



**The International Organisation for  
Industrial Emergency Services Management**

**JOIFF Guideline**  
**on**  
**Emergency Services Management**  
**of**  
**Airports**

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## FOREWORD

JOIFF, the International Organisation for Industrial Emergency Services Management, is a not-for-profit organisation dedicated to developing the knowledge, skills, understanding and competence of emergency services personnel primarily in high hazard industry, with the aim of improving standards of safety and of the working environment in which they operate.

JOIFF Guidelines are produced when a need is identified by JOIFF and are an important part of JOIFF's Shared Learning philosophy. They are developed to provide guidance—on issues about emergency response on particular subjects allowing an organisation to implement a policy framework in line with Good Industry Practice in emergency services management in high hazard industry.

JOIFF has produced a number of Guidelines including:

- Alternative Fuel Vehicles
- Confined Space Entry,
- Foam Concentrate,
- Inerting Vertical Storage Tanks.

This Guideline has been drawn up by an expert Working Group of JOIFF members who have extensive experience in emergency response management IN Airports and the Directors of JOIFF extends their thanks to the members of the Working Group for their efforts.

## INTRODUCTION

The purpose of this publication is to provide guidance to Airport Authorities, Airport Operators and Airport Management in the preparation of and effective operation of Emergency Services Management in an Airport. It takes account that legal requirements and Good Industry Practice requires airports to identify all the hazards and assess all the risks in their organisation, to develop plans and procedures to deal with emergencies by their own services and in coordination with external agencies and the need to provide the resources and training to allow incidents/accidents to be effectively and decisively dealt with.

External agencies are often called to assist in the event of an emergency in an airport, however, waiting for a response from external agencies may not be an option in the event of some emergencies so this Guideline has been developed to advise airports on the importance of drawing up plans including effective and relevant policies, procedures and protocols for airport services to deal with incidents/accidents that may happen in airports before any external agencies arrive. The key elements of the plans should take account of at least pre-planning, rapid response by airport services and training all airport personnel in the actions to be taken in the event of an emergency.

Airports are complex organisations within which a wide range of activities are performed in their day-to-day operation, so there is major potential for serious accidents and incidents not involving aircraft in this aspect of the Aviation industry. This Guideline suggests actions that may be taken by emergency services management to reduce the possibility of emergencies taking place in the airport but when they do occur, to respond accordingly, primarily in the event of fire.

Emergency services management in airports should have a full understanding of all the hazards and risks in the airport so that they can develop an effective Airport Emergency Plan including suitable Standard Operating Procedures (SOPs)/Standard Operating Guidelines (SOGs) and can provide training materials and resources for effective training of airport emergency responders.

## CHAPTER 1

### 1.1 What is an Airport ?

An airport is a defined area on land (or water) including any structures, installations, and equipment intended to be used either wholly or in part for the arrival, departure, and surface movement of aircraft. Subject to its size and function, an airport may consist of:

- runways where the aircraft land and take off;
- facilities to store and maintain aircraft;
- an Air Traffic Control Tower and other structures from where people control the movement of aircraft and all airside traffic and ground operations;
- fuel storage and distribution;
- a building or number of buildings called a Terminal to facilitate passengers, to house the airport administration, to provide a secure area for passport control and customs for arriving and departing passengers and goods etc.;
- other structures necessary for the operation of an airport;
- facilities for baggage sorting and storage;
- car parking and vehicle hire Companies;
- passenger facilities including restaurants, lounges, shops;
- RFFS/ARFF Services.
- Airport Police/Security Services
- Medical Services

### 1.2 Fire Safety of the Airport:

Airport Management should be aware that pre-planning an ethos of “Business Continuity” for the Airport which includes a full buy-in by staff, in particular of senior staff, and is made part of the culture of an Airport aiming to result in minimum downtime and loss of business revenue in the event of an emergency. The need for immediate action by airport personnel until the arrival of the external services will assist airports in reducing the impact of a fire or other incident/accident on their operations and will reduce operational downtime.

Many believe that emergency response in the Aviation industry is solely related to dealing with incidents involving aircraft however aircraft cannot operate without airports.. Whilst Airport Operators are required to comply with International Civil Aviation Organisation (ICAO) requirements for the movement of aircraft, little emphasis is sometimes placed on an emergency in other important structures such as terminal buildings and air traffic control without which an airport would struggle to operate to the required standard. A fire in an airport that puts the Terminal, its facilities and/or Air Traffic Control, Fuel Farm/Depot and other structures out of operation could close the airport and have a resulting major impact on its community and operation, whereas a swift response by the airport services to a building/structure fire in its incipient stage could save lives, protect buildings, reduce operational downtime and enhance business continuity.

It is essential that equal emphasis is put on aircraft and non-aircraft incidents/accidents in airports and training and resources should be made available to cover both aircraft incidents and fire safety of the airport.

The guidance in this document is not intended to detract from or replace any regulatory or statutory obligation on the airport. Airport Authorities, Airport Operators and Airport Management are required to ascertain the relevant statutory requirements of the Country/Region in which the airport is situated and ensure full compliance with these requirements.

### **1.3 Rescue and Firefighting Services (RFFS)/Aircraft Rescue and Firefighting (ARFF):**

The Airport Fire Service is referred to in the Aviation Industry and in this Guideline as RFFS/ARFF i.e. Rescue and Firefighting Services/Aircraft Rescue and Firefighting.

A fire in an airport that puts the Terminal, its facilities and/or Air Traffic Control Tower and other structures out of operation could close the airport and have a resulting major impact on the operation of the airport and its community. It is therefore strongly recommended that equal emphasis should be put on both aspects and training and resources should be made available to the RFFS/ARFF to cover both Aircraft Rescue and Firefighting (ARFF) and Fire Safety of the airport.

There have been instances at airports where due to limited or no response from the RFFS/ARFF there has been loss of revenue by airport operations being down-graded or cancelled. This Guideline proposes that responsibility of the RFFS/ARFF should be under at least three distinct forms of emergency response:

- Aircraft Rescue and Fire Fighting.
- Fire Safety of the airport to include Terminal Buildings, Fuel Farms/Depots, Air Traffic Control, other airport structures of importance.
- Response to incidents involving Dangerous Goods/Hazardous Materials.

### **1.4 Airport Fire Safety Policy:**

All fire safety activities including fire inspections, fire systems testing and the training of all staff in the actions to take in the event of a fire, including fire drills, should be recorded and kept safe for inspection by the appropriate authorities. Airports should have policies and procedures to deal with the Fire Safety of the airport. Such policies should allow for:

- Maintaining contact and inter-operability with the local Municipal Fire Services;
- Reducing downtime in the terminal building, air traffic control and other important structures by the quick intervention of on-site Fire Marshals and the RFFS/ARFF.
- Reducing fire damage by quick and effective intervention of the RFFS/ARFF.
- A quicker resumption of aircraft movements by the effective actions of the RFFS/ARFF.

Fire prevention in the airport should include minimising ignition sources as well as educating the occupants and operators of the airport concerning the operation and maintenance of fire-related systems for correct function and emergency procedures including notification for RFFS/ARFF response and emergency evacuation.

It is the responsibility of the Airport Authority, Airport Operators and Airport Senior Management to protect their property, employees and visitors from harm by foreseeing possible emergencies through current written risk assessments and by providing the expected levels of response by the airport services to all emergencies. Risk Assessments and the level of the response expected from the airport services and external agencies should be detailed and contained in the Airport Emergency Plan.

The preparation of an Emergency Response Strategy and an Emergency Response Plan for an airport should have the aims of at least:

- Protecting Life;
- Protecting Property;
- Reducing downtime and the impact of a significant fire event to the structures and the operation of the airport
- Assisting airports in addressing significant life safety hazards and risks at the airport and
- Providing airport staff with the appropriate guidance in Fire Safety information to:
  - ensure that they have the appropriate competency & skills;
  - perform their jobs safely;
  - work to expected standards and
  - fulfil business goals.

### 1.5 Personal Protective Equipment (PPE)

Airport management has a duty of care to provide the correct type of PPE to personnel whose safety in any of their work places cannot be sufficiently ensured without suitable PPE.

Before selecting PPE a Risk Assessment of the workplace should be carried out to

- identify the hazards,
- assess the risk and
- eliminate, remove or reduce the hazard.

Where a hazard cannot be eliminated, removed or reduced to an acceptable level, it is necessary to introduce controls to ensure the safety of personnel. If the safety of personnel still cannot be sufficiently ensured, it is necessary to introduce PPE.

The PPE provided should be fit for purpose and protect personnel whilst allowing them to carry out the work required in their workplace without unduly increasing the risk by the use of such PPE.

**CHAPTER 2****2.1 Airport Terminal Fire Safety Strategy:**

A Fire Safety Strategy for the airport terminal should be developed and implemented. This Strategy should include regularly reviewing fire/emergency procedures for the airport terminal relating to the employees, passengers, visitors and contractors. Where applicable, the responsibilities of the airport's tenants within the Fire Safety Strategy should be included and made quite clear to them on a regular basis.

A transparent organisational chart is useful to designate roles and responsibilities in implementation and maintenance of the Fire Safety Strategy. This will assist in establishing clear lines of responsibility and accountability by all parties involved in the operation of the airport.

Daily enforcement of the airport terminal's Fire Safety procedures should be prescribed to a segment or segments of the airport's operational personnel who control the airport operations Fire Safety Strategy. These responsible positions are likely to be the airport Terminal Manager and/or the designated person with associated staff who act as a liaison between airport service providers and users, who monitor the day-to-day airport terminal operations and who implement contingency procedures in accordance with the Airport Emergency Plan.

It is important that sufficient initial and continual evidenced training is provided to ensure that the personnel who will provide the daily enforcement of the Terminal Fire Safety Strategy are fully aware of their responsibilities within the Strategy and are competent in acting on them.

Detail that might be included in an Airport Terminal Fire Safety Strategy could be but should not be limited to:

- Dividing the airport terminal building(s) into Zones to aid phased evacuation.
- Fire Safety management, policy and procedures.
- Emergency communications plan.
- Identifying active fire protection features in place:
  - fixed installations – sprinklers, fire alarm system, extinguishing systems, emergency lighting system etc.
  - firefighting equipment – location of standpipes, hose reels, portable fire extinguishers
- Identifying medical equipment – defibrillators, first aid kits etc.- where the RFFS/ARFF deals with medical emergencies.
- Controlling risk factors.
- Activities known as “Hot Works”.
- The control, storage and use of dangerous goods/hazardous materials.
- Identifying any breeches of the fire integrity of passive fire protection features, for example penetrations due to renovations or updates of services to ensure that they are properly sealed to restore the fire integrity of the structural feature, including correct application of the resulting fire stopping product(s).
- Any service which results in the temporary suspension of automatic fire detection/notification /suppression systems including verification of the restoration of the service when completed.
- Verification of adherence to the airport terminal safety arrangements during contracted work.
- Publishing any change, temporary or permanent, in the airport terminal safety arrangements to all tenants affected by the change and where applicable, official notification of a return to normal operations.

**2.2 Airport Terminal Fire/Emergency Response Plan:**

Within the Terminal Fire Safety Strategy for the airport an Airport Terminal Fire/Emergency Response Plan which meets or exceeds local regulatory requirements should be developed. Exercises covering the Airport Terminal Fire/Emergency Response Plan should take place at suitable and sufficient

frequencies-so as to ensure that all airport personnel will be aware of their responsibilities in the event of a fire/emergency in the airport.

### 2.3 Medical Emergencies:

Most occupancies today are required to maintain a level of emergency medical response, i.e. first-aiders as a minimum level of emergency medical response qualification. Airport staff response to a medical emergency and upscaling to advanced medical care should be included in Airport Terminal Fire/Emergency Response Plan as this could relieve the dependency on the RFFS/ARFF services for some medical emergencies, especially inside the Airport Terminal Building during flight operations.

First-aid training should include the use of Automated External Defibrillators (AED) and oxygen supplementation which should be located in public spaces.

### 2.4 Fire Emergencies

In developing an airport Fire/Emergency Response Plan at least the following detail should be considered for all personnel.

There should be a pre-determined procedure for response and control of incipient fires. A suggested procedure could be as follows:

1. *Activate the Fire Alarm.*

An alarm dedicated to fire/emergency notification should be sounded at the earliest possible time during a fire/emergency to alert all persons so that they can take appropriate detailed actions to evacuate, or to prepare to evacuate. Staff should know the location of the nearest Call Point/ Break Glass fire/emergency alarm notification and how to activate it.

2. *Alert the RFFS/ARFF.*

The RFFS/ARFF should be alerted each time an alarm is activated. All staff should be aware of the airport procedures for alerting on-airport and external fire services.

3. *Know how to use the fire extinguishers installed and their location.*

Fighting an incipient fire with portable fire extinguishers could ensure that the fire will not grow to major proportions. Staff discovering a fire should tackle the fire with a portable fire extinguisher only if it is safe to do so.

Portable fire extinguishers should be installed throughout the site for initial attack, properly located and correctly maintained at identifiable locations.

4. *Evacuate the premises.*

On hearing a Fire Alarm, persons should evacuate safely to a pre-determined place of assembly.

### 2.5 Evacuation of Terminal Buildings:

The Airport Fire/Emergency Plan should include an Airport Terminal Emergency Evacuation Plan which should cover at least the following procedures:

- radio communications;
- orderly and co-ordinated evacuation of passengers, visitors and staff including non- ambulant personnel;
- partial evacuation of the Terminal when appropriate, in accordance with local requirements;
- where safe to do so ensuring that evacuated areas are clear;
- safe evacuation to airside assembly areas for those who have cleared security;
- safe evacuation to landside for those not yet cleared security;
- safe location for assembly points, which should be far enough away from the terminal building to ensure safety of all personnel;.



- implementation of a Command Structure to ensure smooth operational control;
- accepting off-airport emergency services to airside;
- termination of emergency procedures;
- Regular training and airport familiarisation with off-airport responders (including EMS, Fire Service, Police, Military etc.) see chapter 9 – Municipal Fire Service.
- Safe return of passengers/visitors and staff when an emergency is declared safe by the emergency services On-scene Commander.

### Notes:

1. Fire alarm notification systems should ensure timely and seamless notification to all Fire Services within the Airport/Fire Emergency Plan upon activation.
2. In the event of a fire in a terminal building at small to medium sized airports it is doubtful if there would be sufficient capacity available to house incoming passengers and aircraft.
3. In preparing the Airport Terminal Emergency Evacuation Plan the fact that at the time of a fire/emergency, the passengers and visitors in the airport will not be known by name, so it will be an impossible to carry out an effective Roll Call as is routine policy in evacuation plans in other types of premises.
4. Designated correctly marked Assembly Points need be kept clear at all times to facilitate the anticipated numbers that might be involved in a mass evacuation of the Terminal.
5. In consideration of assigning Car Parks as Assembly Points, a number of factors need to be taken into account including the volume of vehicles usually in the car parks, the distance that evacuees will have to travel from the Terminal, ensuring that the evacuation routes do not block access of the emergency services to and from the Terminal, how will so many persons who are unfamiliar with the location be controlled, weather conditions etc.
6. For Fire Wardens, consider issuing special tabards for identification, radios for communication and loud hailer for issuing instructions.
7. For further information and guidance in dealing with victims and their relatives, reference should be made to ICAO documents 9998 / 9973 which relate to the Airport Family Assistance Plan.

Subject to the requirements of the Airport, Fire Wardens may have responsibilities that include first aid, mitigating damage and other rules as prescribed by the Airport, but their primary role is to ensure a safe evacuation of all personnel, not forgetting sweeping i.e., physical checks to make sure that no one is left behind, where it is safe to do so.

**CHAPTER 3****3.1 Airport Fuel Farm/Depot Fire Safety Strategy:**

Airport senior management are responsible for ensuring that possible incidents in the Fuel Farm/Depot of an Airport should be part of the Airport Emergency Response Plan, Based on risk assessments by competent personnel, contingency arrangements for small and major fire incidents within the fuel farm/depot should be included and these arrangements should be updated on a regular basis by competent personnel. These contingency plans should include being prepared for any interruption to flying operations due to an incident in the Fuel Farm/Depot which could result in loss of revenue.

In general, fuel facilities in airports, often referred to as a Fuel Farm, fall into one of two categories:

1. Owned and operated by the airport.

The airport owns the land and the infrastructure and operates the fuel facility.

2. Land leased by the airport to a fuel provider.

The fuel provider operates the Fuel Farm and airlines purchase their fuel directly from the fuel company.

Regardless of the category of ownership a Fuel Farm is a vital part of the airport and its operation and therefore it is very much in the interest of an airport to become involved in securing continuity of supply, ensuring speedy resolution of failure of equipment/power and effectively dealing with major incidents such as loss of containment and fire.

The airport should take a leading position in the ability to respond to and to mitigate any incidents of fire in the fuel farm. This will require the Airport Authority, Airport Owner and Airport Manager to be involved in a lead role in aspects such as:

- Credible Scenario Planning, in conjunction with fuel facility, municipal authority, and any appointed third parties (refer to Annex 2)
  - Full surface tank fire.
  - Vent fire.
  - Bund fire.
  - Shallow spill fire.
  - Fuel delivery systems.
  - Ancillary systems.
  - Fuel tanker rollover/collision on or into site.
- Provision of equipment that will be required in the event of a fire e.g. mains, pumps, monitors
- Media to be used in the event of a fire,
- Personnel issues including firefighting, incident command and control at all levels,
- Training of emergency response personnel and maintenance of competence of all personnel who will need to be engaged in a major incident on the Fuel Farm.

A fire in the fuel farm/depot that is identified in its incipient stages, can often be brought under control quickly to prevent a full escalation of a fire. Early intervention with fires in fuel farms/depos may result in minimal damage.

It is most likely that there will be several scenarios at an airport fuel farm that can be dealt with by rapid intervention of the RFFS/ARFF. These possible scenarios should be risk assessed by a competent person and response plans amended and documented accordingly.

## CHAPTER 4

### 4.1 Airport Dangerous Goods/Hazardous Materials Strategy:

Hazardous Materials are articles or substances which can pose a risk to health, safety, property, or the environment, that are listed or classified in the regulations and are transported in commerce. Dangerous goods are those listed in the UN Carriage of Dangerous Goods Guideline that are transported.

The transportation of dangerous goods is controlled and governed by a variety of different regulatory regimes, operating at both the National and International levels. Prominent regulatory frameworks for the transportation of dangerous goods include the United Nations Recommendations on the Transport of Dangerous Goods, International Civil Aviation Organisation (ICAO) Technical Instructions, International Air Transport Association (IATA) Dangerous Goods Regulations and the International Maritime Organisation (IMO) Dangerous Goods Code. Collectively, these regulatory regimes mandate the means by which dangerous goods are to be handled, packaged, labelled and transported.

Classification of dangerous goods is broken down into nine classes according to the type of dangerous material –

- |                   |                          |                       |                      |
|-------------------|--------------------------|-----------------------|----------------------|
| 1. Explosives;    | 2. Flammable Gases;      | 3. Flammable Liquids; | 4. Flammable Solids; |
| 5. Oxidising;     | 6. Toxic and Infectious; | 7. Radioactive;       | 8. Corrosive;        |
| 9. Miscellaneous. |                          |                       |                      |

### 4.2 Airport Dangerous Goods/Hazardous Materials Emergency Response Plan:

An Airport Emergency Response Plan should include the handling and response to an emergency of dangerous goods classified items and the responsibilities of all members of staff involved and likely to be involved in the handling, transportation and storage of dangerous goods in the airport. All members of staff who within their job role are likely to come in contact with dangerous goods should be made aware of their responsibilities in the Airport Emergency Response Plan and they should be provided with suitable on-going training in the actions they will be required to take in the event of an emergency.

In the event of a life-threatening incident involving dangerous goods in the Airport, intervention cannot be delayed whilst waiting for external agencies with whom the airport may have arrangements to arrive. Members of RFFS/ARFF should have the training and resources necessary to intervene rapidly, competently and appropriately deal with any incidents involving dangerous goods.

Airport staff responding to casualties that have been contaminated by unknown substances should follow these three key actions:

- **Remove:** themselves from the immediate area to avoid further exposure to the substance. Fresh air is important.
- **Remove:** outer clothing if affected by the substance. Try to avoid pulling clothing over the head if possible. Do not smoke, eat or drink. Do not pull off clothing that is stuck to skin.
- **Remove:** the substance. If it is a corrosive material, wet decontamination should be used. If it is not corrosive, the substance should be removed with dry absorbent - do not brush the material off as that material may permeate the skin, therefore it needs to be removed by dabbing it off with a suitable absorbent material.

## **CHAPTER 5**

### **5.1 Air Traffic Control**

Air traffic control forms an integral part of the operation of an airport.

Airports should have risk assessed plans for action in the event of a fire/incident in the building to include:

- Action to take in the event of a fire/incident.
- Evacuation plans to include plans for complete or partial evacuation. Such plans should give staff clear and concise instructions on the action to take in each eventuality.
- The controlled shutting down of systems.
- Information to aircraft.

Where airports have a back-up building for such incidents, they should ensure that:

- The testing of back-up equipment is carried out to manufactures recommendations.
- Staff are fully aware of the emergency procedures.
- Training is carried out at intervals to ensure staff maintain competence.
- All actions carried out are recorded and kept safe for audit/inspection.

**CHAPTER 6****6.1 Guidance for Hot Work Procedures:**

Operations involving open flames or producing heat and/or sparks e.g., brazing, torch cutting, grinding, soldering and welding are called “Hot Work”. Hot Work can create significant hazards that puts workers, those around them, and the premises itself in danger. In particular, it can pose a major fire risk. Hot Works should only take place where it is absolutely necessary. In carrying out Hot Works, it is important to ensure that the correct process is followed based on a Risk Assessment and Method Statement, including system isolation and de-isolation processes.

A number of very serious fires in airports have been as a result of Hot Work taking place without the proper safety procedures being in place, so it is important that particular notice of this function is included in any Fire Safety Strategy.

Before Hot Work is carried out in an airport, a Permit to Work should be required which should have due consideration to the identification of hazards and assessment of risks and include suitable control measures. The Permit to Work should be valid for no more than 1 day and should be “signed on” and “signed off” daily by the person or competent representative of the person issuing the Permit.

**6.2 Hot Work Fire Watch Personnel:**

Hot Work in the airport airside or landside should only be allowed to take place under the supervision of airport staff trained to supervise Hot Work. Hot Work Fire Watch personnel should be responsible for co-ordinating and controlling “hot work” operations in any part of the airport and their duties and operation should form part of the Airport Safety Management System. The competence of any person who is to carry out such work should be verified in advance of issuing a Permit to Work.

Hot Work Fire Watch personnel should have the authority to oversee any Hot Work and to be competent in at least the following:

- the principals of good housekeeping and all other matters related to the safe and effective operation of Hot Work permits used in the airport.
- the responsibilities of issuing a Hot Work permit;
- the control of work in accordance with a Hot Work permit;
- reading, understanding and applying the requirements of a Hot Work Permit;
- use of gas detection equipment where required under a Hot Work permit;
- making sure that the workplace is safe before hot work commences;
- having the necessary equipment needed;
- how to effectively monitor Hot Work;
- the principals and competent use of Hot Work screening using fire blankets;
- how to recognise an incident/possible incident occurring during Hot Work;
- raising the alarm in the event of an emergency;
- how to notify personnel about an incident/possible incident occurring during Hot Work;
- how to activate support to deal with an incident/possible incident occurring during Hot Work;
- how to respond to an incident/possible incident occurring during Hot Work;
- having and being able to use competently the necessary equipment needed at hand in the event of a fire or an accident taking place during the work;
- the use of all types of fire protection equipment which may be used during Hot Work activities;
- the special problems of extinguishing fires in any unusual materials which may be present during Hot Work;
- stopping the work when they feel it is necessary;
- stand down procedures following an incident/possible incident occurring during hot work;
- ensuring that the area is safe on completion of the hot work.

Hot Work Fire Watch personnel should have no other duties whilst monitoring Hot Work activity. Hot Work procedures should be documented, reviewed and if necessary, updated on a regular basis.

**CHAPTER 7****7.1 Induction Training All Staff:**

All staff employed/contracted within the airport including personnel working for permanent Tenants, should receive the appropriate fire/emergency training at the commencement of employment/contract and at regular intervals thereafter to ensure competence.

The training to be given should cover at least the following:

- The general fire/emergency precautions in the employees' Work Area;
- Location of the nearest fire/emergency notification alarm within their area of work;
- How to operate the fire/emergency alarms;
- The procedure for calling the RFFS/ARFF and the off-airport emergency services;
- Radio communications;
- The location of the nearest fire protection equipment within their area of work;
- Be aware of how to operate such extinguishers;
- Fight a small fire within their area of work, providing it is safe to do so;
- The procedure for evacuating ambulant/non ambulant passengers;
- The nearest and alternative means of escape;
- Airport evacuation procedures;
- Any special risks within the employees work area.

**7.2 Terminal Staff Training – Emergency Evacuation Procedures:**

Terminal staff identified as managing the evacuation of personnel in and around the airport terminal, as a minimum must exhibit competence in the expected role following receiving training which may include:

- Designation of staff roles (Evacuation Marshals) for Emergency Evacuation Procedures.
- Allocation of means to identify Evacuation Marshals – such as tabards.
- Means for communication during an emergency evacuation – such as loudhailers, hand-held portable radios etc.
- Identification of Emergency Evacuation pathways, Airside and Landside Emergency Assembly Points (Refuge Points), Emergency Assembly Areas (Refuge Areas) {These may also be Fire Assembly Points and Assembly Areas}
- Management of persons with reduced mobility
- Maintenance training

**7.3 Hot Work Fire Watch personnel:**

Suitable and regular training for all Hot Work Fire Watch personnel including hot fire training should be at such frequencies to ensure competence but at least once annually. Such training should meet the requirements of Chapter 6.

**7.4 Fuelling Staff Training – Mobile tankers and Fuel Farm Procedures:**

1. Know how to raise an alarm Fire/ Emergency:
  - a. Within the fuel compound
  - b. Whilst conducting airport apron operations.
2. Fully competent to shut down/ isolate all fuel and electrical systems within the site:
  - a. Identification and emergency procedures for the control of leaks and spills
  - b. Prevention of leaks and spills
  - c. Identification of situations requiring shut down of fuelling procedures.
3. Fully competent to undertake all types of fuelling operations as per laid down instructions/ Regulations that are applicable:

- a. Knowledge of relevant company, local site health, safety and operational procedures
  - b. Knowledge of fuel and lubricant types; uses, handling and storage
  - c. Evidenced knowledge and practical proficiency in local fuel delivery operations, including the use of hoses, valves, and other equipment
  - d. Protection from sources of ignition
  - e. Risk reduction practices including selection of PPE
  - f. Knowledge of the risk if static discharge during fuelling operations and risk reduction (bonding/grounding)
  - g. Fuelling of different types of aircraft
  - h. Correct ramp fuelling procedures, including aircraft with passengers on board
  - i. Knowledge and understanding of defueling operations.
4. Operational knowledge and training in the use all fire appliances and equipment within the site:
    - a. Evidence of initial fire safety training
    - b. Operational knowledge and training on fire appliances and equipment within the fuel compound
    - c. Operational knowledge and training on fire appliances and equipment on the apron at aircraft parking stands
    - d. Evidence of maintenance of training to maintain competence in the uses of fire appliances and equipment which they may use.
  5. Fully competent to undertake basic fire safety inspections and to report these and any failings to the appropriate manager in writing:
    - a. Fuel farm inspection procedures
    - b. Inspection of fuelling vehicle
    - c. Inspection of fuelling connection points; cabinets, pits and hydrants.
  6. a. Understand the instructions of Hazchem markers/plates  
b. Identify each tank in the fuel farm correctly.

### 7.5 Staff Training – Handling Dangerous Goods/Hazardous Materials:

The training of all staff who deal a with dangerous goods should include at least the following:

- Classifications 1 to 9 of dangerous goods  
It would be beneficial to provide regular scenario training to learn about the materials in each class, understanding what the hazards are and the mitigation action that should be taken for each scenario.
- How to identify parcels/containers from their classification.
- The action to take to identify hazards and reduce risks.
- Be aware that if not properly controlled, dangerous goods/hazardous materials present a potential risk to human life, safety and the means of transport.

### 7.6 Staff Training – First-Aiders/Emergency Medical Responders

Airport staff who serve as first-aiders (emergency medical responders) should have the appropriate initial emergency medical response training and at regular intervals thereafter to ensure competence.

- Action to take on notification of a medical emergency.
- How to raise an alarm (local)
- Scene and personal safety
- Casualty assessment – survey
- Notification of advanced medical services
- Use of first aid/EMS equipment
- Transfer of care
- Prevention of disease transmission
- Record keeping



## CHAPTER 8

### 8.1 RFFS/ARFF responsibilities:

Aircraft Rescue and Firefighting (ARFF) involves the emergency response, mitigation, evacuation and rescue of passengers and crew of aircraft involved in aviation accidents and incidents. The minimum competences and type of training required by airport firefighters and the equipment, including fire fighting vehicles, are clearly set out by the International Civil Aviation Organisation (ICAO) based on the type of aircraft that are permitted to use the airport under the designation of their ICAO Category.

Firefighting personnel and equipment in airports have tended to be related to controlling fires and other incidents involving aircraft rather than the overall fire safety of the airport and its facilities. There have been instances previously where due to the lack of the correct resourcing and training, the RFFS/ARFF has been overwhelmed at a major fire involving the airport facilities.

National and local legislation requires that airports use risk assessed processes to be able to safely deal with all incidents that might occur on the airport, paying particular attention to the safety of staff, passengers and contractors.

The detail of such actions should be recorded and retained in a safe place e.g. for audit purposes.

### 8.2 RFFS/ARFF Response(s):

An RFFS/ARFF has 2 distinct responsibilities - Aircraft Rescue and Firefighting (ARFF) and Fire Safety of the airport. The work of the Fire Service in Aircraft Rescue and Firefighting and in ensuring the Fire Safety of the airport is equally important for the continuing operation of an airport.

Prior to their appointment of operational members of an RFFS/ARFF, each member should be trained in offensive and defensive firefighting strategy and tactics including both theoretical and practical exercises. Members of an RFFS/ARFF should also be trained and be able to demonstrate competence in dealing with non-fire incidents identified in the Airport Fire/Emergency Response Plan.

The minimum competences and type of training required by airport firefighters for Aircraft Rescue and Firefighting (ARFF) are clearly set out by the International Civil Aviation Organisation (ICAO) based on the type of aircraft that are permitted to use the airport under the designation of their ICAO Category.

There are minimum competences and type of training required by airport firefighters for airport Fire Safety. Due to the complexity of operations of an airport and in particular because of the volume of persons likely to be in an airport at any time during the operational hours of an airport, there is great potential for rapid growth and complexity of an incident in the Terminal and other airport buildings.

Training for competence for Fire Safety of the airport could include:

- Full knowledge of the topography of the airport terminal and other buildings and facilities of the airport;
- Fire prevention inspections;
- Prioritisation of multiple occurring emergencies;
- Response times to airport terminals;
- Access to fire location within the terminal;
- Fire extinguishing systems and hose installations
  - Maintenance and testing

Terminals are designed to hold high volumes of people for longer periods for the purpose of for example

- Awaiting flights;
- Security clearance procedures requiring three to four-hour arrival before flights;
- Facilities within terminals designed to provide passengers with comfort amenities whilst awaiting flights; hot food courts, shopping including liquor and perfumes (flammables), games;



- Management of personnel who have cleared security during fire emergency within a secured zone;
- Direct connection from airside risks via air bridges and terminal access to adjoining hotels
- Potentially available Terminal services;
- Fire awareness training to job role for staff;
- Political influences etc.

### 8.3 Support of outside Agencies

An important part of response to incidents in airports is the support of outside agencies – Municipal Fire Service, Police and Security Services, Ambulance Services, Water Authority, Environmental Agency etc.

The ability of outside agencies to respond to an airport fire can be affected by for example:

- delays due to engagement in another emergency;
- familiarity of the responders with the airport and fire protection systems to facilitate an accurate response;
- suitability of resources;
- interoperability with the Airport Emergency Plan and the RFFS/ARFF;

### 8.4 Augmented emergency response:

Establishing the Fire Safety Strategy may identify criteria which are outside the ability of the Airport Authority to control which will impact on an effective response to a fire at the airport terminal. Implementing an augmented emergency response, facilitated by competently trained and equipped airport staff is not unusual. In establishing an augmented emergency response strategy, such a response strategy should be covered by proper legislative coverage and documentation. Roles should be clearly defined and known by all relevant stakeholders in the airport and agencies which are part of the strategy.

Emergencies other than aircraft emergencies on the airport will necessitate a capability greater and in some aspects, different than that required by the minimum International Civil Aviation Organisation (ICAO) standards for Aircraft Rescue and Firefighting (ARFF). Agencies from surrounding communities may have the ability to provide the required levels of response for such incidents but it is likely that there will be delays for outside Agencies to respond and to begin intervention. For this reason, this Guideline recommends that the best way to deal with first response to incidents in an airport other than Aircraft Rescue and Firefighting (ARFF) should be provided by the RFFS/ARFF.

As well as dealing with Aircraft Rescue and Firefighting (ARFF) operations, the Airport Authorities, Airport Operators and Airport Management should detail the response requirement of the RFFS/ARFF to emergencies other than aircraft emergencies on the airport and how they intend to deal with such incidents.

### 8.5 Emergency Responders:

To respond competently and effectively to fire and non-fire emergencies at an airport each member of an RFFS/ARFF should receive training that will enable them to perform their duties safely, efficiently and in a competent manner on an ongoing basis.

The purpose of training emergency responders should be to allow demonstration of ongoing competence in dealing with potential accidents/incidents at the installation where the emergency responder may be required to respond. Both the employer and the employee have responsibilities to demonstrate that competencies are being maintained.

Competency-based training for emergency responders should be in five distinct phases:

- Initial training – acquisition: to gain the attitude, knowledge, skills and understanding identified for a particular role, before being permitted to engage in workplace emergency response.

- Continuous training – application: to consolidate, practise and apply the knowledge, skills and understanding developed during initial training, to the workplace emergency response.
- Refresher training – maintenance: revision of fundamental knowledge and skills.
- Conversion training – acquisition: designed to familiarise whenever changes in procedures and/or technology are introduced, and/or new hazards are identified in the work environment.
- Revalidation training – confirmation: to update and develop new techniques and/or to enhance the skills learned in earlier training.

All members of the Emergency Response Team should be trained to a level of competency commensurate with the response duties and functions that they are expected to perform, including the operation of all of the fire-fighting and rescue equipment and systems they are expected to use.

Three separate aspects should make up effective provision of training of Emergency Response Teams:

- Facilities, procedures and training scenarios that emergency responders face should be safe and relevant to the hazards on the installation on which the emergency responders may be required to respond.
- Course content should be relevant to potential emergencies on the installation that the emergency responder may be required to respond.
- Instructors should have the technical and training ability, knowledge and experience to effectively provide training on the courses to which they are assigned.

Training should be as frequent as necessary to ensure that members of Emergency Response Teams can perform their duties in a safe and competent manner that does not pose a hazard to themselves or to other persons.

After initial training has been satisfactorily completed, competence should be maintained by a regular robust training programme which is a mixture of onsite and offsite training, building on core content to address installation-specific issues. For the ongoing safety and efficiency of emergency responders whose responsibility includes firefighting, competence in both practical fire-fighting and in the correct use of Self Contained Breathing Apparatus should be maintained.

Training should be at intervals as necessary in order to achieve and maintain competence. Breathing apparatus formal assessment to demonstrate competence should be held regularly.

Whether full-time or part-time, emergency responders expected to carry out the same duties and to have the potential to be exposed to the same risks should receive the same amount and type of competency based training and should be issued with and trained in the use of the same type of appropriate Personal Protective Equipment.

Training for emergency responders should be competency based and assessed and verified on an ongoing basis. The content of the training should focus on building on the core emergency response skills for site -specific competencies at the level of universally acceptable minimum standards of training for emergency responders.

Suggested fire scenarios for the purposes of training and the development of an emergency Response Plan are included in Annex 2 of this Guideline.

## **CHAPTER 9**

### **9.1 Airport Response agreements between RFFS/ARFF and Municipal Fire Service and/or Private Fire Service.**

In some Countries, the Municipal Fire Service legally has the overall responsibility for responding to fire and emergency incidents and for extinguishing fires and protecting life and property in the event of an incident in their Area. They may also have responsibility for rescuing and protecting people in the event of incidents involving road traffic-and any other emergency in their area. Because of this wide ranging responsibility, the Municipal Fire Service will usually identify and assess the full range of foreseeable fire and rescue risks their areas and will work in partnership with their Communities and a wide range of partners locally and Nationally to deliver their service. Details of any contractual arrangements in the method of delivery of their service will usually be published.

With this legal responsibility, when the Municipal Fire Service responds to an incident in an airport at which the RFFS/ARFF is in attendance, the Senior Officer of the RFFS/ARFF should hand overall control of the incident with some form of plan/layout/zones to aid awareness to the On-scene Commander of the attending Municipal Fire Service.

It is very important that RFFS/ARFF makes detailed arrangements with the local Municipal Fire Service as to how all possible incidents on the airport will be tackled so that each Service knows what the other is required to do during the response. These arrangements should include personnel from both Services training together in advance of an incident taking place, to ensure competent and efficient responses to all emergencies.

In developing arrangements with the Municipal Fire Service, airport management must be conscious of the fact that that the prime job of Municipal Fire Services is to protect Community life and property and if engaged in dealing with an emergency, particularly where life is threatened, there is likely to be a delay in response to an airport emergency. These arrangements therefore need to ensure that the Airport Fire Service must be prepared to deal with the early stages of any emergency on the airport until external support begins to arrive.

Airports should liaise closely with the Municipal Fire Service and agree in writing the level of response to be provided. Where the agreed response cannot be met, the airport should then by risk assessment document its finding and make provisions accordingly, because the responsibility of the Airport Authority, Airport Owner and Airport Management is to ensure the safety of staff, passengers and visitors.

All written agreements with the Municipal Fire Service should be reviewed regularly and the agreement and detail of the reviews should be kept in a safe place and made available for inspection by the appropriate authorities when asked. This includes any agreement that the Airport Fire Service will not respond to fires and other emergencies in structures such as airport terminal buildings and it will leave the response to the Municipal Fire Service.

Suggested fire scenarios for the purposes of training and the development of an emergency Response Plan are included in Annex 2 of this Guideline.

**ANNEX 1: USEFUL SOURCES OF INFORMATION**

Candy M.Y. Ng and W.K. Chow. (2005). *Proposed fire safety strategy on airport terminals*. Retrieved from Int. J. Risk Assessment and Management, Vol. 5, No. 1, 2005: <https://d3pcsg2wj9izr.cloudfront.net/files/6471/articles/6303/f104112175361289.pdf>

HM Government. (2007, February). Fire Safety Risk Assessment. *Transport premises and facilities*. London, England: Department for Communities and Local Government.

International Civil Aviation Organization. (1991). *Airport Services Manual Part 7; Airport Emergency Planning, Second Edition 1991*. Montreal: International Civil Aviation Organization.

International Civil Aviation Organization Document 9137 AN 898 *Airport Services Manual Part 1 Rescue and Firefighting (4<sup>th</sup> edition)*.

International Civil Aviation Organization Annex 14 Latest edition

International Civil Aviation Organization Dangerous Goods Regulations

International Air Transport Association) Dangerous Goods Regulations

JOIFF Guideline on Emergency Response to incidents involving vehicles powered by Alternative Fuels (including Hybrid vehicles)

NFPA 11 latest edition *Standard for Low-, Medium-, and High-Expansion Foam*. National Fire Protection Association, Quincy, Massachusetts, United States of America.

NFPA 405 latest edition, *Standard for the Recurring Proficiency of Airport Fire Fighters*.

NFPA 415 latest edition, *Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways*.

NFPA 416 latest edition, *Standard on Construction and Protection of Airport Terminal Buildings*.

NFPA 424 latest edition, *Guide for Airport/Community Planning*.

NFPA 472 latest edition, *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*.

NFPA 1003 latest edition, *Standard for Airport Fire Fighter Professional Qualifications*.

NFPA 1072 latest edition, *Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications*.

Overseas Territories Aviation Requirements (OTARs) Part 140 Rescue and Fire-Fighting Services (RFFS) Requirements.

US Federal Regulation 139

ICAO Document 9998 and ICAO Document 9973 Aircraft Accident Victim Assistance Policy

### ANNEX 2 – AIRPORT FUEL FARM/DEPOT – likely scenarios

The need for staff Fire Awareness and comprehensive pre-planning using probable scenarios will play an important part in determining the type of emergency response to an incident at a fuel farm/depot.

Listed below in items 1 to 4 are some likely scenarios and the type of training/awareness that senior airport management will have to consider in response to an emergency.

#### Scenario 1 Full Surface Tank Fire

Task: To bring together input from all responding agencies.

#### Scenario 2 Catastrophic Tank failure, large spill into Bund

Task: to examine logistics and understand gap in provision (co-ordinate with expectation of local response authorities, regarding environmental parameters)

#### Scenario 3 Vent Fire

Task: To examine logistics and understand gaps in provision.

#### Scenario 4 Pump(s) and Flange Fire

Task: To examine internal response capability

### Scenario 1 – Full Surface Tank Fire

TASK – to deliver a Table-top exercise to examine logistics and understand gaps in provision. (Co-ordinate with expectations of local responsible authority as regards environmental parameters.)

The fuel farm at your local Airport contains 12 Tanks ranging in diameter from 18m to 44m. The majority contain JetA1 fuel. A full surface fire has taken hold of tank 7045 – a 44m diameter tank with a fixed roof, an explosion has occurred and it has peeled the roof off at the weak seam, the roof has come back down to rest askew and is obstructing the surface of the fuel

#### Part 1 - Initial Actions and Planning:

- a. In groups discuss the following and provide details for the following questions:
  - What would be the initial response to an incident of this type if this incident occurred in your area?
  - Do you have any pre-attack plans for this scenario / tank already prepared?
  - What information would you want to obtain from the onsite representatives?
- b. In groups, using the information above and gathered from the onsite representatives complete the following:
  - List all of the initial incident objectives and prioritise your actions?
  - Calculate the application rate and application duration of foam solution needed to extinguish the fire using the appropriate standards dependent on your location (NFPA / BP / BS / EN?)
  - What equipment are you going to use to apply the foam solution and how long will it take to assemble and get to work?
  - What equipment are you going to use to apply water to cool adjacent tanks and what resources will you need for this?

#### Part 2 – The Logistics of Extinguishing the Fire

- a. In your groups, consider each of the sectors in turn and determine the following?

##### Water Sector –

- How will you ensure a continuous supply of water for both cooling adjacent tanks as well as applying the foam solution for the duration of the incident = the time it takes to set up + the application duration?

- What pressure and flow can you supply to the proportioning sector

### Foam Proportioning Sector –

- What proportioning equipment will you need to ensure a continuous supply of foam solution to the monitor sector?
- How will you set up your sector to ensure a smooth operation?

### Foam Logistics Sector –

- How will you gather together all of the foam concentrate you require for the incident and where will you site it?
- How will you ensure a continuous supply of foam concentrate for the duration of the application duration?

### Monitor Sector –

- What is the throw (range) of the monitor for the flow you will be delivering?
- Have you identified appropriate site for the monitor taking account of wind direction? – is this outside of the bund?

### All Sectors – Before foam application starts:

- Have you ‘walked the line’ and ensured all elements of the plan are in place before starting application?
- Have you considered what could go wrong?
- Have you considered any contingency plans and put in place any mitigation measures for each eventuality?

### Part 3 - Post Fire considerations

- a. In your groups, discuss: The foam solution has been applied for the specified duration and the fire has been extinguished and you have turned off the monitors...
  - How will you monitor the effectiveness of the foam blanket?
  - How long will it take to move the remaining product from the tank and make the tank safe?
  - What are your considerations for water run-off / foam solution run-off / foam solution disposal or treatment?

## **Scenario 2 – Catastrophic tank failure, large spill into bund**

TASK – to deliver a Table-top exercise to examine logistics and understand gaps in provision. (Co-ordinate with expectations of local responsible authority as regards environmental parameters.)

The fuel farm at your local Airport contains 12 Tanks ranging in diameter from 18m to 44m. The majority contain JetA1 fuel.

An accident has caused a large release of the contents of tank 7045 – a 44m diameter tank with a fixed roof, and a height of 18m. The pipe supplying fuel into the tank has ruptured and the contents are gushing into the bund. At the time of the accident the contents of the tank were estimated to be 21290m<sup>3</sup>. The bund measures 55m x 60m.

### Part 1 - Initial Actions and Planning:

- a. In groups discuss the following and provide details for the following questions:
  - What would be the initial response to an incident of this type if this incident occurred in your area?
  - Do you have any pre-attack plans for this scenario / tank already prepared?
  - What information would you want to obtain from the onsite representatives?
- b. In groups, using the information above and gathered from the onsite representatives complete the following:
  - List all of the initial incident objectives and prioritise your actions?
  - Discuss the advantages / disadvantages of the application of foam blanket on to the fuel as a preventative measure.

- If the spill were to ignite –
  - Calculate the application rate and application duration of foam solution needed to extinguish the fire using the appropriate standards dependent on your location (NFPA / BP / BS / EN?)
  - What equipment are you going to use to apply the foam solution and how long will it take to assemble and get to work?
  - What equipment are you going to use to apply water to cool adjacent tanks and what resources will you need for this?

### Part 2 – The Logistics of applying foam blanket / extinguishing the fire

- a. In your groups, consider each of the sectors in turn and determine the following?

#### Water Sector –

- How will you ensure a continuous supply of water for both cooling adjacent tanks as well as applying the foam solution for the duration of the incident = the time it takes to set up + the application duration?
- What pressure and flow can you supply to the proportioning sector

#### Foam Proportioning Sector –

- What proportioning equipment will you need to ensure a continuous supply of foam solution to the monitor sector?
- How will you set up your sector to ensure a smooth operation?

#### Foam Logistics Sector –

- How will you gather together all of the foam concentrate you require for the incident and where will you site it?
- How will you ensure a continuous supply of foam concentrate for the time of the application duration?

#### Monitor Sector –

- What is the throw (range) of the monitor for the flow you will be delivering?
- Have you identified appropriate site for the monitor taking account of wind direction?

#### All Sectors – Before foam application starts:

- Have you ‘walked the line’ and ensured all elements of the plan are in place before starting application?
- Have you considered what could go wrong?
- Have you considered any contingency plans and put in place any mitigation measures for each eventuality?

### Part 3 - Post Incident considerations

- a. In your groups, discuss: The foam solution has been applied for the specified duration and the fire has been extinguished and you have turned off the monitors...
  - How will you monitor the effectiveness of the foam blanket?
  - How long will it take to move the product from the bund and make the site safe?
  - What are your considerations for water run-off / foam solution run-off / foam solution disposal or treatment?

## Scenario 3 – Vent fire

TASK – to deliver a Table-top exercise to examine logistics and understand gaps in provision. (Co-ordinate with expectations of local responsible authority as regards environmental parameters.)

The fuel farm at your local Airport contains 12 Tanks ranging in diameter from 18m to 44m. The majority contain JetA1 fuel.

Fire is issuing from the vent on tank 7045 – a 44m diameter tank with a fixed roof, and a height of 18m. At the time of the incident the contents of the tank are estimated to be 21290m<sup>3</sup>.



### Part 1 - Initial Actions and Planning:

- a. In groups discuss the following and provide details for the following questions:
  - What would be the initial response to an incident of this type if this incident occurred in your area?
  - Do you have any pre-attack plans for this scenario / tank already prepared?
  - What information would you want to obtain from the onsite representatives?
- b. In groups, using the information above and gathered from the onsite representatives complete the following:
  - List all of the initial incident objectives and prioritise your actions?
  - What extinguishing media are you going to use, how are you going to apply it, and how long will it take to assemble and get to work?

### Part 2 – The Logistics of applying extinguishing media / extinguishing the fire

- a. In your groups, consider the following?
  - Have you considered what could go wrong with the tactical plan?
  - Have you considered what you would do if the incident were to escalate to include an explosion (see scenario 1), i.e. What contingency plans would you put in place as mitigation?

### Part 3 - Post Incident considerations

- a. In your groups, discuss: the fire has been extinguished.
  - How will you monitor tank / contents?
  - What do you need to do to make the tank safe?

## **Scenario 4 Pump and/or Flange Fire**

**TASK:** - to deliver a Table -top exercise to examine why a rapid response is essential in the event of a fire in pumps and/or flanges.

Co-ordinate with expectations of local responsible authority as regards environmental parameters.

The fuel farm at your local airport has several pumps and flanges discuss:

### Part 1 - Initial Actions and Planning:

- a. In groups discuss the following and provide details for the following questions:
  - The importance of knowing the number of and location of the pumps and flanges.
  - The importance of pre-attack plans for such incidents.
  - What would be the initial response to an incident of this type if this incident occurred in your area?
  - The importance of a rapid response to such incidents
  - The consequences of a delayed response
  - Consideration of cooling tactics.
  - What information would you want to obtain from the onsite representatives?

### Part 2 - Post Incident considerations

- a. In your groups, discuss: How long will it take to move the product from the bund and make the site safe?
  - The need to monitor post fire radiant heat plumes.
  - Actions to ensure that re-ignition cannot occur.
  - Debriefing



## ABOUT JOIFF

JOIFF is a not-for-profit organisation whose prime activity is Shared Learning, to provide information to persons engaged in emergency services management and response, primarily in high hazard industry, that will assist them in developing the knowledge, skills, understanding and competence to improve standards of safety and of the working environment in which they operate. JOIFF's Shared Learning policy is aimed at its members following Good Industry Practice in preventing and responding to accidents/incidents in high hazard industry and in dealing with residual risk.

The 4 pillars of JOIFF are:

- **Shared Learning – improving risk awareness amongst the members:**  
JOIFF's email network, its quarterly Magazine "The Catalyst", the Members' Area of the JOIFF website and JOIFF's webinars, conferences and other events provide information relevant JOIFF's Shared Learning policy. JOIFF's Shared Learning also includes a network for "Peer Assist" from members seeking information and guidance on specific matters relevant to High Hazard Industry.
- **Accredited Training –operational preparedness in emergency response and crisis management:**  
JOIFF Accredited Training is a system of quality control of the policies, protocols, procedures and courses/programmes operated by Training organisations. Key to JOIFF accredited training is the on-going assessment of each student to ensure competence which should be demonstrated on a continuous basis. Successful participants in JOIFF accredited training courses/programmes receive JOIFF accredited certificates of competence.
- **Technical Advisory Group – improving standards of operational safety in the working environment:**  
An important aspect of augmenting the JOIFF Shared Learning knowledge base is the development of Guidelines on specific subjects by Working Groups of JOIFF Subject Matter Experts. JOIFF Guidelines aim to inform and assist Emergency Services Management in working to current levels of safety and Good Industry Practice on these subjects, ensuring that our members who deal with these matters are well informed, competent and correctly equipped to prevent and/or respond to potential accidents/incidents identified in their Area Emergency Response Plan. JOIFF members also work with persons and organisations on the nature and control of safety and other issues relevant to the sectors in which they operate.
- **Professional Affiliation – membership of a prestigious international organisation:**  
Membership of JOIFF gives the prestige of being part of a globally recognised organisation of Emergency Services Management and provides unique opportunities for networking and access to professionals who have similar challenges in their work.

Corporate members are organisations engaged operationally and/or commercially in Emergency Services Management primarily in high hazard industry. Individual membership is for persons who wish to be involved for personal learning and development who are not currently engaged in, employed or on contract in organisations engaged operationally and/or commercially in Emergency Services Management in high hazard industry..

An application for JOIFF membership can be made through the JOIFF website [www.joiff.com](http://www.joiff.com)

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