

# Hazardous Areas: Classifications & Equipment Conference 2007

25th & 26th July 2007

Karstens at CQ  
Melbourne, Australia



## Keynote Speakers

**Bruce Phillips**

GHD-PCT Engineers

**Ralph Wigg**

E-X Solutions International Pty Ltd

## International Speaker

**Chris Towle**

B.Sc. CEng. MIMechE. MIEE. MInstMC.

Chairman - MTL Instruments Ltd

## Benefits of Attending:

By participating in this key event you will:

- Update your knowledge on hazardous areas equipment and technologies
- Learn how to design and install safe working systems in hazardous areas
- See how Australian and international standards are being successfully applied
- Learn about the hazardous areas equipment installations through case studies and critical discussion
- Have the chance to discuss critical issues of compliance to standards with experienced hazardous area professionals.
- Find practical solutions to your hazardous safety problems
- Network with experienced safety experts and your peers

## Who Should Attend:

- Instrumentation and Control Engineers
- Engineering Managers
- Process Plant Engineers and Technicians
- Plant Managers and Project Managers
- Process Maintenance Technicians
- Risk Assessors
- Chemical, Process & Mechanical Engineers
- Instrumentation Technicians
- Design Engineers
- Manufacturers of Hazardous Areas Equipment
- Safety Facilitators
- Electrical Technicians and Managers
- Process Control Specialists
- Process Safety and Loss Prevention Managers
- Government Safety Regulators/inspectors
- OHS/Training Managers
- Tradespersons working in potentially explosive areas
- Electrical and Instrument Tradespersons
- And all Engineering Professionals who have an interest in hazardous areas

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# Introduction to Hazardous Areas



This conference will provide participants with an understanding and knowledge of the hazards involved in using electrical equipment in potentially explosive atmospheres. The conference will offer you the most up to date information and practical know-how to enable you to participate in hazard studies, and to specify, design, install and maintain the equipment in your plant. The content of the conference is based on the newly adopted international series of Standards that are now replacing the older national Standards. The movement to IECEx is especially important.

The conference has been created to meet and exchange ideas concerned with working in hazardous areas, thus preventing accidents and injuries in the workplace. It will serve to highlight technologies, best practices, and accelerate improvements in standards and regulations to reduce accidents and injuries, and to reduce the economic impact of electrical accidents. You will be sharing your experience and know-how with engineers, technicians and other technical professionals who are all eager to eliminate accidents and injuries.

This two-day forum offers a selection of experienced speakers who will highlight and examine the critical issues involved in the application and management of electrical safety. The conference will provide opportunities for participants to discuss their experiences and applications, and will also cover cost efficiency, along with secure solutions, to safety problems.

The conference will present an industry-wide forum to examine and discuss the latest international practices and standards in safety control systems. Case studies and practical applications will be presented by specialists.

This conference is essential for anyone involved in design, specification, installation, commissioning, maintenance or documentation of industrial instrumentation, control and electrical systems.

## Conference Day 1 - 25th July 2007

<b>8:00am</b>	<b>Registration</b>	<b>11.45am</b>	<b>The Current State of the IEC Intrinsically Safe Standards</b>
<b>8:30am</b>	<b>Opening Address - Steve Mackay</b> Technical Director, IDC Technologies	<b>Session 4</b>	<b>Chris Towle</b> Chairman, MTL Instruments Ltd The paper begins with a brief review of the relevance of the IEC standards on intrinsic safety and how they are created. There are three related standards on intrinsic safety in various stages of publication and revision and these interact with the three 'codes of practice' documents. The status of the apparatus, system and FISCO [Fieldbus] documents is reported and comments on significant decisions and subjects under discussion made. The paper concludes with an attempt to put the decision to convert the 'energy -limited' [nL] concept into 'ic' into perspective and discusses the possible advantages and disadvantages of this change.
<b>8.45am</b>	<b>Classification of Hazardous Areas - Art or Science?</b>	<b>12.30pm</b>	<b>Lunch</b>
<b>Session 1</b>	<b>Bruce Phillips</b> Principal Consultant, GHD-PCT Engineers	<b>1.30pm</b>	<b>Risk-Based Hazardous Area Classification</b>
<b>KEY NOTE</b>	This paper will cover the why and how of hazardous area classification. It will describe the process of classification in the context of classical risk management: Establishing the context (industry, process); Identifying hazards and risks (materials, process conditions, inventories); Risk analysis (application of relevant standards); Risk identification (detailed review of sources of relief); Risk treatment (elimination, classification, equipment selection). Each step in this process will be discussed in the context of flammable vapours and liquids. Practicalities of determining hazardous area boundaries from first principles will be compared with the limits implied by use of the many competing and sometimes conflicting standards. Using this background, a typical approach will be described which should lead to a prudent and consistent basis for classification, timed to maximise benefits for a project.	<b>Session 5</b>	<b>Frank Mendham</b> Senior Risk Engineer, Bassett Consulting Engineers <b>CASE STUDY</b> Australian Standards are moving towards a performance-based approach for achieving engineering solutions. In the field of hazardous area classification, this means that a heavy reliance on probabilistic methods to define input variables to determine realistic zone classifications and their extent will be required. The risk-based approach is seen as the way forward in determining the classification and extent of hazardous areas. This presentation provides an overview of how this risk-based approach is currently being applied to hazardous area classification in various commercial buildings locally, and how Australia is leading the way in reducing construction costs through its application.
<b>9:45am</b>	<b>New Directions for Hazardous Areas</b>	<b>2.15pm</b>	<b>Training for Compliance</b>
<b>Session 2</b>	<b>Neil Dennis</b> Associate Director, Maunsell Australia Pty Ltd Hazardous areas are beginning a phase marking the most significant 'in principle' changes in 50 years. This paper will firstly explore new paradigms in hazardous area classifications considering new hazards, analysis tools and assessment criteria. Secondly, it will review developing standards for mechanical equipment in hazardous areas. Amongst the many other changes that are happening, these two items are likely to have a significant impact on industry.	<b>Session 6</b>	<b>Jeff Strath</b> Principal Engineer, Paterson Flood Engineers The economic imperative to classify, design, install, test and maintain compliant electrical installations in hazardous areas is substantial. Compliance can be readily achieved through practical training contextualised to your site's actual requirements. With designers, implementers and maintainers skilled in the systematic application of mandatory standards, codes of practice and effective work methods, the risk of defects, rework, regulatory breaches and incidents can be minimised. It is simply safer and significantly more cost effective to be compliant and not worth the business risk to be otherwise.
<b>10.30am</b>	<b>Morning Tea</b>	<b>3.00pm</b>	<b>Afternoon Tea</b>
<b>11.00am</b>	<b>Electrical Equipment in Hazardous Areas: Field Inspections</b>	<b>3.30pm</b>	<b>Changes to Product Certification and the Impact on Manufacturers</b>
<b>Session 3</b>	<b>Bill Rankin</b> Electrical Engineer/Senior Electrical Inspector, SKM Pty Ltd Electrical equipment and installations that fall within explosive gas atmospheres are required to comply with the applicable regulations of the Australian State or Territory. The general requirements for the Selection, Installation and Maintenance of Electrical equipment for explosive gas atmospheres are detailed in AS/NZS 2381.1:2005. The requirements of this standard are mandatory and are called up in the applicable Acts or Regulations of each State or Territory. An important requirement of AS 2381.1:2005 Section 4 is to ensure that installations are maintained in a satisfactory condition and shall be subject to Electrical Equipment in Hazardous Areas (EEHA) inspections. This presentation will provide a guideline as to the techniques involved in conducting value-adding EEHA inspections and will include practical examples and templates used for performing such inspections.	<b>Session 7</b>	<b>Des McDonell</b> Technical Consultant, CSE-Ex Pty Ltd The presentation will explore the changes that have occurred to the certification of electrical equipment used in hazardous areas from the old P-003 scheme through the change to the P-008 scheme and AUS Ex with its 10 year life on certificates. With the decision in the 1990's for Australia to adopt IEC Standards came the change to ANZEx and IECEx which introduced ongoing surveillance to Australian manufacturers. In addition the IEC standards have changed the requirements for the documentation that must be produced by manufacturers.
		<b>4.15pm</b>	<b>Discussion Panel</b>
		<b>Session 8</b>	Hosted by <b>Chris Towle, Ralph Wigg &amp; Bruce Phillips</b>
		<b>5.00pm</b>	<b>Close</b>

Register now:

Phone:  
(08) 9321 1702

Fax:  
(08) 9321 2891

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West Perth, WA. 6872



## Conference Day 2 - 26th July 2007

8.30am	<p><b>Certification of Equipment: Past, Present and Future</b></p> <p><b>Session 9</b>  <b>Ralph Wigg</b>            Compliance Professional, E-x Solutions International Pty Ltd</p> <p>With the differences that exist between different standards and certification schemes used worldwide industry can have difficulty working through the maze of requirements. This session will unravel the 'mystery' surrounding the selection of electrical equipment for Hazardous Areas. The meaning of the markings for different protection techniques, grouping, and temperatures will be addressed along with requirements for manufacturers when supplying equipment and users when purchasing equipment.</p>
9.15am	<p><b>Ex Inspections - Potential Pitfalls</b></p> <p><b>Session 10</b>  <b>Allan Wallace</b>            Engineering Manager, Inlec Engineering</p> <p>Initial Ex inspections are required for new installations prior to energisation, and periodic inspections are required on existing installations. A successful inspection campaign requires more than just a group of competent Ex inspectors and a good inspection checklist. This presentation will identify many of the problems that can arise if the inspection scope is not agreed in fine detail with the client prior to the commencement of the campaign, or if the inspectors are not 'singing off the same song-sheet'. Recommendations are given to ensure that your Ex inspections are actioned both efficiently and effectively.</p>
10.00am	<p><b>Morning Tea</b></p>
10.30am	<p><b>The Application of Intrinsic Safety to Fieldbus Systems</b></p> <p><b>Session 11</b>  <b>Chris Towle</b>            Chairman, MTL Instruments Ltd</p> <p>The paper discusses the practical implications of the FISCO standard as they affect the possible application of Fieldbus systems including the use of 'nL' or 'ic' systems. The implications of using an entirely intrinsically safe system as compared to a system combining an 'Exe' trunk with 'Exi' spurs are discussed. The paper concludes by using the Fieldbus example to discuss the possibility of reducing routine inspections.</p>
11.15am	<p><b>The Who, What &amp; How of Defining Hazardous Areas</b></p> <p><b>Session 12</b>  <b>John Seeger-Snowden</b>            Director, ExITS Australia Pty Ltd</p> <p><b>CASE STUDY</b></p> <p>This presentation will cover who does what and how in the process of defining hazardous areas, installations, inspections, audits, design review, HAZOPS and HAZIDS. Following this will be a discussion of the responsibilities of individuals, consultants, engineers, equipment suppliers and installation contractors. Next will be an exploration of how these groups inter-relate, their legal responsibilities, the outcomes and the corporate view of a site with hazardous areas, pain and peace.</p> <p>John will demonstrate some of these issues, utilising case histories plus a discussion of the impact that these have had on operating plants and manufacturing facilities.</p>
12.00pm	<p><b>Lunch</b></p>

1.00pm	<p><b>Myths and Actual Practice with Industrial Data Communications and Hazardous Areas</b></p> <p><b>Session 13</b>  <b>Steve Mackay</b>            Technical Director, IDC Technologies</p> <p>This presentation deals in a practical way with some of the myths in using data communications systems in hazardous areas. Whether they are Ethernet, Foundation Fieldbus, Profibus or RS-485. A set of practical guidelines are provided for best practice in designing your next industrial data communications system in a hazardous area.</p>
1.45pm	<p><b>IECEx Certificate of Conformity for Electrical Equipment for use in Hazardous Areas</b></p> <p><b>Session 14</b>  <b>Wal Robson</b>            IECEx Secretariat, IECEx</p> <p>In an ever increasing competitive environment manufacturers of electrical equipment intended for use in electrical installations in hazardous areas are seeking an edge to promote their products to the global market. Regulators, electrical installation designers and installers require confidence that the products they use are suitable and safe for use in hazardous areas.</p> <p>This presentation provides an overview of an IECEx "Global solution". How manufacturers can provide confidence to the market by obtain an internationally recognised IECEx Certificate of Conformity (CoC) to IEC standards from internationally assessed Certification Bodies (CBs). These CoCs are supported by equipment Test Reports and ongoing Quality Assessment Reports on manufacturers. All CoCs and supporting Reports are provided on a web based on-line system allowing immediate easy access to all interested parties.</p>
2.30pm	<p><b>Afternoon Tea</b></p>
3.00pm	<p><b>A Risk Based Approach Towards EEHA Compliance</b></p> <p><b>Session 15</b>  <b>Michael Oser</b>            Principal, Planned Control Pty Ltd</p> <p>For large and aging plants, the past 50 years, have seen been many changes: plant modifications, changes in electrical equipment in hazardous areas (EEHA) standards, tighter legislative compliance enforcement, and keener EEHA awareness. All have underlined the production and OHS&amp;E risk consequences posed by non-compliant EEHA. The task immenseness of full compliance for such plants, coupled with the associated financial and human resource limitations to achieve compliance, requires that remediation tasks be prioritised. A semi-quantitative work prioritisation methodology is presented for objectively achieving compliance, by assessing the combined severity of apparatus non-compliance and the probable consequences of that non-compliance. Removing subjectivity in the judgement process is one of the challenges of a risk based approach.</p>
3.45pm	<p><b>Snap Survey</b></p> <p><b>Session 16</b>            Hosted by <b>Steve Mackay</b></p> <p>Assess and review the snap survey on Hazardous Areas. We will be conducting an anonymous voluntary survey of practices applied in Hazardous Areas to all conference participants for their sites and this will be highlighted and then discussed.</p>
4.30pm	<p><b>Closing</b></p>

## Sponsorship Opportunities

Representing your business at the **2007 Hazardous Areas Conference** will provide you the opportunity to read key decision makers from a multitude of industries. For more information on sponsorship and exhibition opportunities please contact Sarah Montgomery on +61 8 9321 1702 or email [sarah.montgomery@idc-online.com](mailto:sarah.montgomery@idc-online.com)

**Workshop 1 8.30am - 12.30pm**

**Fundamentals of Hazardous Areas Classification**

This workshop will cover the fundamental elements of and ultimate outcomes required in the process of Hazardous Area Classification. Bruce will discuss the types of base information needed, why these are important and where they might be found, differing approaches to classification, and the application of Australian and international standards. Other issues to be reviewed include factors such as ventilation, process conditions and the interaction between adjacent release points. Flammable gases, vapours and liquids and combustible dusts will all be covered. The group will undertake a brief exercise in classification to illustrate the main principles involved. At the conclusion of the workshop, attendees will have been provided the background and understanding to place them in a better position to brief consultants, understand their subsequent reports and apply the findings in the selection of equipment for use in hazardous areas.

**Presented by Bruce Phillips**

Principal Consultant, GHD-PCT Engineers

Bruce is a Principal Consultant with PCT Engineers and based in Perth. A fellow of both the IChemE and Engineers Australia, he is a chemical engineer with 30 years design, project and management experience in the oil & gas, mineral processing and utilities industries. He currently specialises in technical risk management, encompassing hazardous area classification, design verification and validation, and process hazards analysis including accident investigation and expert witness services. He has prepared and presented training courses in HAZOP participation and facilitation around Australia, and also presented a two day course on Process Safety Risk Assessment in Kuala Lumpur. He will be sharing some of his experiences in hazardous area classification in areas as diverse as hydrocarbon facilities, mineral processing including reagents and solvents, and waste water treatment.

**Workshop 2 1.30pm - 5.30pm**

**Certification and What it Means**

This workshop will cover a study of the different main stream certification schemes for Electrical Equipment in Hazardous Areas in operation around the world such as AUSEx, ANZex, IECEX, UL, FM, ATEX, CSA etc. This will embrace the repair workshops schemes. Each scheme has its own method of marking equipment and an interpretation of the marking requirements and how equipment can be correctly identified will be explored. This session will take into account changes that have and will take place with standards.

**Presented by Ralph Wigg**

Compliance Professional, E-X Solutions International Pty Ltd

Ralph Wigg operates his own company E-x Solutions International Pty Ltd providing services to the Hazardous Area Industries as a Compliance Professional. His background is in Electrical Power Engineering having over 50 years experience with an involvement of more than 30 years in Hazardous Area equipment gives him the ability to speak with authority on this subject.

Currently chair of several Standards Australia Hazardous Areas Committees, including Committee EL014 Electrical Equipment for Hazardous Areas, and also chair of the IEC Technical Committee for Combustible Dusts, he is dedicated to making standards work for the electrical industry in Australia. The commitment to international work sees him as head Australian delegate to the TC31 Committee and a member of numerous Maintenance Teams & Working Groups of which he convenes four. Ralph was a recipient of the prestigious Standards Australia International "Standards Award" in 1997.

**Registration Form: Hazardous Areas Conference 2007**

Simply complete this registration form and return by fax or mail.

**1. DELEGATE DETAILS**

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<b>ATTENDEES:</b>	MR/MS: _____	JOB TITLE: _____
	MR/MS: _____	JOB TITLE: _____
	MR/MS: _____	JOB TITLE: _____

**2. REGISTRATION & PAYMENT DETAILS**

Note: Prices are INCLUSIVE of GST

<input type="checkbox"/>	Pre-Conference Workshop 1 - 24th July 2007 (Morning workshop)			
	Fundamentals of Hazardous Areas Classification	\$275.00 x _____ delegates	= \$ _____	
<input type="checkbox"/>	Lunch (Included if attending both workshops)	\$25.00 x _____ delegates	= \$ _____	
<input type="checkbox"/>	Pre-Conference Workshop 2 - 24th July 2007 (Afternoon workshop)			
	Certification and What it Means	\$275.00 x _____ delegates	= \$ _____	
<input type="checkbox"/>	Hazardous Areas Conference - 25th & 26th July 2007			
	1st delegate	\$1495.00 x <u>1</u> delegates	= \$ _____	
	Additional delegates	\$1345.00 x _____ delegates	= \$ _____	
	Corporate packages available on request			
		<b>TOTAL DUE</b>	= \$ _____	

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PLEASE NOTE: Full payment is required prior to the commencement of the conference.

BOOKING CODE: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

**GENERAL INFORMATION**

**Confirmation Details**

A confirmation & information letter will be sent to all delegates approximately 10 days prior to the conference. Please ensure that you provide both your mailing address and email address on the booking form.

**Cancellation Policy**

Full reimbursement will be accepted if written notification of cancellation is received by IDC Technologies on or before 2 July 2007. A fee of 20% will apply to any cancellations received between 9 & 13 July 2007. No cancellation requests can be accepted after 16 July 2007; however from this date substitute delegates are welcome.

**Venue**

Karstens at CQ  
123 Queens Street  
Melbourne VIC 3000

**Accommodation**

Karstens at CQ has accommodation available. Contact directly on +61 3 8601 2712 to make a booking. For alternative local accommodation, contact IDC on +61 8 321 1702.

**Food and Beverages**





All lunches, morning and afternoon refreshments are included.

**Unable to Attend**

If you are unable to attend the full conference program, contact us for details to attend individual sessions or to purchase the Hazardous Areas: Classifications and Equipment Resources Kit.

**REGISTRATIONS**

We encourage you to register early, as spaces are limited. Your payment must accompany the registration form in order for it to be processed and confirmed.

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IDC Technologies  
PO Box 1093  
West Perth, WA. 6872
-  **4. By E-mail:**  
idc@idc-online.com
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www.idc-online.com  
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