Special Effects Explosive Safety Course

Introduction

This information pack provides you with details of the special effects explosive safety course, the syllabus, the course location and accommodation and background on the highly qualified and experienced course personnel. If you have any further questions, please contact us at the number or e-mail address in the final section.

Course aim

The course is intended to educate Special Effects (SFX) personnel in the safe use of explosives in the SFX industry. It provides training to a level appropriate for a sufficiently experienced Trainee (Pyrotechnic SFX) to apply for an upgrade to Technician (Pyrotechnic SFX) through the Joint Industry Grading Scheme (JIGS).

Course objectives

On successful completion of the course, delegates will:

1. Be trained as SFX personnel in accordance with the guidance laid out in the HSE Information Sheet *"Special or Visual Effects involving Explosives or Pyrotechnics used in Film and Television Productions"* (Entertainment Information Sheet No. 16).

2. Be aware of existing and new products and techniques in explosive SFX

3. Understand the environmental aspects of Pyrotechnic SFX and how to reduce disturbance in using them

4. Understand the concepts and requirements of Risk Assessments

5. Understand the legislation, regulations, code of practice and safety requirements that need to be met in order to carry out safe Pyrotechnic SFX

6. Be able to readily identify the most common explosive articles and substances used for Pyrotechnics SFX and have an understanding of their limitations and safe use.

Course details

The course is provided as a residential three day course based at Event Horizon's site in Ashcott, Somerset. Course tuition is a highly interactive process, using a series of session formats covering:

- Tutorial and lecture style taught presentations, using computer generated visual aids
- Participative case study exercises
- Environmental control and live firing practical sessions

At the end of the course, an examination will be held and a certificate of attendance issued to delegates who successfully pass the examination. The course is run by highly experienced and qualified professional staff, who bring both formal qualification and many years practical work in the pyrotechnic, explosive and film industries.

Profile: Malcolm Ingry – Course Tutor

Commercial background:
Malcolm Ingry has worked in the commercial explosives industry since 1979. For the last 9 years, he has acted as specialist explosives advisor to the SFX industry on major film productions.

Commercial explosives credentials:
Leading authority on specialised initiation techniques
Provider of technical services in Mining, Demolition, Tunnelling and Underwater Blasting.

Film industry SFX advisor credentials:

Saving Private Ryan	Tomb Raider
The World is Not Enough	Die Another Day
Band of Brothers	Johnny English

Professional accreditation's:
Member of the Institute of Explosive Engineers (MIExpE)

Profile: Charles Adcock – Course Co-ordinator

Commercial background:
Charles Adcock is the founder of Event Horizon Ltd. Since establishing the company in 1998, he has developed it from a fireworks display business into wide ranging and diverse specialist explosives company servicing a wide client base.

Commercial explosives credentials:
Charles has spent the last 6 years developing his lifelong interest in explosives as a commercial enterprise. His explosives activities cover a client list ranging from private clients to local authorities and the armed forces.

Professional accreditation's:
Member of the CBI explosive industry group
Application pending for membership of the Institute of Explosive Engineers (MIExpE)

Additional personnel from both the SFX and explosives industries may also make contributions to the course.

Course Syllabus

Delegates can expect to cover the following material during the course

1. Historical Development of Explosives
Outline of the development of commercial explosives, from early Chinese experiments with black powder through to Gelatines, ANFO, Slurries, and Emulsion Explosives.

2. Explosive Characteristics
A description of the relevant parameters to look at when deciding upon an explosive for a particular application.

3. Explosive Types
Descriptions of the different types of explosives, both deflagrating and detonating along with their main characteristics - including limitations in usage.

4. Explosives Accessories

a) Initiators
Construction and operation of electric, non-electric detonators and igniters. Limitations and potential hazards in their usage.

b) Exploders Firing Boxes/Desks and Safety Ohmmeters
Description of different types of exploders and ohmmeters, including their output characteristics and requirements for testing.

c) Detonating Cords
Description of the various cords available for use and their effects on different explosives and other materials.

d) Other Accessories
Description of various items - for example, safety fuse, igniter cords, shock tube, quickmatch.

5. Initiation Methods
Description of the different systems of initiation and their affect on the overall special effect.

6. SFX Planning
Choice of explosive types, quantities and locations coupled with details of initiation techniques.

7. Risk Assessment
An introduction to the requirements of Risk Assessments (based on HSE “five steps to risk assessment”) to comply with the Code of Practice and ‘The Management of Health & Safety at Work Act’ includes Safe Working Practices.
Dealing with and understanding how misfires occur.

Course Syllabus (continued)

8. Disposal of Excess Explosives

Basic information describing the various techniques for disposing of the different types of excess, unwanted and waste explosives that may be left after Pyrotechnic SFX have been executed.
Disposal process requirements for compliance with HSE guidance note CS23 ("Disposal of explosives waste").

9. Security and Storage

Basic information on the issue of licences to acquire, store and use explosives with regard to safety, security and good housekeeping.

- Sale/transfer of Explosives-types of storage.
- Explosive classification.
- Conpatibililty groups.
- Placing/Withdrawing explosives from the store and record keeping.
- Security requirements.
- Prohibited persons

10. Transport of Explosives

A discussion covering the general transportation of explosives. The requirements for transporting explosives on site and on public roads, in accordance with the HSE "Carriage of explosives by road regulations".

- The load: what can be carried, maximum quantities, mixing explosive loads.
- The vehicle: the vehicle requirements.
- Planning: route planning, anticipating problems with delivery.
- Documentation: documentation requirements, placarding requirements.
- The journey: safety, security and attendance, emergencies, equipment, fire.

11. Practical Training.

This will be carried out on Event Horizon's firing ground and will include.

- Packing and transporting explosives and detonators from store to site and recording issues and returns
- Site assessment, including exclusion zones, setting out sentries and correct signs
- Setting up basic electrical circuits, associated hazards and reading resistance
- Setting up none electric circuits with reference to the increased risk of shrapnel
- Dealing with a misfire on both electric and non electric
- Priming basic explosives and pyrotechnics
- Various signalling methods
- The use of different types of firing devices
- The correct methods of cutting detonating cord
- The setting up of air overpressure meters
- Safe handling of black powder and pyrotechnic substances
- Safely setting-up and fire a basic effects (this to be agreed with BECTU)

Facilities will be made available for guest SFX supervisors to attend and instruct in specialist areas

12. Environmental Disturbance

A discussion on the cause of environmental disturbance and the control that the students can use to minimise the magnitude of the disturbance.
Comparison of different initiation techniques with regard to disturbance:

- Overpressure: causes and control.
- Vibration: causes and control.
- Vibrographs: basic operation, basics of creating regression lines and their uses.

The above topics are supported by paper exercises on the practical aspects of special effects.

Completion of the course is assessed by examination.

Course venue and logistics

The course runs over three days, hosted at Event Horizon, Ashcott, Somerset.

Ashcott is set in the heart of the Somerset countryside. Natural attractions and tourist destinations such as Cheddar Gorge, Wookey Hole Caves and the Mendip Hills are within easy reach by car, along with tourist towns such as Cheddar and Glastonbury.

Course fees and arrangements

The course fee is £425 including VAT. For this, delegates receive:

- Course tuition by highly qualified staff.
- Practical lessons
- A full set of course notes.
- Certificate of completion, on passing the final examination.
- Morning coffee.
- Lunch.

Delegates are expected to make their own travel arrangements to and from Event Horizon and should arrive by *10:30AM* for registration on the first day of the course.

Course applications must be accompanied by a £100 **non-returnable** deposit, with the balance of £325 payable prior to the start of the course.

How to register

To register interest or apply for a place on a specific course please go to:
.

www.precisionenergetics.co.uk/training

Application forms can also be requested:

by e-mail	course@precisionenergetics.co.uk
by post	Event Horizon Ltd. The Old Brewery Stagman Lane Ashcott Street Somerset TA7 9QW
by phone	01458 210 280

Application Notes

All applications **must** include:

- A completed application form
- Two passport size photographs
- A completed "Prohibited Persons" form
- Your £100 **non-returnable** deposit

Joining instructions

Event Horizon will issue joining instructions and a timetable for the course once your application has been successfully processed.