



Storage Tank and Associated Facilities Fire Hazard Management Workshop

NEW
TOPICS &
INCIDENT CASE
STUDIES
FOR 2010 !

17th – 21st May 2010

The Venue:

Shangri-La Hotel, Singapore

22 Orange Grove Road
Singapore 258350

This workshop is also running in UK in 2010 – details available on request

Organised by Resource Protection International

Walker House
George Street
Aylesbury
Bucks HP20 2HU
United Kingdom

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Project Coordinators



Resource Protection International

Resource Protection International is an independent consultancy specialising in Fire Hazard Management (FHM) of oil and petrochemical facilities. The company has a management team of full time consultants comprising individuals with complementary expertise. The team's skills and knowledge include fire science, fire systems engineering, process engineering, fire protection/safety systems auditing, hazard assessment, major incident fire fighting, system commissioning and training, all based on extensive international "hands on" experience including Management of Fire Brigades at Oil Production and Storage facilities on behalf of a major international oil company.

RPI were contracted to provide technical assistance at the major Buncefield terminal incident in the UK. Dr Ramsden, the seminar director, attended the incident within 3 hours, remained on site for 28 hours and then later returned to witness final extinguishment. Subsequently he has been involved in the investigations, debriefs and reviews of the Explosions Overpressure Mechanism.

Resource Protection International holds a unique position in the industry and has carried out several contracts for industry bodies as well as individual oil companies:-

- Project Coordinator for the LASTFIRE study - an industry initiative by 16 oil companies to review the risks associated with fires in large floating roof storage tanks. This project is currently being updated and extended to other tank types.
- Development of international Oil and Gas Producers' Association Guidance document on Fire Systems Integrity Assurance.
- Revision of Energy Institute (Formerly Institute of Petroleum) Model Code of Safe Practice on Fire Protection of Refineries and Bulk Storage Terminals. *The content and format of this workshop is based on this new publication which has been considerably revised to include new procedures and information outlining latest industry best practices.*
- Development of Society of Gas Tanker & Terminal Operators (SIGTTO) guidance on Fire Hazard Management of Gas Terminals.
- Storage Tank Terminal Fire Hazard Management audit protocol and technical guidance for Rotterdam Europoort Unified Fire Brigade.

**See overleaf
for Workshop
programme**

All seminars and courses directed by Resource Protection International aim to give delegates a thorough understanding of the subjects discussed. If required, tailor-made additional specialist training can be provided at a client's own facility.

Storage Tank Fire Hazard Management

The objective of this Workshop is to provide delegates with an in-depth knowledge of all aspects of assessing and controlling fire hazards in flammable liquid storage tanks and associated product transfer facilities, thus allowing them to develop, implement or audit appropriate, cost effective Fire Hazard Management policies. Emphasis will also be placed on the practical issues regarding fire response options, preplanning for major fire incidents and maintaining response capability. The Workshop is directly relevant to personnel responsible for any aspect of Fire Hazard Management at refineries, terminals, gas storage, and petrochemical facilities. The programme has been developed from the worldwide experience of RPI and will ensure that delegates are updated in the latest techniques in this important field.

The Workshop will cover all aspects ranging from tank types and construction to tank fire scenarios, fire prevention measures, incident detection and fire protection systems. Particular attention will be given to the design, implementation and ongoing assurance of firefighting foam application by systems or mobile equipment for flammable liquid storage and transfer facilities. *With the recent major incidents in Puerto Rico and India and the current industry debate regarding environmental aspects of foam usage and potential new foams for the future, there has never been a better time to review foam usage policy!*

Who Should Attend the Workshop?

- Fire Responders
- Fire Engineers
- Loss Prevention Engineers
- Safety Professionals
- Health, Safety and Environmental Protection Agencies

Workshop Hours:-

Monday at 10.30 am for 11.00 am start (5.00 pm finish)
Tuesday : 9.00 am – 5.00 pm
Friday : 9.00 am – 5.00 pm (lunch is included)



Storage Tank and Associated Facilities Fire Hazard Management Workshop Programme

17th - 21st May 2010

All lectures will be supported by video and slide presentations and design examples

Delegates will learn about the usage, testing, maintenance and design of fire detection and protection systems

Delegates will learn how to assess and control fire related risks in flammable liquid storage tanks and associated facilities



Project Coordinators

Monday

- Major Tank Fire Incident Case Study
- Fire Hazard Management Process and Principles
- Legislative Trends and Safety Cases
- Fire and Explosion Types and Effects associated with storage tanks
 - Atmospheric Storage Tanks
 - Pressurised Storage Tanks
- Liquefied Natural Gas (LNG) Characteristics and fire scenarios

Tuesday

- Risk Reduction Options for Storage Tanks and Associated Facilities
 - Incident Prevention Overview
 - Containment Issues
 - Incident Detection
 - Passive Measures
 - Water Spray Systems
 - Foam Systems for Storage Tanks
 - Foam for LNG Applications
 - Portable and Mobile Equipment Options

Design, operation and maintenance issues will be reviewed with examples of typical practices and pitfalls to avoid.

- *Application Rates*
- *Design Standards and Examples*
- *Proportioning Systems*
- *Foam concentrate selection and procurement issues*
- *Foam storage*
- *System Testing*
- *Monitor application*
- *Environmental issues*

Wednesday

- Jetties / Marine Facilities Fire Hazard Management
- Road and Rail Loading Fire Hazard Management
- LPG Storage Fire Hazard Management
- Storage Tank Fire Protection Design Examples
- Syndicate Exercise – Storage Tank Protection
- FSIA issues related to Storage Tank Fire Systems

Thursday

- The UK Buncefield Incident
- Buncefield Process Safety Leadership Group Recommendations review
- Tank Fire Incidents from History
- Case Studies on Recent Major Incidents

Day 4 of the Seminar is given over completely to major tank fire incident histories including presentations on the UK Buncefield incident concerning the incident itself, fire fighting issues and recommendations from the Major Incident Investigation. All case studies will be supported by video presentations and lessons learned.

Friday

- Preplanning and Exercising Response for Tank Fires
- Specification of Major Incident Response Systems
- The LASTFIRE Project

Workshop Director

Dr. Niall Ramsden

Niall Ramsden joined the loss prevention industry in 1976 after having graduated in physics and in mechanical engineering. He has been involved in all aspects of fire hazard management for the oil and petrochemical industries and has worldwide experience in active and passive fire protection and detection systems to international standards - including conceptual studies, detailed design and system commissioning. He has carried out training and consultancy projects for major oil/petrochemical companies around the world including fire/safety audits, process safety studies, scenario based emergency resource evaluations and in-house seminars. He is a Chartered Engineer, a Chartered Physicist and a member of the National Fire Protection Association (USA) and CEN (European)* Foam Systems Committees. He acted as Project Coordinator for the LASTFIRE Project. and is currently fulfilling the same role for the LASTFIRE Update Project.

•*The new European Foam Systems standard has now been prepared in final draft form. It includes unique experience based guidance on large tank fire application rates.*

Workshop Lecturer

Paul Watkins

Paul Watkins is a graduate of Fire Science from the University of Leeds in the United Kingdom. With Resource Protection International he specialises in Emergency Planning and Systems Engineering. He has developed training courses and delivered seminars on a wide range of fire engineering and Risk Analysis topics at venues including the Fire Service College in the U.K. and at the Fire Protection Association. He is responsible for carrying out fire modelling and Quantitative Risk Assessments (QRA) and, as part of the LASTFIRE project, developed a Risk Workbook to assist in the development of Fire Hazard management policies for large floating roof tanks.

Workshop Information

An enrolment form is attached to this programme.

The Workshop will be held at:

Shangri-La Hotel Singapore, 22 Orange Grove Road, Singapore 258350 www.shangri-la.com

Delegates are responsible for booking and paying for their own hotel and travel costs (except lunches and refreshments provided during workshop session).

Delegates wishing to book accommodation at the Shangri-La hotel should contact the hotel direct Tel: ++(65) 6737 3644 Fax:++(65) 6737 3257 / 6733 1029 email: sls@shangri-la.com

Fees

The workshop fee is £2,150 (Pounds Sterling), payable prior to the event. (Plus VAT for UK Companies).

The Workshop fees include instruction, lecture notes, lunches and refreshments during breaks in classroom tuition.

All classroom exercises and discussions will be supported and complemented by case histories and video and slide presentations. Course notes will be provided and will form a comprehensive reference source of great value to all delegates on return to their job location.



Storage Tank and Associated Facilities FHM Workshop, Singapore 17th – 21st May 2010 Booking Form

Please regard this Booking Form as an Invoice. A receipt will be issued only on request. Payment is required prior to the event.

Please book early to avoid disappointment as spaces are limited. This form can be copied for additional delegates.

Resource Protection International reserve the right to cancel the event in which case a full refund of any fees received will be given.

FULL NAME _____

TITLE _____

JOB FUNCTION _____

ORGANISATION _____

ADDRESS _____

COUNTRY _____

POSTCODE _____

TEL _____

FAX _____

EMAIL _____

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The cost per delegate is £2,150 Pounds Sterling
(Plus VAT for UK companies at the applicable rate).

Please note payment is required prior to the event.

I ENCLOSE A CHEQUE FOR £ _____

Made payable to Resource Protection International

(Payments can be made by bank transfer - please ask for details.)

SIGNED _____

Return forms, along with appropriate fees, to: Resource Protection International
Walker House, George Street, Aylesbury, Buckinghamshire HP20 2HU,
United Kingdom

UK Co Reg No: 2753740.

If you have problems
printing this form,
or need further details...

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IMPORTANT

Registrations shall only be confirmed on receipt of payment.

Cancellations, if notified in writing 45 days prior to the event, will be subject to a 10% administration charge. There will be no refunds for cancellations received less than 45 days prior to the event.

Substitutions can be made at any time, without charge.



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