

Minutes of Meeting

Document No ISG 1183-11

Subject	Industrial Sub Group	Circulation	All members
Date	21 st June 2011	Circulation Date	21 st July 2011
Location	Hitchin (CoGDEM HQ)	Circulation by	Website & email

Attendees

John Saffell - Alphasense
Leigh Greenham - CoGDEM
Jonathan Gilby - City Technology
Tom Gurd - City Technology
Peter Walsh - HSE/HSL
Kevin Honner - Draeger
Arthur Burnley - Alphasense
Tim Wilkes - Crowcon
Paul Basham - Crowcon
Teresa Curran - Crowcon
Richard King - Honeywell Analytics
Andy Avenell - Crowcon
Peter Morris - Ion Science
Andrew Scott - Ion Science
Andy Eptlett - Scientific & Tech Gases
Stephen Keyzor - Detector Electronics
Dean Kavanagh - Geotech
Graham Sanders - Geotech
Stephen Mellor - Cryoservice
Jonathan Kane - Kane International
Alan Henderson - GSS
Chris Byatt - Groveley Detection
Geoff White - Groveley Detection
Kevin Dean - Xtralis/ICAM
Ian Robertson - Analox
Alan Doncaster - ClairAir
Ian Goldsbrough - Infratec
Gavin Boorman - GfG
Hans Hubner - GfG
Kevin Brown - e2v technologies
Paul Walton - Shawcity
Russell Fear - Heraeus
Michael Coleman - JMS Consultants
Tony Banfield - GEL/31/19 Chairman
Dieter Wenker - Guest

Apologies

Ron Sinclair - Baseefa
Chris Street - Scientific & Tech Gases
Frank Dean - Ion Science
Steve Robinson - Draeger
Christoph von Hobe - Draeger
Gavin Peacock - Draeger
Doug Longstaff - Draeger
David Stubbings - Sira Certification
Clive Tester - Sira Test & Certification
John Sonley - JMS Consultants
Noor Ali - Cryoservice
Nigel Hasted - Linde/BOC
Peter Upcott - Linde/BOC
John Lewis - Seagull Safety
Colin Hydes - Honeywell Analytics
Steve Hamilton - Honeywell Analytics
Carl Ritzberger - Honeywell Analytics
David Woods - General Monitors
Martin Harrop - General Monitors
Stewart Forbes - Detronics
Stephen Attwood - Heraeus
Greig Thomson - MSA
Kevin Stockwell - Trolex
Louise Early - Crowcon

Agenda

- 1) Apologies and introductions, including new members
- 2) Approval of previous minutes and matters arising
- 3) Standards Committees
 - a. GEL/31/19 (SC31/9 and TC216) - Tony Banfield
 - b. GEL/31
 - c. L/6/10 report (inc IECEx) – Kevin Stockwell
 - d. EH2/1 – Dave Curtis
 - e. EH2/3 – John Saffell
 - f. Others (inc CO etc in car parks & tunnels)
- 4) Low power wireless gas sensors – a need for standards?
- 5) CoGDEM 'Guide to Gas Detection'
- 6) Directives Update (JG)
- 7) HSE update (inc. alarm threshold selection)
- 8) A.O.B (inc. WWEM 2012, helpline, GASG activities, gas cylinder/regulator markings)
- 9) Date of next meeting – Tuesday 18th October 2011

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1 Apologies and member introductions

The above list of apologies was read out, and special mention was made that Ron Sinclair's excuse was the best that we have ever received, with him being at Buckingham Palace to meet the Queen and collect his well-deserved MBE. Members introduced themselves, and we welcomed a few new faces around the table.

2 Approval of previous minutes and matters arising

The Minutes of the previous CoGDEM ISG meeting (15th February 2011, document number ISG1182-11) were accepted. Matters arising from those minutes were covered during today's agenda and are reported below.

3 Standards

a) GEL/31/19, (BSI gas detection committee), SC31/9 (CENELEC parent committee)

Following the meeting of the UK gas detection committee on 3rd February, the European meeting of SC31/9 took place in Paris on 16th March. Tony Banfield is the Chair of these committees and gave us a report of the areas of current interest. Other CoGDEM attendees were Jonathan Gilby, Jonathan Kane and Peter Walsh representing the HSE. Dieter Wenker (a guest at today's CoGDEM's meeting) also attended Paris as head of the German delegation. BSi is proposing a new committee naming system where GEL/31 will become EXL/31 and GEL/31/19 would become EXL/31/1.

IEC 60079-29-1 (Flam performance standard)

The comments submitted by CoGDEM members were apparently well received, and we await a formal response from the Working Group. The main concern (expressed by e2v technologies) is the ethane/methane test requirement to assess Group 1 (mining) equipment's ability to cope with 'other gases', which some IR gas sensors may struggle with. It was pointed out by one instrument manufacturer (GfG) that this test has been in place for some time, and does not cause them any problems.

IEC 60079-29-2 (Use of gas detectors)

This standard did not get discussed in Paris. CoGDEM members have been concerned with the ambiguous coverage of bump-testing between this standard and 29-1, and Dieter Wenker suggested that 29-1 should perhaps include a short performance test of the bump-test facilities of portable flammable gas detectors that are equipped with this feature.

IEC 60079-29-3 (Functional safety of gas detection systems) and EN 50402 – Requirements on the functional safety of fixed gas detectors

Although the CoGDEM representative on this project (Doug Longstaff) could not be present today, Dieter Wenker (the convenor) attended to update us on the key points.

Concerning EN 50402, the Working Group has been looking into the issues of detector and sensor reliability. For example, a SIL rating may be useless if a detector is incorrectly located. Sensor reliability is a tricky subject, and it has been suggested that failure modes and their distribution will be more appropriate than a review of failure rates. The former can come from users, but gas sensor manufacturers were encouraged to provide failure mode information to the EN 50402 WG, via Doug Longstaff.

There is now a software sub-group and Martin Lloyd is a UK expert who is providing his expertise to the WG, CoGDEM members have already been encouraged to forward comments on an early draft that he has submitted and was distributed a couple of months ago.

EN 45544 (Performance tests and requirements for toxic gas detectors)

Peter Walsh is the convenor of the Working Group tasked with updating this standard, and he mentioned that the group has met in February and May, with a third meeting planned for July. The WG is successfully achieving the desired compromise between an instrument standard (such as 60079-29-1 and EN 50104) and the requirements of the Occupational Hygienist sector. It is hoped that a draft of the first part of this standard will be ready for circulation later this year.

b) GEL/31 (BSI hazardous area committee) and TC31

Due to his appointment at Buckingham Palace, Ron Sinclair could not be present today. Key issues for CoGDEM members to note are new updates to the standards for Flameproof and Intrinsically Safe equipment, and also the new edition of the General Requirements. There has been a recent Call for Experts to join a Working Group looking into the use of electrochemical cells and batteries in Hazardous Area

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equipment. John Saffell and Jonathan Gilby concluded that the WG requires experts in energy storage devices, not gas sensors that use electrochemical cell technology, so CoGDEM's input would be minimal. However we must ensure that the WG is aware of the distinct differences between these two types of cell, so that sensors are not subject to the same kind of protection requirements as batteries.

Other items under scrutiny of GEL/31 and TC31 remain the new Quality standard, and the 'State of the Art' changes. This second issue has a crossover with the L/6/10 group in their dealings with the proposed changes to the ATEX Directive, which although minor in practice, may involve a new Directive number. See L/6/10 notes below.

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

Although Kevin Stockwell could not attend the L/6/10 meeting in Buxton in May, we are keeping close to two particular issues, and LG will be attending the next meeting in August.

As in Kevin's report from the previous meeting, part of modernising the ATEX Directive suggests that the directive number is likely to change. This would have impact on all ATEX certificates and Declarations of Conformity. Recently, L/6/10 has asked its members to estimate the costs of such a change, so the Notified Bodies and manufacturers' associations have been giving feedback. It remains unclear how retrospective the change will be. It has been pointed out that if the Directive number changes, end-users will put pressure on equipment manufacturers to demonstrate conformance with the updated Directive even if the standards themselves have not changed, and this will lead to an unnecessary burden on both the manufacturers and their Notified Bodies.

The second issue of potential interest to CoGDEM ISG members is the status of GMI's IECEx Testing Laboratory. As stated before, the IECEx authorities had requested confirmation of how GMI keeps the lab completely independent of its own manufacturing operations, so that there can never be any accusations of conflict of interest with the work done by the lab. GMI has now set up a separate company, Gas Performance Testing Services, with separate management, and this company will be applying for Test Lab status. Audits will be conducted before the new company is granted such status.

The next ExNBG and L/6/10 meeting will be Tuesday 24th August at FM, Windsor, and will be attended by LG.

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

CoGDEM is represented by Dave Curtis who informs us that there has been no recent meeting of the EH2/1 committee, but any items of interest to CoGDEM members will be circulated by email separately.

e) EH2/3 (indoor air quality)

John Saffell represents CoGDEM on this committee, and we are grateful to him for supplying the following notes:

Last meeting: 9th March 2011

Next meeting: 15th September 2011

CEN TC264

WG11 (Diffusive samplers for the determination of gases and vapours)

NO₂ and NH₃ were the two topics at last meeting. NH₃ samplers are being reviewed. Next meeting is London, Bushy House, 8 June.

WG12 (Reference method for SO₂/NO₂/O₃/CO in ambient air)

Standard is being revised. Technical revisions are focused on QC. Meeting early March closed residual questions outstanding from September 2010 meeting. Final standard will be circulated end June with formal vote in July. Only editorial comments after this time.

WG12/ 13 (Benzene)

Benzene: parts 1 and 2 are pumped and thermal desorption, part 3 is automated GC and parts 4 and 5 are diffusive sampling followed by thermal desorption. France is demanding heavy rewrite of part 3. Expecting that by end May a new draft will be circulated by the French members. Approx 2-3 yrs behind schedule.

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WG15 (Reference gravimetric method for PM)

Trying to extract money from Brussels for field testing.

Aquilla is international group working on this. Meets every six months.

New standard, based on 50 page document, will not be accepted as a Technical Standard, so outdated TS will probably continue, unfortunately and new document may become a Technical Specification, only.

WG18 (Open path optical measurement methods)

Moira Hilton has submitted a report on DOAS. If anybody wishes a copy, please request. Comments until 11 August are invited. Final meeting will be 2012. Moira has left Reading University.

ISO TC146

SC6 (Indoor Air)

WG2 (Formaldehyde)

ISO 16000-4 (Diffusive sampling of HCHO) five year renewal was accepted.

WG3 (Determination of VOCs in indoor air)

Revision of ISO 16000-6 (VOC measurement) was approved.

WG11 (Performance tests for sorption)

This group will be disbanded in November: standard has been published.

WG13 (determination of VOCs in car interiors)

Parts 1 to 4 are at discussion stage. Part 5 is at draft stage.

WG15 (Sampling strategy for carbon dioxide)

ISO/DIS 16000-26 is still in circulation.

f) Others (inc CO etc in car parks & tunnels)

EN 50545 (CO and NO detection in car parks and tunnels)

There is still a debate as to whether there is a real need for part 2 of this standard (covering flammable gas detectors) as the Poles (and perhaps others) claim this is needed.

4 Low power wireless gas sensors – a need for standards?

It had been expected that Bob Nicol of Shell Global Solutions (Thornton) would raise this specific subject during his presentation at the previous CoGDEM ISG meeting, but as he didn't, a brief discussion was held today. Throughout many sensing industries, not just gas detection, the move to wireless communication techniques is advancing, and as we now have access to low power sensors, this will benefit our industry, as long as there is widespread acceptance in the marketplace that the techniques employed are rugged and reliable. Alan Henderson of GSS pointed out that his ultra-low power CO₂ sensor module has pioneered a wireless version using the 'Ocean Alliance' system.

Other companies have found that there are two 'competing' wireless protocols, ISA 100 (typically favoured by US customers, and has powerful supporters such as Honeywell) and Wireless ModBUS (often preferred by existing cabled ModBUS users). Customers with existing experience of wireless comms in critical process control applications seem confident to use similar comms for safety applications, although never mixing the two.

Points raised included the fact that the software standard EN 50271 would be relevant.

5 CoGDEM Guide to Gas Detection

Over the last couple of months, LG has processed the volunteers who came forward to assist with writing or editing chapters in the new text book to be published in 2012, the CoGDEM Guide to Gas Detection. Each chapter has a coordinator and a team of contributors, and these were encouraged to work on the project during the summer months, with the aim of getting first drafts to LG in September/October. Several of the chapter coordinators were already planning meetings with their teams.

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LG will spend the autumn going through the drafts, ensuring consistency, then creating the Appendices and other sections to send to the publishers as early as possible in 2012. The book has already been given an ISBN number, so is available to pre-order "from all good bookshops".

6 Directives update

Jonathan Gilby keeps a watchful eye on Directives such as WEEE and RoHS. A new draft of the RoHS Directive was published this April, but of most interest to CoGDEM members is that oxygen sensors containing lead will remain exempt for the foreseeable future. The WEEE Directive is to be recast in 2013 with a more open scope.

We have been asked to point out that Sira is now a Notified Body under the Marine Equipment Directive for the compliance testing of gas detectors.

7 HSE update (inc. alarm threshold selection)

Peter Walsh mentioned several areas of gas detection currently of interest to the HSE.

Firstly, the setting of gas detection alarm thresholds is not consistent across the industry. EH40's values are often used for toxic gas TWA alarms, but in fixed gas detection systems, such TWA values are not always appropriate to be used as instantaneous alarm thresholds. Peter will be conducting an investigation and holding consultations with interested parties, so CoGDEM members were invited to contact him directly.

Hypoxic working environments are becoming more commonplace, either for fire risk reduction or medical purposes. HSE is interested in determining whether this is a healthy environment for workers. Peter wondered if CoGDEM members have experience of their oxygen detection equipment being used for controlling the oxygen content below normal ambient levels, and a couple of manufacturers confirmed they had. Dieter Wenker has experience of German sites operating between 17 and 15% vol O₂. The distinction between oxygen detection and oxygen control will be investigated, as will the difference between maintaining a low partial pressure versus low volume concentration at normal atmospheric pressure. Tim Wilkes of Crowcon suggested that Peter should contact Servomex, as their paramagnetic oxygen sensing technique was arguably more suitable for critical oxygen control applications than the lead-anode electrochemical sensors typically used by CoGDEM members.

HSE wants to be aware of new sensor network techniques. Peter gave two examples of interest, firstly the failure modes that are possible with offshore networked gas detectors (such as flammable gas point or open path detectors working alongside acoustic gas leak sensors) and secondly the practical aspects of information processing which could lead to improved detection rates and reliability.

8 A.O.B. (inc. WWEM 2012, helpline, GASG activities, gas cylinder/regulator markings)

a) WWEM 2012 The 2012 exhibition is already being planned (the CoGDEM Guide to Gas Detection should be launched there), and the organisers will be attracting some relevant ATEX equipment manufacturers to exhibit, joining us in the Gas Detection Zone, arranged so that no two competing gas detection manufacturers find themselves direct neighbours.

b) GASG seminar

The April Gas Analysis and Sensing Group seminar was well attended by CoGDEM members and covered gas detection on boats of all sizes. The next GASG event will be on 21st July at Kings College Cambridge, with the title 'Gas Sensors for New Energy Sources'.

c) Helpline

Of the workplace calls received by our helpline since the last CoGDEM meeting, one of the most interesting was from a worker in a university laboratory who had been exposed to CO and fluorine, despite the presence of a gas detection system. An investigation showed that the system had not been maintained, tested or calibrated since its installation many years ago, so the call to CoGDEM was to ascertain whether the employer had broken any laws.

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d) Publicity

Health & Safety International magazine has made an editorial change whereby it will no longer accept technical articles that are written by manufacturers, so we have told them that CoGDEM will no longer be able to supply them with articles. The silver lining is that the Confined Space Entry article that Crowcon had volunteered to supply under the CoGDEM banner for that magazine has instead been able to be submitted to the 'Health and Safety Matters - Handbook for Vulnerable Workers', to be published soon.

e) Sira Impartiality Committee

John Saffell recently attended one of the six-monthly meetings, at which there was discussion of the management links between Sira UK and CSA Germany, and that the gas performance testing laboratory will be moving from its current home in South East London to join Sira's Hazardous Area testing facility in Chester. There was also a mention of the interest in monitoring how the Bribery Act now in force in the UK will affect all companies.

f) Gas Cylinder/Regulator Markings

Several CoGDEM member companies manufacture or supply disposable non-refillable cylinders of test gas for instrument bump-testing or calibration purposes, and there may be an issue with the official markings required on the cylinders and associated regulators/valves. We await a briefing document from the BCGA (British Compressed Gas Association) before we can discuss, hopefully at the next CoGDEM meeting.

9 Date of next meeting - Tuesday 18th October 2011, 2pm