

# Fire and Rescue Service Operational Guidance

# GRAs

generic risk assessments

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## **GRA 3.7**

Fighting fires  
in refuse

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# **Generic Risk Assessment 3.7**

## Fighting fires in refuse

August 2011



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## SECTION 1

# Generic risk assessment 3.7

## Refuse fires

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### Scope

This generic risk assessment examines the hazards, risks and control measures relating to Fire and Rescue Service personnel, the personnel of other agencies and members of the public when fighting fires in refuse and refuse containers. This may vary from a fire in a small skip to one at a landfill or waste processing site. It also includes fires at unlicensed locations.

People who sleep rough may be present in skips and larger wheelie bins and site employees and members of the public may be present at licensed sites.

Depending on the nature and scale of the operational incident a variety of significant hazards may be present. Fire and Rescue Services may therefore need to consider the contents of other generic risk assessments in this series.

These may include:

- Introduction
- 1.1 Emergency response and arrival at the scene
- 2.2 Ice/unstable ground
- 2.10 Trapped persons – machinery
- 3.1 Fighting fires in buildings
- 5.3 Chemical
- 5.4 Biological
- 5.5 Radiation
- 5.7 Explosives
- 5.9 Asbestos
- 5.10 Working at heights

Fire and Rescue Services must conduct their own risk assessments and produce their own safe systems of work (which include standard operating procedures), training programmes, provision of equipment, levels of response, etc.) within the context of integrated risk management plans, local conditions, knowledge and existing organisational arrangements.

This Generic Risk Assessment is intended to assist Fire and Rescue Services in their own assessment of risks at the planning and preparedness stage and is not designed to be used at incidents. Fire and Rescue Services should ensure this assessment is undertaken by a competent person(s).

## Significant hazards and risks

Refuse fires present a wide variety of hazards to Fire and Rescue Service staff. Sometimes, these risks may not be immediately apparent. The hazards could include:

- access and egress
- pressurised containers, aerosols and various types of gas cylinder creating an explosive/projectile hazard
- asbestos, either on a licensed site or illegally dumped and other materials such as medium density fibreboard
- chemicals (including toxic, corrosive or reactive), hazardous substances and materials such as pyrotechnics, ammunition explosives, flammable liquids and radioactive materials
- environmental considerations
- landfill gas (flammable atmosphere hazard)
- biohazards – bacteria and viruses (contamination hazard)
- unstable ground conditions and voids
- animals and insects
- plant, machinery and vehicles
- water and slurry pits
- work at height and falling materials
- rubber vehicle tyres
- needle sticks, sharps and other penetration hazards
- refuse chutes/bin rooms
- violence and aggression at work; and
- skip weld explosions.

### Access and egress

Incidents on refuse sites or where refuse has been illegally dumped may be a distance from a road and hard standing and may be difficult to access or egress. Some sites may have barriers or gates and will be locked out of hours. Crews may be exposed to the risk of uneven and poor ground conditions.

If a ladder is used for access, there is the potential for contacting or being impaled on spikes or barbed wire.

Poor access and egress may also increase manual handling risks, e.g. the carrying of hose and equipment.

Inadequate water supplies may be an issue.

### **Pressurised containers, aerosols and various types of gas cylinder**

These can vary in size from domestic aerosols to larger pressurised gas cylinders. Both present a projectile and explosion risk. Sometimes, these hazards are hidden within refuse.

### **Asbestos, medium density fireboard**

The release of asbestos fibres or other fibres such as medium density fireboard present a respiratory risk to Fire and Rescue Service personnel at refuse fires and also to the public and any staff on site.

### **Chemicals, hazardous substances and materials and radioactive materials**

Chemicals and hazardous substances/materials (including paints, batteries and oils) may be involved in a refuse fire some of which may be unknown (e.g. by the site operator) or not marked. At illegal waste sites, there may be a higher risk of finding chemicals/hazardous substances and materials with little or no intelligence about the contents.

Contact with chemicals/hazardous substances and materials can have both short and long term health risks depending upon their nature. These risks may include contact with substances that are:

- toxic
- corrosive
- flammable
- carcinogenic; and
- mutogenic.

The presence of chemicals/dangerous substances and materials can be particularly hazardous as there is an increased likelihood that there will be a cocktail of various substances and it may be extremely difficult to assess the resultant effect when exposed to high temperatures. There is the possibility that during fire fighting actions, chemicals and substances may mix and react together giving rise to other hazards such as toxic/flammable gas, volatile explosive mixtures or exothermic reactions.

Radioactive materials and discarded pyrotechnic devices or ammunition may be present.



## **Environmental considerations**

Environmental damage may occur due to heavy concentrations of toxic smoke. Run water off from fire fighting may contain significant volumes of contaminants and should be contained wherever possible to avoid pollution of water courses. On dedicated waste disposal sites, there may be on site interceptors which may assist with containment.

## **Landfill gas**

Landfill gas is produced by the breakdown of organic matter by micro-organisms under anaerobic (oxygen free) conditions. The principal components of landfill gas are methane and carbon dioxide, but other gases such as hydrogen, hydrogen sulphide and a wide range of trace organic vapours can also be present. The production of landfill gas goes through various phases during which the composition of the gas generated changes significantly.

The properties of landfill gas are principally determined by the proportion of methane and carbon dioxide and any air with which they are mixed. Although landfill gas may be lighter or heavier than air depending upon the relative quantities of methane and carbon dioxide, the gas will move from a high pressure to a low pressure independent of its density. The components of landfill gas remain mixed and do not separate, although it can remain separate from the surrounding air.

There is a potential explosive risk from landfill gas.

## **Biohazards**

A number of biohazards may be present in refuse. These hazards may include:

- clinical waste including hypodermic needles
- animal waste and animal carcasses
- human waste; and
- bacterial and viral infections such as leptospirosis (Weil's disease), hepatitis C and tetanus.

The enormous volume of waste produced by modern society and the restriction of landfill opportunities have encouraged widespread recycling. Whenever, an organic waste material is treated and handled, such as composting, landfill sites, anaerobic digestion and mechanical treatment, there is the potential for the generation of bioaerosols (short for biological aerosol, a suspension of airborne particles that contain living organisms or were released from living organisms). This also applies to the handling of livestock manures and bio solids to land. Exposure to bioaerosols can lead to respiratory sensitisation and respiratory diseases.

## **Unstable ground conditions and voids**

There is a potential for Fire and Rescue Service personnel to suffer injuries from the surface of a refuse infill site collapsing. The stacking pile can weigh in excess of 1 tonne.

This hazard exists due to:

- the inherent instability of refuse when it is stacked
- the under burning of refuse resulting in the creation of large subterranean voids; and
- the addition of fire fighting water may affect the stability of the refuse stack.

### **Animals and insects**

Refuse will attract animals and insects and the risk of stings, bites and infections will be present. Some personnel may be at increased risk due to sensitivity to certain stings or bites.

Leptospirosis, also known as Weils disease, is a rare and severe bacterial infection that occurs when people are exposed to certain environments which could include refuse sites. It can be found in water that has been contaminated by animal urine. It is not spread from person to person, except in very rare cases when it is transmitted through breast milk or from a mother to her unborn child. The symptoms can take 2 – 26 days (average 10 days) to develop, and resemble flu like symptoms initially.

### **Plant, machinery and vehicles**

At licensed sites, plant, machinery and vehicles are likely to be present. This may pose the risk of a collision with Fire and Rescue Service vehicles and the risk of Fire and Rescue Service personnel and others being struck by moving vehicles and plant.

Hydraulic waste compactors may present a crushing hazard if not secured or powered down. They may also cause amputation due to blade movement.

### **Water and slurry pits**

At some sites there will be a risk to Fire and Rescue Service personnel, including drowning and contact with contaminated water, due to falling into water or slurry pits when working in close proximity to them.

### **Work at height/falling materials**

At some sites, personnel may be at risk from falling if working at height. The risk of falls may also arise at ground level, e.g. a fall into a refuse pit/unguarded edge at an incinerator site.

Bound and stacked paper/cardboard is a known fire risk and stacks of this kind can weigh in excess of 1 tonne. Stacks can lead to rapid and potentially hidden fire spread. The application of water can significantly affect the stability of the stack as water is absorbed into the porous material. If personnel climb onto the stack, it could collapse beneath them or it may collapse onto them.

### **Rubber vehicle tyres**

Rubber vehicle tyres may be present in some refuse fires. These can drip hot fluids, give off large volumes of smoke and toxic chemicals and, in some circumstances, explode.

Fire fighting run off from burning tyres will also contain significant environmental contaminants.

In some cases, tyre fires may induce arcing of high voltage power lines causing an electric shock to personnel or death.

### **Needle sticks, sharps and other penetration hazards**

Needle sticks, sharps and other penetration hazards (e.g. metal and wooden spikes) may be present in refuse presenting a laceration/puncture and biohazard risk.

### **Refuse chutes/bin rooms**

Hazards in refuse chutes or bin rooms include

- blocked chutes may contain unstable contents and could move without warning
- the electrical power supply within the bin room
- the products of combustion within the compartment.

### **Violence and aggression at work**

Fire and Rescue Service personnel attending refuse fires, particularly at locations in the open where waste has been illegally dumped, may be subjected to verbal abuse or missile throwing from people near by.

There is the potential for people to be sleeping rough in skips or people under the influence of alcohol to be found in skips. Where this happens, the person may become aggressive at being disturbed or as a result of the trauma of the event.

### **Skip weld explosions**

Some skips may have an enclosed box section. The heating up of the enclosed welded box section may cause an explosion and projectile/shockwave hazards.

## **Key control measures**

### **Planning**

Planning is key to enhancing the safety of firefighters and others likely to be affected by Fire Rescue Service operations. Each Service's integrated risk management plan will set standards and identify the resources required to ensure safe systems of work are maintained.

Each Fire and Rescue Service should assess the hazards and risks in their area relating to this generic risk assessment. The assessment should include other Fire and Rescue Service's areas where 'cross border' arrangements make this appropriate.

Site-specific plans should be considered for locations where the hazards and risks are considered significant and plans should take into account and specify any variation from the normal operational capability of personnel, appliances and equipment. In particular, recognition should be given to the physical effort and psychological pressures that an operational incident may apply to Fire and Rescue Service personnel.

Site specific plans should include:

- levels of response
- relevant standard operating procedures
- tactical considerations, including rendezvous points, appliance marshalling areas, access points as well as site specific hazards; and
- identification and where necessary, the formal notification to person(s) responsible for the site of any Fire and Rescue Service operational limitations.

Planning is underpinned by information gathering, much of which will be gained through inspections or visits by Fire and Rescue Service personnel – for example, those covered by section 7(2)d and 9(3)d of the *Fire and Rescue Services Act 2004*.

Information should also be gathered and used to review safe systems of work from sources both within and outside the Fire and Rescue Service, including:

- fire safety audits
- incident de-briefs
- health and safety events
- local authorities and partner agencies.

Involving others in planning is an effective way to build good working relations with partner agencies and other interested parties, such as site owners.

Fire and Rescue Services should ensure systems are in place to record and regularly review risk information and to ensure that new risks are identified and recorded as soon as practicable.

Fire and Rescue Services must ensure that the information gathered is treated as confidential, unless disclosure is made in the course of duty or is required for legal reasons.

Fire and Rescue Services should consider the benefits of using consistent systems and formats to record information from all sources. In order to support decision making, consideration should be given to the efficiency and effectiveness of information retrieval systems.

Specific planning for this generic risk assessment should include:

- discussions with site operators to include arranging out of hours access
- liaison with enforcing authorities/local authorities to remove the risk where illegal locations or unsecured bin areas are identified
- water supplies should be identified and enhanced where necessary; and
- environmental pollution control considerations including site drainage plans and the location of water courses and sites of special scientific interest which may be affected.
- provision of advice to residents and commercial enterprises to reduce the risk of fire spread from poorly placed refuse storage facilities such as skips and wheelie bins

## Competence and training

When formulating a competence and training strategy the Fire and Rescue Service should consider the following points:

- To enable a specific risk assessment of this incident type, Fire and Rescue Services must ensure those tasked with carrying out this assessment and developing procedures are competent
- Fire and Rescue Services must ensure their personnel are adequately trained to deal with hazards and risks associated with refuse fires. Attendance at refuse fires in some Fire and Rescue Services may be rare and this lack of experience should be considered and addressed
- The level and nature of training undertaken should be shaped by an informed training needs analysis that takes account of Fire and Rescue Service guidance on the competency framework, national occupational standards and any individual training needs
- Training and development programmes should:
  - follow the principles set out in national guidance documents
  - generally be structured so that they move from simple to more complex tasks and from lower to higher levels of risk
  - typically cover standard operational procedures as well as ensuring knowledge and understanding of equipment and the associated skills that will be required to use it
  - consider the need for appropriate levels of assessment and provide for continuous professional development to ensure maintenance of skills and to update personnel whenever there are changes to procedure, equipment, etc; and
  - involve personnel involved in other processes that support the emergency response such as planners devising procedures and people procuring equipment.

Specific training requirements for refuse fires will include hazard awareness, the standard operating procedure and the equipment to be used.

Training outcomes should be evaluated to ensure that the training provided is effective, current and it meets defined operational needs as determined by the Fire and Rescue Service integrated risk management plan.

## **Command and control**

The Incident Commander should follow the principles of the current national incident command system.

Prior to committing personnel into any hazard area, the Incident Commander must take account of the actual information available regarding the incident at the time. This will assist them to make effective operational decisions in what are recognised as sometimes dangerous, fast moving and emotionally charged environments.

A thorough safety brief prior to deployment of personnel within the hazard zone should be carried out.

Communication of new or changed risks should continue throughout the incident.

## **Safety Officer(s)**

The early appointment of one or more competent Safety Officer(s) will help ensure that risks are either eliminated or reduced to an acceptable level.

The Incident Commander should confirm that the Safety Officer understands:

- their role and area of responsibility
- allocated tasks
- current information about on site hazards and risks; and
- lines of communication.

Those undertaking the Safety Officer role should:

- be competent to perform the role
- ensure personnel are wearing appropriate personal protective equipment
- monitor the physical condition of personnel and/or general or specific safety conditions at the incident, in accordance with their brief
- take any urgent corrective action required to ensure safety of personnel
- update the Incident Commander or senior safety officer regarding any change in circumstances; and
- not be engaged in any other aspect of operations, unless this is required to deal with a risk critical situation.

The role of a Safety Officer can be carried out by any of the Fire Service roles, but the complexity of the task, size of the incident and scope of responsibility should be considered by the Incident Commander when determining the competency level required.

Safety Officers should wear nationally recognised identification to indicate they are undertaking the 'Safety Officer' role.

Fire and Rescue Services should ensure that training and other measures (such as aide-memoires) are in place and available to support those staff liable to undertake this role.

**With regard to refuse fires, Safety Officers should be deployed to control specific risks such as the risk of stacked materials collapsing or falls into unguarded edges etc.**

## **Personal protective equipment**

Fire and Rescue Services must ensure that any personal protective equipment provided is fit for purpose and meets all required safety standards. When choosing suitable protective garments, the standard of clothing worn beneath the specialist personal protective equipment should also be taken into account. Consideration should also be given to the selection of suitable sizes and gender specific requirements of the personal protective equipment.

Personal protective equipment should also take account of the need for rescuers to be clearly visible against the operational background including night working and for the Incident Commander and other managerial and functional roles (defined in the national incident command system) to be distinguishable.

All personnel must use appropriate levels of service provided personal protective equipment and respiratory protective equipment as determined by the safe system of work.

## **Post incident**

The following measures should be considered to help eliminate or remove risks after an incident, as appropriate to the nature and scale of the incident.

- Any safety events that may include personal injuries, exposure to hazardous substances, avoidable equipment damage or near misses should be recorded, investigated and reported in line with legislative requirements such as *Reporting of Injuries Diseases and Dangerous Occurrence Regulations 1995*, etc.
- Arrangements should be in place to either remove all contamination from personal protective equipment or to ensure it's safe and appropriate disposal and to check that the equipment maintains the agreed levels of integrity and protection for the wearer throughout it's lifecycle
- When necessary, occupational health support and surveillance follow up including counseling and support services should be available to fire personnel
- Conduct a debrief to identify and record any 'lessons learned' from the incident. Debriefs will range in complexity and formality, proportionate to the scale of the incident and in line with individual Fire and Rescue Service procedures
- Consider any changes required to safe systems of work, appliances or equipment in the light of any lessons learned from debriefs or from safety events

- Consider the need to review existing information held on a premises or location, or the need to add a new premises or location into future preplanning, e.g. by adding to visit or inspection programme; and
- When necessary, consideration should be given to arranging for staff to make a contemporaneous written record of their actions. This information may be used to assist in any internal or external investigations or enquiries that follow any incident, e.g. coroners court, public enquiry, etc.

### **Standard operating procedures**

Fire and Rescue Services should prepare, communicate and implement a standard operating procedure for refuse fires utilising this generic risk assessment and other relevant guidance documents. This will identify the necessary control measures to be adopted by Fire and Rescue Service personnel.

When communicating the standard operating procedure, Fire and Rescue Services should ensure personnel receive, read and understand the information.

Liaison should take place with enforcing authorities regarding the environmental implications of refuse fires and the best approach to take regarding air contamination and water run off.

Decontamination procedures should be implemented where necessary.

### **Breathing apparatus, personal protective equipment and safe distances**

Refuse fires pose a risk of cylinders or other materials in the fire exploding and there is also a risk of other hazardous materials such as asbestos being present.

Full fire fighting personal protective equipment should be worn by crews. Breathing apparatus should be worn where necessary. Chemical protection suits should be worn where necessary.

Cordons should be established at recognised safe distances to protect the public as necessary.

If the fire involves hazardous materials or is emitting large volumes of smoke and is presenting a hazard to nearby premises, or the road or rail network, then the Incident Commander should consider:

- evacuation of nearby premises
- safety cordon
- re-routing or stopping traffic; and
- notifying the Environment Agency and the Health Protection Agency.



## Hygiene

To prevent infection, Fire and Rescue Service personnel should undertake good hygiene practices such as not eating, drinking or smoking without first cleaning their hands. Any welfare facilities such as the provision of refreshments should be positioned away from the scene of the incident (upwind).

## Specialist equipment and advice

Fire and Rescue Services should identify the need for any specialist equipment such as gas detection monitors.

Additional lighting should be provided where necessary.

Work at height equipment and working near water equipment, such as fall arrest or work restraint systems and personal flotation devices, should be provided where necessary.

Some personnel may need to carry medication if they are sensitive to certain stings or bites.

Hazardous materials and environmental protection advisors should be deployed to incidents to advise where necessary.

## Stacked materials

Fire and Rescue Service personnel should not walk on stacked materials due to the risk of collapse.

### Technical references

1	Manuals of Firemanship, Book 1, The elements of combustion.
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## SECTION 2 Summary of Generic Risk Assessment 3.7

### Fighting fires in refuse

#### Task – Pre incident

Ref. No.	Activity	Hazard	Risk	Persons at risk	Control measures
1	Planning	Planning activity	Subject to local risk assessment	Subject to local risk assessment	<p><b>Prevention</b></p> <ul style="list-style-type: none"> <li>raising awareness/campaigns</li> <li>fire safety checks and advice</li> </ul> <p><b>Organisational risk control</b></p> <ul style="list-style-type: none"> <li>produce a standard operating procedure for refuse fires</li> <li>site risk surveys and information</li> <li>identify and address training needs and competency requirements for refuse fires and for risk assessing and developing procedures</li> <li>incident commanders to be competent at gathering relevant information, processing information and making decisions about risk. this applies to Fire and Rescue Service personnel in the risk area</li> <li>procure suitable equipment</li> <li>procure suitable personal protective equipment</li> <li>manual handling training</li> <li>review adequacy of water supplies at refuse sites.</li> </ul>

### Task – Initial stages of the incident

Ref. No.	Activity	Hazard	Risk	Persons at risk	Control measures
2	Gaining access	Uneven and poor ground conditions Locked gates and barriers Spikes, barbed wire Poor lighting	Slips, trips and falls Impalement	Fire and Rescue Service staff	Safe approach and parking Crew briefing Personal protective equipment Additional lighting.
3	Gaining access and firefighting	Manual handling Long handling distances Poor access and aggress to site	Manual handling injury	Fire and Rescue Service staff	Manual handling procedures Availability of the correct number of personnel to handle equipment.
4	Firefighting	Pressurised containers, aerosols and gas cylinders	Fatality or serious injury from an explosion	Fire and Rescue Service staff Public Site operators Other agencies	Implement standard operating procedure Full firefighting personal protective equipment Implement incident command system. Breathing apparatus Cordons Evacuation.

### Task – As the incident develops

Ref. No.	Activity	Hazard	Risk	Persons at risk	Control measures
5	Firefighting	Asbestos and fibre board	Asbestos related disease over the long term. This could result in death Respiratory sensitisation	Fire and Rescue Service staff Public Site operators Other agencies	Implement standard operating procedure Implement command and control Breathing apparatus Deployment of Hazardous Materials and Environmental Protection Advisors (HMEPAs). Contact Environmental Health and Health Protection Agency Decontamination See <i>Generic risk assessment 5.9 – asbestos</i> .

Ref. No.	Activity	Hazard	Risk	Persons at risk	Control measures
6	Firefighting	Chemicals, hazardous substances and materials Radioactive material Unknown or unmarked substances and materials Pyrotechnic devices Discarded ammunition Environmental damage – toxic smoke, contaminated water run off	Short or long term illness or ill health Chemical burns and sensitisation Respiratory sensitisation Radiation Chemical reactions	Fire and Rescue Service staff Public Site operators Other agencies	Full firefighting personal protective equipment Chemical protection suits Implement incident command system Breathing apparatus Decontamination Liaison with site owners Cordons Evacuation Contact Environmental Health and Health Protection Agency Liaison with Environment Agency Deployment of Hazardous Materials and Environmental Protection Advisors (HMEPAs).

Ref. No.	Activity	Hazard	Risk	Persons at risk	Control measures
7	Firefighting	Landfill gas	Fatality or serious injury from an explosion	Fire and Rescue Service staff Public Site operators Other agencies	Implement standard operating procedure Full firefighting personal protective equipment Implement incident command system Breathing apparatus Gas detection equipment.
8	Firefighting	Biohazards e.g. Clinical waste Hypodermic needles Animal waste and carcasses Human waste Bacterial and viral infections e.g. leptospirosis	Short or long term illness	Fire and Rescue Service staff Public Site operators Other agencies	Implement standard operating procedure Full firefighting personal protective equipment Implement incident command system Hygiene Decontamination.
9	Firefighting	Bioaerosols	Short or long term illness or ill health.	Fire and Rescue Service staff	Implement standard operating procedure Firefighting personal protective equipment Breathing apparatus/respiratory protection Implement incident command system Correct hygiene practices.

Ref. No.	Activity	Hazard	Risk	Persons at risk	Control measures
10	Firefighting	Unstable ground conditions and voids	Slip trip or fall resulting in potential for a fracture Ground moving causing sinking and becoming trapped	Fire and Rescue Service staff	Implement standard operating procedure Full firefighting personal protective equipment Implement incident command system Observation and control by Safety Officer(s) Work at height equipment where relevant and practicable.
11	Firefighting	Animals and insects e.g. rats, wasps	Bites and stings resulting in injury or illness, possibly fatal if personnel are sensitive to the particular bite or sting Infection Leptospirosis	Fire and Rescue Service staff	Implement standard operating procedure Full firefighting personal protective equipment Implement incident command system Hygiene Personal medication.
12	Firefighting	Plant, machinery and vehicles Hydraulic compactors	Collision with vehicle or person resulting in death or serious injury or damage Crushing injuries or amputation.	Fire and Rescue Service staff Public Site operators Other agencies	Implement standard operating procedure Full firefighting personal protective equipment High visibility clothing to worn by Fire and Rescue Service personnel Implement incident command system Restrict or prevent vehicle movements by site operator. Safety Officer(s) Secure or power down hydraulic compactors.

Ref. No.	Activity	Hazard	Risk	Persons at risk	Control measures
13	Firefighting	Water and slurry pits	Drowning Hypothermia Leptospirosis Chemical contamination	Fire and Rescue Service staff	Implement standard operating procedure Suitable water safety equipment and personal protective equipment Full firefighting personal protective equipment Implement incident command system Work restraint Safe distances Adequate first aid and hygiene provision Observation and control by Safety Officers Decontamination.
14	Firefighting	Work at height and falling materials e.g. stacked materials Unguarded edges	Falls or being struck by falling materials resulting in death or significant injury	Fire and Rescue Service staff	See <i>Generic risk assessment 5.10: Working at heights</i> Safety officer(s) to control risk of falling into unguarded edge or risk from working close to stacked materials Do not walk on stacked materials.
15	Firefighting	Rubber vehicle tyres Hot fluids Toxic smoke Explosion Arcing of high voltage power lines	Death Serious injury Environmental contamination	Fire and Rescue Service staff	Implement incident command system and standard operating procedure Firefighting personal protective equipment Breathing apparatus Decontamination Advice to the public/evacuation Safety Officer(s) if close to overhead lines.



Ref. No.	Activity	Hazard	Risk	Persons at risk	Control measures
16	Firefighting	Needlesticks, sharps, penetration hazards	Acute or chronic ill health Laceration/puncture wound	Fire and Rescue Service staff	Implement incident command system Firefighting personal protective equipment Use of equipment e.g. pliers to remove items if necessary and use of sharps kits.
17	Firefighting	Refuse chutes and bin rooms	Unstable contents Electrical power supplies Products of combustion	Fire and Rescue Service staff	Implement incident command system Implement standard operating procedure Firefighting personal protective equipment Isolation of power supplies.
18	Firefighting	Violence and aggression	Serious injury	Fire and Rescue Service staff	Implement incident command system Firefighting personal protective equipment Conflict resolution Withdrawal of crews if necessary Close circuit television.
19	Firefighting	Skip weld explosions	Death Serious injury	Fire and Rescue Service staff	Implement incident command system Implement standard operating procedure Firefighting personal protective equipment Awareness and training Cordons and safe distances.

### Task – Post incident

Ref. No.	Activity	Hazard	Risk	Persons at risk	Control measures
20	Post incident	Post incident activity	Subject to local risk assessment	Subject to local risk assessment	<p><b>Risk review and prevention</b></p> <ul style="list-style-type: none"> <li>• review any safety event information</li> <li>• review debrief information</li> <li>• health surveillance if necessary</li> <li>• use information to develop/refine standard operating procedure</li> <li>• use information to review and update competency strategy</li> <li>• review nature and frequency of refuse incidents and</li> <li>• review and update prevention strategy.</li> </ul>