

IFE Level 4 Certificate in Fire Safety and Fire Science

Unit 3 – Fire Service Operations and Incident Command

Examiner Report – March 2018

Introduction

This was a popular examination with over 260 candidates entering for the examination.

Candidates undertaking this paper were required to demonstrate the strategic understanding required by operational station officers. As in previous years, many candidates failed to provide responses that demonstrated the depth of understanding required at Level 4. It was common for candidates to provide brief responses containing only three or four key points when responding to questions where high marks were available.

28% of candidates achieved a Pass; this was an improvement on pass rates in 2017.

Candidates generally performed best on questions 3 and 7. They performed least well on question 5 and question 8.

Question 1

The fire and rescue service retains responsibility for the health, safety and welfare of all persons (including multi-agency partners) working within the risk area.

At a multi-agency incident:

- a) Describe the considerations of an evacuation plan. (15 marks)*
- b) Explain how a tactical withdrawal differs from an evacuation. (5 marks)*

Examiner Feedback

This question was a popular option for candidates.

There were 15 marks available for part a) but many candidates presented only a few points and thereby limited the marks that could be attained. Successful candidates considered the wider connotations of this being a multi-agency incident and referenced issues related to engagement with other agencies. Unsuccessful candidates failed to appreciate this and gave generic answers relying on what appeared to be limited experience of the command role.

Most candidates identified the need for an evacuation signal and described the use of a whistle. However, points were rarely expanded to describe how arrangements would be shared with other agencies. Surprisingly few candidates referenced the need for muster points and roll calls and fewer explained the need to protect escape routes or to take into account changes that might be needed at a prolonged incident.

Part b) was often answered poorly with few candidates attaining more than one or two marks. At this level, candidates should be aware that a tactical withdrawal redeploys resources or removes people from areas where the risk has become too high. Unlike evacuation, there is no evacuation signal or roll call. As crews will still be in the hazard area then the tactical mode could still be offensive. An informative message should be sent using the phrase “tactical withdrawal in progress” to timestamp the dynamic risk assessment that crews should be withdrawn.

Candidates that provided bullet point answers without any explanation of their thought processes did not give the examiners the opportunity to award many marks.

A useful source of information for this subject area is *National Operational Guidance – The Foundation for Incident Command, second edition, pages 97-99*

Question 2

Situational awareness underpins all aspects of operational decision making across all levels of command and is critical during the planning process for predicting the likely effects of activities.

a) Describe the three stages of operational situational awareness. (10 marks)

b) Explain the factors that may affect situational awareness. (10 marks)

Examiner Feedback

Few candidates were able to identify that the three stages of operational situational awareness are information gathering, understanding information and anticipation. Candidates who were aware of the stages were able to attain high marks for part a). However many candidates did not appear to have an understanding of the stages. There were many rambling responses that concentrated solely on information gathering. Many candidates confused situational awareness with the decision control process and some candidates provided detailed diagrams of the decision-making model to support their response. As the information provided was insufficiently focussed on the question asked, few marks were attained.

Part b) was generally well answered and candidates were often to attain a high proportion of the marks available for this element of the question. Most candidates expanded their responses sufficiently to meet the requirement of the question – there were few responses where candidates simply listed single words without explanation.

A useful source of information for this subject area is: *National Operational Guidance – The Foundation for Incident Command, second edition, pages 16-19.*

Question 3

The rescue and recovery of firefighters or emergency personnel during an operational incident is a challenging situation.

- a) *Explain the initial managerial challenges together with the tactical decisions that will need to be considered by the Incident Commander. (12 marks)*
- b) *Describe the post-incident actions specific to the incident. (8 marks)*

Examiner Feedback

This question was a popular option for candidates and it was generally answered well.

In responding to part a), most candidates addressed the wider psychological implications for crew members and for the incident commander. However few candidates then went on to consider the need to assess the situation fully, to carry out a risk benefit analysis before making decisions, the fact that the original incident was ongoing or the need to consider additional resources. Most candidates attained some marks for their response to this part of the question but there were few high marks due to the limited approaches taken.

Part “b” was particularly well answered with many candidates attaining a high proportion of the marks available.

A useful source of information for this subject area is: *National Operational Guidance – The Foundation for Incident Command, second edition, pages 77-79.*

Question 4

Wide area flooding is a multi-agency and multi-jurisdictional event that will require the deployment of a range of national resilience assets in addition to flood rescue teams. Describe the strategic planning considerations when preparing for wide area flooding incidents. (20 marks)

Examiner Feedback

Very few candidates approached this question from a strategic planning perspective. Good responses recognised the multi-agency response requirements for this type of event along with the business continuity requirements for restoration of normality. However, many candidates submitted generic points obviously based purely on operational experience. At Level 4 a wider understanding of the issues is expected.

There were many areas that could have been explored in responses but few candidates focussed on more than a few areas such as historical information on high risk areas and the

need to work with the environmental agency. Examples of points which should have been explored in the response include:

- Co-ordinated response via nationally arranged protocols
- Hazmat and public health plans
- Plans for the long term resourcing of the incident ie cross border assistance and national resilience assets along with the involvement of military assets
- Plans for resilience and welfare of crews and community members
- The time needed to mobilise and deploy teams into the affected area before roads and bridges are rendered impassable or washed away
- Evacuation plans to deal with casualties and evacuees
- Demographic areas of highest need (for example, vulnerable members of the community)
- Geographic area and critical infrastructure such as water treatment plants, Site-Specific Risk Information (SSRI) etc
- Specific hazards such as fords and flooded roads that may restrict access and later prevent egress as the incident develops
- Identification of existing bodies of water and specific characteristics of hydrology that may change in risk as flood levels increase. In this process the flood water becomes less predictable and more dangerous
- The need for teams to be thoroughly familiar with local sites through a regular programme of structured training in realistic and testing conditions including poor weather and darkness

A useful source of information for this subject area is: *National Operational Guidance – Water Rescue and Flooding*.

Question 5

Structural frames used in the built environment vary in terms of material and design. This affects behaviour of the frame in fire. Explain the inherent issues and hazards associated with different types of structural frame during a fire. (20 marks)

Examiner Feedback

This question, which required detailed technical understanding, was the most unpopular question on the paper with few candidates opting to answer it. It was also the least well answered question.

The question was focussed on fundamentals of building construction, a subject that should be widely understood by all candidates who attend fires in buildings.

The candidates that attempted the question often wrote about methods of construction, cladding materials and fire protection. However, the question clearly asked for the issues and hazards associated with structural frames during a fire situation. Candidates were required to consider different structural frames and explore hazards relevant to each; for example rapid collapse inwards in the context of portal or rigid frames, heat transfer through thermal conduction adding to the effects of fire spread throughout the building in the context of steel frames, burning timber contributing to fire spread in relation to timber frames, spalling in the context of concrete etc.

A useful source of information for this subject area is: *National Operational Guidance – Fires in the Built Environment: Structural Frames*.

Question 6

As sector commander at a developing fire involving the upper floor of a 3-storey commercial building with adjoining factory, you have been advised that there is a large array of photovoltaic panels covering most of the flat roof area. Explain the specific firefighting challenges presented by this incident that will affect your tactical decision making. (20 marks)

Examiner Feedback

Most candidates provided scripts that concentrated on the hazards of compartment firefighting. Very few discussed in detail the challenges that would be presented by the presence of the photovoltaic panels.

Successful scripts addressed the specific hazards and the implications of firefighting operations taking place in close proximity to photovoltaic panels.

Useful sources of information for this subject area are: *National Operational Guidance – Utilities and Fuel supplementary information: Solar Panel Systems and BRE's Fire Safety and Solar Electric/Photovoltaic Systems*.

Question 7

You are the duty officer called to attend an incident involving a vehicle which has entered the watercourse with occupants trapped inside. Crews are in attendance, a risk assessment has been carried out and a rescue plan has been developed.

- a) Detail the considerations that would affect your decision-making process and subsequent actions. (10 marks)*
- b) From a tactical perspective, describe the factors that should be considered with regards vehicle stability. (10 marks)*

Examiner Feedback

This was the most popular question on this year's paper with 95% of candidates choosing to answer it.

Some candidates demonstrated a good technical knowledge of this type of rescue situation along with an appreciation of the wider more tactical decisions that would need to be considered; these candidates were able to attain high marks. Unsuccessful candidates appeared to rely on limited operational experience and provided unexplained bullet point

lists or generic statements such as “set up an inner cordon”, without further explanation; these responses did not attract high marks.

Candidates often performed better on part a) than on part b). When responding to part a), some candidates focussed only on the handover situation rather than on the incident that had been described in the scenario. This approach limited the marks that could be attained. Most candidates provided at least a few good points in relation to consideration of the situation; marks were often attained for identifying the need to focus on saveable life and the associated timelines, assessment of the situation (category of water immersion and the position of the vehicle), resource requirements (including specialist, underwater search and rescue etc) and the hazards and control measures to be taken into account.

Part b) which was focussed specifically on vehicle stability was often less well answered. Few candidates identified more than one or two relevant points in their response. Examples of the types of factors that could have been explored in responses include:

- Even with all windows open a car may initially float away from the point of entry
- Once a vehicle is full of water other factors will influence what happens, including the underlying surface, water current, and weight and distribution of passengers or load
- If the vehicle is side-on to the current on a solid riverbed in flowing water, a vehicle roll is almost inevitable
- If a vehicle lands on its wheels on a soft bed (i.e. mud, sand or small stones), each tyre will create an eddy, scooping out mud and sand until the vehicle settles onto its chassis
- It is the mass of the vehicle that will determine its position. It is common for a vehicle to pivot around its engine as this is the heaviest part
- Air pockets may maintain the buoyancy of a vehicle in deep water
- Consider water level in relation to the vehicle and its stability. Particularly the depth of the water immediately adjacent to the vehicle.

A useful source of information for this subject area is: *National Operational Guidance – Water Rescue and Flooding: Vehicle in Water*

Question 8

A local energy supplier has proposed a waste site facility for biogas production. You have been tasked with working with the facility in order to ensure that your fire service is prepared for incidents that could occur at the plant.

From a strategic perspective, describe and explain the actions that you would take in order to ensure that pre-planning is effective and appropriate arrangements are in place. (20 marks)

Examiner Feedback

As with other questions on the paper, there was a significant gulf between the level of understanding demonstrated by successful and unsuccessful candidates.

Many candidates focused their attention purely on gathering information for the Site- Specific Risk Plan rather than going on to consider what this meant in terms of actions to *ensure that appropriate plans were in place*. Successful candidates addressed the wider context such as the involvement of stakeholders and interoperability as well as considering relevant actions such as:

- Establish joint working protocols with neighbouring fire and rescue services and other agencies to ensure policy can be safely implemented and effectively controlled
- Make arrangements to mobilise suitable resources and equipment to provide command support teams and functions such as command boards and control units
- Provide fire and rescue service personnel with suitable and sufficient equipment and firefighting media to deal with fires in waste sites
- Gather information and pre-plan for incidents on waste sites, making relevant and up to date risk information available for attending personnel
- Consider the need to provide specific training for personnel who provide command support arrangements
- Understand which specialist advisers may be able to assist and how to contact them in the event of hazardous materials being, or suspected of being, present at a fire in a waste site

A good source of information for this subject area is: *National Operational Guidance – Fires in Waste Sites: Landfill Gas or Biogas*