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# **The Fire Brigades Union**

## **Serious Accident Investigation:**

**Guidance for Safety Representatives and Officials  
dealing with the aftermath of Serious Safety Events**



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Following tragic events at operational incidents which led to the deaths and serious injury of firefighters, it was realised that a robust accident investigation process was needed as part of the unions system to assist Safety Representatives following these types of events.

Conference 2008 agreed to work with "all interested parties to create a protocol for fatal/serious accident investigations;" It was also called upon to create a team that could be "called upon to implement the agreed Fire Brigades Union process for fatal/serious accident investigations to support those local Officials."

This guidance will outline the process and also give guidance for all officials involved after fatal/serious safety events.

Regional Health and Safety Coordinators under the guidance of the National Officer with responsibility for Health and Safety will form the union's national team to take on the role of implementing the agreed process and supporting Brigade Safety Representatives conducting Serious Accident Investigations (SAI).

Regional Health and Safety Coordinators will be available to support local teams investigating safety events which may have National implications and carry out investigation reviews as necessary.

The introduction of the serious accident investigation process will assist the Union to develop a system of work which will enable the ongoing development of operational and training strategies at local, regional and national level.

This guidance builds on the basic principles of local accident investigation, further defining the role of a SAI, and gives more detail on the systems that are to be used to manage the Unions response to all levels of safety event investigations.

It is based on guidance given in HSG 65 ("Successful health and safety management" as amended 2000) and HSG 245 ("investigating accident and incidents 2004") to ensure that it is a transparent and an open process that can be audited at any time.

## Aims and Objectives

The guidance has been prepared to assist Safety Representatives and all Officials in achieving improvement in firefighter and public safety and ensure welfare of members and their dependants are taken care of through the following:

- An effective and rigorous safety event notification and investigation process
- A consistent approach to safety event investigation
- A high standard of safety event investigation
- Awareness of techniques and processes available to assist during an investigation
- The development of training for safety event investigators
- Provision of consistent welfare advice
- Provision of legal assistance where necessary
- Speedy action in respect of AIF/Death benefit

This guidance will concentrate predominately on the accident investigation elements of safety events as there are currently rules relating to Legal advice and the Accident and Injury Fund.

### What is a Serious Accident Investigation?

It's a systematic process which promotes a logical, consistent and professional approach to the investigation of safety events following systems failures, that have resulted in or had the potential to cause death, serious injury or major equipment failure, while providing an impartial and independent evaluation of the events which lead to the failure.

**John McGhee** National Officer, Health Safety and Welfare



## The Process

The SAI process will be used on behalf of The Fire Brigades Union. The very nature of the work requires assistance from the Executive Council, Regional Officials, Brigade Officials and members.

Safety Representatives will be investigating using rights that derive from the Health & Safety Act 1974, and the SRSC Regulations 1977.

The National Officer for Health and Safety has the responsibility for managing the FBU's commitment to the safety event investigation. The role requires the management of the procedures and systems to make sure that a professional, impartial and independent evaluation of the safety event is achieved.

The SAI process is to be used to investigate events that have placed or have the potential to place FBU members at significant risk. These may involve failures that have an impact on working practices across the Fire and Rescue Service, with the potential to place members at continued or further risk.

Safety event investigation within The Fire Brigades Union should be categorised within one of two levels:

- Serious accident investigation (SAI),
- Local accident investigation (LAI),

A safety event may be upgraded from an LAI to an SAI, or downgraded at any stage following the examination of evidence.

The implications of a safety event may not be immediately clear, but correct post event management will ensure that the correct response is made.

It is most likely that following a safety event that the Brigade Safety Representative will be the first official to be informed. Regulation 7 of The Regulations on Safety Representatives and Safety Committees, as amended by the Management of Health and Safety at work Regulations and the Health and Safety (Consultation with Employees) Regulations makes it necessary for employers to give Safety Representatives the information required to carry out their functions. In order to ensure that this happens speedily, arrangements should be made with individual Fire and Rescue Service managements to contact nominated officials as soon as possible following a safety event.

## Roles and Responsibilities

### Brigade Safety Representatives.

Brigade Safety Representatives should;

- Agree with their Fire and Rescue Service a procedure to ensure that FBU Brigade Safety Representatives (or agreed substitute) are informed, as soon as possible, of any safety event which occurs.
- Using initial information determine if the safety event will require to be dealt with as a Serious Accident Investigation or a Local Accident Investigation. If the information is insufficient to make this judgement the Brigade Health and Safety Representatives should conduct a preliminary investigation. (If any uncertainty exists in the mind of the Brigade Safety Representative they should take advice from the Regional Health & Safety Coordinator or National Officer.)

If the safety event is determined as having only local implications the Brigade Health & Safety Representatives will deal with this within local arrangements and prepare a short report.

On determination that a safety event may require a 'Serious Accident Investigation' the Brigade Health and Safety Representative will contact the Regional Health & Safety Coordinator or a National Officer.

### Regional Health and Safety Coordinators

Regional Health and Safety Coordinators on notification of a potential SAI, if in agreement that the safety event has implications beyond a local level, should immediately;

- Contact their Executive Council member
- Contact the National Officer with the responsibility for H & S
- Contact their Regional Executive
- Ensure the gathering of any initial evidence
- Establish contact with the FRS, HSE, and Police

- Make arrangements for a meeting to take place with those officials who will be involved in the investigation team ( this should be done in consultation with the National officer)

This will be arranged as soon after the decision as practically possible. Normally within 24 hours of the event. The National Officer will attend the meeting if available to do so. Consideration should be given at this stage to the tasks which may be required to be done in the short, medium and longer term. The make up of the team might include for example; Executive Council Members, Regional Officials, Brigade Secretary, Brigade H & S rep, officials to deal with the press, family liaison etc.

## National Officer for Health and Safety

When the National Officer has been informed that a safety event which necessitates a Serious Accident Investigation has occurred she/he will;

- Be responsible for notifying the General Secretary.
- Give consideration to further support which may be required throughout the duration of any investigation. (This might include the use of other national team members, experienced officials from other Brigades/Regions and outside professionals, the provision of additional IT Equipment).
- Arrange for a review of the investigation to take place at regular intervals to ensure a systematic approach is maintained and the focus of the investigation is kept.

Following the initial team meeting, it is essential that further meetings are arranged at regular intervals to discuss progress and direction of the investigation.

## Serious Accident Investigation Team

At the earliest opportunity The Regional Health and Safety Coordinator will organise a meeting as described earlier.

This meeting should be used to gather details of the safety event and begin to allocate roles for officials to deal with.

The objectives of the team will be,

- To arrange for the collection of all relevant information and evidence relating to the incident and the individuals or equipment involved.
- To analyse the evidence gathered and identify immediate and underlying causes (if immediate causes are identified, these must be communicated to the employer, in line with the SRSC regulation and the Health and Safety Act 1974.)
- Writing a Report of the event with recommendations for improvements or action to be taken
- To make sure the welfare of members is monitored

It may also be necessary

- To ensure legal assistance is provided
- To ensure Head Office are given all documents required for the administration of the AIF (if applicable)
- To liaise with head office for the administration of any remembrance fund
- To safeguard the welfare of other team members
- Liaison with the Press
- Established contact as soon as practical, and appoint family liaison
- Maintain communication with members

These tasks should be discussed with the EC member and Regional Secretary who should coordinate these elements of the teams work.

## Evidence Collection

This section indicates the primary categories of evidence and provides guidance on good practice for evidence collection and management. Standard forms are provided to support a consistent approach to safety event management. (See appendix G).

Evidence is generally divided into the following categories:

- a) Visual inspection of the scene
- b) Photographs/video/security cameras
- c) Reconstruction
- c) Statements written or recorded – (See Appendix F for guidance)
- d) Expert inspection and report
- e) Records
- f) Standards
- g) Disclosable information

## Initial Evidence Gathering

Table 1 which is included in Appendix A gives details of the general principles to be adopted when collecting evidence. Following these principles will ensure a systematic and professional approach to collating and recording evidence. Appendix A also details examples of general evidence which should be collected.

## Analysis of Evidence— Urgent Risk Critical Factors

A number of tools are available which can assist in the structured analysis of evidence. This section describes briefly some of the primary tools and indicates when their use may be appropriate.

- Successful health and safety management by HSE (HSG 65)
- Investigating accidents and incidents by HSE (HSG 245)
- Sequence time event plotting (STEP chart) and events and causal factors analysis (ECFA)
- Fault tree analysis

HSG 65 is to be used as the standard method of analysing events to determine the why.

This provides a systematic sequence that can be followed to eventually identify the underlying causes. For complex incidents, it can help to complete a STEP chart or ECFA. These consist of plotting actions or events against time. Fault tree analysis is an analytical tool which supports the HSG 65 method. A fault tree depicts all of the events that could cause a system to fail. It is a diagrammatic way of analysing an event without becoming bogged down in the detail of a report.

## HSG 65

Successful health and safety management (HSG 65) was prepared as a practical guide for directors, managers, health and safety professionals and employees' representatives who wanted to improve health and safety within their organisations.

The message it conveys is a simple one: Organisations need to manage health and safety with the same degree of expertise and to the same standards as other core business activities, if they are to effectively control risks and prevent harm to people.

HSG 65 has been accepted as providing sound guidance on good practice in health and safety management, and in recent years the HSE has used it as a tool to measure organisations' systems and performance. Experience has shown that the adoption

of the principles contained in the document during the accident investigation process enhances the structure and quality of the final report. It clearly identifies the matters under investigation and the issues evaluated.

The HSG 65 method of analysing the immediate and underlying causes of events is reproduced in Table 2 (which is included in Appendix B) The adequacy of workplace precautions should be considered first to identify immediate causes.

## Immediate causes

- Premises
- Plant and substances
- Procedures
- People

## Underlying causes

(which are failures in risk control systems)

- Planning
- Assessing risks
- Organisational: control
- Organisational: cooperation
- Organisational: communication
- Organisational: competence
- Monitoring
- Review

The underlying causes are the reasons why the immediate cause occurred. Analyse significant failures from the four immediate cause categories by identifying the underlying causes, supported by evidence, which led to them.

## Sequence time event plotting (STEP Chart) and events and causal factors analysis (ECFA)

These are methods of collating information and producing charts illustrating the events and factors involved in a safety event/accident and how they are related.

Key actions are identified from statements and a logical sequence is established. These methods not only clearly show the details of an incident, they assist in identifying information that is missing or inaccurate. Well structured charts provide a good framework for a written report.

## Fault tree analysis

Fault tree analysis starts with an undesired outcome and systematically identifies how failures in parts of systems and/or human errors contribute to the safety event/accident. The outcomes used in fault tree analysis are known as the top events.

Once a top event has been identified, the fault tree is constructed by identifying all possible combinations and sequences of events, which could result in the top event. See Appendix C.

Complex SAI may require the use of more than one method to identify underlying causes, the many individual issues that conspire to the outcome can, if required, be investigated separately using the appropriate method.

## Conclusions

The analysis of evidence will identify the following:

1. Where specifications or standards are inadequate
2. Where specifications or standards are adequate, but not properly implemented
3. Where specifications or standards are absent.





## Report Writing

The format to be used when drafting and presenting SAI reports is outlined in Appendix D

All documentation used as evidence in the completion of the final report are to be retained and stored in an appropriately marked case file.

Any items of evidence, which are required to be retained, are to be labelled and kept.

## Welfare of Serious Accident Investigation Team Members

All members of a serious accident investigation team should remember that the process may be lengthy and expose them to stressful situations. Team members must not take on too much work and should if they are concerned about their own or any other team members involvement or health, inform the National Officer. The National Officer will be responsible for organising support for individuals or groups of team members. Officials can also use the unions Stress Helpline at any time.

## Serious Accident Investigation Tool Kit

The Fire Brigades Union will issue Regional Health and Safety Coordinators with a tool kit to be used for investigations. Appendix E indicates what should be included in the kit.

These items have been selected as they have proven useful to investigators in the past.

The Tool Kit will be reviewed periodically.



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**Table 1 – Initial Evidence Gathering**

Evidence category	Action
Visual inspection of the scene	<ul style="list-style-type: none"> <li>● Draw diagrams of the scene which can be used later at interviews/with questionnaires.</li> <li>● Check route to incident. What could the driver or manager have seen en route?</li> <li>● Establish relationship with the FRS/Police/HSE if they are in attendance.</li> <li>● Make sure that notes are marked with the date of inspection and pages are numbered for ease of identification at a later date.</li> <li>● Make sure that any notes made are signed, time and dated.</li> <li>● Identify witnesses (FRS staff and others).</li> </ul>
Photographs/video	<ul style="list-style-type: none"> <li>● Gather photographic evidence. Or agree to use FRS/Police/HSE photographs.</li> <li>● Direct the photographer. If you do not, they may concentrate on the fire scene or the casualty. Check shot through the camera lens if necessary</li> <li>● Get photographs of the site as a whole.</li> <li>● Focus on the location where the event took place</li> <li>● Take a series of photographs that follows the sequence of events.</li> <li>● If a photographer was already in attendance when the event happened, then review any photographs/video footage which was taken before the event if possible. Get copies if possible.</li> <li>● Photograph BAEC boards, incident command packs etc. and print off electronic white boards inside any command unit.</li> <li>● Be methodical and systematic in taking any photographs and take as many as possible, they can always be destroyed later if of no use.</li> <li>● Be aware that you will probably only get one opportunity to record the scene of the event in its original condition.</li> <li>● If appropriate, give consideration to the future use of photographs/video court proceedings etc. A little more thought during this stage can provide untold benefits for future.</li> <li>● The event may be of such a nature that it has attracted the press and local amateur photographers. These individuals may be a good source of pictorial evidence and through negotiation and liaison they could be made available to use.</li> <li>● The FRS's have the facility to transport items of evidence from the scene to a location where more detailed studio photographs can be taken. If this needs to be done, make sure that correct evidence handing over procedures are followed and full access is available.</li> </ul>

Evidence category	Action
Reconstruction	<p>It is unlikely that the FBU will have the resources to carry out reconstruction, however the SAI Team may be invited to observe.</p> <p>Remember: there is nothing more dangerous than recreating a dangerous situation. Additional control measures may be needed.</p> <ul style="list-style-type: none"> <li>● Ensure that all investigators (FRS/Police/HSE) on site are there to witness reconstruction.</li> <li>● When you first attend the site limit reconstruction to demonstrating what happened/ what individuals did. Evidence lost due to well intentioned individuals carrying out a reconstruction may cause problems at a later date.</li> <li>● The SAI Team should consider videoing the reconstruction, as it is a successful evidence-gathering tool.</li> <li>● The advantage with reconstructing an event is that it may jog the memories of the participants and provide a lot more detail.</li> <li>● The evidence provided needs to be judged on its merits. It may also use a lot of resources.</li> </ul>
Statements	<ul style="list-style-type: none"> <li>● As soon as possible, identify witnesses and/or injured person(s) and record personal and contact details, for example, name, phone number, role, base station/normal place of work.</li> <li>● Agreements with Police/HSE will need to be made following a workplace death, this should include any releasing of statements to be jointly used to reduce statement conflict and protect individuals.</li> <li>● Statements to record what an individual can recall of their actions or what they witnessed can be prepared by the individual or the SAI during an interview.</li> <li>● On occasions when it is not possible to organise interviews immediately, or where key witnesses have been identified, individuals could be requested to write notes (these should be dated and signed). This is to avoid the possibility of people forgetting information or formulating a view or opinion after discussing the event with colleagues.</li> <li>● An interview will provide a more focussed statement.</li> <li>● Before requesting a statement, consideration must be given to the condition of witnesses, timing and sensitivity.</li> <li>● If the event involves a large number of witnesses, or is complex, wait until you have had an SAI team meeting to review the evidence so far and decide: <ul style="list-style-type: none"> <li>(a) who is to be interviewed and in what order</li> <li>(b) the range of questions to be covered</li> <li>(c) whether to use site plans, photographs and video to brief the interviewees.</li> </ul> </li> <li>● If there are a large number of witnesses, it can help to use a questionnaire to establish the sequence of events and identify the key witnesses.</li> </ul>

Evidence category	Action
Statements <i>continued</i>	<ul style="list-style-type: none"> <li>● Where possible interview in pairs as this allows the interview to flow while a record is being made.</li> <li>● Whether to use site plans, photographs and video to brief the interviewee should be disclosed prior to the interview taking place to avoid any sensitive issues.</li> </ul> <p>If vehicle or equipment failure is suspected, the involvement of technical experts may be required. These should be agreed prior to testing equipment you may wish to consider consulting manufacturers, HSE/HS laboratory or other independent experts.</p>
Expert inspection and report	<p>Impounding equipment might be an action taken after a safety event. If so consider;</p> <ul style="list-style-type: none"> <li>● If it is necessary for equipment to be examined in situ at the scene of a safety event, what tests are to be carried out and by whom.</li> <li>● Persons to be present.</li> <li>● If equipment is removed for examination by an approved expert at a specific location, clear guidance must be provided. It is crucial that we understand what is to be examined, how and why. Experience suggests that the most effective way is to meet with the examining expert to discuss the event and draft a short work specification.</li> <li>● When undertaking specialist examinations or tests the FRS, as owners, may have primacy, unless the HSE or Police are involved. The FRS is responsible for the management of the process and a detailed Report will be required.</li> </ul>
Records	<p>These may include:</p> <ul style="list-style-type: none"> <li>● training records</li> <li>● procurement records</li> <li>● policies and procedures</li> <li>● personal absence record cards</li> <li>● job cards</li> <li>● maintenance records</li> <li>● log books</li> <li>● FRS Control incident reports</li> <li>● incident log from FRS Control</li> <li>● risk assessments.</li> </ul> <p>Getting copies of records can create suspicion, so when records are requested, explain what you are doing and why. Make sure that a request is sent and logged and /or a receipt is provided when removing documents from the workplace. In the majority of cases, original documents are to be retained as part of the investigation. If it is not possible to retain an original document, make a photocopy and sign and date when the copy was made. If the document only exists in electronic form, print off a copy and sign and date when it was printed off. In all cases, record when the originals or copies are collected and kept.</p>

## Underlying Causes (Failure in Risk Control Systems) Management Arrangements

### 1. Planning

Risk control systems (RCSs) are necessary for the supply, use, maintenance, demolition and disposal of premises and the supply, storage, handling, use, transport and disposal of plant (including all types of equipment), and substances.

Where inadequate procedures for premises, plant and substances have been provided, consider the adequacy of the RCSs for the:

#### Premises:

- design of structures/buildings
- control of structural design changes
- selection of buildings/workplaces
- purchase of buildings/workplaces
- maintenance of buildings/workplaces
- security
- demolition.

#### Procedures:

- preparation, circulation, revision
- practicality
- technical adequacy.

#### Plant and Substances:

- design of plant/equipment
- control of design changes
- selection of plant/equipment
- supply of plant
- selection or purchase of substances
- supply of substances
- construction and installation of plant
- transport of plant and substances
- maintenance
- commissioning
- selection of equipment on hire
- control of equipment in use by contractors
- changes to process/plant/equipment/substances
- emergency arrangements
- decommissioning/dismantling
- disposal of plant and substances

Where RCSs are absent or inadequate, consider risk assessment arrangements – go to 2.

Where RCSs are not used, consider:

- changes to risk assessment
- communication.
- changes to organisation: control – go to 3.
- people
- monitoring - go to 7.

Where procedures involve contractors, consider competence – go to 6.

## 2. Assessing Risks

Consider the adequacy of risk assessment arrangements – if methods of hazard identification and risk assessment are:

- absent – consider Organisation: control – go to 3.
- inadequate – consider competence of those choosing them – go to 6.
- adequate but not used – consider:
  - ⊗ Organisation: control – go to 3.
  - ⊗ monitoring – go to 7.
- satisfactory but the results are inadequate – consider:
  - competency of those using them – go to 6.
  - adequacy of technical standards used – go to 5.
    - ⊗ clarity of results – go to 5.
    - ⊗ involvement of appointed safety representatives – go to 4.

## 3. Organisation: Control

Where arrangements/procedures/systems are absent, not used or supervision is inadequate, consider the responsibilities of those devising, operating and maintaining the procedures/systems. Ask:

- are responsibilities clearly set out?
- are responsibilities clearly understood?
- do those with responsibilities have the time and resource to discharge their responsibilities?
- are people held accountable for discharging health and safety responsibilities?

## 4. Organisation: Cooperation

Consider how those working with risks are involved in risk assessment and devising procedures (including the operation of any health and safety committee) If inadequate consider:

- competence – go to 6.
- the adequacy of serious management commitment to cooperation.
- the adequacy of consultation with appointed safety representatives.

## 5. Organisation: Communication

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Consider:

- is there sufficient, up to date information on law and technical standards to make good decisions about how to control risks?
- are written instructions for internal use clear and in sufficient detail?
- are the up to date versions of instructions available?
- is there sufficient information supplied to the users of products?
- is there sufficient visible serious management commitment to health and safety?

## 6. Organisation: Competence

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Consider the adequacy of arrangements for:

- recruitment/selection and placement to check that people have the necessary competencies for their role
- assessing the health and safety competence of contractors as part of contractor selection
- identifying health and safety training needs at recruitment, when there are changes in staff, plant, substances, technology, processes or working practices. The need to maintain or enhance competence by refresher training, and the presence of contractors' employees, the self-employed or temporary workers (and assessments of competence)
- competent cover for staff absences, particularly for those people with critical health and safety responsibilities and emergency procedures
- health checks and health surveillance based on risk assessments (including assessments of fitness for work, following injury or ill health)
- provision of health and safety assistance.



## 7. Monitoring

Consider the adequacy of the checks and inspections made of the workplace precautions and risk control systems before an accident (were they frequent enough, and did they look at the right things in sufficient detail to ensure the safe use of premises, plant and substances and the implementation of procedures?)

If checks were:

- absent – consider Organisation: control – go to 3.
- not adequate – review risk assessment arrangements – go to 2.
- not completed – consider Organisation: control – go to 3, and review – go to 8.

Consider any previous accident/incident events similar to this one and examine if the investigation or lessons are helpful. If previous events have not been thoroughly investigated, consider:

- organisation: control – go to 3.
- competence – go to 6.

If the lessons have not been put into effect, consider:

- organisation: control – go to 3.
- organisational: review – go to 8.

## 8. Review

Consider the arrangements for following up actions to remedy health and safety problems.

If work is outstanding beyond the deadline, consider:

- organisation: control – go to 3
- adequacy of resources and commitment to health and safety.

If a second incident occurs before corrections were made, consider:

- mechanisms for prioritising remedial actions in investigation process; competence of those prioritising remedial actions – go to 6.

## Additional Information for Event Investigation (Disclosable Documents)

### General

As a matter of course, the following documents should always be looked for in an investigation:

- (i) accident book entry
- (ii) first aider report
- (iii) line manager's report
- (iv) safety representative's accident report
- (v) RIDDOR report to HSE
- (vi) minutes of Health and Safety Committee meeting(s) where accident/related matter considered.

### Disclosure Where Specific Regulations Apply

The following section details specific information that will be considered by a court as being relevant to an investigation where specific regulations exist. This is a useful list for the serious accident investigator to consider when gathering information/evidence.

Documents produced to comply with requirements of the Management of Health & Safety at Work Regulations, 1999

- (i) Pre-accident risk assessment
- (ii) Post-accident re-assessment
- (iii) Accident investigation report
- (iv) Health surveillance records in appropriate cases
- (v) Information provided to employees
- (vi) Documents relating to the employee's health and safety training

### Section A – Workplace (Health Safety and Welfare) Regulations, 1992

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- (i) Repair and maintenance records
- (ii) Housekeeping records
- (iii) Hazard warning signs or notices (Traffic routes).

## Section B – Provision and Use of Work Equipment Regulations, 1992

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- (i) Manufacturers' specifications and instructions in respect of relevant work equipment
- (ii) Maintenance log/maintenance records
- (iii) Documents providing information and instructions to employees
- (iv) Documents provided to the employee
- (v) Any notice, sign or document relied upon as a defence to alleged breaches of Regulations dealing with controls and control systems
- (vi) Instruction/training documents issued to comply with the requirement of Regulations dealing with maintenance operations where the machinery is not shut down

## Section C – Personal Protective Equipment at Work Regulations, 1992

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- (i) Documents relating to the assessment of the Personal Protective Equipment (PPE)
- (ii) Documents relating to the maintenance and replacement of PPE
- (iii) Record of maintenance procedures for PPE
- (iv) Records of tests and examinations of PPE
- (v) Documents providing information, instruction and training in relation to the PPE
- (vi) Instructions for use of PPE to include the manufacturers' instructions.

## Section D – Manual Handling Operations Regulations, 1992

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- (i) Manual handling risk assessment
- (ii) Re-assessment carried out post-accident
- (iii) Documents showing the information provided to the employee to give general indications related to the load and precise indications on the weight of the load and the heaviest side of the load if the centre of gravity was not positioned centrally
- (iv) Document relating to training in respect of manual handling operations and training records.

## Section E – Health & Safety (Display Screen Equipment) Regulations, 1992

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- (i) Analysis of workstations to assess and reduce risks
- (ii) Re-assessment of analysis of workstations to assess and reduce risks following development of symptoms
- (iii) Documents detailing the provision of training including training records
- (iv) Documents providing information to employees.

## **Section F – Control of Substances Hazardous to Health Regulations**

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- (i) Risk assessment carried out
- (ii) Reviewed risk assessment carried out
- (iii) Copy labels from containers used for storage handling and disposal of carcinogenics
- (iv) Warning signs identifying designation of areas and installations, which may be contaminated by carcinogenics
- (v) Documents relating to the assessment of PPE
- (vi) Documents relating to the maintenance and replacement of PPE
- (vii) Record of maintenance procedures for PPE
- (viii) Records of tests and examinations of PPE
- (ix) Documents providing information, instruction and training in relation to the PPE
- (x) Instructions for use of PPE to include the manufacturers' instructions
- (xi) Air monitoring records for substances assigned a maximum exposure limit or occupational exposure standard
- (xii) Maintenance examination and test of control measures records
- (xiii) Monitoring records
- (xiv) Health surveillance records
- (xv) Documents detailing information, instruction and training including training records for employees
- (xvi) Labels and Health and Safety data sheets supplied to the employers to comply with the CHIP Regulations.

## **Section G – Construction (Design and Management) Regulations, 1994**

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- (i) Notification of a project form (HSE F 10)
- (ii) Health and Safety plan
- (iii) Health and Safety file
- (iv) Information and training records
- (v) Records of advice from and views of persons at work.

## **Section H – Lifting Plant and Equipment Regulations, 1998**

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- (i) Records kept.

### **Section I – Pressure Systems Safety Regulations, 2000**

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- (i) Information and specimen markings provided
- (ii) Written statements specifying the safe operating limits of a system
- (iii) Copy of the written scheme of examination
- (iv) Examination records
- (v) Instructions provided for the use of the operator
- (vi) Records kept.

### **Section J – Noise at Work Regulations, 1989**

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- (i) Any risk assessment records
- (ii) Manufacturers' literature in respect of all ear protection made available
- (iii) All documents provided to the employee for the provision of information.

### **Section K – Construction (Head Protection) Regulations, 1989**

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- (i) Pre-accident assessment of head protection
- (ii) Post-accident re-assessment.

### **Section L – The Construction (Health, Safety & Welfare) Regulations, 1996**

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- (i) Report prepared following inspections and examinations of excavations etc
- (ii) Report prepared following inspections and examinations of work in cofferdams and caissons.

Consider each of the first four boxes in Table 2. Follow the directions to other boxes to complete the analysis of all immediate and underlying causes.

**Table 2 – Analysing the Cause of Safety Events – Immediate Causes**

1 Premises	2 Plant and Substances	3 Procedures	4 People
<p>Consider the premises and place of work first. Was there anything about the place, the access or egress which contributed to the event? For example, oil on floor causing slipping, inadequate weather protection</p> <p>Were the premises a significant factor? No – Go to column 2 Yes – See below</p>	<p>Did equipment or substances contribute to the event?</p> <p>Were equipment, plant and/or substances a significant factor? No – Go to column 3 Yes – See below</p>	<p>Did procedures contribute to the event?</p> <p>Were correct procedures used? No – Go to column 4 Yes – See below</p>	<p>Consider the behaviour of the people involved. Did they do or fail to do anything which contributed to the event?</p> <p>Was a person's behaviour a significant factor? No – Review, 1, 2 and 3 Yes – See below</p>
<ul style="list-style-type: none"> <li>● There was a defect. Check maintenance/history of defects. Was the defect caused by incorrect use? Is it a maintenance issue? Was there a defect? Adequate premises/access/egress provided but not used? Consider working procedures. Go to column 3</li> <li>● There were inadequate control measures.</li> <li>● The premises were not adequate.</li> </ul>	<ul style="list-style-type: none"> <li>● Defective equipment was caused by a maintenance/testing failure</li> <li>● The equipment or substances were not being used as designed</li> <li>● Adequate controls were not provided. For example, manual handling, noise.</li> </ul>	<ul style="list-style-type: none"> <li>● Correct procedures exist but were not used. If so, consider:                             <ul style="list-style-type: none"> <li>● Are the procedures accurate clear and written in plain English?</li> <li>● Was the supervision adequate?</li> <li>● Behaviour of person – go to column 4.</li> </ul> </li> <li>● Correct procedures once existed but not used now. Consider:                             <ul style="list-style-type: none"> <li>● Was the supervision adequate?</li> <li>● Adequate procedures never existed.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Behaviour was significant:                             <ul style="list-style-type: none"> <li>● Person took the correct action but in the wrong way</li> <li>● Person forgot to take the correct action</li> <li>● Selected the wrong action</li> <li>● Purposely took the wrong action (possible of either ignorance or with malicious intent).</li> </ul> </li> <li>● Consider:                             <ul style="list-style-type: none"> <li>● Training</li> <li>● Communication</li> <li>● Controls/supervision monitoring.</li> </ul> </li> </ul>

## Analysis Of Evidence

### Sequence Time Event Plotting (STEP Chart)

This process is relatively straightforward and valuable in the understanding of an event. The construction of a STEP chart involves the identification of actions in relation to known times and the plotting of this onto a chart. Service Control log reports, BA boards, telemetry downloads from BA sets and vehicles, and individual statements are good sources of information for establishing approximate times for when actions were taken or key events occurred.

### Events And Causal Factors Analysis (ECFS)

Like the STEP chart, this is a method of collating information from a safety event, but it is a little more sophisticated and produces a chart illustrating the events/actions and causal factors involved in an incident and how these interrelate.

As with any technique, competence will only come with training and usage. Both these methods provide a good framework for the preparation of a written report of an investigation.

### Fault Tree Analysis

Fault tree analysis starts with an outcome and systematically identifies how the failures of individual parts of the system and human errors contributed to the outcome.

The outcomes used in fault tree analysis are known as top events and they are usually the most serious consequence identified. Typical top events are explosions, fires, fatalities and serious injuries. The fault tree is constructed by identifying all possible combinations and sequences of events, which could result in the top event. Logic gates are used to connect the combinations, either with an **AND** gate or with an **OR** gate. Setting the fault tree out in graphic form on different levels identifies sequences of events.

(See diagram No. 1 for simple example)

The dotted line in the diagram indicates that the fault tree needs to be continued. Successive levels of the fault tree need to be added until a basic cause is identified.

Standard terminology dictates that when a basic fault is reached it is shown on the diagram by a circle to indicate the end point for any given branch of the fault tree. Qualitative analysis involved identifying the most important points at which the fault tree can be interrupted, thus preventing the top event. In general, the best points for interruption are as follows:

- Basic causes at high levels in the fault tree, since these are the least likely to be filtered out at logic gates above them
- **AND** gates, since removal of any of the entries to the gate will block this branch of the fault tree.

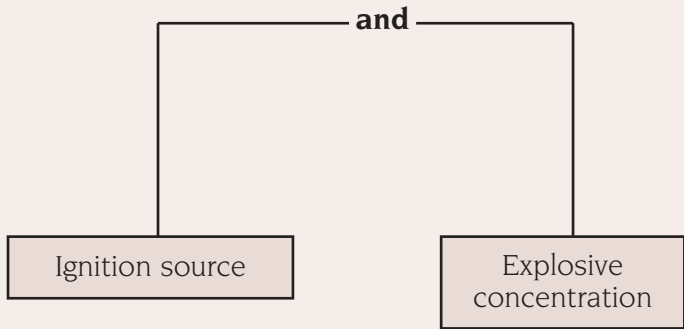
(See diagram No. 1 – Part of fault tree for boiler explosion) (All diagrams courtesy of *Health & Safety: RISK MANAGEMENT* by Dr Tony Boyle)

**Diagram No. 1**

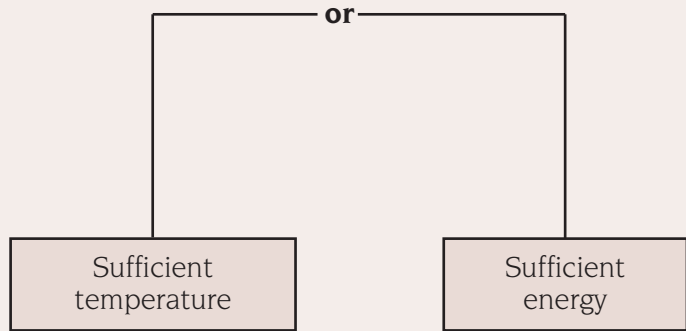
**Top event**



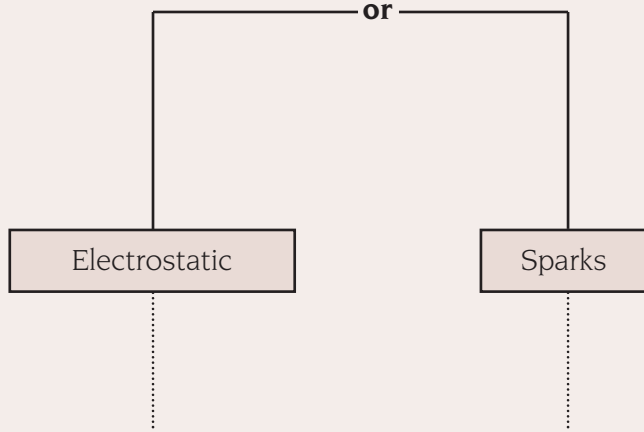
**1st level**



**2nd level**



**3rd level**





## Report Writing

The following format is to be used when drafting and presenting SAI reports.

All documentation used as evidence in the completion of the final report is to be retained and stored in an appropriately marked case file.

Any items of evidence, which are required to be retained, are to be labelled and kept.

Title

SAI Team (*insert names*)

A report on the investigation into (*complete paragraph by describing the event under investigation, for example, the alleged failure of appliance DPL123's brakes.*)

(*insert investigator's name*)

Ref:

Contents

1. Title
2. Synopsis
3. Sequence of events
4. Evidence collection
5. Analysis of evidence
6. Conclusion
7. Recommendations
8. Appendices

A – Statements, questionnaires and record of interview

B – Expert reports

C – Standards

D – Records

E – Photographs and video

*(The appendices are supporting information to the body of the report and their content will vary according to the nature of the event under investigation. The above headings are the most commonly used.)*

*(The contents page is the last page of the report to be written. Ensure that each element of the contents is clearly identified by page number.)*

## 2. Synopsis

- 2.1 Date: the date of the safety event, not the date the report is being written.
- 2.2 Time: time the safety event occurred. If not known it is all right to state "approx xxxxhrs" or "between yyyyhrs and zzzzhrs". Use the 24 hour clock.
- 2.3 Safety event number: a unique number or name
- 2.4 Location: where the safety event occurred. Be as accurate as possible providing full postal address and the location where the event occurred. This could be inside (identify the room) or outside (roadway, car park, garden and so on).
- 2.5 Injuries: name of injured person(s) and injuries sustained.
- 2.6 Safety event: provide a short description of the activity being carried out, who was involved, what happened and the injuries sustained, if any. If equipment was being used or involved make sure that it is included within the description  
  
for vehicle accidents indicate what the vehicle was doing, the details of its journey, if appropriate, and briefly what happened.

## 3. Sequence Of Events

- 3.1 A statement is required within this section to provide the reader of the report with a clear understanding of the order in which things occurred. It is to be more detailed than the synopsis and should contain the significant happenings, and be comprehensive and concise.

The sequence of events can start minutes, hours, days or weeks before the event occurs. Make sure that adequate consideration is

given to identifying the sequence of events.

For example, "Ff B fell on some oil after dismounting from the appliance." This sequence does not tell the reader anything about the circumstances leading to the accident.

Now consider the following: "Ff A was detailed to clean a pool of oil from the appliance bay floor. Owing to a fire call at 1215hrs, this was not done. When crews returned from the call, Ff B dismounted from the appliance, did not notice the oil and slipped on it." The second sequence of events has explained more than simply the slip. It shows that a hazard had been identified, but it was not dealt with.

The sequence of events may not emerge fully until after all the statements have been taken from those directly involved and any witnesses. Careful consideration should be given to question construction at the early stages of an investigation to ensure the accuracy of the sequence of events. It is quite possible for two people to witness the same event yet interpret the order of actions quite differently.

If you are dealing with a complicated sequence of events or an event that runs over a number of days, weeks, or months, set the sequence out so the reader can see how the event developed, for example:

23 June 2003

1100hrs

Ff Smith detailed...

1130hrs

Fire call...

By breaking things down in this way, you can see how the event comes about.

When you find that you are dealing with an event over a short period of time, but actions in a number of places are working together to cause the event, then present the information so the reader can see what is happening in all the relevant places at the same time, for example:

0258hrs

Rear of the premises:

Watch manager B (WMB) forces open the back

door and sends a radio message to the other officers which is not acknowledged.

Front door:

The watch manager A (WMA) shouts to the crew manager (CM) on the roof of the garage that the front door is about to be forced. He gets no reply, and forces the front door open. As he looks through the property, he sees the WMB's white helmet through the open kitchen door.

Garage roof:

The CM sees the BA crew enter through the second floor window. He does not hear the warning about the front door.

0259 hours

Second floor bedroom:

The Ff opens the door on to the landing. He feels a momentary rush of air, realises that a backdraught is about to occur, but cannot close the door quickly enough and is engulfed in flame.

Street opposite house:

The Station Manager (SM) sees the second floor bedroom turn orange and a sheet of flame exit the building.

For vehicle accidents, always record the details of the vehicles involved in the sequence of events and wherever possible indicate direction of travel, for example: "The pump (DPL 241, registration number NHW243V) was travelling south towards Stoke on Trent; the lease car (BMW 316, registration number HKL789N) was travelling along the same street going north." Include geographic grid square/s references where the accident happened. Identify the driver of the other vehicle.

For accidents at operational incidents, you can use the times in the Service Control incident log/transcripts as the time line for your sequence of events.

#### 4. Evidence Collection

4.1 This section will reflect the sources of the evidence used to gather information during

the investigation. It may contain some or all the categories listed below, or other sources not mentioned.

- Visual inspection at the scene
- Photographs
- Statements
- Expert inspection and report
- Records
- Standards
- Literature review i.e. IRMP, OPS Assurance, Statuary Regs, BSEN Standards, CE Standards.

#### 4.2 Visual Inspection At The Scene

Make sure dates, times, those present and observations are recorded. Use video and/or photographs. Use a Dictaphone to record observations if conditions do not allow you to write down what you see.

#### 4.3 Photographs/Video/Security Cameras

This section should contain a brief description of what the photographic/video evidence (contained within the appendices) depicts. There must be sound practical reasons for including this type of evidence. An image will greatly assist the understanding of the event, but do not get drawn into providing images that make no contribution to the report.

All photographs must be captioned. Surplus photographic/video material should be retained within an appropriately marked case file.

#### 4.4 Statements; Expert Reports; Records And Standards

For all these categories of evidence, appropriate extracts, which will make a significant contribution to the report, are to be included under their relevant headings, for example:

"The property was alight from the front door, up the stairs and in the loft. The fire was extinguished and the property ventilated."

(Statement – Ff Brown, Bradley Fire Station).

"No visible signs of excess heat within or around the unit. Left unit running satisfactorily."

(Expert report – OAC engineer's report 14 August, 2004).

"Paragraph 3.4 of the report states that the aims and objectives of this training are to provide staff with a wide range of realistic scenarios. These include exercises involving extensive use of BA guidelines, personal protective clothing, multiple rescues and the control of hazardous substances utilising a variety of extinguishing media." (Record FCD 4094, dated 25 February, 1993).

"Temperature monitoring of compartment fire training facilities should be continuous and recorded. The temperature measuring devices should be appropriately positioned so that they can cover the structure itself and the environment within which students and staff will occupy during an exercise."

(Standard – DCOL 11/1999, dated 19 July, 1999).

All extracts must be reproduced verbatim and are to be cross referenced with the relevant document contained within the appendices of the report. The identification of key information within the report saves time in reading supporting documents, avoids overloading the report with superfluous information and focuses the reader.

### 5. Analysis Of Evidence

5.1 This section involves the interpretation of the evidence gathered and the identification of its significance.

At this stage of the investigation, the immediate and underlying causes should be emerging clearly and supporting evidence will have been identified.

5.2 All safety event investigations require the what, how and why questions to be answered.

The what is usually quite clear, but it is the how and why that may not be so obvious.

5.3 More than one possibility may exist as to how an event occurred. Each must be considered and an analysis of the evidence carried out, with decisions being made on the basis of the supporting evidence.

5.4 The why of a safety event is constructed from the significant failures identified from HSG 65 and are supported by evidence. The adequacy of workplace precautions should be considered first to identify immediate causes

The first step is to identify significant failures from the immediate causes category. The second step is to identify which of the underlying causes led to the immediate causes. Do not waste time by examining categories for which there is no evidence of failure: state that there is no evidence and move on. This shows that the issue or circumstances have been considered as part of the investigation.

#### Example

The appliance bay door descended out of control when a cable snapped. (What and how)

The immediate causes of this event were:

- The door had a safety device fitted, which met legal requirements, but was not failsafe. (*Premises*)
- The system for maintaining appliance bay doors was inadequate. (*Procedures*)

The underlying causes for this failure were:

- No service manual was available for the door. (*Organisation: communication*)
- There is no contractor's policy (*Organisation: competence*)
- The system for monitoring defects was not effective (*Organisation: control*)

5.5 The report author is required to explain what the evidence is stating using clear, concise, plain English. The analysis should be done using suitable headings and sub headings. Clear cross referencing should be provided linking the analysis with the appropriate paragraphs(s) within the evidence section of the report.

Example:

5.6 Analysis of evidence

5.7 Real fire training members/students suffered from the effects of exposure to heat during exercises at the Fire Service College,

Note: References given during this analysis are paragraph numbers from this report, which relate to documents contained within the appendices.

5.8 Immediate cause(s)

The members/students were exposed to high temperatures for too long.

5.9 Temperature measurement

The inadequacy of the temperature measuring and monitoring equipment within the FSC fire houses was identified in 1997. In November 1999, the temperature sensors were still defective and no means existed to measure and record temperature. (Paragraph 4.16, 4.18 and 4.78).

5.10 An indication that temperatures/exposure have reached levels of intolerability was noticed when members/students were observed wearing more than one fire hood. (Paragraph 4.92).

5.11 Underlying cause(s)

Inadequate risk assessments

5.12 Health and Safety legislation places a duty on employers to make suitable and sufficient assessments of risks to health and safety and record any significant findings. Fire Service Circular 5/1996 reiterates the need for appropriate risk assessments to be carried out and provides guidance on the matters to be considered. (Paragraph 4.116, 4.119, 4.120, 4.121, 4.122, 4.123 & 4.128).

## 6. Conclusion

6.1 This is probably the most important section of the report. Many readers will turn immediately to this section before reading any other part. It needs to identify clearly: what has happened, how it happened and what the immediate and underlying causes were.

6.2 It must be structured in a logical, clear, reader friendly style which identifies the significant

issues involved with the safety event, for example:

## 6. Conclusion example

6.1 Eight safety events occurred between xx September, 19.. and yy November, 19.., involving 17 members attending real fire training (RFT) at the Fire Service College. All suffered from the effects of exposure to heat.

6.2 The failure to provide temperature monitoring and recording as part of the environmental management system increased the risk of exposing students to high temperatures for too long.

6.3 The lack of an organisation risk assessment policy and guidance and training for staff has resulted in the preparation of risk assessments for the real fire training exercises which are not suitable and sufficient. Generic assessments have been prepared for situations, which are inappropriate. The assessments failed to identify the conditions that have occurred and the deficiencies in systems.

6.4 To manage RFT safely, many arrangements, systems and procedures need to be established and understood clearly by all involved. Several of these have been examined during this investigation and weaknesses have been found in all.

## 7. Recommendations

Throughout every SAI, consideration must be given to the need for the preparation of recommendations to help prevent a recurrence.

Having identified the immediate cause and any underlying cause(s) for an accident, the investigator will begin to form views on the recommendations required to be taken.

Careful consideration must be given to the formulation of recommendations as they must be appropriate, achievable, and effective.

The recommendations and their implementation will be the responsibility of the Executive Council and the National Officer for Health and Safety.

All recommendations will contain the following information as detailed in the table below.

This is to make sure that the what, how and why questions have been fully answered, and that the investigation maintains consistency and the high standards required of an SAI by The Fire Brigades Union.

## 8. Appendices

The appendices section will contain whatever supplementary information is considered appropriate to support the body of the report. This includes video and voice tape recordings, photographs and technical reports.

Documents included within this section should be lettered for reference in the contents at the beginning of the report and referred to as appropriate within the body of the report. The appendices must provide support to the report. Documents and other material which are not directly referred to in the report must not be included in the appendix.

Appendices that contain extracts from larger documents, for example, Home Office manuals, should be clearly annotated so that the reader can locate the source if additional research is required.

Do not be tempted to burden the report with superfluous information, only include in the appendix the additional items needed to inform the reader.

Recommendations number	Recommendations required	Completion date	Recommendations by
Numerical numbering	Description of action to be taken	Date for completion of action	Individual/ organisation responsible for completion of action



## Tool Kit

The items listed below should be maintained by the Brigade Health and Safety Representative. Minimum quantities are indicated, but experience and your location may dictate additional stock needs to be carried.

### SAI kit

Lockable Bag; Camera; Torch; Dictaphone; 50m tape measure; 5m tape measure; Bump hat and High-viz jacket

### SAI kit – consumable items

The contents recommended as a minimum are shown in brackets next to each item.

Item	Description/minimum number
SAI pack of forms (containing)	FBU Accident Investigation Form (5) Administration Record Sheet (5) List of reference documents (2) Photographic Record Sheet (5) Equipment/material evidence copied or impounded (2) Statement cover sheet (10) Statement continuation sheet (30) Statement record/memo sheet (5) Information Request Form
Camera memory	4GB
Cassette tapes for Dictaphone	(10 30 mins – one in the Dictaphone)
Graph paper	(1 pad of 10 sheets)
Pens	(2 black and 1 red)
Scale ruler	(1)
30cm ruler	(1)
Pencils	(3)
Post-it notes	3 colours – 1 pad of each
Blutak	(1 pack)
Pritt stick	(1)
Highlighters	Various colours (1 pack)
Batteries	Size for torch, 1 spare set. Size AA for camera and Dictaphone (8– 2 in the camera, 2 in the Dictaphone and 4 spare)
Disposable camera	(2 – make sure cameras are within 'use by' date)

The National Officer for Health and Safety will make available additional IT Equipment for use in Serious Accident Investigations. This will be delivered to the Brigade Safety Representative as necessary.

## Interview Structure And Process

This section of the manual deals with interviewing people following a safety event. These may be joint interviews with other FBU safety reps. (note taker) or bodies such as Police, HSE or the employer. It is advisable not to conduct and interview alone. You may need additional information such as case studies and advice from SAI support to deal with some of the difficult situations that you find yourself in as a serious accident investigator.

It is important to make it clear that interviews after accidents are not disciplinary in nature, but are to seek the causes so that improvement can be made. Interviews may be difficult and unpleasant for the people being interviewed. It is most important that you maintain your role as an impartial investigator.

Try to approach any accident investigation interview with an open mind, and set aside any prejudices or views you may have. Your role is to gather the facts and present these facts in a way that allows the circumstances that lead to an accident to be identified. An interview conducted with pre conceived ideas or attitudes may lead to an imbalance in the report that allows its findings to be challenged.

### The Task

Getting the information you need without creating undue anxiety. It is not a conversation, not an interrogation, but a structured interview.

### Beginning

1. Introduce yourself and anyone else that will be present at the interview. Check contact details. Find a room suitable in size, with a comfortable place to sit where you won't be interrupted.
2. Explain why you are there and what form (written/recorded etc.) the interview will take.
3. Explain in what arena's the witness statement may be ultimately used i.e. Criminal Court, Coroners Court.
4. Try and put the person being interviewed at ease, and create a relaxed atmosphere discuss breaks in the interview, the process and any other relevant

information i.e. evidence to be used during statement.

5. Be clear you are not there to judge, challenge or evaluate.
6. Set a neutral emotional tone – acknowledge emotions or feelings without pursuing them. Be interested in what is being said, even if you have heard it a number of times already.

### Middle

7. Ask them to tell their story.
8. Listen.
9. Don't make notes at this point or interrupt. If you have someone to take notes let them do so, but make sure they are positioned in a way that they do not distract the interviewee.
10. Then ask if you can go back to the beginning so you can listen in a more structured way. Go through it all slowly, to enable you to get the facts and check that you understand.
11. If feelings come up, acknowledge them without encouraging them. You won't get the facts out of someone choked with emotions.

### End

12. Summarise at the end and then explain what will happen next. If you are not sure, say you'll find out, and be in touch. Make sure that all follow up actions promised take place.

### Blocks To Effective Listening

It is important to show that you are listening and interested in what someone has to say. If you feel you are experiencing, or doing, any of the following it may help to take a break and then resume the interview.

It is important to be aware of how you feel. If you're tired, under pressure, it will affect the interview. Also be aware of how the interviewee may be feeling – exhausted, guilty, frightened – as this will affect the interview.

- Selective listening – only hearing what we want or expect to hear, for example, from prior knowledge.
- Persistent interrupting – finishing sentences, leaping to the wrong conclusion.
- Switching off, lack of eye contact, daydreaming, mind on other things.
- Giving in to external distractions, for example noise, heat/cold, the next task and so on.
- Attitudes, prejudices, judgements, assumptions.
- The urge to get the task done.
- Reactions to emotions – trying to cheer them up, make it all right, for example: “Nothing will happen” (it may); persuading them to feel something different; ignoring feelings and pressing on regardless!

Possible responses:

I appreciate this is difficult but...

I realise this must be hard for you but...

Do you need a break?

I am sorry you're upset but...

Talking about it can bring it all back...

Reflect their feelings back but don't be lulled into reassuring them by saying "Don't worry, it will be all right." It might not be.

Acknowledge feelings but don't encourage them.

## Active Listening Skills

Aim to develop the following skills:

- willingness to listen
- engaging with the person/tuning in
- concentration
- paying attention
- thoughtfulness
- watching for body language
- showing an interest
- empathy – experiencing sympathy/feeling for the speaker
- respect.

Effective listening requires entering actively and imaginatively into the other person's situation and trying to understand a frame of reference different to your own.

Some suggested strategies in difficult situations

What if: someone starts to get angry or someone starts to get upset?



## The Skill Of Asking The Right Question

Questions are the tools of interviewing or – more widely – of listening. The art of interviewing largely consists of asking the right questions at the right time. There are several different kinds of questions, each with its pros and cons. It is useful to have them all in your repertoire, so that you don't get stuck like a broken record on only one type of question.

Question	Uses	Disadvantages
<i>The yes/no question</i> For example: "Have you read this report?"	Good for checking facts. Establishes where a rough balance lies quickly (for example: "Are you health?")	Can force over-simplified answers (for example, to the question: "Did the job go well?")
<i>The closed question</i> For example: "How long have you worked here?"	Best where facts of data are sought. Form of question restricts answer to a limited area.	Can sound like an interrogation. Leaves little room for discussion or explanation.
<i>The open-ended question</i> For example: "How do you see your career progressing?"	Good for opening up the exchange and discussion of information and ideas.	May invite long and rambling answers, leading into irrelevancies.
<i>The leading question</i> For example: "Don't you agree that you should have done this weeks ago?"	Not very useful, unless you are trying to push someone in a certain direction.	The knowledge gained by a leading question is usually limited in value.
<i>The prompt</i> For example: "So what did you do then?"	Keeps things moving, guiding the person being interviewed in content and direction. Clarifies if the other person has not understood what you want.	Can curtail prematurely or direct an interesting reply to an open-ended question.
<i>The probe</i> For example: "What precisely was the extent of your responsibility?"	Obtains more information, following through from the general to the particular.	Can make it sound like an interrogation.
<i>The mirror</i> For example: "So you felt completely fed up at this point?"	A reflective way of checking whether or not you have received the other person's message accurately.	Be careful that you do not introduce a slight alteration of meaning: "No I felt rather frustrated, but not fed up."
<i>The what if? question</i> For example: "Supposing we opened an office abroad, would that interest you?"	Making assumptions or creating situations imaginatively and asking what the interviewee would do.	Can force someone's hand or lead to unfulfilled expectations. Only yields hypothetical information.

Taken from *Effective Communication* by John Adair.

## Summary Of Interview Technique

In the interview you should:

- a) be gentle and show concern, but remember you are there to do a job
- b) avoid allocating blame/failure
- c) explain clearly to the witness the nature of the interview, the statement use and access to it. Do not be tempted to tell them everything will be all right – it may not
- d) establish the facts surrounding the accident. For example: find out what normally happens, why, what procedures are in place, who is responsible for them, and so on
- e) establish the sequence of events leading up to and of the accident
- f) follow a structure for the interview but do not lead the witness or make assumptions. Remember it is their story, let them tell it their way. If they make statements or give opinions, seek clarification of why they say what they do, and most importantly include these clarifications in their statement
- g) start the questioning with a general easy open question (for example: "Please could you tell me what happened on the day of the accident?")
- h) follow up by asking a more detailed question relating to a specific part of the answer (for example: "Could you tell me a little more about the way the equipment in question functions?")
- i) probe answer to check factual details (for example: "So was the noise that you describe normal?"); then ask more about specific detail (for example: "Was the guard fitted to the equipment?")
- j) summarise and seek agreement (for example: "So it was normal for two people to operate the machine, but on that day you were on your own, the equipment started making a funny noise and one of the guards was missing – is that correct?")
- k) start the sequence again but relating to a different topic
- l) learn fully about the systems of work which are normally employed
- m) learn fully their understanding of policies, procedures, methods of work
- n) learn fully their knowledge on issues surrounding the organisation/equipment
- o) never ignore facts that contradict each other, but find out more
- p) maintain an open mind. As investigations progress, this becomes harder and harder. As you establish more, there is a tendency to gloss over some bits and assume you know what happens next. If you feel this is happening take a break, focus again on the interview structure, go back to where you think you started to lose focus and begin from there
- q) remember that accidents often happen quickly and that the witnesses may:
  - not see all of what happened
  - assume that certain things happened
  - try to avoid being blamed for the accident
  - lie (which may also include selective memory) to protect themselves or others. If someone sees some things in great detail, then misses details where it is important to the investigation, then has everything in detail again, something is wrong. Stop the interview and probe deeper into the absence of detail at critical points (see below regarding reluctant witnesses). However, after traumatic incidents individuals may genuinely have mental blocks
  - be in shock and may not remember all of the accident details
  - try to protect others.

## Reluctant Witnesses

On rare occasions, people being interviewed will be hostile to investigators/police/HSE who are conducting interviews for the purposes of Criminal and Health & Safety investigation and/or reluctant to read or sign a statement. If you are confronted with the situation where people will not read or sign a statement you have recorded on their behalf, adopt the following procedure:

- stop the process
- the investigator then signs a declaration to the

effect that: "This statement was recorded by (name of investigator) at (place), on (date) about (time). The statement was read to (name of interviewee) who declined to read, sign, correct, alter or add to the statement." (SAI signs) (Independent person signs).

## Interview Guidance

Interview structure and guidance: the following is more specific advice when interviewing as part of an investigation team (joint investigations).

The welfare of individuals is paramount when consideration is given to organising interviews following a safety event. An interview is not to proceed if an individual is not physically or emotionally able to be interviewed, or declines to assist on welfare grounds. If the member(s) show(s) general unwillingness to assist in an investigation, then they should be reminded that they are duty bound by the Health & Safety at Work Act 1974, to cooperate with the investigation.

However traumatic an event may be, it will be necessary to carry out interviews with all people involved at some time.

The following are key steps and considerations that should be made by the serious accident investigator prior to the interview(s).

## Pre-Interview Preparation

- Identify interviewees and determine the order in which they are to be interviewed. The nature of the event, the availability of members and the part individuals played all contribute to the decision of whom to interview first.
- Review evidence available prior to commencing interviews. Consider providing photographic, video or sketch evidence to assist in the interviewing stage.
- Decide on location for interviews to take place (this should be mutually agreed. Careful consideration is to be given to the need for the SAI to be accompanied.
- The room used for interview must be comfortable and interruption free. Consideration is to be given to how the furniture is arranged to ensure

that the interviewee does not feel intimidated and rapport can be established. Barriers, such as desks, between the interviewers and the interviewee are to be discouraged. However, the person writing down the details of the interview will need a desk.

- Agreement should be reached with other parties FRS, Police and HSE about lines of inquiry and disclosure sought.
- Be prepared to terminate the interview on behalf of the member if any of the above is deviated from without consent or just cause.

## The Interview

- Interview only one person at a time.
- Check that the interviewee is content with the arrangement.
- Explain the roles of those present. If two of the SAI team attend, one should conduct the interview, while the other drafts the statement.
- The SAI is to introduce those present and explain what the SAI process is and why the interview is being carried out. Emphasise the need to record the statement on paper and for the interviewee to sign it. The individual must be told that they will have the opportunity to read the statement and make alterations to it prior to signing. It is their statement.

## Conclusion of Interview

- On completion of the interview, give the interviewee the opportunity to ask any questions and explain, where appropriate, the next steps of the investigation. Ensure that the meeting concludes with the SAI having a signed statement.
- General guidance
- Establishing a good rapport with the interviewee will impact directly on the quality and quantity of information gained during an interview. Commence the interview with a general inquiry, such as: "Tell me what happened...." Let the interviewee talk, uninterrupted, for as long as

they wish. This initial statement may be disjointed, but will contain items of information that the interviewee considers important. The interviewer is then to try and establish a more coherent account that is in a chronological order. If necessary, go over the same point as many times as required for the interviewer to be confident that he/she has interpreted and has written up what has been said as intended by the interviewee.

- Use language which is appropriate to the interviewee. Only use jargon when it is clear that all parties understand the point under discussion. Poor communication will result in misinterpretation of questions.
- Use open questions rather than closed questions. Generally, closed questions should only be used to confirm something.
- Avoid multiple questions on the same subject. This can become intimidating or indicate lack of trust in response.
- Avoid leading questions, as this will distort the facts.
- Keep a positive and uncritical manner. Do not offer views and opinions. Ensure body language does not convey the impression you are being dismissive or not listening. Try to maintain eye contact.
- Keep control of the interview. Focus on the reason why you have arranged the interview.
- Little useful information will be collected unless the interviewer listens.

**Appendix G – FBU Forms**



**Administration Record Sheet**

Record all telephone conversations, contacts, meetings and other relevant information that requires recording:

<b>Date</b>	<b>Time (24)</b>	<b>What (call, meeting, conversation)</b>	<b>Note of action (include details of other parties)</b>	<b>Sign (initial)</b>

**H****HEALTH  
SAFETY &  
WELFARE****S**

### Information Request Form

Date of request	Time (24)	Details of Information required	Sent by whom	Date received





**Reference Document Record Sheet**

List of documents used for reference

Title	Reference Page No.	Sent	Date

NB: Important to keep a record of all reference documents. List of documents required for report can be passed to LAI



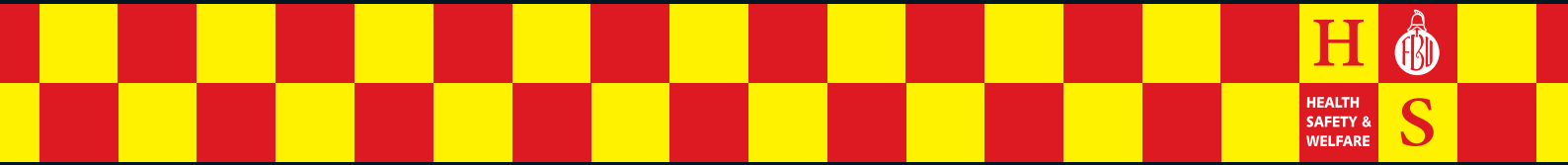
### Investigation Witness Statement

<b>Statement No.:</b>			
Name:		Station/workplace:	
Brigade No.:	Role:	Date of Birth:	
Date of Incident:	Incident Number:		
Accident type:	Time of Incident:		
Investigator:			
Incident Location:			
Materials attached to the investigation report, made available to witness e.g. premise plan.			

### Narrative of events

<b>Statement No.:</b>			
Provide best as you are able a description of the events and circumstances giving rise to your call to the incident and of the incident based on your role. Please outline steps taken either acting upon orders or based upon your assessment of the situation. Continue on the next sheet if necessary.			
<b>Signed:</b>		<b>Date:</b>	





**Record of Statements/or memos**

**Incident location:**

Name and location	1st Statement/memo	2nd Statement/memo



# Health, Safety & Welfare Accident/Incident Investigation



## Section 1. Investigation Summary Finding

Date of Incident:		Incident/ref Number:	
<input type="checkbox"/> Accident	<input type="checkbox"/> Near Miss	Time of Incident:	

Investigator(s):	
Incident location:	
Injured person(s):	

Materials attached to the investigation report, e.g. Witness statements etc.

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**This report may be required for legal purposes, evidence must be gathered thoroughly and any conclusions drawn must be supported by the findings.**

### Narrative of events.

Briefly provide a **FACTUAL** description of the events and circumstances of the incident based on your investigation findings. Any inconsistencies in accounts/evidence that cannot be resolved should be noted. Do not attempt to provide a definitive account if you do not have supporting evidence. Continue on a separate sheet if necessary.

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## Section 2. Accident/Incident details

### A – About the incident

What date did the incident happen?

What time did the incident happen? (24 hour clock)

Where did the incident happen? (*tick one box only*)

Fire service premises – give the location  
 Other premises – give the name and address  
 Public place – e.g. on a road give details.

Details:

Where on the premises did the accident happen?

Was this:  
 an accident?  
 a near miss?      **Go to section 3**

### B – About the injured person

(complete the details for each injured person)

What is their full name?

What is their home address? (*non-employees only*)

Age?

What is their gender?  Male  Female

What is their job title?

Was the injured person (*tick one box only*)

a Fire Service employee?  
 A Fire Brigades Union member

FBU membership number:  
 self-employed/contractor?  
 a member of the public?

Details:

### C – About the injury

What were the injuries? (*tick all that apply*)

Details:

<input type="checkbox"/> None apparent	<input type="checkbox"/> Eye injury
<input type="checkbox"/> Pain/soreness	<input type="checkbox"/> Loss of sight
<input type="checkbox"/> Bruising/swelling	<input type="checkbox"/> Loss of hearing
<input type="checkbox"/> Cut/lacerations	<input type="checkbox"/> Poisoning
<input type="checkbox"/> Crush	<input type="checkbox"/> Needle stick
<input type="checkbox"/> Sprain/strain	<input type="checkbox"/> Breathing problem
<input type="checkbox"/> Fracture	<input type="checkbox"/> Exhaustion
<input type="checkbox"/> Dislocation	<input type="checkbox"/> Unconsciousness
<input type="checkbox"/> Amputation	<input type="checkbox"/> Skin irritation
<input type="checkbox"/> Burn	<input type="checkbox"/> Psychological stress
<input type="checkbox"/> Scald	<input type="checkbox"/> Bite

Other – give details:

What parts of the body were injured? (*tick all that apply*)

<input type="checkbox"/> None apparent	<input type="checkbox"/> Finger or thumb
<input type="checkbox"/> Head	<input type="checkbox"/> Upper back
<input type="checkbox"/> Face	<input type="checkbox"/> Lower back
<input type="checkbox"/> Eye <input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Chest
<input type="checkbox"/> Neck	<input type="checkbox"/> Abdomen
<input type="checkbox"/> Shoulder <input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Hip <input type="checkbox"/> R <input type="checkbox"/> L
<input type="checkbox"/> Upper arm <input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Thigh <input type="checkbox"/> R <input type="checkbox"/> L
<input type="checkbox"/> Elbow <input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Knee <input type="checkbox"/> R <input type="checkbox"/> L
<input type="checkbox"/> Forearm <input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Lower leg <input type="checkbox"/> R <input type="checkbox"/> L
<input type="checkbox"/> Wrist <input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Ankle <input type="checkbox"/> R <input type="checkbox"/> L
<input type="checkbox"/> Hand <input type="checkbox"/> R <input type="checkbox"/> L	<input type="checkbox"/> Foot <input type="checkbox"/> R <input type="checkbox"/> L

Other – give details:

### D – Emergency treatment

Was first aid given?  
 No       Yes – by whom?

Details:

Was the injured person taken to hospital?  
 No       Yes – which hospital?

Hospital:

Are they to remain in hospital for more than 24 hours?  
 No       Yes       N/A

Did the injured person remain on duty?  
 No       Yes

### Section 3. Work environment

Did anything about the work environment contribute to the incident?

Visit the scene of the incident as soon as practicable. Consider the following:

- |                             |                             |                   |                                 |
|-----------------------------|-----------------------------|-------------------|---------------------------------|
| a. Access/egress            | d. Housekeeping/cleanliness | g. Temperature    | j. Layout/space                 |
| b. Edge/fall protection     | e. Lighting/visibility      | h. Traffic routes | k. Warning signs                |
| c. Floor surface conditions | f. Noise                    | i. Weather        | l. Workplace inspection reports |

Yes – provide details       No

Consider making sketch plans or taking photographs where it will provide evidence or be of assistance

Details/comments (continue on a separate sheet if necessary):

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### Section 4. Work equipment and machinery

Did equipment/machinery contribute to the incident?

Consider the following:

- |   |  |
|---|--|
| a. Is there any evidents of defects of failure? | c. Were inspection, test and maintenance satisfactory?           |
| b. Suitability for use and conditions?          | d. Written risk assessments, instructions, training and records? |

Yes – provide details & impound equipment       No

Has impounded equipment been examined by a competent person, has equipment been impounded? Obtain a written report if possible/applicable.

Obtain photographs of any visible defects and copies of test/maintenance records and attach them to this report

Details/comments (continue on a separate sheet if necessary):

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### Section 5. Personal Protective Equipment (PPE) including Respiratory Protective Equipment (RPE)

Were PPE/RPE issues a contributory factor?

Consider the following:

- |                               |  |                                    |
|-------------------------------|--|------------------------------------|
| a. Was PPE/RPE required?      | c. Was PPE/RPE in good condition?              | e. Was PPE/RPE properly worn/used? |
| b. Did it perform adequately? | d. Was it suitable for the risks/circumstances | f. Was it tested and maintained?   |

Were PPE/RPE issues a contributory factor?       Yes – provide full details       No

Has impounded equipment been examined by a competent person, has equipment been impounded? Obtain a written report if possible/applicable.

Details/comments (continue on a separate sheet if necessary):

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### Section 6. Systems of work

Consider the following:

- a. Is there a recognised safe way of doing the work?
- b. Was the work carried out in the recognised safe way?
- c. Do adequate, clear, up-to-date written instructions exist?
- d. Was supervision adequate for the level of risk?
- e. Were people adequately briefed/instructed?
- f. Is there any evidence of previous unsafe practices?

Were systems of work a contributory factor?  Yes – provide details  No

Details/comments (*continue on a separate sheet if necessary*):


### Section 7. Training & Information

Consider the following:

- a. Have personnel received adequate training (including safety training)?
- b. Are records of training adequate?
- c. Are training needs properly identified?
- d. Is training properly planned & delivered?

Were training or information issues a contributory factor?  Yes – provide details  No

Details/comments (*continue on a separate sheet if necessary*):




### Section 8. Risk assessment

a. Do risk assessments exist?

Details – Reference

Yes – provide details

No

Are the risk assessments suitable and sufficient in relation to the safety event

Yes

No – provide details

Details/comments (*continue on a separate sheet if necessary, attach copies of Risk Assessments with this form*):

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### Section 9. Immediate causes

What were the unsafe conditions and/or unsafe acts on the day, which led to the incident occurring?

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### Section 10. Underlying causes

What organisational factors led to the unsafe conditions and/or unsafe acts? e.g. inadequate training, maintenance etc.

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**Section 11. Recommendations for action to prevent recurrence**

What action can be taken (or has been taken) to prevent a similar accident happening again?

Recommended action including timescales for completion	Priority H, M, L	Action No.

**Section 12. Recommendations from the Fire Brigades Union to prevent recurrence**

Could a similar accident happen again? If so, what action can be taken to prevent this?

Recommendations including timescales for completion	Priority H, M, L	Action No.

**Section 13. Regional FBU HSW co-ordinator comments:**


Signature		Print name:		Date:	
Region:		Contact number/email address:			

**Action Plan**

No.	Action Required	Action by

Print name:	
Date completed:	

Investigator's signature		Print name		Date:	
Date sent to FBU:					

**WHEN COMPLETED SEND TO THE  
NATIONAL OFFICER FOR HEALTH, SAFETY AND WELFARE**

