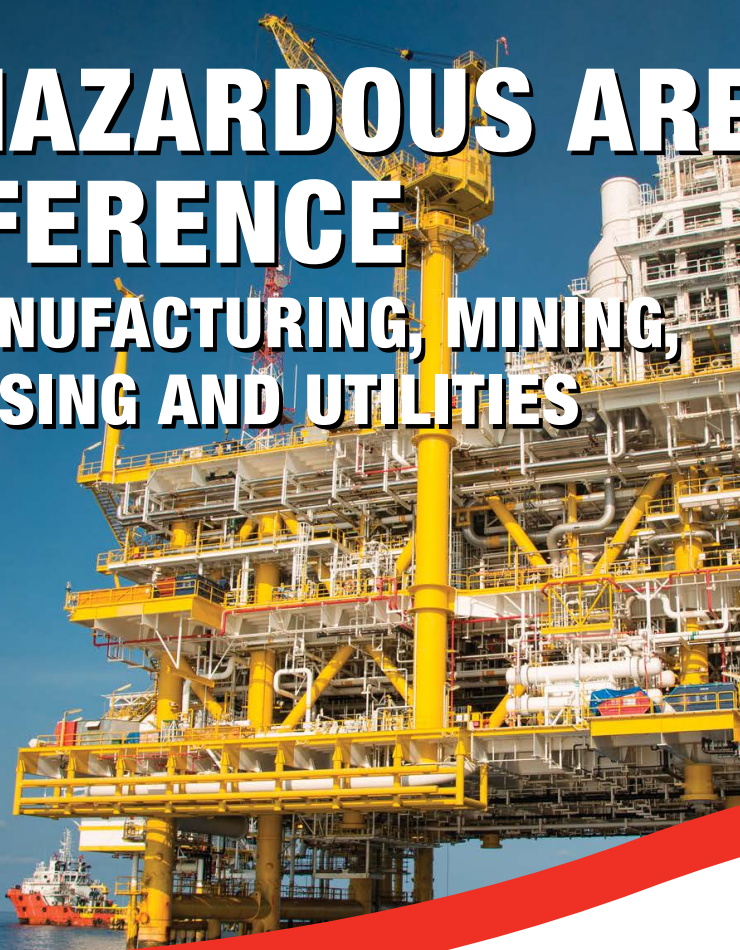


7TH HAZARDOUS AREAS CONFERENCE

FOR MANUFACTURING, MINING, PROCESSING AND UTILITIES



**26th & 27th
September 2018**

**Rydges on Swanston
MELBOURNE, AUSTRALIA**

WHAT YOU WILL GAIN FROM ATTENDING:

- 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 hazardous areas equipment installations through case studies and critical discussion
- Learn how to prepare your business for a hazardous area audit/inspection
- 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 has been created for those concerned with the safe use of electrical, mechanical and instrumentation equipment in hazardous, flammable or explosive atmospheres, thus preventing accidents and injuries in the workplace.

The content of the conference will focus on the latest standards and how best to apply them, ensuring compliance for hazardous area audits. Experienced speakers will examine the critical issues involved in the management of hazardous areas.

Conference Day One – 26th September 2018

8.00am	Registration	
8.25am	Opening Address	
8.30am Session 1	Hot Buttons in Adopting IEC Standards for Hazardous Areas	
KEY NOTE	<p>Neil Dennis – Technical Director - Power and Industrial, AECOM</p> <p>Australia has been adopting IEC standards for hazardous areas for nearly 20 years. We now have a mix of identical adoptions, modified adoptions, standards in view and IEC standards we may not want to consider. This presentation looks at the adoption process covering how, why, people, politics and what we can learn from.</p> <p>Along the way some hot technical issues currently being discussed in the IEC will be raised. New research and working in a global framework are challenging old practices and previously accepted principles. This is a call to look at the big picture for the next 20 years.</p>	
9.30am Session 2	Explaining the IECEx Certificate of Personnel Competency Scheme	
	<p>Jeff Strath – Principal Electrical Engineer & High Voltage / Hazardous Area Auditor, Compliance Training & Engineering</p> <p>IECEx have developed a complete package of Units of Competency for Ex industry. Here Jeff will provide specialist technical advice on entering into a hazardous area, expertise in explosion protection techniques, classification, installation, testing, maintenance, inspection, designing and auditing.</p>	
Morning Tea – 10.15am		
10.45am Session 3	Optical Radiation Awareness in Explosive Atmospheres	
	<p>Ajay Maira – CEO, Ex Testing and Certification Pty Ltd</p> <p>LED light sources provide higher efficiency, longer life, and are getting more economical to produce hence increasing their popularity. Their method of producing light and the subsequent possible hazards when used in explosive atmospheres are quite different when compared to incandescent lights. Further technological advances are taking place, allowing them to become even brighter, and hence the awareness of their potential to cause an explosion becomes more important. The technical Standards dealing with this subject, and some test methods currently in use will be discussed.</p>	
11.30am Session 4	Classification Principals for Dust Atmospheres (A Previous Electrical Regulator's Perspective)	
	<p>Travis Stewart – Lead Hazardous Area Technician, Synertec</p> <p>We all may be aware that the new AS/NZS 60079.14 is available, which has changed the wording of “combustible” to “explosive”, but is this the only change effecting dust atmospheres? AS/ NZS 60079.10.2:2016 deals with the requirements around the sound classification of dust areas. If this document sets the minimum standards for correct explosive dust classification, why is it that so many installations fall short and rely on the reproduction of the 'informative' annex in the Standard? During this presentation, you will learn common misconceptions about the relevant Australian Standard and the actual costs of relying on 'informative' references.</p>	
Lunch – 12.15pm		

1.15pm Session 5	How Blocked Gas Detectors Change the Apparent Concentration of Gas	
	<p>Ian Webster – Group Engineering Manager, Ampcontrol Pty Ltd</p> <p>The usual calibration process for a gas detector – typically by a ‘bump’ or ‘challenge’ test – will often fail to detect when a detector is blocked, or partially blocked. This can lead to the ‘calibrated’ detector reading high or low, but with no way to determine if that is the case. Retrospective examination of records and equipment from Pike River Mine lead to the conclusion that critical detectors were affected by filter blockages, resulting in methane detectors reading approximately one-half of the true concentration. This presentation explores how a blocked detector can give an erroneous reading, and what steps can be taken to avoid replicating previous mistakes.</p>	
2.00pm Session 6	Understanding & Using IECEx Certificates – Key Elements	
	<p>Mike Roy – Compliance Manager, IECEx Secretariat</p> <p>The modern day automation of industry has meant an increased need to use equipment in hazardous (Ex) areas to minimise the risk of fire or explosion. “Ex Equipment” uses explosion protection techniques to a Standard providing confidence that the product can be used in a defined hazardous area. Industry (end user) also has responsibility in ensuring that the products they are purchasing, installing and operating in their facilities are appropriate as per area classification, fit for purpose and that they satisfy local regulatory requirements that may reference IEC Standards. How can industry verify compliance with their actual needs? The presentation will discuss forms of certification and an exploration of key elements of certificates issued under the IECEx Schemes.</p>	
Afternoon Tea – 2.45pm		
3.15pm Session 7	Changes in Ex Standards - The Electric Motor Perspective	
	<p>Csaba Szabó – Product Manager - High Voltage Machines, Discrete Automation & Motion - ABB Australia</p> <p>Protection standards for electric motors installed in hazardous area environments are continually being updated. In 2015 a new combined standard was published, the IEC 60079 part 7 affecting Ex-e and mainly Ex-nA motors and their applications. Electric motors are the largest and most powerful equipment used in hazardous areas; they are easily capable to ignite the surrounding gases and represent significant inherent risks. The intention of this presentation is to explain the issues surrounding these protection methods and highlight the recent changes. The following topics are covered; review of “non-sparking” and “increased safety” concepts; summary of recent changes; review of the corresponding “installation” standard and provide a user guide for motor selection.</p>	
4.00pm Session 8	Changes to AS/NZS 4761 and Comparison to the IECEx CoPC Scheme	
	<p>Gareth Talamini – Director, Extend Training</p> <p>AS/NZS 4761 - Competencies for working with electrical equipment for hazardous areas, has been updated and should be published in the next few months (as at time of writing – June 2018). This presentation will provide a brief overview of the changes to the AS/NZS 4761 competency framework, and a comparison to the IECEx Certificate of Personnel Competency (CoPC) and Compex schemes. It will then examine the recent changes to the wording of the competency clauses in IEC and AS/NZS 60079.14 and 17 and discuss what the future of EEHA competency demonstration may look like in both Australian and international hazardous area industries.</p>	
Closing – 4.45pm		

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NETWORKING DRINKS SESSION – 5.00 to 6.00pm
An hour dedicated for all attendees to meet and socialise with experts and industry peers at the Hazardous Areas Conference Networking Drinks Session





Conference Day Two – 27th September 2018

8.30am **Hazardous Areas Classification – Annex ZA / ZB Vs Source of Release by Calculation**
Session 9 **Kayne Herriman – Asset Integrity & Maintenance Engineer, Bluefield Asset Management Services**



A hazardous areas classification provides a means of determining the probability of a flammable/combustible atmosphere occurring, along with the extent of any predicted hazardous zones as well as persistence time under given environmental and process conditions.

AS/NZS 60079.10.1 describes two methods to classify plant & equipment, the Generalised and the Source of Release method. Typically Annex ZA describes "Source of Release" classification examples for a number of common types of plant, equipment, systems and activities, whereas Annex ZB "The Generalised Method" provides examples of a generalised method for refineries and major processing plants.

In addition to the ANNEX ZA examples, determination of the hazardous area extent can be achieved by "Calculation" for each source and gas/vapour type. This method has the potential to determine with greater accuracy, the actual hazardous area types and extents, given primary data such as:

- Lower Explosive Limit kg/m³
- Release Rate (Kg/s)
- Molecular Mass (kg/kmol)
- Maximum ambient / process Temperature (deg C)
- Grade of Release

9.30am **Development of a World-First Ventilation Air Methane Abatement Safety Demonstration Facility**
Session 10 **James Hollis – Principal Instrumentation and Electrical Engineer, ICD Asia Pacific**



CASE STUDY

ICD, in partnership with the Newcastle Institute for Energy and Resources, designed and commissioned a world-first ventilation air methane abatement safety demonstration facility. This facility replicates an underground coal mine ventilation system to undertake controlled testing of the impact of methane and coal dust concentration on the properties of explosion. It also allows for assessment of the effectiveness of various technologies in mitigating the impact of such explosions. The novel nature of this project presented many challenges in ensuring safety of personnel and in undertaking the hazardous area classification and design for the facility. This presentation explores some of these challenges.

Morning Tea – 10.15am

10.45am **Lightning: "The Protection Myth"**
Session 11 **Cem Novella – Managing Director, Static Electricity Control (SEC) & Meech Australia Static Control (MASC)**



Lightning is arguably one of the most dangerous and frequently encountered weather hazards in Australia. There are between 5 and 10 deaths and over 100 severe injuries caused by lightning in Australia year-on-year. Damage to Australian oil & gas and mining infrastructure due to lightning is estimated at \$1B per year. How big is the issue in Australia? Why is it important to understand how we "protect" assets in hazardous areas from lightning? How can we assess risk in hazardous areas specific to lightning? And finally, what causes an explosion, fire or death – lightning or the ignorance surrounding lightning?

11.30pm **Gas Detection and the Single Ended Ruler**
Session 12 **Ian Webster – Group Engineering Manager, Ampcontrol Pty Ltd**



Failure to properly calibrate a gas detector will introduce errors, regardless of the claimed accuracy of the detector. It is akin to measurement with a single ended ruler. This presentation will present recent experiments showing the susceptibility of gas detection and calibration to poor calibration cup design and to ambient air velocities, and will foreshadow pending changes to gas detector standards to remedy the situation.

Lunch – 12.15pm

1.15pm **Risk Based Reduction in Hazardous Area Inspections Using Standards**
Session 13



Jeff Strath – Principal Electrical Engineer & High Voltage / Hazardous Area Auditor, Compliance Training & Engineering
 Jeff will provide expert guidance on the process of applying Guidelines for Managing Inspection of Ex Electrical Equipment Ignition Risk in support of applicable standards and guidelines. Discussion will cover format of risk assessments, sampling procedures and complying with the Australian legal framework.

2.00pm **Identifying Potential Hazardous Risks in the Design of New Research Facilities**
Session 14



Dr Paulo Da Silva – Principal Consultant, CETEC
 This presentation will focus on laboratory design layout and the implications of hazardous zones as detailed in AS/NZS 60079.10.1. While risk assessing the architectural design of new research facilities, CETEC has discovered that a number of design teams have insufficient knowledge of the Australian Standards for laboratory design and the implications of hazardous zoning. There is major risk of non-compliance and unforeseen costs to rectify these issues when these issues are identified during or post construction. This presentation will highlight the non-compliance hazardous risks that they have encountered in the design of research facilities. You will learn the key elements regarding: laboratory layout and the storage location of dangerous goods relative to laboratory exits and electrical items; hazardous zones and storage locations of chemical cabinets relative to GPOs, lights and switches; and chemical store design and correct definition of hazardous zones.

Afternoon Tea – 2.45pm

3.15pm **Offshore Oil & Gas Surveying and Inspections**
Session 15



Lee Hughes – Managing Director, Haztech Solutions
 Access to electrical equipment located at heights requires special access equipment such as scaffolding. With the deployment of rope access, electricians/inspectors can provide substantial time and cost savings, challenging the need for scaffolding in oil & gas industries. Lee will discuss a few case studies using rope access, project execution, tools involved, type of works rope access can cover, as well as accreditation and level of training.

CASE STUDY

4.00pm **Comparing the Effectiveness of Four Open Path Gas Detector (OPGD) Types**
Session 16



Edwin Choo – Detection Product Group Manager, MSA Safety – Singapore
 OPGDs are widely used to monitor for the presence of flammable or toxic gases, especially in large open spaces. For the gas detection system to be an effective layer of protection, it must be able to detect a high percentage of gas releases with a high degree of certainty and quickly. When a gas detection system is able to do both effectively, mitigation actions can be triggered earlier. The choice of OPGD is therefore vital. Using modelling tools, Edwin will discuss his study which compares the effectiveness of four OPGD types in detecting flammable gas releases, given a same set of gas release and wind scenarios.

Closing – 4.45pm

Sponsorship Opportunities

Representing your business at the 7th Hazardous Areas Conference in 2018 will provide you the opportunity to reach key decision makers from a multitude of industries. For more information on sponsorship and exhibition opportunities please contact Sarah Montgomery via email conferences@idc-online.com

All conference papers are reviewed and selected for their high quality and technical value by our panel of specialists experienced in the theory and practice of Hazardous Areas.

INTRODUCTION TO HAZARDOUS AREAS WORKSHOP

Tuesday 25th September 2018
MELBOURNE - Rydges on Swanston

This workshop is designed as an introductory understanding for those who have not had exposure to, or wish to further their fundamental understanding of hazardous areas. Workshop facilitator Mr Andrew Maunder will discuss the types of hazardous areas, including base information needed to understand classification reports and hazardous area zoning drawings, why these are important and where they might be found, differing approaches to classification, and the application of Australian and International standards.

Topics include:

History of hazardous areas in Australia; hazardous area definition; types of hazardous areas; hazardous area classification; hazardous area zoning; equipment selection; competencies of designers and installers; legislative requirements; and practical exercises.

To register for this workshop please visit the upcoming events section on our website:

<https://www.events.idc-online.com/upcoming-conferences>



EARLY BIRD OFFER:

10% off the conference fee for registrations received before 29th August 2018 – **SAVE \$179.50**

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AND/OR Register 3 delegates and only pay for 2 – **SAVE UP TO \$1795**

REGISTRATION FORM: 7TH HAZARDOUS AREAS CONFERENCE

26th & 27th September 2018, Rydges on Swanston, Melbourne
 Simply complete this registration form online or return via email

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2. HOW DID YOU HEAR ABOUT THIS EVENT?

Received a brochure in the mail Received an email from IDC
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 Other (please specify) _____

3. REGISTRATION & PAYMENT DETAILS

Prices shown are inclusive of GST

7TH HAZARDOUS AREAS CONFERENCE: 26TH & 27TH SEPTEMBER 2018

OPTION 1: Early Bird Discount 10% OFF – Book on or before 29th August (**SAVE \$179.50**)
 \$1615.50 x _____ delegates = \$ _____

OPTION 2: Standard Rate (NO Early Bird) – Book after 29th August \$1795 x _____ delegates = \$ _____

OPTION 3: 3 for 2 Offer & Early Bird 10% OFF – Book on or before 29th August (**SAVE \$2154**)
 3 x delegates 2 x \$1615.50 = \$3231 = \$ _____

OPTION 4: 3 for 2 Offer Standard Rate (NO Early Bird) – Book after 29th August (**SAVE \$1795**)
 3 x delegates 2 x \$1795 = \$3590 = \$ _____

Additional delegates: Corporate packages available upon request **TOTAL DUE = \$ _____**

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

I wish to pay by: Cheque Direct Debit Company Purchase Order Number: _____

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GENERAL INFORMATION

Confirmation Details

A confirmation email and invoice will be sent to delegates within 3 days of receiving the registration.

Cancellation Policy

A 20% cancellation fee will apply for cancellations received 7 – 14 days prior to the start date of the conference. Cancellations received less than 7 days prior to the start date of the conference are not refundable, however substitutes are welcome.

Venue

Rydges on Swanston
 701 Swanston Street, Melbourne, VIC 3053
 Phone: (03) 9347 7811

Accommodation

The conference venue has accommodation available. Contact the venue directly on (03) 9347 7811 and mention the conference when booking to receive the best room rate available.

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 Conference Resource Kit.

Enquiries

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