



# Practical Tank

## Fire Fighting and Foam Application

## Workshop and Hands-on Training

### 2010 Dates:

21<sup>st</sup> – 23<sup>rd</sup> April 2010

22<sup>nd</sup> – 24<sup>th</sup> September 2010

### The Venue:

**Centro Jovellanos, Asturias, Spain**



Organised by Resource Protection International  
Walker House  
George Street  
Aylesbury  
Buckinghamshire  
United Kingdom



Project Coordinators

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# Practical Tank Fire Fighting Workshop

A unique opportunity to experience hands on tank fire fighting in one of Europe's leading fire schools, devised and implemented by Dr. Niall Ramsden and his team of experienced Fire Hazard Management Consultants at Resource Protection International.

## Training Ground Day

RPI have worked at providing realistic tank related fire events, using the existing fire simulators at the facility. The result is an excellent set of tank fire specific scenarios on which delegates may exercise, and which support the aims of LASTFIRE in terms of enhancing fire responder knowledge, skills and experience in dealing with tank related fire incidents.



### Flange Fire

This is a part of a marine manifold fire simulator but under RPI direction, suits the purpose of simulating a tank valve or flange leakage with fuel product causing a pressure fire. This challenges delegates to execute the correct tactics using foam and dry powder.



### Curved Tank Fire

This is one half of a 6m diameter tank shell within a bund which suits the purpose of simulating a partial bund fire and a folded tank shell (the concave of the tank curve). It is a static fire, which challenges delegates to maintain control during mobility whilst using a low flowrate foam handline to successfully extinguish all areas including pockets of fire.



### Ground Rim Seal Fire

This is an RPI developed 10m long tank rim seal fire simulator which allows delegates to practice use of dry powder extinguishers on a limited length rim seal area fire.



### Tank Rim Seal Fire

The 6m diameter and 6m high storage tank has a rim seal area which is divided into a small strip and large strip, for use with extinguishers. The delegates are well challenged by the single access and limited movement that storage tank rim seal fires present.

### Tank Full Surface Fire

The same tank is used to provide a full surface fire for delegates to extinguish using either a low throughput monitor or foam handline.

### Tank Bund Fire

This is a bund which has a horizontal vessel within but is used in the same manner that a storage tank would be for foam application assistance, before foaming operations to secure each section of the bund fire. This is a particularly challenging fire event as only one foam handline of limited flowrate is used.

**EXPERIENCE FIRST HAND 8 PRACTICAL FIRE GROUND EXERCISES DEVELOPED BY RESOURCE PROTECTION INTERNATIONAL FROM HANDS ON EXPERIENCE OF REAL TANK FIRES WORLDWIDE**

# Practical Tank Fire Fighting Workshop

## Training Ground Day

### BLEVE Demonstration

RPI have worked with the facility to create a safe LPG BLEVE demonstrator to enable delegates to gain an appreciation of the explosive hazard and high radiant heat effect. The scale of this is obviously limited to ensure safety whilst allowing maximum awareness for delegates.

### Boilover Demonstration

As LASTFIRE project coordinators, RPI have conducted a high number of boilover tests to determine likelihood of boilover for different fuels and fuel mixes. A live fire demonstration of a boilover will be created using a mix of gasoline and diesel during the workshop. Although the boilover effects are not as dramatic as with crude, this allows delegates to gain an appreciation of the phenomenon. (Boilover incidents and the LASTFIRE test work will be discussed and shown during the classroom sessions.)



**See overleaf  
for Workshop  
programme**

## Why attend?

On a regular basis Resource Protection International run classroom workshops on Storage Tank Fire Hazard Management. Such theoretical knowledge should always be complemented with practical experience and training. The objective of this Workshop is to provide an opportunity for fire responders to receive specialist training in fire response to tank incidents and to carry out fireground exercises to back up theoretical knowledge. 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 describe tank types and potential fire scenarios, drawing heavily from incident experience. The fireground sessions will include demonstrations and hands-on exercises.

*With the recent major tank related 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?

- Fire Responders from industrial and municipal brigades
- Fire Engineers with responsibility for developing fire response strategies
- Safety Professionals
- Health, Safety and Environmental Protection regulators

# Practical Tank Fire Fighting Workshop Programme

All lectures will be supported by video and slide presentations



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## Workshop Hours:-

Day 1: 0800 - 1500

Day 2: 0800 - 1500

Day 3: 0800 - 1300

Delegates will learn about the usage, testing, maintenance and design of fire fighting foam

### Day 1 – Classroom

- Storage Tank Types & Fire Scenarios
  - Atmospheric Storage Tanks
  - Pressurised Storage Tanks
- Tank Fire Incident Histories / Review
- Full surface Tank Fire Response Options and Major Incident Response Units
- Foam Application Techniques
- Foam System Assurance
- Rimseal Firefighting Tactics
- SCBA Testing and Wearing Refresher

### Day 2 – Fire Ground

- Fire Gear Issue and Safety Brief
- Foam Equipment Demonstrations
- Flange Fire (Simulating tank valve/flange)
- Curved Tank Fire (Simulating Folded tank shell)
- Ground Level Rim Seal Fire (Simulating length of rim seal)
- Ethanol Fire Demonstration
- BLEVE/Boilover demonstrations
- Tank Rim Seal Fires (Simulating actual 6m dia. tank rim seal fire conditions)
- Tank Full Surface Fire (Simulating scaled version of full surface fire on tank top)
- Tank Bund Fire (Simulating tank bund fire area for sectional foam control tactics)

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

### Day 3 - Classroom

- Emergency Response Planning
- LASTFIRE Project
- Buncefield Terminal Fire Review (RPI attended the incident as advisors)
- Feedback / debrief



## Workshop Enrolment Information

The Workshop will be held at the Maritime Safety and Fire Training Facility at Centro Jovellanos, Asturias, Spain. The Jovellanos centre is one of Europe's leading fire schools and has an excellent reputation for both industrial and municipal fire training. For further details see [www.centrojovellanos.com](http://www.centrojovellanos.com)

### **Transport / Accommodation**

Delegates are responsible for booking and paying for their own hotel and travel costs and for transport to/from the centre each day. Asturias Airport is served by both economy and national airline carriers and is approximately 40 minutes by car from Gijon.

The hotels listed below have a courtesy bus that runs to Centro Jovellanos daily but seats are on a first come first served basis and are not guaranteed. The alternative if the bus is full is to take a short taxi ride

These are not large international hotels and are local in style and design. All are in the Gijon area and can be found on the web (we recommend you book early):

- Hotel Begona
- Plaza San Miguel
- Hotel Don Manuel
- Casa Del Mar
- Gran Hotel Jovellanos

Other hotels, including international chain hotels are available in nearby Gijon and Oviedo.

Parking is available at the centre for those travelling by car. The journey to/from Gijon centre to the training school takes 15-20 minutes.

### **Fees**

The workshop fee is £1995 (Pounds Sterling). UK companies will be charged VAT at the applicable rate. Delegates from other EU countries must provide the VAT number of their company on registration.

The Workshop fees include instruction, lecture notes and light refreshments each day at a lunch break. All classroom exercises and discussions will be supported and complemented by case histories and video and slide presentations. Course notes will be provided in the form of a hard copy of the presentations.

## Practical Exercise Participation

Delegates will have an opportunity to take part in each exercise if they wish to do so.

The Jovallanos centre has a high standard of fire fighting PPE but delegates can bring their own personal equipment if preferred. Changing facilities are provided.

Delegates should note that competence in the use of dry powder extinguishers is desirable for this workshop.

For the tank rim seal fire exercises, it will be necessary to wear self-contained breathing apparatus (SCBA) and therefore it is mandatory for any delegate wishing to take part in these particular exercises to be competent in the testing and wearing of SCBA as this course does not deliver competence for this apparatus.

An SCBA refresher session will however be provided before the day of the exercise to ensure delegate familiarity with the sets in use at the facility (Sabre and Draeger). Taking part in the exercises is not mandatory and is a decision each delegate may make.

All delegates taking part in exercises must obviously be physically and medically capable of doing so and the facility will require delegates to sign documentation that declares them to be capable of participation in the exercises and that they accept full responsibility for taking part in the hands-on exercises.

An enrolment form is attached to this programme.



## 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 workshop director, attended the incident within 3 hours, remained on site for 28 hours and then later returned to witness final extinguishment.*

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.
- 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.

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.

## 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.

Dr. Niall Ramsden will be supported by other professional fire consultants selected from the RPI team with hands-on fire response experience.

*\* 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.*

# Practical Tank Fire Fighting Workshops 2010

## Centro Jovellanos, Asturias, Spain

### Booking Form

Please regard this Booking Form as an Invoice. A receipt will be issued only on request.

*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 \_\_\_\_\_

JOB TITLE \_\_\_\_\_

ORGANISATION \_\_\_\_\_

ADDRESS \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

COUNTRY \_\_\_\_\_

POSTCODE \_\_\_\_\_

TEL \_\_\_\_\_

FAX \_\_\_\_\_

EMAIL \_\_\_\_\_

#### Practical Tank Fire Fighting and Foam Application Workshop

Please tick () the date you wish to attend:

21<sup>st</sup> – 23<sup>rd</sup> April 2010

22<sup>nd</sup> – 24<sup>th</sup> September 2010

The cost per delegate is £1,995 (Pounds Sterling)

NOTE: plus VAT at the applicable rate for UK companies:  
15% up to 31st December 2009, 17.5% from 1st January 2010

Delegates from EU countries other than the United Kingdom must provide a VAT registration number. VAT No: \_\_\_\_\_

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 2JH,  
United Kingdom.

UK Co Reg No: 2753740.

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

**Call us today**

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**HP20 2HU**

**United Kingdom**

#### IMPORTANT

**Registrations** shall only be confirmed on receipt of payment

**Cancellations**, if notified in writing 45 days prior to the event, will be subjected 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



Project Coordinators

