

# Minutes of Meeting

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Date	12 <sup>th</sup> Feb 2013	Circulation Date	7 <sup>th</sup> March 2013
Location	Hitchin (CoGDEM HQ)	Circulation by	Website & email

## Attendees

John Saffell - Alphasense  
Leigh Greenham - CoGDEM  
Jonathan Gilby - City Technology  
Dean Kavanagh - Geotech  
Ian Goldsbrough - Infracore  
Andy Avenell - Crowcon  
Clive Tester - Sira  
Kevin Dean - Senscient  
Jonathan Kane - Kane International  
Ian Robertson - Analox  
Kevin Brown - SGX Sensortech  
Stephen Mellor - Air Products  
Julian Butler - Shawcity  
Jeff Regan - JMS Consultants  
Kevin Stockwell - Trolex  
Tom Gurd - City Tech  
Alan Doncaster - Clairair  
Ron Sinclair - SGS Baseefa  
Ashley Worthington - Weatherall (RKI/Riken)  
Roger Worthington - Weatherall (RKI/Riken)  
Kevin Honner - Draeger  
Gavin Peacock - Draeger  
Jane Howitt - Honeywell Analytics  
Geoff Peck - Groveley Detection  
Greg Wass - Groveley Detection  
Andy Croft - Groveley Detection  
Mark Edworthy - Groveley Detection  
John Lewis - Seagull Safety  
Peter Walsh - HSL/HSE  
Mike Hemingway - HSL/HSE  
Ken McDermott - GMI  
Frasier Mathieson - GMI  
John Turnbull - GMI  
Tony Banfield - EXL/31/1 etc Chairman  
Dr Carlos Huggins (guest)

## Apologies

Doug Longstaff - Draeger  
Greig Thomson - MSA  
Steve Utley - GDS  
Noor Ali - Air Products  
Richard King - Honeywell Analytics  
Colin Hydes - Honeywell Analytics  
Arthur Burnley - Alphasense  
John Sonley - JMS Consultants  
Mike Strahand - ATI  
Paul Basham - Crowcon  
Robert Kyle - MSA  
Martin Harrop - General Monitors  
Mark Westerman - Intl Mining & Marine  
Stephen Attwood - Heraeus Noblelight  
Gavin Boorman - GfG  
Hans Hubner - GfG  
Philip Wild - Duomo  
Mark Cain - ISC  
Sophie Read - Draeger

## Agenda

- 1) Apologies and member introductions
- 2) Approval of previous minutes and matters arising
- 3) Standards Committees
  - a. EXL/31/1 (SC31/9 and TC216)  
(inc. functional safety, EMC with new CoGDEM volunteer, EN 45544 toxics)
  - b. EXL/31 – RS
  - c. L/6/10 report (inc IECEx) – KS  
(inc. updates on US situation with ATEX/IECEx acceptance)
  - d. EH2/1 – Dave Curtis
  - e. EH2/3 – John Saffell
  - f. Others
- 4) Frequency of toxic gas detector testing
- 5) Directives Update
- 6) HSE update (inc. new guidance on oxygen in the workplace)
- 7) A.O.B (inc. GASG, UKLPG guidance, AGM planning)
- 8) Dates of next meetings – Tues 4 June (date change), then Tues 15 Oct 2013

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## Guest Speaker

Prior to the start of the main meeting, Jonathan Gilby introduced Dr Carlos Huggins of NPL, who is CoGDDEM's link to the ESP KTN (Electronics, Sensors and Photonics Knowledge Transfer Network). Carlos gave a presentation on many items of interest, such as the HYPIX project and its exciting developments in polymer LEDs and lasers, and the 'Internet of Things', where web-enabled sensors are now allowing future-proofed data-comms from many sensors. He explained that the trick is to choose where this data can add value and generate a financial return.

The second part of his presentation concentrated on funding opportunities for manufacturers or researchers, and Carlos listed 13 potential sources. He also gave us update on relevant NPL activities, including their focus on high precision gas dilution, primary gas standards, and accredited stack monitoring. Gases of particular interest to NPL are those used as fuels, environmental gases and carbon dioxide (carbon capture and storage).

A copy of the presentation is available by request to Leigh Greenham.

## 1 Apologies and member introductions

The above list of apologies was read out, and members introduced themselves around the table.

## 2 Approval of previous minutes and matters arising

The Minutes of the previous CoGDDEM ISG meeting (16<sup>th</sup> October 2012, document number ISG1187-12) were accepted. Matters arising were to be covered during the meeting, including the HSE gas sensor network project, and the need for multiple paper copies of product instructions and ATEX declarations.

## 3 Standards

**a) EXL/31/1 (was GEL/31/19, BSI gas detection committee), SC31/9 (CENELEC parent committee)**  
Tony Banfield chairs these committees, and gave us an update on relevant gas detection standards. EXL/31/1 had met at BSI Chiswick the previous week and CoGDDEM was well-represented. The CENELEC parent committee meets in Brussels on 13<sup>th</sup> March, and the IEC equivalent, TC31 meets in Windsor in March.

**EN 50270 (EMC for gas detectors)** – the first meeting of the Working Group to update this standard meets in February in Germany with Dieter Wenker as convenor (Joint JWG with CLC/TC 216). CoGDDEM received one volunteer to join the WG, Scott Langfield of Honeywell, and the UK also has a GAMBICA-nominated expert from Servomex Ltd.

**IEC 60079-29-1 (flam gas detector performance)** – the revised draft had been circulated to CoGDDEM members in August 2012, with subsequent comments circulated in January 2013. Most of these were from Japan and USA, and these will be reviewed by TC31 at its March meeting in Windsor.

It was remarked that the previous issue of this standard had an ethane test which could make it difficult for infrared sensors to comply, due to the enhanced reading that they may give when compared to methane. Alan Doncaster said that this effect could now be overcome.

**IEC 60079-29-2 (use of flam gas and oxygen detectors)** – the new draft was circulated to CoGDDEM members in January 2013, with the normal three-month period for comments.

**IEC 60079-29-3 (functional safety for gas detection systems and installations)** – the standard is ready for publication, but may require an Annex Z if it is to be harmonised under the ATEX Directive.

**EN 50402 (requirements for the functional safety of fixed gas detectors)** – the Working Group has separate hardware and software teams, and a new draft standard is almost ready for the convenor (Dieter Wenker) to submit to CENELEC for wider distribution. This draft now contains an annex with the sensor failure mode data supplied by CoGDDEM's sensor manufacturers. We will hopefully be able to circulate the English-language draft soon, while the German and French translations are being prepared.

**EN 45544 (performance tests and requirements for toxic gas detectors)** - the drafts of Parts 1-3, the performance standards, are almost ready for circulation for public comments. Part 4 will be a useful 'guidance' document and discussions to be had later in this meeting on detector location, testing and frequency might provide useful inclusions.

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### **b) EXL/31 (was GEL/31, BSI hazardous area equipment standards committee)**

Ron Sinclair of Baseefa, who chairs this committee and TC 31, gave us an update on the two most relevant standards that are being worked on at the IEC level.

IEC 60079-0 (2011) covers the general requirements for electrical apparatus intended for use in potentially flammable atmospheres, and this will not become a harmonised EN standard, due to an objection by the Netherlands and Sweden to the Annex ZZ. The way that the Annex deals with ATEX markings and the manufacturer's address was incorrect, but it was discovered too late to be changed this time. This should have no impact on CoGDEM members.

IEC (EN) 60079-1 covers the flameproof concept of protection (Ex d), and the new edition allows for very small enclosures to meet the Ga requirements for use in Zone 0 applications, such as those often faced by portable gas detectors with pellistor or infrared sensors. Questions have been asked about the need for the electrical power flowing in to such enclosures to be power-limited in some way. The publication of the -1 standard is delayed due to negative votes cast for the modified tests allowing uncontrolled flamepaths through failed cemented joints.

LG raised a question about the installation standard IEC EN 60079-14, which had been raised with him during recent conversations on the storage of wood chips or pellets for combustion plant. This standard is not so well known to the manufacturers of gas detection equipment, but Ron responded that this is an important standard to ensure that Ex equipment is not compromised by poor installation practices or materials.

### **c) L/6/10 (UK Ex forum for ATEX and IECEx, including Ex Notified Bodies Group ExNB)**

At the meeting held on 29<sup>th</sup> January 2013 at BSI Chiswick, Kevin Stockwell represented CoGDEM and gave us the following report:-

#### **i) New Legislative Framework (NLF) for Directives (including ATEX)**

- will exclude products already on the market
- will not require current ATEX certificates to be re-issued
- timescales for introduction still being discussed (next meeting July)
- ATEX Guidelines will also be updated

#### **ii) UL taking advantage of dominant position in US**

- nothing has been heard by the group about this following the Orgalime discussion paper

#### **iii) US Coastguards no-longer accepting ATEX equipment in Gulf of Mexico**

- original concern was over ATEX zone 2 equipment which can be self-declared by manufacturer
- US regulation (46 CFR 111.105-7(a)) requires that equipment be 'listed or certified by an independent laboratory' (see additional details and weblinks below)
- rather than prohibit ATEX zone 2 equipment they have prohibited all ATEX equipment
- approval to IEC 60079 series is acceptable as all equipment (including zone 2) must be assessed by IECEx Certifying Body (CB)
- but, IECEx CB must be a US Coastguard recognised laboratory (listed on US Coastguard website although not easy to find)
- also worth noting is that US Coastguard require mandatory electrical safety assessment, eg IEC 61010
- again, must be third party assessed not self-declared

#### **iv) ATEX standards for non-electrical equipment**

- publication has been delayed due to negative voting
- won't be published until 2014

The list of US Coastguard recognised labs can be found at link below (need to select 'Electrical Equipment for Hazardous Locations – 111.105' in the 'Approval Series Name' field):

<http://cgmix.uscg.mil/EQLabs/EqLabsSearch.aspx>

The regulations themselves can be tracked down from the following page (select 'Title 46 – Shipping'):

<http://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR&searchPath=Title+46&oldPath=Title+46&isCollapsed=false&selectedYearFrom=2012&ycord=1939>

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We also discussed the point raised by Colin Hydes (Honeywell) at our previous meeting, where Notified Bodies were of differing opinions as to whether multiple paper copies of the ATEX Declaration (and safety instructions) needed to accompany multiple supplies of identical products in a single shipment. An example was given of a gas detection system having a large number of remote Ex gas detectors, did each one need to be despatched from the manufacturer with its own paper copy of the Manufacturer's ATEX Declaration? Ron Sinclair subsequently raised this with the ATEX Standing Committee, and formed the opinion that although a paper copy is still preferred, multiple copies need not be supplied.

### **d) EH2/1 (air quality, emissions from stationary sources)**

CoGDDEM is represented by Dave Curtis, who has previously supplied a list of areas of interest to this work group, but there is no update since our last meeting.

### **e) EH2/3 (indoor air quality)**

John Saffell represents CoGDDEM on this committee which will be meeting in March. The most relevant item of work is ISO 16000-29, which will be the test methods for VOC detectors.

### **f) Other standards**

Members were encouraged to nominate any other relevant standards which they feel CoGDDEM should be monitoring or need to be recommended for updating.

#### **Domestic flammable gas alarms guidance (EN 50244)**

Although not an industrial gas detection issue, domestic natural gas alarms do not fit neatly into CoGDDEM's morning meeting either, so LG mentioned that the guide for use of such products (EN 50244) was likely to be updated, and Richard King of Honeywell had volunteered to convene the Working Group if there were no other volunteers from across Europe. Within CoGDDEM, it would seem that only Honeywell manufactures such devices.

## **4 HSE update**

The agenda order was altered to allow the HSE update to be brought forward, as Peter Walsh and Mike Hemingway from HSL Buxton were not going to be able to stay for the whole meeting.

Peter mentioned that the Code of Practice linked to the Confined Space Entry Regulations is being revised, and a Working Group is based at HSE Bootle.

HSE has a current interest in guidance on where to locate gas detectors, perhaps requiring of the creation of a checklist of factors that should be applied and considered when drawing up plans and specifications. This generated a discussion covering topics such as the identification of known problem areas from those with experience within the wider gas detection industry. LG pointed out that Doug Longstaff of Draeger has said the Functional Safety standard Working Group have identified this point before. John Lewis of Seagull Safety Systems agreed, and could highlight some examples, and was keen to have these documented before the relevant people retired from the industry. Andy Croft of Groveley Detection mentioned the particular difficulties in locating the optimum sites for acoustic and ultrasonic gas leak detectors, with very little guidance available. Carlos Huggins added that the nuclear decommissioning industry had similar issues to deal with when locating radiation detectors, or where to take samples for remote analysis.

Peter highlighted the HSE's concerns about CO production when woodchips or pellets are stored in unventilated confined spaces. LG had circulated the HSE warning notice to all CoGDDEM members in November. Peter also mentioned that indoor go-kart arenas were also under the spotlight after some CO incidents caused by poor ventilation of the un-catalysed exhaust systems used by many karts.

The HSE has also recently produced a guidance note on the use of oxygen cylinders in the workplace, LG has a copy if members are interested.

At the previous CoGDDEM meeting in Oct 2012, Peter Walsh mentioned a new gas sensor network project:-

*As for HSE/L activity, we are slowly getting the gas sensor networks project off the ground - looking at offshore methane detectors on a rig at Buxton and subjecting them to gas releases in a matrix (scaffolding*

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*arrangement). We'll be using some actual detectors as used offshore together with additional less rugged spec detectors for measuring methane concentrations throughout the grid matrix.*

Although Peter had to leave today's meeting early, he subsequently sent us the following update on the project, and a separate Word document that will be sent out with these minutes:-

*At the moment we are commissioning equipment - both fixed (point and open-path as used offshore) and portable, wireless detectors for flammable gas (i.e. methane) and oxygen (to be used to deduce high flammable gas concentrations). We are getting quotes in for construction of a scaffolding rig which we'll fit with the fixed detectors (permanently) to look at long term drift as well as using them to measure gas clouds from various types of methane release. These detectors will be augmented by the portables whenever we do a release in order to investigate gas cloud behaviour/detection. The module is based upon a network comprising of up to 5 x 5 x 3 three-dimensional grid of sensors on a 0.8 m x 0.8 m x 2 m spacing which will make the module approximately 5 m x 5 m x 4 m size. Work will start this spring with the first releases planned for summer/autumn.*

*Finish date March 2015.*

### **5 Frequency of Toxic Gas Detector Testing**

We had been asked to add this subject to the agenda by new member ATI, but as their MD Mike Strahand was unable to attend today, LG explained that we would just have a brief introductory discussion to set the scene for a fuller discussion at our next meeting. Members were encouraged to read the 'White Paper' which ATI had issued, which suggests that current work practices may be allowing the periods between the periodic testing of toxic gas detectors to extend too far, particularly for fixed gas detectors.

Members agreed that although this subject had been covered for flammable gas detectors (and oxygen), the current creation of a new Part 4 for EN 45544 meant that toxic gas detectors could benefit from similar provisions. It was also timely that we had discussed gas sensor failure modes within the Functional Safety standard, and the issue had some relevance to the previously discussed topic of gas detector location.

The subject will feature in our next agenda.

### **6 Directives update**

Jonathan Gilby keeps a watching eye on relevant EU Directives.

RoHS: BS EN 50581 'Technical documentation for the assessment of electrical and electronic products with respect to the Restrictions of Hazardous Substances' has now been published.

### **7 AOB**

#### **a) Sira changes**

John Saffell represented CoGDEM at Sira's Impartiality Committee meeting in December, and met new staff members Dana Parmenter (MD) and Andy Smith (Certification Manager). After an audit this spring, Sira hopes to offer CSA compliance testing out of Chester, and there is a possibility of rebranding to "CSA UK".

#### **b) GASG**

The last Gas Analysis and Sensing Group colloquia held in London in December included Andy Humber of London Ambulance talking of their CO detection apparatus and its usage. The next GASG meeting will be about gas sensing in healthcare, to be held at Cranfield University on March 21<sup>st</sup>, with at least one presentation on exposure to low concentrations of CO.

#### **c) CoGDEM's CO Helpline**

LG reported that most calls still relate to domestic CO, but he has received some calls relating to independent training providers for gas testers, and a school requiring advice on the protection of their boiler room from gas leaks.

#### **d) AGM Planning**

Jonathan Gilby announced that at the forthcoming AGM on 4<sup>th</sup> June, he would not be seeking re-election to his current role as Chairman of the Industrial Sub Group. This announcement gives sufficient time for others to volunteer or be nominated for election. It was mentioned that Noor Ali of Air Products had already expressed an interest in the position.

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### e) **BOHS Presentation**

LG announced he was to give a presentation to the British Occupational Hygiene Society in Ellesmere Port the day after this CoGDEM meeting, comparing and contrasting Portable versus Personal gas detectors. He had already contacted relevant CoGDEM members, and had received data and/or demo products from Draeger, ISC and Shawcity/GfG. Of particular note was the Tango instrument supplied by ISC, the first portable to use a pair of identical sensors to give dual-redundant protection against a single toxic gas. ISC maintain that this gives an exponential improvement in reliability, although a member pointed out that if there was a common mode failure of the sensor, no such improvement would be seen.

### f) **CoGDEM Guide to Gas Detection**

Marcus Pattison had confirmed that over 70 copies of the book had been sold so far. Some members were concerned that the list price was off-puttingly high, LG reminded the meeting that CoGDEM members would receive a 10% discount, with contributors receiving a 25% discount, and the royalties of 10% that CoGDEM receives will help to keep membership fees frozen again this coming year.

### g) **IET CoGDEM column**

With the publishers of IET magazine now joining CoGDEM as an Associate Member, LG has agreed to supply a regular CoGDEM gas detection column in each edition of IET (every other month). The first column is to appear in the February 2013 edition.

### h) **AQE Exhibition**

This year's MCERTs exhibition and conference in Telford has been rebranded as AQE 2013 (the Air Quality & Emissions show) taking place on 13<sup>th</sup>/14<sup>th</sup> March, with some CoGDEM members exhibiting.

**8 Dates of 2013 meetings:- Tues 4th June (date change), Tues 15 Oct 2013**