Explosives Safety & Handling Part 1

Introduction

This information pack provides you with details of the Explosives Safety & Handling - Part 1, the syllabus, the course location and accommodation. If you have any further questions, please contact us at the number or email 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 legislation, regulations, code of practice and safety requirements that need to be met in order to carry out safe Pyrotechnic SFX.

5. 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 two-day course is based at Event Horizon Ltd, in Somerset. Course tuition is a highly interactive process, using a series of session formats covering:

1. Tutorial and lecture style presentations, using computer generated visual aids.

2. Participative case study exercises.

3. Environmental control and live firing practical sessions.

An examination is held at the end of the course; delegates who pass the examination will be issued with a pass certificate. The course is run by highly experienced and qualified professional

staff, who bring both formal qualifications and many years practical work in the pyrotechnic, explosive and film industries.

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, including 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, e.g., safety fuse, igniter cords, shock tube, quick match.

5. Initiation Methods

Description of the different systems of initiation and their effect on the overall special effect.

6. SFX Planning

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

7. 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').

8. Security and Storage

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

- **a.** Sale/transfer of explosives - types of storage.
- **b.** Explosive classification.
- **c.** Compatibility groups.
- **d.** Placing/Withdrawing explosives from the store and record keeping.
- **e.** Security requirements.
- **f.** Prohibited persons.

9. 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 'Carriage of Explosives by Road Regulations'.

- **a.** *The Load*. What can be carried, maximum quantities, mixing explosive loads.
- **b.** *The Vehicle*. Vehicle requirements.
- **c.** *Planning*. Route planning, anticipating problems with delivery.
- **d.** *Documentation*. Documentation requirements, placarding requirements.
- **e.** *The Journey*. Safety, security and attendance, emergencies, equipment, fire.

10. Practical Training

Practical training is carried out at Event Horizon's firing ground and includes:

- **a.** Packing and transporting explosives and detonators from store to site and recording issues and returns.
- **b.** Site assessment, including exclusion zones, setting out sentries and correct signs.
- **c.** Setting up basic electrical circuits, associated hazards and reading resistance.
- **d.** Setting up non-electric circuits with reference to the increased risk of shrapnel.
- **e.** Dealing with a misfire on both electric and non-electric.
- **f.** Priming basic explosives and pyrotechnics.
- **g.** Various signalling methods.
- **h.** The use of different types of firing devices.
- **i.** The correct methods of cutting detonating cord.
- **j.** The setting up of air overpressure meters.
- **k.** Safe handling of black powder.
- **l.** Safe set-up and firing of a number of basic effects.

11. Environmental Disturbance

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

- **a.** *Overpressure.* Causes and control.
- **b.** *Vibration.* Causes and control.
- **c.** *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

The two-day course is hosted at Event Horizon Ltd, Stagman Lane, Ashcott, Somerset, TA7 9BJ with the second day located at Highcroft Quarry, Binegar Bottom, Wells.

Event Horizon Ltd 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, Wells and Glastonbury.

Course Fees and Arrangements

The course fee is £1,000.00 (including VAT) and comprises of:

1. Course tuition by highly qualified staff.
2. Course books & explosive materials.
3. Final examinations & E-Certificates (via E-Mail).
4. Lunch and refreshments.

Delegates are expected to make their own travel arrangements to and from Event Horizon, as well as the Quarry (Practical demo day) and should arrive by *10.00am* for registration on the first day of the course.

A non-returnable deposit of £150 is required upon booking to secure a position on the course; the balance of £850 is payable prior to the start of the course.

How to Apply

To apply for a place on the course, please contact Event Horizon Ltd by:

1. Email: michelle@precisionenergetics.co.uk
2. By Post: Event Horizon Ltd
   Stagman Lane
   Ashcott
   Somerset
   TA7 9BJ
3. Visiting our website: https://www.precisionenergetics.co.uk/SFX1.html

Application Notes

All applications **must** submit the following:

1. Photographic ID
2. Completed and signed Booking Form and Prohibited Person Form.
3. £150 non-returnable deposit.

Joining Instructions

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