IFE Level 4 Certificate in Fire Safety and Fire Science

Unit 4 – Aviation Fire Operations

Examiner Report – March 2018

Introduction

Entries for this examination were low with only 33 candidates booking examinations. 47% of candidates who sat the examination attained a Pass.

Candidates generally performed well on questions 1, 3 and 5; they performed least well on question 4.

As in previous examinations for this subject, candidates often appeared to attempt the question paper without sufficient preparation. Candidates often wrote at length on issues that they were familiar with rather than answering the question that had been set; no marks were awarded for irrelevant information.

Question 1

The importance of ensuring that Airport Rescue and Firefighting Service (ARFFS) personnel maintain operational readiness to perform all operational firefighting and rescue tasks expected at the scene of an aircraft incident cannot be over- emphasised. This is achieved by ensuring that a carefully planned and rigorously followed programme of training is in place. Describe the training programme that should be established at an aerodrome. (20 marks)

Examiner Feedback

This question was a popular option for candidates and candidates largely performed well.

Most candidates were able to identify a wide range of relevant training areas in critical subjects such as aerodrome familiarisation, aircraft familiarisation, emergency communication systems on aerodrome (including aircraft fire-related alarms), use of firefighting and rescue equipment and adoption and use of structural rescue and firefighting equipment for aircraft rescue and firefighting.

Candidates were often able to articulate the information of validating learning and establishing relevant and robust training plans.

Question 2

One of the airport's customers has requested permission to use a Boeing 737-900ER aircraft for 10 flights (inbound/outbound) daily. Currently, the biggest aircraft operating from the

airport is a Boeing 737-600 aircraft. The Boeing 737-900ER aircraft length is 42Mtrs long with a fuselage width of 3.76Mtrs. The ARFFS provision is currently ICAO 6 utilising two Major Foam Vehicles each carrying 11,000Ltrs of Water, 1000Ltrs of Level B Foam (6%) and 200Kg of Dry Powder. These vehicles are staffed by a total of six ARFFS personnel.

Describe the actions that need to be carried out to ensure that the ARFFS provision meets the requirements of this new aircraft. (20 marks)

Examiner Feedback

This question was the least popular option for candidates. This type of question is designed to test understanding of the critical area concept (which lies at the heart of aviation firefighting) when calculating individual aircraft requirements.

One candidate succeeded in attaining all 20 marks available but other candidates did not demonstrate sufficient understanding of the issues involved in ensuring that appropriate provision is in place to attain more than a few marks.

Question 3

Describe the factors to be considered during the selection of Airport Rescue and Firefighting Service (ARFFS) vehicles. (20 marks)

Examiner Feedback

This question was a popular choice for candidates and many were able to attain high marks. Good responses considered issues such as why the vehicles were needed, the requirements from the vehicles taking into account the use of the aerodrome (eg equipment to be carried) and the contractual issues when purchasing the vehicles such as access to spare parts.

Question 4

Following any significant incident involving an aircraft, a full and robust review of the incident should be carried out.

a) *Explain the process to be followed. (12 marks)*
b) *Describe the evidence that will be required from the fire and rescue service to assist the post-crash management group with an investigation. (8 marks)*

Examiner Feedback

This question was not a popular choice with candidates and few candidates attained high marks for their responses. Where marks were secured, this was largely in response to part b).

Few candidates were able to explain the process to be followed when reviewing an incident. Candidates should be aware that:

- Following any significant incident involving an aircraft, a full and robust review of all Fire and Rescue Service policies, standard operating procedures and memorandums of understanding should be undertaken
- The outcome of these reviews should result in all relevant Fire and Rescue Service policies, standard operating procedures and memorandum of understandings being amended and the airport's emergency plan updated
- Key lessons learnt should be shared to enable wider dissemination to all Fire and Rescue Services. In the UK this would be through the NFCC/Chief Fire Officers Association via the Aircraft Liaison Group
- The Fire and Rescue Service itself will need to learn from the incident for the purpose of identifying and applying remedial measures to promote a cycle of improvement measures such as a review of elements within the management system, provisions for resource, equipment suitability or new requirements, training for and maintaining competence etc
- The nature of the incident could give rise to wider learning for both the Fire and Rescue Service and the aviation sector.

Question 5

It is essential for the successful outcome at all incidents for all attending emergency services to have a strong communications plan. This plan should be identified within the Aerodrome Emergency Plan and frequently tested.

a) *Describe the key information that should be provided by the incident commander to attending emergency services to enable them to react to the incident in the most effective way. (6 marks)*
b) *Describe the communications and alerting systems that must be provided for use by Airport Rescue and Firefighting Services (ARFFSs).   (9 marks)*
c) *Describe the information that Air Traffic Control will be able to provide to the ARFFS incident commander and the fire and rescue service mobilising centre from the outset of the emergency. (5 marks)*

Examiner Feedback

This question was generally answered well and most of the candidates that attempted the question scored eight marks or above. Candidates performed well on all parts of the question.

Question 6

Cordon control is vitally important in reducing exposure to hazards by ARFFS personnel. Cordons keep this exposure to a level that is as low as is reasonably practicable.

a) Explain the factors that incident commanders attending an aircraft crash should consider when setting out a cordon. *(7 marks)*
b) Explain why safety distances for military aircraft vary, giving reasons for the different cordon distances at incidents involving military aircraft. *(5 marks)*
c) Describe the two types of cordon used to secure the scene after the initial cordon has been established. *(8 marks)*

Examiner Feedback

This question, which focussed on incident management, was not popular with candidates. Those candidates that did answer the question generally performed well. However, higher marks could have been attained for fuller responses. Candidates often presented only a few points in response to each section of the question.

Part a) of the question was a straightforward question but candidates often struggled to identify more than a few issues for consideration – fuel spillage and potential armaments were cited frequently but less consideration was given to issues such as the size of the aircraft, the possibility of casualties and engine hazard zones.

In response to part c), candidates often demonstrated good understanding of the use of the inner cordon but then demonstrate little understanding of the use of the outer cordon.

Question 7

Fire and rescue services must plan for all incidents that have the potential to occur within their area of responsibility.

Aircraft incidents may be split into three different aircraft categories: fixed wing, rotary wing (helicopters) and military aircraft. For each of these categories, describe the specific safety factors that should be considered when planning for incidents:

a) *fixed wing (7 marks)*
b) *rotary wing (7 marks)*
c) *military aircraft (6 marks)*

Examiner Feedback

Responses to this question generally lacked the depth required for candidates to secure high marks. Given that this information should be well known and understood by aircraft fire and rescue staff it was surprising that so few candidates were able to attain 8 marks or above.

Candidates usually performed best when responding to part a).

Question 8

As the senior officer, you have been called to act as the Tactical (Silver Level) Commander at the scene of a helicopter crash.

a) Describe what you must do immediately upon your arrival at the incident. (4 marks)
b) Once a decision has been made to take over as incident commander, describe what you must consider. (10 marks)
c) Describe the precautions that should be employed at an incident of this type. (6 marks)

Examiner Feedback

Many candidates failed to appreciate that the question should be answered from the perspective of a Tactical (Silver Level) Commander and answered the question from the perspective of a crew manager. Responses were generally poor with few candidates demonstrating understanding of incident command at the higher level.

Part b) was answered particularly poorly. Points that candidates could have identified in their responses include the following:

- Confirm the existing plan according to the agreed tactical priorities
- Confirm the risk assessment and the tactical mode, ensuring safe systems of work are being utilised
- Ensure that the requested resources are adequate and effectively deployed to reflect the tactical priorities. If the incident is under resourced, request further assistance
- Ensure the communications are effective and that well-structured informative messages have been passed on and documented
- Review the command structure of the incident including that appropriate individuals have been positioned in key roles and that the spans of control of individuals remain manageable
- Maintain effective liaison with other agencies ensuring that each are working towards a common set of objectives.