



Strong UK influence at International meetings for Metrology

Work at the National Measurement Office has been recently dominated by two major international meetings and the influential role NMO played in them. The two meetings NMO attended were the annual [OIML](#) meeting, followed by the quadrennial meeting of the [General Conference on Weights and Measures](#) (CGPM). Both meetings went extremely well, as NMO strengthened the influence that the UK has with member states for International Metrology.

The 46th annual OIML meeting in Prague was described by a number of the participants as the best they could remember. This meeting was the first to be chaired by the new [CIML President](#), NMO's Peter Mason and significant progress was made on several important issues. [Continue reading on page 2...](#)



NMO's Chief Executive Peter Mason shown on the right of photo with Pierre de Ruvo signing the MoU with IEC on behalf of OIML


Following the OIML meeting in Prague was the **24th General Conference on Weights and Measures (CGPM) meeting in Paris**, where NMO reached a satisfactory outcome on budget subscriptions to [BIPM](#) for 2013-2015, but more importantly a clear commitment to review BIPM's strategy and to reform its governance and accountability. It was also agreed that there will now be annual meetings of Member States and the next CGPM will be in three year's time, which will help keep up the pressure for reform.

The CGPM meeting is the formal meeting of States Parties of the Metre Convention. The Convention requires it meet at least 6 yearly but since 1967 it has met 4 yearly. France is the depositary of the Treaty so it meets in Paris, nominally presided over by the President of the Paris Academy of Sciences (in practice by his nominee). Robert Gunn headed the UK delegation, the other UK delegates being Peter Mason (CE of NMO and President of OIML), Brian Bowsher (MD of NPL), Seton Bennett (member of the International Committee for Weights and Measures (CIPM), and Ian Mills (President of the Consultative Committee on Units). [Continues page 2](#)

Welcome

Welcome to issue 9 of National Measurement News. We are now only producing this newsletter in a simple electronic format that does not require printing or professional design work. Issues contain articles and news items from the National Measurement Office and from its partners in the National Measurement System that we hope are of interest to you. If you would like to contribute to this newsletter please e-mail info@nmo.gov.uk.

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Department for Business Innovation & Skills

46th CIML meeting in Prague

Front page continued—Firstly NMO were successful in winning international agreement to modernise the working procedures of the OIML, meaning that it should now be possible to speed up the standards-making process, currently a slow process due to the somewhat archaic administrative requirements. Secondly, a new Strategy for OIML was adopted, which will form the basis of a focused Work Programme; in discussion on this there was increased emphasis on the importance of working with regional groupings such as WELMEC. Thirdly, the needs of developing countries and others outside the main trading blocs was given greater attention, particularly in the debate on the “Conformity to Type” question. Finally, the Committee acknowledged “a new collaboration era at all levels between the OIML and the BIPM” and tasked the OIML President and BIPM Director to intensify the cooperation with the BIPM in operational activities and to pursue further discussions and studies concerning a possible co-location.

Also at this meeting, the OIML and the IEC (International Electrotechnical Commission) signed an Agreement, in the form of a “Memorandum of Understanding” (MoU), covering the relationship between the two organisations in matters of technical cooperation, conformity assessment and the development and application of standards.

The International Organization of Legal Metrology (OIML) is an intergovernmental treaty organisation whose membership includes [Member States](#), countries which participate actively in technical activities, and [Corresponding Members](#), countries which join the OIML as observers. It was established in 1955 in order to promote the global harmonisation of legal metrology procedures. According to 2007 World Bank figures, OIML Members cover 86 % of the world's population and 96 % of its economy.

NMO are active participants in OIML as we are seeking to influence the production of International Recommendations (or draft laws) which are used as the basis for European legislation and thus vital that the UK ensures they provide beneficial outcomes for the benefit of UK stakeholders.

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24th General Conference on Weights and Measures



Front page continued—The meeting takes place over 5 days with significant amounts of time being taken up with reports from the President of CIPM, chairs of the Consultative Committees (technical committees on various measurements) and international organisations, e.g. ILAC - International Laboratory Accreditation Cooperation and WMO – World Meteorological Organisation. As the newly elected President, Peter Mason provided the report from OIML – International Legal Metrology Organisation.

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Photo is reproduced with permission of the BIPM, which retains full internationally protected copyright . Peter Mason, second from left and Robert Gunn, fourth from right meeting with delegates.

Page 2 continued—

Ten resolutions were ultimately adopted

- On the possible future revision of the International System of Units, the SI.
- On the importance of international collaboration to place measurements to monitor climate change on an SI traceable basis
- Dotation of the BIPM for the years 2013 to 2015
- On the status of Associate State of the General Conference
- On the acceptance of Economies as Associate of the General Conference
- On financial arrears of States Parties to the Metre Convention
- On rescheduling agreements between the International Committee for Weights and Measures and defaulting States Parties to the Metre Convention for the payment of their financial arrears
- On the revision of the mise en pratique of the metre and the development of new optical frequency Standards
- On the adoption of a common terrestrial reference system
- On the role, mission, objectives, long-term strategy and governance of the BIPM.

Metrologically the first of the ten resolutions is most important, setting out the intention that SI Units will be defined in terms of fundamental constants, the numerical values of which will be fixed by definition.

Politically number 6 was both interesting and challenging - finding a diplomatic way to implement the explicit words of the Convention that those that don't pay their subscription should be expelled when certain States, including France which has to inform expelled members, didn't wish to be seen actively expelling the States concerned. The most contentious resolution was, as always, setting the dotation, which must be passed without objection. With many countries having flat or reducing domestic budgets there was much discussion of BIPM's request for an increased budget plus inflation proofing and a linear accelerator. We settled on no expansion and a reduced contribution to inflation.

Those with a keen eye will notice that the dotation resolution only covers 3 years, so CGPM will need to meet a year earlier than expected. This is linked to the dotation negotiations and discussions on the final resolution. Some Member States, including the UK, feel that the governance of BIPM has not kept up with expectations for a modern organisation and that this has prevented them from being fully involved in setting its strategic direction. Draft resolutions from the UK, France and Switzerland led to a combined text setting up a group to review governance and strategy. Robert Gunn of NMO will be a member of this group.

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Metrology Seminar for Trading Standards Officers—Book NOW!

“Weights & Measures Supporting the Growth of Fair Markets”

NMO, TSI and the Regulatory Support Unit, Local Government Group are pleased to invite trading standards officers to the Metrology Seminar 2012. The event will take place on Tuesday 7 February 2012 at Austin Court in Birmingham.

Now in its 9th year, this established event has become a valuable networking opportunity for TSOs throughout the UK and will be themed on one of the Priority Regulatory Outcomes – “To support enterprise and economic growth by ensuring a fair, responsible and competitive trading environment”.

[Continues page 4](#) to what TSO's can expect from the day:

Page 3 continued

You can expect:

- Legislative updates from NMO, allowing plenty of time for your questions
- A break-out metrology refresher group session to help you brush up your weights and measures/ peer auditing skills, run by the Local Government Metrology Group
- Updates from LBRO and the Local Government Metrology Focus group, which includes *“The role of metrology and other aspects of fair markets in growth”*
- A presentation from Arad Metering Services (UK) Ltd to give you a better understanding on how metering technology works *“out in the field”*
- And you will also hear from the National Physical Laboratory (NPL) on how measurement at NPL supports legal metrology in the UK and information on the ‘Measurement Network’ including how it could benefit your work.

Lunch, teas and coffees will also be provided.

[Download and read the draft agenda](#)

[Book your place](#)

As in previous years, we will allocate delegate seats on a first come first serve basis. We recommend you avoid disappointment by ensuring your seat well in advance as this event tends to be fully booked each year. **(The fee for attending the seminar is £75 plus VAT per delegate).** CPPD hours for successful completion: **3.5 hours.**

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LBRO's common approach to regulatory compliance



Front line local authority regulators and their managers are strongly encouraged to undertake their professional development using a flagship product launched in November by the World Class Coalition. The World Class Coalition brings together national regulators, professional bodies, local Authority regulators, central government and business to enhance the delivery of regulation to business.

This new, common approach to regulatory competence is the result of an ongoing project to introduce common professional standards of competency across regulatory services provided by local authorities, coordinated by the Local Better Regulation Office (LBRO). The World Class Coalition comprises 17 major professional and representative bodies, and works to simplify the complex regulatory system.

The common approach features a unique set of core regulatory skills agreed by national regulators, professional bodies and other organisations across the regulatory system, supported by specific technical knowledge sections covering particular regulatory functions. These knowledge sections currently include Animal Health and Welfare, Food (hygiene and standards), **Weights and Measures**, Housing, and Port Health in addition to Health and Safety, which the Health and Safety Executive and local authorities have used with great success for the last two years. New knowledge sections are in development and will be rolled out in the Spring of 2012, including Fair Trading, Product Safety, the Licensing Act (2003), Pollution Prevention and Control and Agricultural Trading Standards.

Continues page 5

Peter Mason, CE of the National Measurement Office (NMO) commented:

“ I am fully supportive of this work and happy that NMO has been involved with this development. I am particularly encouraged and pleased that Metrology (Weights and Measures) was picked as one of the first competency modules to be developed and trialled”.

See [here](#) for further details.

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New sizes for alcoholic drinks and deregulation of bread sizes from 1 October 2011

Alcoholic Drinks

2/3 pint became a legal specified quantity for the sale of draught beer and cider served on licensed premises from 1 October 2011. Use of the new size is optional, but its availability provides licensees with more freedom to offer a wider range of sizes and will give consumers more choice.



Servings of glasses of wine below 75 ml will be deregulated, allowing or the sale of samples of wine for the first time.

The sizes available for the sale of fortified wines are also changing - to 50 ml or 70 ml or a multiple of either size - bringing the law into line with common trade practice. The specified quantities for spirits are unchanged.

Bread



All specified quantities for unwrapped bread have been deregulated from 1 October 2011. This allows unwrapped loaves to be sold in any size and for innovation in the sizes offered. For bakers who continue to offer only the traditional sizes of 400 g or 800 g there will be no need to change their existing practices. Where new sizes are adopted (i.e. sizes other than 400 g or a multiple of 400 g) information on quantity must be provided to ensure consumers have sufficient information to make informed choices.

- Download more information on the [specified quantities guidance for business \(PDF, 108 Kb\)](#).
- Download a copy of the [new specified quantities legislation](#).
- Download [new guidance on The Measuring Instruments \(Capacity Serving Measures\) Regulations 2006. \(PDF, 437 Kb\)](#)
- Download [new guidance on The Measuring Instruments \(Intoxicating Liquor\) Regulations 1983. \(PDF, 443 Kb\)](#)

These guidance notes reflect changes to the specified quantities for non pre-packaged alcoholic drinks.

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How the NMIs are rising to national challenges

National Measurement System



The National Measurement System delivers world-class measurement for science and technology through these organisations.



The essential components of the National Measurement System (NMS) are the National Measurement Institutes (NMIs) that deliver most of the NMS work. In addition to the Legal Metrology work of NMO, the other NMIs are:

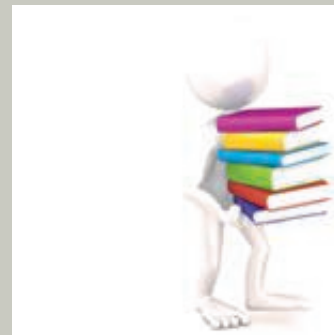
- the National Physical Laboratory (NPL);
- LGC;
- NEL, the former National Engineering Laboratory.

NPL

New Good Practice Online Modules

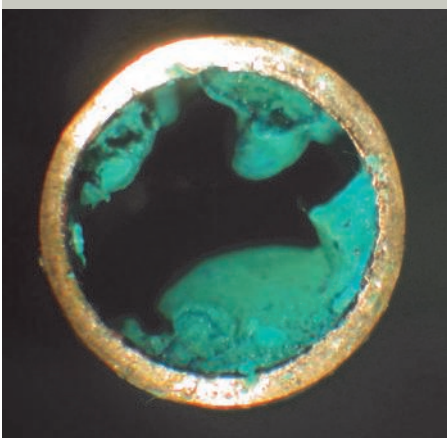
Supported by the National Measurement System, NPL has produced a new series of [Good Practice Online Modules](#).

The first of these is on [Measurement Uncertainty](#), and consists of an Introduction to Uncertainty and the Basics of Uncertainty Analysis. As well as providing a Quick Guide there is also an associated Activity and a Quiz, it also highlights more information and further reading.



So if you just want to brush up on your knowledge and test your skills or you know someone that could benefit from improved measurement understanding then take a look at the new [Measurement Uncertainty good practice online modules](#).

If you have any feedback or suggestions for future modules please contact: communications@npl.co.uk
www.npl.co.uk/publications/good-practice-online-modules



Avoid corrosion in your plumbing

NPL has just updated its '[Avoidance of Corrosion in Plumbing Systems](#)' guide. It provides the latest information to assist designers and installers of copper based domestic hot and cold water systems on how to avoid or minimise the risk of corrosion. It also advises on how to take remedial actions to overcome any problems that may occur due to corrosion.

www.npl.co.uk/news/avoid-corrosion-in-your-plumbing

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These NMIs develop world-class measurement science and research. Some examples of the initiatives they are involved in are detailed below in order to demonstrate how measurement technology is responding to national challenges such as environmental sustainability, climate change, health and encouraging greater efficiencies in the engineering manufacturing sector.

LGC

Improved food fortification for better health food supplements

Foods and vitamin supplements enriched with the trace element selenium can offer significant health benefits. However, it is essential that the correct amount and form (species) of selenium is present in order for these fortified food products to be safe for human consumption.

To help ensure accurate characterisation of selenium-enriched wheat products and supplements, LGC, the UK's designated National Measurement Institute for chemical and bioanalytical measurement, has developed the first speciated certified matrix reference material for selenium-enriched wheat flour as well as an isotopically enriched selenomethionine reference material (⁷⁶Se-enriched SeMet), which provides an assessed value for the abundance of ⁷⁶Se.

Selenium is an essential trace element that occurs as a variety of chemical species. The amino acid selenomethionine (SeMet) is one such species and is a common, naturally occurring food source of selenium. Decline in the importation of selenium-rich wheat flour from North America, for instance, is considered to have contributed to the substantial fall of selenium in the European diet. The production of selenium-enriched wheat flour therefore offers an effective fortified food for maintaining dietary selenium intake.



(Image courtesy of iStock)

However, such fortification needs to be managed carefully to ensure that the level and form of selenium present remains safe for humans. It is therefore essential that selenium-enriched food products can be characterised reliably. Reference materials are vital to support the accurate measurement of selenium in such products.

Produced under the accreditation ISO Guide 34 for the production of reference materials, LGC's two new reference materials will support the food industry through the provision of tools to enable the accurate assessment of the selenium content of food that has been enriched with selenium.

Heidi Goenaga-Infante, LGC's Principal Scientist in Mass Spectrometry said ***"For consumers this new development will increase the integrity of the significant health benefit claims made for fortified foods. It will also satisfy the requirements of suppliers seeking to distribute selenium-enriched food."***

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NEL

Laying the foundation for improved metrology for liquefied natural gas (LNG)



The UK relies on gas to provide energy for heating and electricity more than any other primary energy source. In 2004, the UK became a net importer of natural gas due to the decline of main gas reserves in the North Sea (UKCS). The UK will therefore increasingly depend on gas imported from Europe through pipelines and from remote locations as LNG (Liquefied Natural Gas).

To address some of the many challenges associated with the handling of LNG, in particular the measurement issues surrounding the delivery of LNG to a receiving terminal, NEL, supported by

the National Measurement System (NMS), has been carrying out research to help industry establish a framework of measurement standards and capabilities. These will enable UK businesses and public authorities to make accurate flow measurements that will be accepted nationally and internationally.

This research has been carried out through the NMS Engineering & Flow Programme and more recently through the active participation in the European Metrology Research Programme (EMRP). The former focused on development of inline metering technologies while the latter covers all aspects of LNG metrology.

The EMRP project ensures collaboration between National Measurement Institutes with the overall goal of accelerating innovation and competitiveness in Europe whilst continuing to provide essential support to underpin the quality of life.

The research is being executed in close collaboration with industry and has established an advisory group to maximise the benefits for industry.

The project addresses current issues with both state of the art measurement technology by tank gauging methods and flow measurement by ultrasonic and Coriolis flow meters. The main objective is to achieve significant reduction of uncertainty in LNG energy transferred (currently about 1%) during custody transfer processes. The project has estimated an equivalent economic value of an uncertainty reduction of 0.5% to be in the region of 60 million Euros per year on the total amount of imported LNG in Europe.

A major milestone of the project was achieved by hosting the second international workshop at NEL in October 2011. The event attracted over 85 delegates from around the world. Several presentations directly relevant to the LNG metrology and its development were given by participants from industry. The event presented an excellent platform for sharing information and experience between the project partners and the LNG industry and gave rise to lively and inspiring discussions. Some of the results from this project were presented and resulted in positive feedback.

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www.tuvnel.com

National Measurement System

The National Measurement System delivers world-class measurement for science and technology through these organisations



International news on water meters

Meetings of OIML TC 8/SC 5 and the Joint ISO/CEN/OIML Working Group at National Institute of Standards and Technology (NIST) in Gaithersburg, Maryland, USA on 8-10 November 2011.

NMO, representing the UK as Secretariat of [OIML TC 8/SC 5](#) Water meters has been at the forefront of meetings to harmonise the international standards for water meters. Currently, water meters have various international standards such as EN ISO 4064 for cold potable water and hot water, and OIML R 49 water meters. These standards are referenced through the ISO TC 30/SC 7 and OIML TC 8/SC 5 technical committees. The object of these meetings is to finalise a harmonised international standard for water meters that will help to reduce the costs to manufacturers of obtaining water meter certification across the world.



Photo shows all the delegates. 4th from left at the front is Morayo Awosola representing NMO

The latest joint ISO/CEN/OIML meeting was held at NIST in Gaithersburg, USA on 8-10 November 2011 with participation from 22 member states, 4 liaisons and 4 manufacturers. The meeting reached agreements on a number of issues that will help to finalise the harmonisation work quicker.

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Changes to Quantity Labelling For Foods from 2014

A new EU Regulation for the Provision of Food Information to Consumers was published on 22 November 2011. The new Regulation aims to improve the information provided to consumers so that they are able to make informed choices about the food they buy, and updates legislation to reflect current industry practice and consumers' changing information needs. The Regulation revokes Directive 2000/13/EC on the Labelling, Advertising, and Presentation of Foodstuffs and covers a wide range of separate labelling issues including quantity labelling of foods. Under the new Regulation the mandatory requirement for quantity labelling of pre-packaged foods will apply to the vast majority of foods pre-packaged in a quantity above 5 g or 5 ml. However, the UK successfully negotiated an exemption that will apply to foods normally made up and sold by number, to allow such foods to continue to be sold in that manner. The main change from the existing position will be the phasing out of existing exemptions from quantity labelling for specific foods. The Regulation will apply in the UK from 13th December 2014. New domestic legislation to make the Regulation workable and enforceable in the UK will be made in due course.

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Other Agency News

NMO took part in ORC International's public sector benchmarking exercise of measuring customer satisfaction results. 37 Government Departments and Agencies took part in the data exchange held in September, which included organisations such as the Met Office, Business Link and UK Border Agency.

When comparing overall customer satisfaction, NMO was rated in 4th place with a score of 95%. The highest placed organisation scored 97%, with the lowest score 41%. The Government Department Agency Benchmark was 83%. The exercise is worthwhile in helping NMO understand how our levels of customer satisfaction compare against other departments. Currently NMO are 12% above the GDA Benchmark for overall Customer Satisfaction. We still want to improve though on that 4th spot, so if you have any further ideas on how we can improve then please get in contact with us.

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Diary Dates for 2011-12

NPL

12 - 14 December 2011, The John Hunt International Symposium

This one-off event, brings together eminent researchers, former colleagues of John Hunt and a new generation of scientists in the field to hear from invited leading authorities from the global solidification community. <http://www.brunel.ac.uk/about/acad/bcast/events/johnhuntsymposium>

11 January 2012, Metrology for Decommissioning and Site Clearance Workshop

This workshop will give delegates the opportunity to help identify and prioritise industry requirements for support to radioactivity measurements in the context of nuclear decommissioning and site clearance; network with industrial and academic colleagues; and share best practice.

<http://www.npl.co.uk/events/11-jan-2012-metrology-for-decommissioning-and-site-clearance-workshop>

30 January 2012, Clinical Temperature Measurement event

The aim of this meeting is to outline the importance of measurement accuracy and traceability, and discuss the latest developments in measurement techniques and standards for medical physics.

<http://www.npl.co.uk/events/30-jan-2012-clinical-temperature-measurement-event>

23—25 April 2012, Temperature Measurement and Calibration course

The course is suitable for technicians and technical managers and covers the range -200 °C to 3000 °C, it will concentrate on those methods of measurement which are of greatest technological and industrial importance. <http://www.npl.co.uk/news-events/training-courses/23-25-apr-2012-temperature-measurement-and-calibration-course>

26-27 April 2012, Humidity Measurement and Calibration course

This course covers dew point, relative humidity and many other humidity quantities; it will concentrate on methods of measurement which are of greatest technological relevance to attendees.

<http://www.npl.co.uk/news-events/training-courses/26-27-apr-2012-humidity-measurement-and-calibration-course>

For further information on these and other events visit: www.npl.co.uk/news-events/

NEL Diary Dates

15 February 2012, Edinburgh, NEL, Carbon Capture & Storage Club Meeting

The CCS Club meetings are held regularly and serve as the main networking forum for technology-based discussions on CCS issues and challenges within the industry today.

18 April 2012, Norwich, NEL, Oil & Gas Focus Group Meeting

The Oil & Gas Focus Group provides the focus for all flow measurement and flow-related issues within the oil & gas industry. Meetings take place quarterly and enable members to meet and discuss common issues faced, and learn from the experience of others.

12-14 June 2012, Aberdeen, NEL, Produced Water & Environmental Conference

This inaugural three-day Conference will be a combination of Emissions, Oil-in-Water and Produced Water presentations by key industry experts from around the world who will discuss the issues affecting the industry today and in the future.

20 June 2012, Aberdeen, NEL, Oil & Gas Focus Group Meeting

The Oil & Gas Focus Group provides the focus for all flow measurement and flow-related issues within the oil & gas industry. Meetings take place quarterly and enable members to meet and discuss common issues faced, and learn from the experience of others.

5 September 2012, Aberdeen, NEL, Oil & Gas Focus Group Meeting

NEL's Oil & Gas Focus Group provides the focus for all flow measurement and flow-related issues within the oil & gas industry. Meetings take place quarterly and enable members to meet and discuss common issues faced, and learn from the experience of others.

23-26 October 2012, St Andrews, NEL, 30th International North Sea Flow Measurement Workshop

NEL celebrates 30 years of the North Sea Flow Measurement Workshop, the world premier flow metering event. The Workshop continues its 'must attend' attraction to professional and senior specialists from all aspects of the oil & gas industry.

5 December 2012, Aberdeen, NEL, Oil & Gas Focus Group Meeting

The Oil & Gas Focus Group provides the focus for all flow measurement and flow-related issues within the oil & gas industry. Meetings take place quarterly and enable members to meet and discuss common issues faced, and learn from the experience of others.

Further information and booking details visit:
<http://www.tuvnel.com/tuvnel/>

LGC Diary Dates

9th February 2012, Teddington, "Statistics for analytical chemists"

A one day training course aimed at analysts who need to evaluate data or carry out tasks such as method validation and uncertainty estimation.

28-29th February 2012, Teddington, "Evaluating measurement uncertainty for chemical testing laboratories"

A two day training course introducing the principles of evaluating uncertainty and providing the tools for identifying uncertainties and using validation data.

Continues page 12

LGC Diary Dates continued

27th March – 29th March 2012, Teddington, “Method validation”

A three day training course providing a thorough understanding of method validation for chemical and biochemical analysis.

Further information and booking details for these events can be found at: www.lgcgroup.com/training

Other Diary Dates

18-19 September 2012, London, Energy & Low Carbon Technology Conference 2012

The Energy and Low Carbon Technology Conference, Measurement Makes Business Sense, is being organised in partnership with the National Measurement System, British Measurement and Testing Association, Energy Institute, GAMBICA, Institution of Engineering & Technology, Institute of Measurement and Control, Institution of Mechanical Engineers and Institute of Physics.

Further information and booking details visit: <http://www.tuvnel.com/tuvnel/energy-and-low-carbon-technology-conference>



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