 unit was the first air decontamination product in the UK to receive 'recommendation 2' grading from the Health Protection Agency (HPA) convened Rapid Review Panel (RRP). The unit, which has also been tested by the Health Protection Agency's Biosafety Investigation Unit, is an ultra high efficiency portable air purifier for control of airborne infections, micro-organisms and other airborne pollutants and contaminants.

A statement from the Rapid Review Panel read: 'This is a small, portable unit designed

to purify air by filtration. The system reduces the count of airborne micro-organisms by 3-4 logs. The main advantage is lower cost than centralised HEPA filtration units. For the full report, see the HPA website at www.hpa.org.uk/infections/topics_az/rapid_review/pdf/RRS35v3_airscience.pdf

"The 'recommendation 2' assessment confirms the unit's ability to remove airborne micro-organisms and contaminants," says Sales Manager Jono Wells. "Trials are underway to confirm its ability to reduce airborne infections in a clinical setting. The importance of clean air in medical environments will be pushed up the

government's agenda in this and coming years.

"The RRP's assessment of this product is crucial in order to boost the medical profession's awareness of the benefits of the unit. We believe the Air Science Cleanroom Series is the most advanced, cost-effective air filtration system on the market today."

Air Science to market new GrayWolf probe

Air Science is to market the new GrayWolf portable VOC Probe. The DirectSense TVOC comes with a 10.6eV PID sensor for ppb range or ppm concentration range measurement of TVOCs. Relative humidity and temperature sensors are included. Mix or match up to three electrochemical gas sensors from a choice of ozone, ammonia, nitrogen dioxide, nitric oxide, sulfur dioxide, hydrogen sulfide, hydrogen cyanide, ethylene oxide, oxygen, chlorine, hydrogen chloride, hydrogen, arsine, carbon monoxide and more. Added probes for carbon dioxide, particle counts, differential pressure and other parameters may be monitored simultaneously.

On-board sensor tips for all parameters include a list of 100+ compounds ionized by the PID sensors, along with common potential IAQ sources and correction factors. Government and industry guidelines and report



templates are included. End-users can add their own sensor tips and load Word, pdf, Excel or HTML documents onto the mobile PC for field access. Desktop PC software is included for data analysis and report generation.

"The probe is one of the first of its type to be sold worldwide," says Jono Wells, Sales Manager. "We're privileged to have distribution rights. US-based GrayWolf has a high pedigree in the field of indoor AQM instrumentation."

● For details call Jono Wells T: 01453 733217 E: jono.wells@airscience.co.uk

GUIDELINE VALUES FOR INDOOR AIR POLLUTANTS

POLLUTANTS	CONCENTRATION AVERAGING	TIME
Nitrogen dioxide	150 ppb (300 pg/m ³)	1 hour average
	20 ppb (40 pg/m ³)	Annual average*
Carbon monoxide	90 ppm (100 mg/m ³)	15 minutes
	50 ppm (60 mg/m ³)	30 minutes
	25 ppm (30 mg/m ³)	1 hour
	10 ppm (10 mg/m ³)	8 hours
Formaldehyde	0.1 mg/m ³ (0.1 ppm)	30 minutes
Benzene	1.6 ppb (5.0 pg/m ³)	Annual average
Benzo(a)pyrene	0.25 ng/m ³	Annual average*
		*Provisional

Home air quality guidelines

The Department of Health's Committee on the Medical Effects of Air Pollution (Comeap) has suggested levels for pollutants in the home in order to reassure householders and aid building designers. To date there have been no standards to protect the public indoors and Comeap has tried to plug this gap.

"The table suggests guidelines for home air quality, although in future it may cover schools and nurseries," says Jono Wells of Air Science. "The organisation is conscious that people may see these guidelines as 'standards' which they are not intended to be."

● For further information visit www.advisorybodies.doh.gov.uk/comeap




REGULATIONS

Viro spotlight on Marpol Annexe VI

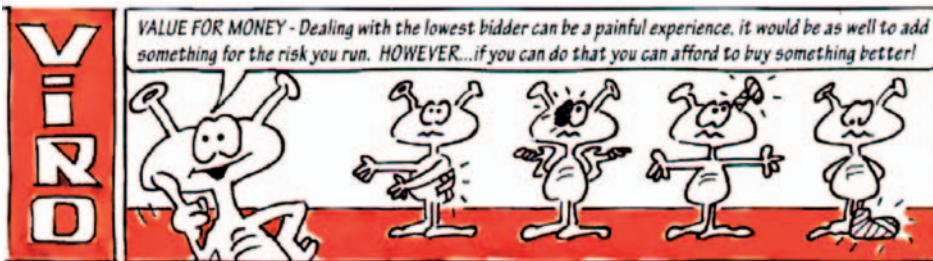
Marpol Annexe VI regulations come into force on May 19 for all vessels weighing over 400 tonnes and, for those not complying, penalties will be high. So what is this MARPOL annexe all about? To learn more, read on...

The regulations when they come into force, set limits on sulphur oxide and nitrogen oxide emissions from ship exhausts and prohibit deliberate emissions of ozone depleting substances. Any violation of the MARPOL 73/78 Convention within the jurisdiction of any party to the Convention is punishable either under the law of the Party or under the law of the flag State.

With the exception of very small vessels (under 400 tonnes), ships engaged in international voyages must carry valid international certificates which may be accepted at foreign ports as prima facie evidence that the ship

complies with the requirements. If there are clear grounds for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of the certificate, or if the ship does not carry a valid certificate, the inspecting authority may detain the ship until it is satisfied that it can proceed to sea without presenting unreasonable threat of harm to the marine environment.

■ If these new regulations affect you and you want to know how to comply see the panel on the right:



INSIGHT

Focus on Qatar Service Centre

Five years ago, in response to demand from customers in the Middle East, we launched our Doha-based service centre in Qatar. Since the launch of the centre, which provides service and support to companies operating air quality and emissions monitoring stations in the Middle East, we have seen an increasing demand from both UK and international companies and organisations looking for a bespoke AQM service.

Athar Rohella is our man in the Middle East and, with support from us in the UK, he looks after



monitoring stations on behalf of customers. Athar has gone through intensive training and is fully qualified to undertake troubleshooting, maintenance and service of all ET core products. In previous years we have also been asked to extend our service to encompass local site operation, which we now perform for the majority of our Middle-East customers. We appreciate that time is of the essence and, if required, can work with you to create a solution designed to fulfil your service, maintenance and operational needs. Call us for more information.



ET Marine launches NOx analyser

In response to the Marpol Annexe VI requirement we are due to launch a unique, well-proven and 'own branded' continuous emissions monitoring (CEM) product, Seanox, designed exclusively for ship exhaust monitoring. The rugged, reliable and user-friendly NOx Analyser is a well-proven chemiluminescent analyser integrated with a dilution, extractive probe.

"By June all ships over 400 tonnes must comply with the new legislation. This product is perfect for measuring NOx exhaust emissions," says Duncan Mounsor, Operations Director. "The analyser has been tested by some of the world's leading agencies and has a high pedigree due to being used for ship emission monitoring for 10 years. We have called the product Seanox and are currently adding ET Marine branding; this should be completed within a month."

A simple on or off-site training session will be all that's required for engineers to install and service the analyser. The 'plug in' operation will let operators begin monitoring and analysing exhaust NOx emissions almost immediately. All that is needed for start-up is compressed air.



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INVESTOR IN PEOPLE



PEOPLE

Where quality comes first

Ever wondered what happens to your instruments when they come to ET for repair or service? If you have a new AQM station, what about the people behind the scenes? Meet Senior Workshop Engineer Richard Bingham

A typical day consists of many different elements. We have a close working relationship with the admin team who feed us daily updates on analysers that have come in which need attention.

Four of us work full time in the service workshop, so we have the time and manpower to get 'under the skin' of a problem – and we all agree that the more obscure or difficult the repair the better! There's no greater satisfaction than trying to understand a repair, finding and repairing it, and then sending the

analyser back to the customer. The satisfaction from completing a really difficult job makes it all worthwhile.

Good turnaround is key to productivity. We try to complete work within a week. Most work consists of repair followed by service but, as we get busier, we are called on to test new enclosure equipment more. We will be responsible for ensuring that equipment works in harmony before final installation. Clients expect installations to function at a high level; at the workshop, we ensure we cover every eventuality.

ET Marine 'delivers 100%'



Emission trial proves products' worth

ET Marine constantly strives to give customers an unmatched service and products which, in the field of air quality and emissions monitoring, are second-to-none. A fine illustration of this is in our relationship with BP Marine in trials which have just been completed aboard the P&O 'Pride of Kent' for assessing a new emissions scrubbing system, planned for commercial launch late 2005. BP Marine has been trialling the product on exhaust emissions aboard the Pride of Kent over the past 18 months.

Many ships run using heavy fuel oil with a high sulphur content. This results in significant SO_x & NO_x emissions – which are harmful to the environment. MARPOL Annex VI regulations, (see page 5), will seriously limit these emissions.

BP Marine believes there are two approaches to cutting these exhaust emissions; these are to:

- Cut all harmful elements from fuel at



source – this means that heavy fuel will not be an option and much more costly diesel fuel will have to be used. **OR**

● Heavy fuel can still be used but, via a 'technical abatement' system, burnt and unburnt fuel is passed through seawater. Most oxides of sulphur and particles are absorbed through this 'scrubbing' process, and exhaust emissions will potentially have zero SO_x and lower NO_x emissions. BP Marine needed to measure the Pride of Kent exhaust emissions after the process, which is where ET Marine was called in. A company was required to install products to measure emissions accurately via online monitoring. The results needed to be input into an online system and the results fed back in 'real-time'.

"BP Marine's key requirement was to have emissions monitoring products

that were primarily reliable," says Don Gregory, Director of Environment & Sustainability. "The effectiveness of online monitoring for emissions has had some negative publicity in the past but, with the onset of MARPOL Annex VI and the potential launch of an emissions 'credit scheme', we needed monitoring products to work within conditions aboard the Pride of Kent while giving accurate results."

"ET Marine's Seanox & Seasox monitoring products collected and sent data from the Pride of Kent, showing people in the know the technological advancements in online monitoring. There were a few glitches with the equipment but ET Marine's service was second-to-none. Any glitch was dealt with quickly and with minimal effect on results. We are 100% satisfied and will definitely use ET Marine in the future."

"There is already evidence of a credit scheme which will see emission limits from ships incorporating scrubbing and monitoring equipment pitted against those which do not. Emissions will be 'set-off' against each other. Ships with near zero emissions, such as those owned by P&O, will gain many credits which can be 'sold' to ships which travel less frequently in regulated waters, thus minimising emissions."



▲
Richard
Bingham
(centre)
and the
service
workshop
technicians

I'm sometimes asked whether there are any negatives to working in the service workshop and, to be honest, there aren't. We truly believe the service we offer is second-to-none and the customers' positive comments back this up. I suppose the only negative is that we don't often get the opportunity to 'get out there' and visit them more, but then, who would do the work?

