

IFE Level 3 Diploma in Fire Safety and Fire Science

Unit 6 – Fire Service Operations and Incident Command (Zone 1)

Examiner Report – March 2019

Introduction

Half of the candidates that sat the examination secured a pass.

Candidates performed best on questions 2, 6 and 7. They performed least well on questions 5 and 8 where the average marks achieved were below six marks.

Question 1

- a) *Incident Commanders should be able to identify and to manage the effects of stress on themselves and others.*
- i) *Explain why it is important for incident commanders to be aware of the impact of stress on themselves and on their crew members. (6 marks)*
 - ii) *Describe the coping strategies that can be employed during an incident to enable an incident commander to manage either their own stress or the stress of a team member. (4 marks)*
- b) *Explain the priorities and procedures to be followed when an incident commander takes the decision to withdraw all personnel from the scene of operations in an emergency evacuation. (10 marks)*

Examiner Feedback

Part a)i) was often answered well as candidates were usually able to identify the impacts of stress such as impaired situational awareness due to reduced ability to concentrate and take in information, impaired decision-making due to failure to take in/consider all information, negative emotions of stress such as anger and irritability may make it difficult to communicate key information effectively, impaired teamwork as individuals may find it difficult to share information and to engage with the wider task, impaired performance of individual and team leading to errors and leadership affected due to breakdown of relationship and confidence,

In responding to part a)ii), candidates did not always identify relevant coping strategies such as taking time (if safe to do so) to take stock and process information or liaising with others to confirm perceptions/information and decisions.

There were few high scores for part b). Some candidates omitted to identify priorities as

required by the question. Priorities would be to evacuate people at highest risk and to protect escape routes.

Responses often lacked sufficient detail to secure high marks. Examples of procedural points that could have been covered in responses include:

- Incident commander should inform all personnel at an incident of the location of the muster point – any changes during incident should be made known to all team members
- Standard evacuation signal to be used – and incident commander should make sure that any other agencies are aware of evacuation signal and procedures to be followed
- On hearing signal, all other personnel with whistles should also give the warning to amplify the sound
- Where noisy, alternatives methods to sound evacuation should also be used
- Other agencies should be notified that evacuation is underway
- Roll-call to be held after evacuation
- No one should re-enter hazard zone without permission from incident commander
- Tactical mode to be updated after all firefighters have evacuated
- Dynamic Risk Assessment should be updated

A good source of information on the topics covered in this question is the *Foundation for Incident Command*.

Question 2

You are the Incident Commander called to a fire that involves a building under construction.

- a) Describe the factors relevant to a construction site that can affect fire service operations. (12 marks)*
- b) Describe the control measures that you would implement when tackling a fire at a construction site. (8 marks)*

Examiner Feedback

This question was often answered well with the average mark attained being nine. Candidates generally scored marks for both parts of the question.

A good source of information on this subject is: *National Operational Guidance, Building Research Establishment supplementary information, incomplete buildings or structures page*

Question 3

- a) You are the Incident Commander at a fire in an office building where persons are reported to be trapped. Identify and explain the priorities to be considered when formulating and implementing your tactical plan. (10 marks)*
- b) Explain how a fire can breach a compartment within a building. (6 marks)*
- c) Describe four ways in which a fire can spread throughout a building undetected. (4 marks)*

Examiner Feedback

Part a) was usually answered well with candidates often demonstrating familiarity with this type of situation.

Parts b) and c), which required technical understanding of how fire spreads, were less were answered.

Points that could have been included in response to part b) were as follows:

- Retrofitted cabling or pipework with ineffective fire stopping
- Failure of devices such as collars or dampers that are designed to stop the spread of smoke or fire passing through pipework
- Features of the building that may allow the spread of smoke or fire between compartments eg dumb waiters, lift shafts
- Mechanical ventilation ductwork (which may contain a build-up of combustible material)
- Natural ventilation in roofs (that may draw fire into roof spaces)
- Severity of fire within the compartment
- Duration of fire development
- Interference with integral fire safety provisions, for example wedged open fire doors
- Firefighting tactics

Part c) required consideration of concealed spaces such as external wall cavities, false or suspended ceilings, roof spaces, chimneys and flues, utility ducting, space under floors, space behind or within cladding systems and façade assemblies, spaces within sandwich panels and within structural insulated panels (SIPs).

Question 4

a) Describe the factors that would be taken into account when pre-planning for an incident involving a merchant ship in port. (10 marks)

b) Explain the control measures that you would put in place if attending a merchant ship in a port with signs of a developing fire present. (10 marks)

Examiner Feedback

This question was not a popular option for candidates.

Candidates who applied their understanding of pre-planning to the context when responding to part a) usually secured good marks. Examples of areas that could have been considered and which would have secured marks included:

- access and security arrangements
- identification of hazard areas where dangerous substances will be stored within dockyard area
- availability of onsite firefighting and rescue teams or facilities and resources, ie; private mains, portable monitors, foam stocks
- availability of database of ships currently at berth and associated hazards
- plans for stability control etc

- arrangements for involving the Environmental Agency and Maritime Coastguard Agency (MCA) in the event of pollution from either firefighting actions or hazardous materials incidents
- RVPs and arrangements for meeting emergency services and in the case of large ports, escorting to location of incident
- attendance of interpreters
- control of shipping movements, closure of port, moving of endangered vessels etc

There were many poor responses to part b) with few candidates scoring more than a few marks for their response. Types of control measures which could have been considered include:

- Welfare of staff taking into account the confined space, heat and humidity in the incident area
- Situational awareness related to cargo/load and associated hazards
- Advice from ship's responsible person
- Consider compartment boundary cooling using appropriate and effective fire-fighting media
- Containment/compartimentation - use of monitoring equipment i.e. bulk head thermometers
- Access fire control plans and ascertain if the plans are up to date, taking into account any changes to the vessel layout
- Identify and agree any tactical plan with the ship's master
- Communicate the fire plan to all deployed personnel
- Assess adjacent risks and protect accordingly
- When there is a vessel fire, consider using specialist trained personnel if available (fire and rescue marine response (FRMR) or marine firefighter trained)
- Consider using specialist ship/vessel firefighting equipment
- Concept of buoyancy and procedures for ensuring stability during firefighting operations
- Consider appointing a stability liaison officer and safety officers at fires involving vessels
- Check that all scuppers or freeing ports are free flowing and not blocked by debris
- Apply minimum amounts of firefighting water necessary and monitor volume
- Drain down water from upper to lower decks and empty partially full compartments
- Consider using bilge or high volume pumps to assist with managing vessel stability

A good source of information on this subject is: *National Operational Guidance - Transport*

Question 5

Describe the factors including hazards and risks that an Incident Commander must take into account while attending an incident at a farm. (20 marks)

Examiner Feedback

This was the least well answered question on the examination paper. The main issue was that responses were often quite brief. Candidates should be aware that the number of marks shown on the examination paper are an indication of the number of relevant points required in responses. Brief responses limited the marks that could be attained.

Marks were available for identifying a wide range of points. Candidates who considered and expanded on the issues affecting the following areas would have secured marks:

- Access and environmental conditions and their impact
- The nature, construction and condition of farm buildings
- Hazardous substances and materials stored or used on the farm
- Electrical power supplies
- Machinery, workshops, silos, barns and stores
- Water, pits, slurry pits and lagoons
- Animals and Insects
- Biological hazards including animal waste (solid, liquid) and bioaerosols
- Stacked materials
- Non-fire service personal such as farm owner

Question 6

Describe the roles and responsibilities of the following:

- a) Incident Commander (10 marks)*
- b) Safety Officer (6 marks)*
- c) Tactical Adviser (4 marks)*

Examiner Feedback

This question was the second most popular option for candidates. Candidates usually performed well when they responded to this question and the average mark attained was eleven.

Most candidates were able to describe the roles and responsibilities of an incident commander but there appeared to be less understanding in respect of the role of safety officers and tactical advisers. Candidates usually secured most of their marks for their response to part a).

A good source of information for this subject area is: *The Foundation for Incident Command*.

Question 7

- a) State four types of investigation that may be carried out following an incident. (4 marks)*
- b) Describe the actions that Incident Commanders can take to identify and preserve evidence at the scene of a fire. (8 marks)*
- c) Describe the actions (other than those related to scene preservation) that an Incident Commander should take following an incident. (8 marks)*

Examiner Feedback

This question was often answered well with the average mark attained being eight.

Few candidates scored full marks for part a). The types of investigation that could have been stated included: fire investigation, health and safety event investigation e.g. accident, near miss/hit, cause for concern, criminal investigation, insurance fraud investigation, environmental agencies, transport enforcing authorities, e.g. Air Accident Investigation Bureau.

Part b) was often answered well with many candidates able to identify relevant actions to be taken.

Responses to part c) often repeated some of the points made in part b) despite the fact that the question specifically stated that actions *other than those related to scene preservation* should be covered. Examples of points that could have been made include:

- Any safety events, personal injuries, exposure to hazardous substances or near-misses should be recorded, investigated and reported
- Appropriate occupational health support and surveillance follow-up should be established.
- Conduct a de-brief to identify and record any 'lessons learned' from the incident.
- Consider any changes required to safe systems of work, appliances or equipment in the light of any lessons learned from de-briefs or from safety events
- Consider the need to refer to other agencies any concerns or issues that are identified at an incident e.g. environmental health problems
- Consider the need to update/review existing information held on a premises or location
- Prepare resources for further incidents
- Carry out incident handover procedures

Question 8

a) *Describe the performance requirements to be taken into consideration when selecting Chemical Protection Suits. (14 marks)*

b) *Briefly describe the zones used during a hazardous materials incident. (6 marks)*

Examiner Feedback

This was the least popular option for candidates and few good responses were received. The average mark attained was 6. This was because candidates often secured all of the marks available for part b) but failed to achieve marks for part a).

The types of performance requirements (with descriptions) that were required in response to part a) were:

- Abrasion resistance

- Stability to heat.
- Flex cracking
- Flex cracking at low temperatures
- Trapezoidal tear resistance
- Burst resistance
- Puncture resistance
- Resistance to ignition

Part b) was usually answered well.

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