

# IFE Level 4 Certificate in Fire Safety and Fire Science

## Unit 4 - Aviation Fire Operations

### Examiner Report – March 2015

#### Introduction

There were only 70 entries for the examination in 2015. 40% of the candidates who sat the examination achieved a Pass. However, few candidates achieved high scores with 63% of those who passed the examination achieving a D Grade (ie a mark between 40 and 50%).

This paper assesses technical understanding in an aviation context *in combination with* understanding of operational management. The area of greatest weakness for candidates appeared to be incident command with questions requiring understanding of incident command, command support and actions to be taken at a crash site receiving very poor responses. At level 4, candidates should be able to assess situations and identify appropriate solutions.

Many candidates presented one or more of their responses as lists rather than providing detailed responses or following instructions to “explain” or “describe”. At level 4, candidates are expected to have a high level of understanding and should recognise that lists containing brief points (which are not expanded or linked back to the question) are not going to secure high (if any) marks.

#### Question 1

- a) *Describe the Civil Aviation Authority Classification of Aircraft Emergencies. (14 marks)*
- b) *Describe the Military classification of aircraft emergencies. (6 marks)*

#### **Examiner Feedback**

Most candidates demonstrated knowledge of civil aviation classifications of aircraft emergencies and provided a good response to part a). However, knowledge of military classifications was less evident with few candidates achieving high marks on part b) of the question. Many candidates did not provide a response to part b). Candidates who achieved more than 8 marks for their response to this question generally did so as a result of their response to part a).

#### Question 2

*As the Senior Airport Fire Officer, the Airport Manager has informed you of future expansion plans which will include new airlines operating routes from the airport. This will include different aircraft types and configurations (freight and passenger). Calculate the International Aviation Organisation Crash Category for an Airbus A330-200 aircraft. Length is 57.51 metres and width is 5.64 metres. Your answer must also include the total water requirements for this aircraft type. Include all formulae used and show all working out. (20 marks)*

### **Examiner Feedback**

This question was generally answered poorly as candidates often presented their responses simply as figures quoted from the published tables. Some candidates reproduced tables in great detail and did not attempt to make calculations at all. At Level 4, candidates should be able to draw on in-depth technical understanding and to carry out calculations by using appropriate formulae and information.

### **Question 3**

*Generic Standard Operating Procedures give six phases of emergency incident response to aviation incidents.*

- a) State the main considerations associated with the “arrival and gathering information” phase of an aviation incident. (10 marks)*
- b) Following the scaling down phase of fire and rescue service operations, the inner cordon will need to be handed over to a responsible authority/person.
  - i. Identify the authorities that are typically going to take over an aircraft incident scene from the fire service. (5 marks)*
  - ii. Identify the points the Incident Commander will need to consider upon handover to another authority. (5 marks)**

### **Examiner Feedback**

Although this question was popular with candidates, few candidates achieved more than half marks. Many responses lacked depth and some candidates failed to demonstrate basic understanding of incident command procedures.

Responses to part a), which required candidates to review the main considerations in the arrival and gathering information phase, were particularly poor with many candidates failing to mention basic good practice procedures. Candidates often performed well on part b) but in part c) candidates tended to provide irrelevant information rather than focussing specifically on the points for handover.

### **Question 4**

*Training for competence is an essential part of the “safe person concept” and when operated by licence holders will enable all to demonstrate that they can consistently and competently perform their work.*

- a) It is important that personnel involved in RFFS training have an understanding of principles involved. Explain each of the following terms:
  - i. Acquisition of skills*
  - ii. Assessment*
  - iii. Continuing Professional Development*
  - iv. Structured Learning Programme*
  - v. Training Needs Analysis**

*Command Support should be introduced at all incidents to assist the Incident Commander in the management of the scene. It should be initiated as soon as is practicably possible.*

*b) Summarise the responsibilities of Command Support at an incident. (10 marks)*

### **Examiner Feedback**

Many candidates achieved good marks on part a) and were able to define the terms in the question with some linking their responses to the specific fire and rescue context.

Part b) focussed on command support. This is a fundamental component of the incident command structure but many candidates failed to demonstrate understanding of the responsibilities of command support and few achieved high marks for their response to this question.

### **Question 5**

*You are the Airport Fire Service Officer at an International Civil Aviation Organisation (ICAO) Crash Category 7 Airport. Two years ago the Airport replaced the Rapid Intervention Vehicle with a new vehicle that carries 2275 litres of water. However, over the past 12 months the aging primary foam tender has suffered from many periods of unserviceability. As a result, the Airport Manager has informed you that the airport is to invest in a new replacement fire vehicle.*

*Identify and explain the factors you would take into account when selecting a rescue and fire fighting (RFF) vehicle to ensure that the replacement vehicle meets the requirements of the Airport Crash Category. (20 marks)*

### **Examiner Feedback**

This question was often answered poorly with many candidates failing to demonstrate ability to work through the factors that should be taken into account and many providing narrow responses rather than looking at the wider issues around selecting new vehicles.

Successful candidates clearly identified the requirements for a vehicle operating on an ICAO category 7 aerodrome and identified the requirements for a RFF vehicle carrying 4500 litres of water. Less successful candidates did not understand the vehicle requirements and were unable to structure a response around the three phases of vehicle procurement. In addition, many candidates failed to “explain” the issues and why they were being taken into consideration.

### **Question 6**

*Understanding basic fire investigation principles is an essential element in dealing with the aftermath of an aircraft crash. Explain how Rescue and Fire Fighting Services (RFFS) personnel actions should assist with the preservation of the site and evidence gathering, including the removal or moving of bodies. (20 marks)*

### **Examiner Feedback**

Nearly all candidates attempted this question. However, the question was not well answered and few candidates achieved more than seven marks. Most candidates were able to identify some valid

points in relation to site preservation and evidence gathering; however, many responses contained only a few points and many candidates did not explore points or link them back to the specific context of the question. A major issue appeared to be the lack of understanding about operational practices.

### **Question 7**

*As with any type of operational incident, communications play a key role in the successful management of all aircraft related incidents.*

- a) Other than the provision of aeronautical communications which allow Airport Fire Officers to communicate with the flight deck, describe all other forms of communications and alerting systems that are to be provided for an Airport Rescue and Fire Fighting Service (ARFFS). (10 marks)*
- b) Identify the specific requirements of aeronautical radio equipment that allows fire officers to communicate directly with an aircraft flight deck. (6 marks)*
- c) When undertaking pre-planning and liaison with local authority fire services, describe the considerations that should be made in respect of airport communications. (4 marks)*

### **Examiner Feedback**

This question was generally answered poorly.

Many candidates provided a good answer to part a) although some wrote about communications between people/functions rather than focussing at the level of communications and alerting systems.

Many candidates omitted to answer part b). The candidates that did respond to this element of the question rarely demonstrated understanding of the specific requirements of aeronautical radio equipment (which is required under ICAO regulations).

In response to part c), candidates sometimes pitched their responses at the wrong level and failed to appreciate that the question was asking for pre-planning issues such as communications coverage and ensuring that appropriate mechanisms and systems were in place.

### **Question 8**

*A heliport is defined as “an aerodrome or a defined area intended to be used wholly or in part for the arrival, departure and surface movement of helicopters”. The level of protection to be provided for rescue and firefighting shall be based on the overall length of the longest helicopter normally using the heliport and in accordance with the heliport firefighting category.*

- a) Provide a table to explain all heliport firefighting categories. (5 marks)*
- b) Provide a table to indicate the requirements for the minimum usable amounts of principal fire extinguishing agents required for surface level heliports. (10 marks)*
- c) Trained personnel shall be designated to respond and operate the Rescue and Fire Fighting Service (RFFS) provision whenever flights required to use a licensed heliport are taking place.*

*Detail the minimum number of personnel and level of supervision required at all surface level heliports. (5 marks)*

**Examiner Feedback**

Few candidates attempted this question. Those candidates who did attempt the question often performed well. The least well answered part of the question was part c) which focussed on minimum numbers of personnel and levels of supervision; this element of the question was often left unanswered.