



Australian Government

Civil Aviation Safety Authority

**MOS Part 139H—Standards Applicable
to the Provision of Aerodrome Rescue
and Fire Fighting Services**

VERSION 1.2: JANUARY 2005

MOS Part 139H—Standards Applicable to the Provision of Aerodrome Rescue and Fire Fighting Services

This is a CASA policy manual. It contains specifications and standards prescribed by CASA, of uniform application, determined to be necessary for the safety of air navigation. The Manual of Standards is a Legislative Instrument.

This manual is incorporated in the Civil Aviation Safety Regulations Subpart 139.H Aerodrome Rescue and Fire Fighting Services by reference.

Copies of this manual are available from: <http://casa.jsmcmillan.com.au/He/cat>.

The current manual can be viewed at any time via CASA's website at www.casa.gov.au.

This manual may be amended from time to time. Such amendment service will be provided by the Document Control Unit, Civil Aviation Safety Authority.

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TABLE OF CONTENTS

LIST OF EFFECTIVE PAGES	VII
AMENDMENT RECORD	IX
FOREWORD	XI
CHAPTER 1: INTRODUCTION	1-1
Section 1.1: General	1-1
1.1.1 Background	1-1
1.1.2 Document Set	1-1
1.1.3 Differences between ICAO Standards and those in MOS	1-2
1.1.4 Differences Published in AIP	1-2
1.1.5 MOS Documentation Change Management	1-2
1.1.6 Related Documents	1-3
Section 1.2: Definitions	1-5
CHAPTER 2: CRITERIA FOR ESTABLISHMENT OR DISESTABLISHMENT OF ARFFS	2-1
Section 2.1: General	2-1
2.1.1 Standard: Category Definition for Level 1	2-1
2.1.2 Standards for ARFFS	2-1
2.1.3 Level 1 Coverage	2-1
2.1.4 Obtaining Air Transport Data	2-2
Section 2.2: ARFFS Level 2 Coverage	2-3
2.2.1 Standard: Category Definition for Level 2	2-3
2.2.2 ARFFS Level 2 Coverage	2-3
CHAPTER 3: DETERMINING THE CATEGORY OF THE AERODROME	3-1
Section 3.1: General	3-1
3.1.1 Standard: Determining Critical Aircraft	3-1
3.1.2 Aerodrome Category	3-2
3.1.3 Aerodrome Category Reductions	3-2
3.1.4 Advisory Circular	3-2

CHAPTER 4: ARFFS VEHICLES	4-1
Section 4.1: General	4-1
4.1.1 Standard: Fire Vehicles.....	4-1
CHAPTER 5: VEHICLE PERFORMANCE	5-1
Section 5.1: General	5-1
5.1.1 Standard: Vehicle Performance	5-1
CHAPTER 6: RESPONSE TIME	6-1
Section 6.1: General	6-1
6.1.1 Standard: Response Time	6-1
6.1.2 Staffing to Achieve Response Time	6-1
6.1.3 Emergency Access Roads	6-1
6.1.4 Difficult Terrain	6-2
CHAPTER 7: FIRE EXTINGUISHING AGENT PERFORMANCE CRITERIA	7-1
Section 7.1: General	7-1
7.1.1 Standard: Fire Extinguishing Agent Performance Criteria.....	7-1
7.1.2 Fire Extinguisher Agent Performance Criteria	7-2
7.1.3 Reserve Stock of Fire Fighting Agent.....	7-3
CHAPTER 8: TEST EQUIPMENT PERFORMANCE CRITERIA.....	8-1
Section 8.1: General	8-1
8.1.1 Standard: Test Equipment for Operational Equipment	8-1
CHAPTER 9: ARFFS PROVISION FOR PUBLISHED HOURS OF OPERATION	9-1
Section 9.1: General	9-1
9.1.1 Standard: Hours of ARFFS Coverage.....	9-1
CHAPTER 10: SAFETY HAZARD AND RISK MANAGEMENT	10-1
Section 10.1: General	10-1
10.1.1 Standard: Risk Assessment.....	10-1
10.1.2 Standard: Safety Management System	10-1
CHAPTER 11: INTERFACE ARRANGEMENTS WITH STATE OR TERRITORY FIRE BRIGADES AND OTHER THIRD-PARTY PROVIDERS	11-1
Section 11.1: General	11-1
11.1.1 Standard: Interface Arrangements	11-1

CHAPTER 12: ARFFS OPERATIONAL PROCEDURES/SAFETY MANAGEMENT	12-1
Section 12.1: General	12-1
12.1.1 Standard: Standard Operating Procedures	12-1
12.1.2 Licence to Operate	12-1
12.1.3 Response Times	12-1
12.1.4 Hazard Identification	12-1
12.1.5 Hazard Management Strategy	12-1
12.1.6 Advisory Circular	12-1
CHAPTER 13: ANCILLARY EQUIPMENT	13-1
Section 13.1: General	13-1
13.1.1 Standard: Ancillary Equipment	13-1
13.1.2 Optional Ancillary Equipment	13-2
13.1.3 Reserve Stocks	13-2
13.1.4 Ancillary Equipment	13-2
13.1.5 Advisory Circulars	13-2
CHAPTER 14: ARFFS Protective Clothing	14-1
Section 14.1: General	14-1
14.1.1 Standard: Protective Clothing	14-1
14.1.2 Personal Issue	14-1
14.1.3 Hazchem Protective Clothing	14-1
14.1.4 Clothing for Water Operations	14-2
CHAPTER 15: Reports of an Accident or Incident	15-1
Section 15.1: General	15-1
15.1.1 Standard: Report Procedures	15-1
15.1.2 Advisory Circular	15-1
CHAPTER 16: QUALITY CONTROL	16-1
Section 16.1: General	16-1
16.1.1 Standard: Internal Quality Assurance	16-1
16.1.2 Compliance and Safety Inspection Audit Requirements	16-1
CHAPTER 17: ARFFS PERSONNEL—RECRUITMENT	17-1
Section 17.1: General	17-1
17.1.1 Standard: Recruitment Suitability for Employment	17-1
17.1.2 Medical Requirements for Recruitment	17-1

CHAPTER 18: COMPETENCY LEVELS.....	18-1
Section 18.1: General	18-1
18.1.1 Standard: Competency Levels for Fire Fighting Staff.....	18-1
18.1.2 Competency Assessor	18-4
CHAPTER 19: ARFFS QUALIFICATION TRAINING ESTABLISHMENTS.....	19-1
Section 19.1: General	19-1
19.1.1 Standard: Training Establishment	19-1
19.1.2 Training Facilities	19-1
19.1.3 Accreditation Process	19-1
19.1.4 Training Establishment Accreditation	19-2
19.1.5 Training Programs.....	19-2
CHAPTER 20: ARFFS PERSONNEL STAFFING AND TRAINING REQUIREMENTS.....	20-1
Section 20.1: General	20-1
20.1.1 Standard: Staff Qualifications.....	20-1
20.1.2 Staffing Levels Recommendations.....	20-1
20.1.3 ARFFS Training Requirements	20-2
CHAPTER 21: ARFFS MEDICAL/PHYSICAL FITNESS	21-1
Section 21.1: General	21-1
21.1.1 Standard: Medical Standards for ARFFS Recruitment.....	21-1
21.1.2 Medical requirements for ARFFS staff	21-1
21.1.3 Fitness for Duty	21-1
CHAPTER 22: ARFFS FACILITIES.....	22-1
Section 22.1: General	22-1
22.1.1 Standard: Fire Station Facility	22-1
22.1.2 FSCC Requirements	22-1
22.1.3 Access Roads to Movement Areas	22-1
22.1.4 Communication Equipment.....	22-1
22.1.5 Vehicle Maintenance Facilities	22-2
22.1.6 Training Facilities	22-2
22.1.7 Inshore Rescue Boats.....	22-2
22.1.8 Commissioning of a New Service or Vehicles	22-3
CHAPTER 23: CHANGE MANAGEMENT SYSTEMS.....	23-1
Section 23.1: General	23-1
23.1.1 Standard: Safety Management	23-1

CHAPTER 24: FACILITY MAINTENANCE PLAN	24-1
Section 24.1: General	24-1
24.1.1 Standard: Appliances Electrical Ancillary BA Sets Radio	24-1
24.1.2 Engine Heaters	24-1
24.1.3 Battery Chargers	24-1
24.1.4 Flotation Platforms	24-1
CHAPTER 25: INTERRUPTION OR CHANGE TO LEVEL OF OPERATIONAL SERVICE AND CONTINGENCY PLANS	25-1
Section 25.1: General	25-1
25.1.1 Standard: Change to Level of Operational Service.....	25-1
25.1.2 Service Failure	25-1
25.1.3 Reporting Action	25-1
CHAPTER 26: SERVICE AND FACILITY MANAGEMENT REQUIREMENTS	26-1
Section 26.1: General	26-1
26.1.1 Standard: Service and Facility Management	26-1
CHAPTER 27: DOCUMENT AND DATA CONTROL	27-1
Section 27.1: General	27-1
27.1.1 Standard: Documentation	27-1
27.1.2 Electronic Data.....	27-1
27.1.3 Amendment Control.....	27-1
CHAPTER 28: RECORDS	28-1
Section 28.1: General	28-1
28.1.1 Standard: Record Keeping.....	28-1
28.1.2 Record Types and Retention Period.....	28-1
28.1.3 Advisory Circular	28-2
CHAPTER 29: APPLICANT’S ORGANISATION	29-1
Section 29.1: General	29-1
29.1.1 Standard: Provider’s Credentials	29-1
REVISION HISTORY	RH-1

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LIST OF EFFECTIVE PAGES

Part	No. of Pages	Version	Date of Issue
Cover and verso	2	1.2	Jan 2005
Table of Contents	6	1.2	Jan 2005
List of Effective Pages	2	1.2	Jan 2005
Amendment Record	2	1.0	June 2002
Foreword	2	1.0	June 2002
Chapter 1. Introduction	8	1.2	Jan 2005
Chapter 2. Criteria for Establishment or Disestablishment of ARFFS	4	1.2	Jan 2005
Chapter 3. Determining the Category of the Aerodrome	2	1.2	Jan 2005
Chapter 4. ARFFS Vehicles	2	1.2	Jan 2005
Chapter 5. Vehicle Performance	2	1.2	Jan 2005
Chapter 6. Response Time	2	1.2	Jan 2005
Chapter 7. Fire Extinguishing Agent Performance Criteria	4	1.2	Jan 2005
Chapter 8. Test Equipment Performance Criteria	2	1.2	Jan 2005
Chapter 9. ARFFS Provision for Published Hours of Operation	2	1.2	Jan 2005
Chapter 10. Safety Hazard, Risk Management and Safety Hazard Systems	2	1.2	Jan 2005
Chapter 11. Interface Arrangements with State or Territory Fire Brigades and Other Third-Party Providers	2	1.2	Jan 2005
Chapter 12. ARFFS Operational Procedures/Safety Management	2	1.2	Jan 2005
Chapter 13. Ancillary Equipment	2	1.2	Jan 2005
Chapter 14. ARFFS Protective Clothing	2	1.2	Jan 2005
Chapter 15. Reports of an Accident or Incident	2	1.2	Jan 2005
Chapter 16. Quality Control	2	1.2	Jan 2005

Part	No. of Pages	Version	Date of Issue
Chapter 17. ARFFS Personnel—Recruitment	2	1.2	Jan 2005
Chapter 18. Competency Levels	6	1.2	Jan 2005
Chapter 19. ARFFS Qualification Training Establishments	2	1.2	Jan 2005
Chapter 20. ARFFS Personnel Staffing and Training Requirements	4	1.2	Jan 2005
Chapter 21. Arffs Medical/Physical Fitness	2	1.2	Jan 2005
Chapter 22. ARFFS Facilities	4	1.2	Jan 2005
Chapter 23. Change Management Systems	2	1.2	Jan 2005
Chapter 24. Facility Maintenance Plan	2	1.2	Jan 2005
Chapter 25. Interruption or Change to Level of Operational Service and Contingency Plans	2	1.2	Jan 2005
Chapter 26. Service and Facility Management Requirements	2	1.2	Jan 2005
Chapter 27. Document and Data Control	2	1.2	Jan 2005
Chapter 28. Records	2	1.2	Jan 2005
Chapter 29: Applicant's Organisation	2	1.2	Jan 2005
Revision History	2	1.2	Jan 2005

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FOREWORD

The Civil Aviation Safety Authority is responsible under section 9(1)(c) of the *Civil Aviation Act 1988* for developing and promulgating appropriate, clear and concise aviation safety standards.

CASA is also responsible under section 9(2)(b) and section 16 of the Act for promoting full and effective consultation and communication with all interested parties on aviation safety issues, and must, in performing its functions and exercising its powers, where appropriate, consult with government, commercial, industrial, consumer and other relevant bodies and organisations.

The Manual of Standards (MOS) is the means CASA uses in meeting its responsibilities under the Act for promulgating aviation safety standards. The MOS prescribes the detailed technical material (aviation safety standards) that is determined to be necessary for the safety of air navigation.

The MOS is referenced in the particular regulation. You should refer to the applicable provisions of the Civil Aviation Act and Civil Aviation Safety Regulations, together with this manual, to ascertain the requirements of, and the obligations imposed by or under, the civil aviation legislation.

The MOS is a disallowable legislative instrument. This means that it is a legislative instrument that becomes effective following registration on the Federal Register of Legislative Instruments (FRLI) and it must be tabled in both Houses of Parliament within 6 sitting days following registration and is subject to scrutiny and disallowance by Parliament.

The responsibility for the technical matters within this Manual of Standards (MOS) is the responsibility of the Aviation Safety Standards Division.

Readers should forward advice of errors, inconsistencies or suggestions for improvement to this manual to the Head, Standards Administration & Support Branch, Aviation Safety Standards, CASA (contact and address details are given on the inside front cover).

The MOS is issued and amended under the authority of the Director of Aviation Safety.

Signed:

Bruce Byron

Director of Aviation Safety
CASA

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CHAPTER 1: INTRODUCTION

Section 1.1: General

1.1.1 Background

- 1.1.1.1 The standards pertaining to the provision of Aerodrome Rescue and Fire Fighting Services (ARFFS) reflects Australia's commitment to the International Civil Aviation Organisation (ICAO) Standards and Recommended Practices (SARPs), especially those stated in ICAO Annex 14, Chapter 9.2.1.
- 1.1.1.2 Where there is a difference between a standard prescribed in SARPs and a standard prescribed in the Manual of Standards (MOS), the MOS standard prevails.
- 1.1.1.3 Subpart 139.H of the Civil Aviation Safety Regulations 1998 (CASRs) sets out general standards with which an ARFFS must comply. The MOS sets out the detailed requirements, as authorised by the CASRs.

1.1.2 Document Set

- 1.1.2.1 The document hierarchy consists of:
 - (a) the relevant CASRs; and
 - (b) the MOS; and
 - (c) Advisory Circulars (ACs).
- 1.1.2.2 The regulatory documents establish, for service providers, a comprehensive description of system requirements and the means of meeting them.
- 1.1.2.3 **CASRs** establish the regulatory framework (*Regulations*) within which all service providers must operate.
- 1.1.2.4 The **MOS** comprises specifications (*Standards*) prescribed by CASA, of uniform application, determined to be necessary for the safety of air navigation. In those parts of the MOS where it is necessary to establish the context of standards to assist in their comprehension, the sense of parent regulations has been reiterated. The MOS is a disallowable instrument. This means that it is a legislative instrument that becomes effective on publication in the Government Gazette and it must be tabled in Parliament within fifteen sitting days from when it was made and is subject to scrutiny and disallowance by Parliament.

Note: The *Legislative Instruments Act 2003* (LIA), which came into operation on 1 January 2005, replaces the regime referred to in paragraph 1.1.2.4. Upon the commencement of that Act, the MOS will be regarded as a legislative instrument under section 5 of the LIA. Different rules will apply in relation to tabling; publication in the *Gazette* will be replaced by registration in the Federal Register of Legislative Instruments).

Under section 5 of the LIA:

A legislative instrument is an instrument in writing:

- that is of a legislative character; and
- that is or was made in the exercise of a power delegated by the Parliament.

An instrument is taken to be of a legislative character if:

- it determines the law or alters the content of the law, rather than applying the law in a particular case; and
- it has the direct or indirect effect of affecting a privilege or interest, imposing an obligation, creating a right, or varying or removing an obligation or right.

- 1.1.2.5 Readers should understand that in the circumstance of any perceived disparity of meaning between MOS and CASRs, primacy of intent rests with the regulations. Where there is any inconsistency between the regulations and the MOS, the regulations prevail.
- 1.1.2.7 Service providers and operators must document internal actions (*Rules*) in their own operational manuals, to ensure the maintenance of and compliance with standards.
- 1.1.2.8 **ACs** are intended to provide recommendations and guidance to illustrate a means, but not necessarily the only means of complying with the CASRs. ACs may explain certain regulatory requirements by providing interpretive and explanatory materials. It is expected that service providers will document internal actions in their own operational manuals, to put into effect those, or similarly adequate, practices.

1.1.3 Differences between ICAO Standards and those in MOS

- 1.1.3.1 Where there is a difference between a standard prescribed in ICAO documents and the MOS, the MOS standard shall prevail.

1.1.4 Differences Published in AIP

- 1.1.4.1 Differences from ICAO Standards, Recommended Practices and Procedures are published in AIP Gen 1.7.

1.1.5 MOS Documentation Change Management

- 1.1.5.1 Responsibility for the approval of the publication and amendment of the MOS resides with the Branch Head, Airspace, Air Traffic and Aerodrome Standards Branch, of the Aviation Safety Standards Division, Civil Aviation Safety Authority.
- 1.1.5.2 This document is issued and amended under the authority of the Branch Head, Airspace, Air Traffic and Aerodrome Standards Branch.
- 1.1.5.3 Requests for **any change** to the content of the MOS may be initiated from:
- (a) technical areas within CASA;
 - (b) aviation industry service providers;
 - (c) other aviation industry service providers.
- 1.1.5.4 The need to **change standards** in the MOS may be generated by a number of causes. These may be to:
- (a) ensure safety;
 - (b) ensure standardisation;
 - (c) respond to changed CASA standards;
 - (d) respond to ICAO prescription;
 - (e) accommodate new initiatives or technologies.

1.1.6 Related Documents

- 1.1.6.1 These standards should be read in conjunction with:
- (a) ICAO Annex 14;
 - (b) Airports Services Manual Part 1;
 - (c) Australian Standard/ISO-Quality systems model for Quality Assurance in production installation and servicing.

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Section 1.2: Definitions

Definition	Meaning
Advisory Circulars	Guidance material on the means of achieving the minimum compliance with the CASR and MOS standards.
AEP	Aerodrome Emergency Plan.
Aerodrome	A defined area of land or water, including any buildings, any installations, and equipment intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.
Aerodrome operator	Authority to operate as per CAR 89C(1).
Aerodrome Rescue and Fire Fighting Service (ARFFS)	An organisation that provides aerodrome rescue and fire fighting services established under the CASA criteria.
ACFT	Aircraft.
AFC	Australian Fire Competency.
AIP	Aeronautical Information Publication.
Aircraft accident	An occurrence during the operation of an aircraft in which any person involved suffers death or serious injury or in which the aircraft receives substantial damage.
Aircraft fire fighting	The control or extinguishment of fire adjacent to or involving an aircraft following ground accident/incidents.
Aircraft incident	An occurrence, other than an accident, which affects or could affect the safe operation if not corrected and is associated with the operation of an aircraft.
Airport Services Manual	Part 1 Rescue and Fire Fighting, International Civil Aviation Organisation (Doc 9137-AN/898) and related to ICAO Aerodromes Annex 14.
Air transport operation	An aircraft operation involving the transport of passengers, for hire or reward.
Annex 14	Aerodromes, Annex 14, to the Convention on International Civil Aviation Organization.

Definition	Meaning
Appliance	A fire service operational vehicle used in response to a fire, incident or accident.
Apron	A defined area, on a land aerodrome, intended to accommodate aircraft for purposes of loading or unloading passengers, mail or cargo, fuelling, parking or maintenance.
AS	Australian Standard.
ATS	Air Traffic Services.
CARs	<i>Civil Aviation Regulations 1988.</i>
CASR	<i>Civil Aviation Safety Regulations 1998.</i>
Certificate of Competency	A Certificate issued by a Registered Training Organisation at the completion of all competency modules within a level.
Certificate of Proficiency	Local and general competency in addition to competencies held under AFC qualification.
Competency	Possessing knowledge, skill and judgement needed to perform specific tasks.
Criteria	A standard to establish an aerodrome rescue and fire fighting service.
DCP	Dry Chemical Powder.
DoTRS	Department of Transport and Regional Services.
ERSA	Enroute Supplement Australia.
Facility	One or more items of equipment essential to provide a discrete technical function or amenity. A facility can be equivalent to a service.
Flotation Platform	Any device acceptable to CASA for the support of passengers and crew in the water.
ICAO	International Civil Aviation Organization.
International passengers	A passenger who flies on an international service.
International air service	An air service that passes through the airspace of more than one country.

Definition	Meaning
Licensee	The holder of an aerodrome licence issued under Part 9 of the <i>Civil Aviation Regulations 1988</i> or an aerodrome certificate granted under regulation 139.050 of the CASRs.
Manual of Standards (MOS)	A document that contains the minimum Standards required.
Movement area	That part of an aerodrome to be used for take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the aprons.
MOU	Memorandum of Understanding with a third party providing a service or responding emergency services or sub-contractor.
Must	Mandatory requirement.
Nationality of ACFT	An aircraft registered in a contracting State (ICAO States) has the Nationality of the contracting State.
NOTAM	Notice to airmen. A notice to airmen issued by the Australian NOTAM Office and containing information, or means instruction concerning the establishment, condition or change in facility, service, procedure or hazard.
Operational Vehicle	An ARFFS vehicle that responds airside in an emergency and is fitted with rotating beacon, emergency alerting device and operational radio.
Provider	A legal entity (individual or company) nominated by the airport owner, and certified by CASA, to provide an aerodrome rescue and fire fighting service at the nominated aerodrome.
Representative	An individual who is legally responsible for the management of the aerodrome rescue and fire fighting service delivery and is identified to CASA by the airport owner, and who will be the focal point for day to day dealings with CASA.
Regulations	Civil Aviation Safety Regulations 1998 (CASR 1998).
Safety Case	Defined in CASA Advisory Circular CASA/AA MOU. AIRWAYS-1(0).
Service delivery	The act of allocating aerodrome rescue and fire fighting service facilities, equipment and resources to support the infrastructure and activities of a Provider.

Definition	Meaning
SOP	Standard Operating Procedures.
Statement of Attainment	Formal recognition of CASA required competency within a level.

CHAPTER 2: CRITERIA FOR ESTABLISHMENT OR DISESTABLISHMENT OF ARFFS

CASR References: *Regulations 139.710, 139.755, 139.765, 139.795 and 139.800*

Section 2.1: General

2.1.1 Standard: Category Definition for Level 1

2.1.1.1 Level 1:

- (a) an aerodrome from or to which an international passenger air service operates; and
- (b) any domestic aerodrome through which more than 350,000 passengers passed through on air transport flights during the previous financial year.

Note: The **disestablishment** of ARFFS may be considered when the number of annual passengers on air transport falls below 300,000 and remains below this level for a 12-month period. The ARFFS provider shall provide CASA with a Safety Case which should justify the closure of the ARFFS. Refer CASA/AA MOU. AIRWAYS–1(0).

- 2.1.1.2 Where there is a change in the size of aircraft using an aerodrome that, on applying the standard set out in [Chapter 3](#), is seen to require a reduction or increase in the aerodrome category, the ARFFS provider must submit to CASA a Safety Case based on the standard set out in [Chapter 3](#) in order to obtain approval of the necessary reduction or increase in the ARFFS.

2.1.2 Standards for ARFFS

- 2.1.2.1 The level of protection provided must be in accordance with ICAO Standards, Chapter 9 of the Annex 14 to the Chicago Convention.

2.1.3 Level 1 Coverage

- 2.1.3.1 The level of protection must be in accordance with the specified critical aircraft and fire extinguishing agent performance criteria. The aerodrome category will be determined by the table in [Chapter 3](#), and extinguishing agent performance defined in the table in [Chapter 7](#), of this Manual.
- 2.1.3.2 Response times must meet International obligations as defined in [Chapter 6](#) of this Manual.

- 2.1.3.3 The minimum number of Vehicles to achieve adequate protection for Level 1 is as follows:

Minimum Number of Vehicles	
Airport Category	ARFFS Vehicles
1 to 5	1
6 to 7	2 (min)
8 to 10	3 (min)

- 2.1.3.4 All operational vehicles must be driven and operated on operational responses by ARFFS AFC qualified staff.

2.1.4 Obtaining Air Transport Data

- 2.1.4.1 On the 1st November of each year, passenger figures can be obtained from DOTRS to allow ARFFS providers to forecast operational requirements. Aerodromes achieving air transport figures that achieve Level 1 in accordance with paragraph 139.755 (2) (b) will be required to provide an ARFFS to the specified level for the aircraft using the aerodrome.

Section 2.2: ARFFS Level 2 Coverage

2.2.1 Standard: Category Definition for Level 2

- 2.2.1.1 Aerodromes where the number of annual passengers on air transport is less than 350,000 may provide a level of ARFFS. The ARFFS will be subject to audit if published in ERSA and form part of the AEP.
- 2.2.1.2 The Aerodrome Emergency Plan that must apply will be in accordance with ICAO Standards, Chapter 9, of Annex 14 to the Chicago Convention.

2.2.2 ARFFS Level 2 Coverage

- 2.2.2.1 Where ACFT with less than 30 seats operate as air transport, an ARFFS must be provided at a minimum of category 2.
- 2.2.2.2 Where ACFT with 30 passenger seats or greater operate as air transport, an ARFFS must be provided at a minimum of category 4.

Note: The disestablishment of a service can occur at any time subject to advice to CASA, NOTAM action, (NOTAM advice to remain in force until ERSA has been amended) and notification to all other regular users of the aerodrome and advice to ERSA of the withdrawal of service.

- 2.2.2.3 The aerodrome category will be determined by the table in [Chapter 3](#), and extinguishing agent performance in the table in [Chapter 7](#), of this Manual.
- 2.2.2.4 Response time must meet CASA Standards defined in [Chapter 6](#) of this Manual.
- 2.2.2.5 The minimum number of vehicles to achieve adequate protection for Level 2 is as follows.

Minimum Number of Vehicles	
Airport Category	ARFFS Vehicles
1 to 5	1
6 to 7	2 (min)
8 to 10	3 (min)

- 2.2.2.6 All operational vehicles must be driven and operated on operational responses by ARFFS AFC qualified staff.

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CHAPTER 3: DETERMINING THE CATEGORY OF THE AERODROME

CASR References: *Regulations 139.712, 139.715 and 139.755*

Section 3.1: General

3.1.1 Standard: Determining Critical Aircraft

- 3.1.1.1 Each aerodrome must be categorised in accordance with the following table.
- 3.1.1.2 A figure of 700 movements of the busiest consecutive three-months of the preceding 12 months is used as the benchmark.
- 3.1.1.3 Determining frequency of operation for an aircraft type is called a movement which is either a take-off or a landing.
- 3.1.1.4 The aerodrome category for ARFFS is calculated on the overall length of the longest aircraft normally using the aerodrome and the maximum width of the fuselage.

Aerodrome Category	Length of Aircraft	Maximum Fuselage Width
1	0 m up to but not including 9 m	2 m
2	9 m up to but not including 12 m	2 m
3	12 m up to but not including 18 m	3 m
4	18 m up to but not including 24 m	4 m
5	24 m up to but not including 28 m	4 m
6	28 m up to but not including 39 m	5 m
7	39 m up to but not including 49m	5 m
8	49 m up to but not including 61 m	7 m
9	61 m up to but not including 76 m	7 m
10	76 m up to but not including 90 m	8 m

- 3.1.1.5 To categorise the aerodrome using the aircraft, evaluate its over-all length and then its fuselage width. If, after selecting the appropriate category the fuselage width exceeds the maximum indicated in the table, then the category for that aerodrome will be one category higher.

3.1.2 Aerodrome Category

- 3.1.2.1 Should the longest aircraft not reach 700 movements and therefore not be deemed to be the 'critical' aircraft, the category can be set at one category below the designated category specified in the [table](#) in Chapter 3 (this chapter). This standard will apply to aerodromes meeting Level 1 criteria defined in [Chapter 2](#) of this Manual.
- 3.1.2.2 The correct level of ARFFS protection shall be available at all times that the ARFFS is operational. ARFFS providers are required to maintain periodic checks on all aircraft operations to ensure the correct category is supplied.

3.1.3 Aerodrome Category Reductions

- 3.1.3.1 Aerodromes operating at Level 2 criteria may have the ruling relaxed on fuselage length, following receipt of a risk analysis of the aircraft type presented for CASA consideration and subsequent approval.
- 3.1.3.2 If advertised in ERSA, NOTAM action must be taken for any reduction below specified ARFFS category as per table in Chapter 3 (this chapter). Further reference is provided in [CHAPTER 25 — INTERRUPTION OR CHANGE TO LEVEL OF OPERATIONAL SERVICE AND CONTINGENCY PLANS](#).

3.1.4 Advisory Circular

- 3.1.4.1 Additional information to assist in determining the level of service to be provided for an aerodrome criterion is available in Advisory Circular – No.1.

CHAPTER 4: ARFFS VEHICLES

CASR References: *Regulations 139.795, 139.800 and 139.805*

Section 4.1: General

4.1.1 **Standard: Fire Vehicles**

- 4.1.1.1 The minimum number of operational rescue and fire fighting vehicles must be available commensurate with the aerodrome category as defined in [Chapters 2 and 3](#) of this Manual.
- 4.1.1.2 All ARFFS vehicles excluding boats must be capable of meeting response times as specified in [Chapter 6](#), of this Manual and must contain a crew compartment sufficient for the safe conveyance of ARFFS staff.
- 4.1.1.3 Vehicle selection and availability must be able to provide the required fire extinguishing agent that achieves the performance criteria set out in [Chapter 7](#), of this Manual.
- 4.1.1.4 Vehicle performance and specification must be in accordance with [Chapter 5](#), of this Manual.
- 4.1.1.5 As vehicles are replaced they must meet Australian Design Rules (ADR), State or Territory roadworthy requirements.
- 4.1.1.6 All operational vehicles must have a current State or Territory road worthy certificate.
- 4.1.1.7 Vehicle colour will be 'signal red' in accordance with Australian Standard 2700 colour R13.
- 4.1.1.8 All ARFFS vehicles must be fitted with visual audible warning systems that comply with State or Territory Legislation for emergency vehicles.
- 4.1.1.9 Revolving obstruction beacons for ARFFS vehicles must be red and placed on the vehicle to be observed for 360°.

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CHAPTER 5: VEHICLE PERFORMANCE

CASR References: *Regulations 139.795, 139.800 and 139.805*

Section 5.1: General

5.1.1 **Standard: Vehicle Performance**

- 5.1.1.1 ARFFS vehicle performance and specification are referred to in [Chapter 6](#), ICAO, Airports Service Manual, Part 1, Rescue and Fire Fighting.
- 5.1.1.2 Additional information is available in National Fire Protection Association (NFPA) 414, Aircraft Fire Fighting Vehicles.



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CHAPTER 6: RESPONSE TIME

CASR References: *Regulations 139.710, 139.755, 139.771, 139.772 and 139.800*

Section 6.1: General

6.1.1 Standard: Response Time

- 6.1.1.1 Response time is defined as the time between the initial call to the ARFFS and the time when the first responding vehicle(s) is (are) in position at the aircraft or site of the incident or accident, and if required, produce foam at a rate of at least 50% of the discharge rate specified in the Table defined in [Chapter 7](#) of this Manual.
- 6.1.1.2 All other vehicles required to deliver the amount of extinguishing agent detailed in [Chapter 7](#), must be capable of arriving so as to provide continuous agent application at the required rate.
- 6.1.1.3 The operational directive of the ARFFS must be to achieve response times not exceeding three minutes to the end of each runway in optimum visibility and surface conditions.
- (a) the operational objective of the ARFFS is to achieve a two minute response time to the end of each runway;
 - (b) the operational objective of the ARFFS is to achieve a response time not exceeding three minutes to any part of the movement area;
 - (c) response times for all vehicles must be documented for validation.

Note: Optimum visibility and surface conditions are defined as: day time, good visibility, no precipitation, with normal response route free of surface contamination; ie, water, ice or snow.

6.1.2 Staffing to Achieve Response Time

- 6.1.2.1 Staffing to achieve response times. Refer to [Chapter 20](#) of this Manual.

6.1.3 Emergency Access Roads

- 6.1.3.1 Emergency access roads must be provided at aerodromes where terrain conditions permit their construction so as to minimise response times. Particular attention should be given to the provision of ready access to approach areas up to 1000 metres from the threshold, or at least within the aerodrome boundary.
- 6.1.3.2 Access roads and any associated bridges must be capable of supporting the heaviest ARFFS vehicle which may use them and must be constructed so as to be effective in all weather conditions.

- 6.1.3.3 Where an aerodrome is fenced, access to outside areas must be achieved by provision of emergency or frangible barriers; and
- 6.1.3.4 Emergency gates must be readily identifiable to the public to indicate their purpose.

6.1.4 Difficult Terrain

- 6.1.4.1 At aerodromes where a significant proportion of aircraft movements take place over water, swampy areas or other difficult terrain in the immediate vicinity of the aerodrome and where conventional fire vehicles may not be capable of achieving effective response times the operational procedures and equipment must be availability to respond to accidents which may occur in these areas.
- 6.1.4.2 These facilities need not be located on the aerodrome if they can be made immediately available within a reasonable response time by off-aerodrome agencies as part of the Aerodrome Emergency Plan. In all cases the Aerodrome Emergency Plan must determine and specify in advance the response area for which it undertakes to provide a rescue service. Ref: [Chapter 11](#) of this Manual and formal arrangements will be required and endorsed by CASA.
- 6.1.4.3 On-aerodrome facilities will be required to cover difficult environments within a distance of 1000 metres from the threshold of affected runways.
- 6.1.4.4 The objective of each operation must be to create conditions in which survival is possible and from which the total rescue operation can succeed. This concept anticipates that the initial, rapid response attendance may have to provide a preliminary level of assistance while waiting the arrival of a larger rescue force. The first stage response would have as its objective the removal of immediate hazards to survivors, their protection, including the first aid treatment of injuries, and their communications equipment to identify the location to which additional rescue forces must respond. The emphasis will be on rescue and may not require any fire fighting capacity in the first instant.

CHAPTER 7: FIRE EXTINGUISHING AGENT PERFORMANCE CRITERIA

CASR References: *Regulations 139.785 and 139.795*

Section 7.1: General

7.1.1 Standard: Fire Extinguishing Agent Performance Criteria

7.1.1.1 Having determined the category of the aerodrome, the category figure is then applied to the Table below which determines the minimum amount of water and discharge rate of produced foam required as well as the mandatory amount of complementary agent.

MINIMUM USABLE AMOUNTS OF EXTINGUISHING AGENTS					
Aerodrome Category	Foam Meeting Performance Level A		Foam Meeting Performance Level B		Complementary Agent
	Discharge rate foam solution		Discharge rate foam solution		
	Water litres	Discharge rate l/m	Water litres	Discharge rate l/m	DCP kg
1	350	350	230	230	45
2	1000	800	670	550	90
3	1800	1300	1200	900	135
4	3600	2600	2400	1800	135
5	8100	4500	5400	3000	180
6	11800	6000	7900	4000	225
7	18200	7900	12100	5300	225
8	27300	10800	18200	7200	450
9	36400	13500	24300	9000	450
10	48200	16600	32300	11200	450

7.1.1.2 The required quantities of extinguishing agent must be available for discharge from operational fire vehicles within the response times detailed in [Chapter 6](#) of this Manual.

- 7.1.1.3 The quantity of foam concentrate separately provided on vehicles for foam production must be in proportion to the quantity of water provided and the foam concentration selected. The amount of foam concentrate should be sufficient to supply at least two full tank loads of water.
- 7.1.1.4 Foam concentrate of different types or from a different manufacturer must not be mixed except where it has been established that they are interchangeable and compatible.
- 7.1.1.5 The ARFFS provider may, with CASA approval, substitute extra complementary agent in place of water capacity in accordance with the ICAO formula in Annex 14, Chapter 9.
- 7.1.1.6 For aerodrome categories 1 and 2 up to 100% of water may be replaced by a complementary agent.

7.1.2 Fire Extinguisher Agent Performance Criteria

- 7.1.2.1 For aerodromes with categories ranging from 3 to 10, a maximum of 30% of specified water capacity for foam production meeting performance “Level A” listed in the Table, for each category may be replaced by a complementary agent. For the purpose of substitution, 1kg of foam compatible DCP, equals 1 litre of water for production of foam meeting performance level A, or 1 kg of foam compatible DCP equals 0.66 litres of water for production of foam meeting performance level B.
- 7.1.2.2 CASA must be advised of the performance level foam to be used as well as providing a manufacturers certificate verifying that the foam achieves the Standard specified. Ref: ICAO Airport Service Manual, Part 1, Rescue and Fire Fighting, Extinguishing Agent Characteristics, Chapter 8, para, 8.1.5 and Table 8-1.
- 7.1.2.3 The foam discharge monitors must be aspirated and have an effective discharge range at least equal to the length of the longest aircraft normally used in determining the aerodrome ARFFS category and have the capability to deliver foam in a dispersed pattern.
- 7.1.2.4 Vehicles may employ mobile monitor mode operations and /or extendible monitors to assist in or to meet these requirements, subject to a satisfactory demonstration of its ability to CASA.
- 7.1.2.5 Further information for level of protection and categorisation can be found in ICAO, Airport Services Manual, Part 1, Chapter 2.

7.1.3 Reserve Stock of Fire Fighting Agent

- 7.1.3.1 A reserve supply of foam concentrate, complementary agent and expellant gas cylinders equivalent to 200% of the quantities of those agents to be provided in the rescue and fire fighting vehicles for the aerodrome category must be maintained on the aerodrome for vehicle replenishment purposes. If a delay greater than 7 days is reasonably anticipated in replenishing a reserve supply, the amount of reserve supply should be increased to provide for the anticipated delay.
- 7.1.3.2 Apart from a domestic water supply, sufficient supplementary water supply must be readily available to replenish fire vehicles. A hydrant system with delivery outlets consistent with the requirements of the ARFFS and local fire brigade must be provided for at the aerodrome fire station.
- 7.1.3.3 Hydrants with a minimum flow of 30 l/s must be available for the refilling of emergency fire service vehicles. The hydrants must be easily accessible and identified in the ARFFS SOPs.
- 7.1.3.4 Mobile water tankers may be utilised, provided they are readily available and meet the minimum flow rate.

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CHAPTER 8: TEST EQUIPMENT PERFORMANCE CRITERIA

CASR Reference: **Regulation 139.825**

Section 8.1: General

8.1.1 **Standard: Test Equipment for Operational Equipment**

- 8.1.1.1 The necessary test equipment must be available and be regularly calibrated to ensure accuracy of measurement/weight for all operational equipment.
- 8.1.1.2 The findings must be recorded and maintained as per [Chapter 28](#) of this Manual.
- 8.1.1.3 Documentation and performance test criteria must be available for each piece of operational equipment.
- 8.1.1.4 Facilities that require testing are listed below (this is not a comprehensive list):
- (a) vehicle acceleration tests for response times;
 - (b) breathing apparatus compressor recharging equipment (where installed);
 - (c) discharge of foam output and quality;
 - (d) foam concentrate purity;
 - (e) operational hose;
 - (f) hydrant flow and pressure;
 - (g) vehicle pump performance;
 - (h) communication equipment;
 - (i) pressure cylinders/vessels and high pressure hoses.

Note: Should there be no Australian Standard (AS), other recognised International Standards will apply.

- 8.1.1.5 The above list is not a comprehensive list. All testing must be carried out in accordance with AS, State or Federal Government requirements. If there is a conflict, whichever requirement is the most stringent must apply.

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CHAPTER 9: ARFFS PROVISION FOR PUBLISHED HOURS OF OPERATION

CASR References: *Paragraph 139.712 (f), regulations 139.770 and 139.775*

Section 9.1: General

9.1.1 **Standard: Hours of ARFFS Coverage—Level 1**

- 9.1.1.1 Where an ARFFS is established operational hours must be published in ERSA.
- 9.1.1.2 Where ARFFS are established facilities and services must be sufficient to offer protection to the type and extent of aircraft movements at an aerodrome.
- 9.1.1.3 At locations where ARFFS are established fire service protection is only required for the duration of air transport operations including delayed flights.
- 9.1.1.4 At aerodromes where the daily coverage is for less than 24 hours, the ARFFS must be fully operational for a minimum of 15 minutes before the first scheduled aircraft movement for the day, whether it is an arrival or departure. Also, the operational crew must remain on duty and in operational readiness for 15 minutes following the last aircraft movement for the day, whether it is an arrival or departure.
- 9.1.1.5 At Level 2 aerodromes where the provision of ARFFS is published in ERSA the hours of availability must also be published.



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CHAPTER 10: SAFETY HAZARD, RISK MANAGEMENT AND SAFETY HAZARD SYSTEMS

CASR References: *Paragraph 139.712 (f), regulations 139.765, 139.890,
139.895 and 139.900*

Section 10.1: General

10.1.1 Standard: Operational Risk Assessment

- 10.1.1.1 A safety hazard analysis and risk assessment must be produced for ARFFS operational response at the location for which the licence is issued.
- 10.1.1.2 Safety hazard analysis and risk assessment must be documented for validation.
- 10.1.1.3 ARFFS staff must have the knowledge, equipment and training to effectively respond to any hazard on the aerodrome as a result of the risk assessment carried out for the aerodrome.
- 10.1.1.4 Guidelines for the preparation of a safety case for the airways system is explained in CASA Advisory Circular, CASA/AA MOU. AIRWAYS–1(0), February 1998, and is also available on the CASA Internet Website.

10.1.2 Standard: Safety Management System

- 10.1.2.1 A Safety Management System (SMS) defines the policies, procedures and practices for managing the safety of the provision of services and any changes in their provision.

10.1.2.2 Features of Safety Management System

The necessary features of an SMS are:

- (a) the service provider's safety policy and objectives;
- (b) the organisational and staff responsibilities for safety matters;
- (c) the establishment of the levels of safety that apply to the services, and the monitoring of the levels of safety achieved;
- (d) the process for internal safety reviews;
- (e) the process for the internal reporting and management of safety concerns and incidents;
- (f) the process for the identification, assessment, control and mitigation, of existing and potential safety hazards;
- (g) the definition of the interface arrangements between internal functional groups; and
- (h) the processes for the management of change to existing services and systems.

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CHAPTER 11: INTERFACE ARRANGEMENTS WITH STATE OR TERRITORY FIRE BRIGADES AND OTHER THIRD-PARTY PROVIDERS

CASR Reference: **Regulation 139.780**

Section 11.1: General

11.1.1 Standard: Interface Arrangements

- 11.1.1.1 Arrangements must ensure that any interface needed between internal groups is defined and consistent with its safety accountabilities.
- 11.1.1.2 The interface arrangements, contracts, service level agreements or memoranda of understanding must be in place and address requirements to accept service and data from service providers external to its own operation.
- 11.1.1.3 The interface arrangements must seek to ensure the integrity and reliability of the data or service being accepted.
- 11.1.1.4 The third party service provider must have in place management processes which will support the service provided.
- 11.1.1.5 The third party service provider must have in place processes which will detect any operational change which could affect the integrity and reliability of the data and/or service provided and must facilitate prompt rectification.
- 11.1.1.6 Documentation must be made available to ensure that arrangements exist to address the integrity and efficiency of communication procedures with the aviation industry (eg; general alerting mechanism, NOTAMs etc).

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CHAPTER 12: ARFFS OPERATIONAL PROCEDURES/SAFETY MANAGEMENT

CASR References: *Regulations 139.850, 139.855, 139.890, 139.895 and
139.900*

Section 12.1: General

12.1.1 **Standard: Standard Operating Procedures**

12.1.1.1 A series of Standard Operating Procedures (SOPs) must be developed that will include operational practices. SOPs must be readily available, maintained and amended as appropriate.

12.1.2 **Licence to Operate**

12.1.2.1 ARFFS staff must have a current AFC and local competencies for the operating positions that they hold.

12.1.2.3 ARFFS staff must hold a current/valid CASA Certificate of Competency (Licence) for their operating position.

12.1.3 **Response Times**

12.1.3.1 Response time requirements. Refer to [Chapter 6](#) of this Manual.

12.1.4 **Hazard Identification**

12.1.4.1 Safety hazard identification. Refer to [Chapter 10](#) of this Manual.

12.1.5 **Hazard Management Strategy**

12.1.5.1 To control and manage safety hazards and any change to existing systems, equipment or procedures and to ensure that any unacceptable hazards are eliminated will require strategies and procedure development which must result in an SOP. Refer to [Chapter 10](#) of this Manual.

12.1.6 **Advisory Circular**

12.1.6.1 An example of an SOP can be found in Advisory Circular – No 2.

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CHAPTER 13: ANCILLARY EQUIPMENT

CASR References: *Subregulations 139.795 (4) and (5), regulations 139.800, 139.805 and 139.810*

Section 13.1: General

13.1.1 Standard: Ancillary Equipment

- 13.1.1.1 Ancillary equipment must conform to Australian Standards (AS), or in the lack of AS, acceptable International Standards must apply.
- 13.1.1.2 A list of ancillary equipment must be developed and some of this equipment must be carried at all times. The ancillary equipment list must be submitted to CASA for approval.
- 13.1.1.3 Ancillary equipment required for operational use must include the following:
- (a) axes;
 - (b) crowbars;
 - (c) bolt-cutters;
 - (d) shovel;
 - (e) fire blanket;
 - (f) ladders/suitable for aircraft type;
 - (g) lights/hand lamps;
 - (h) lines;
 - (i) power saws;
 - (j) lifting and forcing tools;
 - (k) breathing apparatus sets dependent on aerodrome category and numbers as per Advisory Circular – No.3;
 - (l) webbing seat-belt cutting tools;
 - (m) gloves;
 - (n) first aid kit/general*;
 - (o) first aid kit/crash*;
 - (p) hand tools;
 - (q) fire fighting branches;
 - (r) fire hoses;
 - (s) portable fire extinguishers;
 - (t) standpipe—per vehicle;
 - (u) one full set of adaptors per vehicle (location specific).

13.1.2 Optional Ancillary Equipment

13.1.2.1 Optional equipment is listed below:

- (a) air bags;
- (b) pneumatic tools;
- (c) oxygen resuscitation equipment (ORE);
- (d) automatic external defibrillator (AED).

13.1.3 Reserve Stocks

13.1.3.1 Reserve stocks of ancillary equipment must be sufficient to ensure continuous operation of the required category.

13.1.4 Ancillary Equipment

13.1.4.1 Examples of ancillary equipment by category and level can be found in Advisory Circular – No.3.

13.1.5 Advisory Circulars

13.1.5.1 * First aid kit contents can be found in Advisory Circular – No 4.

CHAPTER 14: ARFFS Protective Clothing

CASR Reference: *Regulation 139.815*

Section 14.1: General

14.1.1 Standard: Protective Clothing

14.1.1.1 Sufficient personal issue of protective clothing must be provided to enable operational rescue and fire fighting staff to perform their function safely and effectively. Protective fire fighting equipment must conform to Australian Standards (AS) or in the lack of AS, accepted International Standards must apply.

14.1.2 Personal Issue

14.1.2.1 All rescue and fire fighting personnel must be provided with a personal issue of at least the following:

- (a) helmet and visor;
- (b) protective coat;
- (c) protective over-trousers and braces;
- (d) gloves/fire fighting/general/first aid;
- (e) boots;
- (f) pocket line.

14.1.3 Hazchem Protective Clothing

14.1.3.1 At locations where transportation of hazardous freight is known to be undertaken:

- (a) the ARFFS personnel must be provided with suitable protective clothing, including breathing apparatus, to enable them to deal safely with any incident or accident that may occur; and
- (b) hazardous freight should be identified as per the requirements of [CHAPTER 10: SAFETY HAZARD AND RISK MANAGEMENT](#); and
- (c) ARFFS staff must have the necessary qualifications as per the requirements of [CHAPTER 18: COMPETENCY LEVELS](#).

14.1.3.2 Where a response to hazardous freight is not performed by ARFFS, arrangements must be in place as per [Chapter 11](#) of this Manual and noted in the AEP accordingly.

14.1.4 Clothing for Water Operations

14.1.4.1 At locations where inshore rescue boats are provided operational staff must be issued with appropriate safety equipment and clothing for the environment in which they operate, including:

- (a) wetsuits;
- (b) drysuits where applicable;
- (c) personal flotation devices;
- (d) goggles.

14.1.4.2 Personal Issue

- (a) body suits;
- (b) rubber boots.

Note: AS 4602 refers to tabards colour identification at major disasters.

CHAPTER 15: Reports of an Accident or Incident

CASR References: *Regulations 139.865 and 139.875*

Section 15.1: General

15.1.1 Standard: Report Procedures

- 15.1.1.1 Procedures must be developed to record the details of any aircraft accident, incident, building fire, or hazardous incident.
- 15.1.1.2 The report detail must be sufficient to meet the requirements of a coronial inquiry.
- 15.1.1.3 The procedures will include the process of advising CASA, the ARFFS provider and maintaining records as per [Chapter 28](#) of this Manual.
CASA must be provided with a hard copy of the form format.
- 15.1.1.4 The procedure of recording the details can be either hard copy or electronic.
- 15.1.1.5 Individual reports are required for the following:
 - (a) aircraft crash/fire report;
 - (b) stand-by/s;
 - (c) building fire report;
 - (d) incident report;
 - (e) first aid report;
 - (f) hazchem report.

15.1.2 Advisory Circular

- 15.1.2.1 AC No 5 provides a list of detailed information required in the compilation of reports for accidents and incidents where the ARFFS has responded.

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CHAPTER 16: QUALITY CONTROL

CASR References: *Regulations 139.850, 139.855, 139.890 and 139.900*
Australian/New Zealand Standard ISO 9000 Series
Quality systems model for quality assurance in
production, installation and servicing.

Section 16.1: General

16.1.1 Standard: Internal Quality Assurance

16.1.1.1 Internal quality assurance procedures must be established and must be robust to ensure compliance with the standards.

16.1.2 Compliance and Safety Inspection Audit Requirements

16.1.2.1 The ARFFS provider must, at any reasonable time after an application is made or a licence issued, permit authorised CASA staff members to conduct safety inspections or safety audits of the certificate holder's premises, facilities, documents, records, and processes against the requirements of this Part. On-going compliance audits will be carried out by CASA on a regular basis so that CASA may determine compliance with this Part, and to ensure that it discharges its aviation safety surveillance responsibilities under the *Civil Aviation Act 1988*.

16.1.2.2 Any applicable fees or charges prescribed by CASA for a safety inspection or audit must be paid by a Certificate holder.

Note: This section forms part of the Safety Management System (also see [Chapter 10](#)).

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CHAPTER 17: ARFFS PERSONNEL—RECRUITMENT

CASR References: *Regulations 139.840 and 139.845*

Section 17.1: General

17.1.1 **Standard: Recruitment Suitability for Employment**

17.1.1.1 When recruiting fire staff, suitable applicants must have a police clearance as their place of employment is in a secure area.

17.1.2 **Medical Requirements for Recruitment**

17.1.2.1 Personnel recruited for ARFFS will be required to undergo a medical examination prior to recruitment and be subject to ongoing medical examination as defined in [Chapter 21](#) of this Manual.

17.1.2.2 The hazardous nature of the job makes most types of ongoing medication inadvisable. For example, antihistamines and tranquillisers may cause drowsiness and a slowing of reaction time. Sufferers from hay fever who regularly use antihistamines may be assessed as unfit for fire service duty.

17.1.2.3 The criteria to be considered in establishing a recruitment medical policy is as follows:

- (a) general physique;
- (b) upper limbs;
- (c) locomotion;
- (d) hearing;
- (e) vision;
- (f) general fitness.

17.1.2.4 Personnel recruited for ARFFS duties may be required to be multi-skilled in other aerodrome activities.

17.1.2.5 Recruitment policy must reflect obligations under State, Territory and Federal Laws reflecting OH&S, Equity and Diversity and any other legislation that may impact on the recruitment process.



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CHAPTER 18: COMPETENCY LEVELS

CASR References: *Subregulation 139.705 (2), regulations 139.712, 139.765, 139.773, 139.845 and 139.915*

Section 18.1: General

18.1.1 Standard: Competency Levels for Fire Fighting Staff

- 18.1.1.1 All operational fire fighting staff must hold the appropriate competencies, which is commensurate with the functional position to be occupied.
- 18.1.1.2 This will be detailed and recorded to include, but not restricted to:
- (a) AFC qualifications;
 - (b) local and general ratings;
 - (c) special skills if required;
 - (d) drivers licence;
 - (e) aerodrome licence;
 - (f) aerodrome security number;
 - (g) 90 day competency checks.
- 18.1.1.3 All operational fire fighting staff must be given on-the-job training in accordance with a program to ensure that core competencies applicable to the functional level are maintained and validated regularly with a maximum permissible interval of 90 days. (Refer to [Chapter 20](#) of the MOS.)
- 18.1.1.4 All ARFFS staff must attend a CASA accredited ARFFS training course at intervals not exceeding four years for instruction on technological changes and to practice revised fire fighting procedures.
- 18.1.1.5 All operational ARFFS staff must comply with CASA standards that require a current qualification and Certificate of Competency commensurate with the functional role at a specific location. (Refer to paragraph [12.1.2.3](#).)
- 18.1.1.6 The following AFC qualifications as prescribed by the Australian Qualification Framework (AQF) apply:
- | | |
|--------------------------|-----------------------------|
| (1) AFC Certificate 2 | (fire fighting operations) |
| (2) AFC Certificate 3 | (fire fighting operations) |
| (3) AFC Certificate 4 | (fire fighting supervision) |
| (4) AFC Diploma | (fire fighting management) |
| (5) AFC Advanced Diploma | (fire fighting management). |

Note: AFC qualifications are the CASA recognised standard. However, a new qualification set by the Industry Advisory Training Board is pending and may supersede the recognised CASA qualification on its introduction.

- 18.1.1.7 All operational staff must hold a current competency in Aviation Fire Fighting Operations for the skill qualifications required for the operating position in accordance with CASA requirements of the AFC Training Modules.
- 18.1.1.8 An officer in Charge of ARFFS operations at Level 1 aerodromes must be a person who holds the following qualification:
- (a) **for aerodromes categorised, category 6 and above**, a minimum of an ARFFS AFC Advanced Diploma;
 - (b) **for aerodromes categorised, category 5 and below**, a minimum of an ARFFS AFC Diploma.
- 18.1.1.9 An officer in charge of an ARFFS at a Level 2 aerodrome, which has been established in accordance with [CHAPTER 2: CRITERIA FOR ESTABLISHMENT OR DISESTABLISHMENT OF ARFFS](#), must hold:
- (a) if the aerodrome is categorised as category 6 or above — at least an ARFFS AFC Advanced Diploma; or
 - (b) if the aerodrome is categorised as category 5 or below — at least an ARFFS AFC Diploma.
- 18.1.1.10 All shift supervisor/s on a staff of operational fire fighters must hold an ARFFS AFC Diploma competency in accordance with CASA requirements of the AFC Training Modules.
- 18.1.1.11 The CASA ARFFS minimum requirements of the AFC Training Modules for fire fighters, fire officers responsible for any activities of staff and the fire officer in charge of ARFFS are identified in the following schedule.

CASA CERTIFICATE OF ATTAINMENT				
Certificate II	Certificate III	Certificate IV	Diploma	Advanced Diploma
1.01 Health & Fitness	1.04 Driving Vehicles 1	3.01 Occupational Health & Safety	3.05 Building Fire Safety 1	4.01 Resource Evaluation
1.02 Preparation cleaning & Maintenance of Equipment, appliances and facilities	1.19 Communication Systems	3.04 Fireground Operations	4.02 Pre Incident Planning 1	5.01 Resource Upgrading and Development Management
1.05 Alarms & Sprinklers	1.21 Workplace Communications	3.06 Aviation Fire Suppression 2	4.03 Operational Management	5.06 Project Management
1.06 Occupational Hazards	2.02 Inspect & Test Equipment	3.07 Dangerous Substances 2	*4.07 Fire Prevention 2	5.07 Communication 2
1.07 Personal Protection 1	2.03a Drive Vehicles on Road	3.09 Workplace Trainer Category A	*4.08 Building Fire Safety 2	5.08 Public Relations B
1.10 Building Structures 1	2.03b Drive Vehicles off Road	3.10 Writing Workplace Documents	*4.09 Building Fire Service	5.09 Team Performance
1.11 Urban Fire Suppression 1	2.04 Operate Pumps	3.12 Dealing with Conflict	4.11 Communication 1	5.10 Managing Finance-Budget
1.15 Open Circuit Breathing Apparatus	2.05b Operate Life Support Equip	3.13 Negotiation Skills	4.12 Interviews	5.11 Human Resource Management 2
1.16 Casualty Assistance	2.07 Occupational Hygiene	3.14 Leadership	4.13 Workplace Trainer Category B	5.12 Planning and Managing Change
1.17 Emergency Care	2.08 Detection & Suppression Systems	3.15 Supervising Teams	4.16 Leadership & Team Management	5.13 Occupational Health and Safety Management
1.22 Fire Service Awareness 1	2.09 Building Evacuation Systems	3.21 Introduction to Fire Law	4.18 Human Resources Management 1	6.01 Pre-Incident Planning 2
1.23 Work Teams Communications	2.10 Mechanical Venting & Air Handling	3.22 Workplace Assessment	5.02 Incident Planning	6.02 Major Operations Management
2.05a Emergency Life Support Techniques	2.11 Building Structures 2	4.04 Incident Control Systems – Agency Specific	5.03 Logistics Management	
2.15a Salvage & Overhaul	2.12 Structural Fire Behaviour		5.04 Incident Management Skills	
2.15b Ventilation	2.13 Fire Suppression 2		5.05 Operational Analysis	
2.16 Dangerous Substances 1	2.20d Foam/Water Tender			
2.34 Aviation Fire Suppression 1	2.21 Fire Prevention 1			
	2.24 Fire Agency Awareness 2			
	2.25 Present Information (Public Education)			

<p>Note 1: Hazmat responses will require additional Modules 2.06 – Personal protection 2.</p> <p>Note 2: Inshore rescue responses will require additional Modules 2.20d. Part A – IRM and 2.20d, Part B – Launch and Operate IRB</p>	<p>Note 1: Module 3.09 – Workplace Trainer Category A allows for training on a one on one basis. For Training programming and design, Module 4.13 – Workplace Trainer Category B must be achieved.</p>	<p>Note 1: For the development and management of a fire station Advanced Diploma Modules: 4.01 - Resource Evaluation 6.01 - Pre-incident Planning 2 6.02 - Major Operations Management are mandatory requirements.</p> <p>Note 2: * Denotes Modules that are required if aerodrome facilities are established and are location Specific.</p>
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- 18.1.1.12 As the above minimum requirements represent a CASA AFC qualification, a **Statement of Attainment** will be issued by an approved CASA training establishment. The Statement of Attainment can be utilised by participants towards gaining further AFC Certificates.
- 18.1.1.13 Current Competencies must be demonstrated during the 90-day validity cycle.
- 18.1.1.14 A Statement of Attainment must include all prerequisite requirements.
- 18.1.1.15 The fire officer qualifications must hold all prerequisites (i.e. Certificate of Attainment in AFC Diploma).
- 18.1.1.16 The issue of an AFC Certificate acknowledges that all modules and prerequisites have been completed.

18.1.2 Competency Assessor

- 18.1.2.1 The assessment of a Module can only be facilitated by a qualified workplace assessor (AFC Certificate 4 - Module 3.22) using curriculum approved assessment tools. The assessor must be in possession of the minimum modules for each AFC certificate or Diploma that requires aviation theoretical or practical fire fighting elements (ie 2.34 and 3.06) and be verified by an accredited validator under the AFC qualification process.
- 18.1.2.2 Prior to a Certificate or a Statement of Attainment being issued, each module must be validated by an approved CASA training establishment. A Statement of Attainment (for Certificate 2,3,4 or Diploma), or a qualification for Certificate 2,3,4 or Diploma, must only be issued from an approved CASA training establishment.
- 18.1.2.3 An AFC Certificate and a Statement of Attainment must be issued after validation by an independent third party.
- 18.1.2.4 It should be noted that some prerequisites for the AFC modules may also be required from a training institution. However, recognition of prior competencies or prior learning regimes can be applied which may satisfy the prerequisite requirements.
- 18.1.2.5 Some modules can be achieved at local *Colleges or learning institutions that provide fire technological courses, whereas modules that require specific aviation fire service practical skill input, can only be achieved from a CASA accredited aviation fire training provider. Refer to [Chapter 20](#) of this Manual.

Note: Local competencies that cannot be specified within the above AFC modules (ie aircraft familiarisation, topography, FSCC and any specific fire fighting vehicle, rescue or emergency medical service equipment) must be developed by the provider having jurisdiction of the ARFFS.

- 18.1.2.6 * Any College or Institution that is utilised by an ARFFS provider to undertake the above training regimes must be advised by the authority having jurisdiction of the ARFFS, of accreditation required by CASA in [Chapter 19](#), of this Manual.



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CHAPTER 19: ARFFS QUALIFICATION TRAINING ESTABLISHMENTS

CASR References: **Subregulation 139.705 (2) and regulation 139.845**

Section 19.1: General

19.1.1 Standard: Training Establishment

19.1.1.1 Training establishments that issue AFC competency certificates for ARFFS staff must develop:

- (a) a procedure for CASA Accreditation of Training Establishments;
- (b) an establishment which provides training courses for aviation rescue and fire fighting staff and which has CASA accreditation.
Establishments are to apply to CASA in writing for accreditation.

19.1.2 Training Facilities

19.1.2.1 The application by the training establishment must:

- (a) describe the facilities provided for theoretical and practical training; course curricula; and assessment and validation arrangements;
- (b) detail the training establishment's management structure and safety accountabilities and the qualifications and experience of staff with management responsibilities;
- (c) provide samples of the proposed procedures for the conduct of written, oral and practical tests, together with the arrangements for assessment;
- (d) provide evidence of the arrangements to cater for the general needs of students undergoing training.

19.1.3 Accreditation Process

19.1.3.1 The initial CASA accreditation process will consist of five phases:

- (a) informal discussion, at which CASA's overall requirements will be explained and any questions answered;
- (b) document assessment, in which all supplied documentation e.g. course content, details of staff course structure etc. will be examined;
- (c) practical assessment, in which physical and practical facilities will be formally inspected and sessions sampled;
- (d) external training accreditation reviewed, whereby existing registrations as an accredited tertiary or private provider of vocational education and training are confirmed; and
- (e) an examination of quality management and quality assurance documentation.

19.1.4 Training Establishment Accreditation

- 19.1.4.1 On meeting all the CASA standards and successful completion of the above process, training establishments will be accredited as meeting CASA training standards.
- 19.1.4.2 CASA will advise the training establishment in writing of its accreditation status.
- 19.1.4.3 The issue of accreditation by CASA will be dependent upon the management of that establishment attesting in writing that the requirements for continuing accreditation have been noted.
- 19.1.4.4 Continued CASA accreditation is dependent upon continuing compliance with CASA's standards. CASA will periodically audit the training establishments to monitor compliance.
- 19.1.4.5 In the event that a CASA audit finds that there is a continual shortfall in compliance with the standards, CASA will formally notify the training establishment of the items of non-compliance. The written notice shall specify a time frame in which the non-compliance is to be rectified.
- 19.1.4.6 If, following this written notification and the rectification period, the standards remain below the level required, CASA shall notify the training establishment that its CASA accreditation has lapsed, and of the consequent restrictions which are to be placed on its further training course undertakings until accreditation is re-gained.
- 19.1.4.7 To regain accreditation, the training establishment will need to satisfy a CASA audit showing that it has rectified the items of non-compliance.
- 19.1.4.8 Training establishments may be required to meet CASA charges for both initial accreditation and subsequent audits. This is subject to the outcome of the review of CASA's cost recovery arrangements and may not apply.

19.1.5 Training Programs

- 19.1.5.1 Training programs must:
- (a) demonstrate a method of maintaining up-to-date course content and training material;
 - (b) demonstrate a high standard of initial and ongoing training;
 - (c) provide a continuing programme, designed to ensure a complete familiarity with technological developments, AFC curriculum reviews and all theoretical and practical aspects of rescue and fire fighting, equipment and aircraft;
 - (d) have the capability and capacity to provide the full range of courses, however, the establishment may be approved to conduct single courses; and
 - (e) maintain all training records for 5 years.

CHAPTER 20: ARFFS PERSONNEL STAFFING AND TRAINING REQUIREMENTS

CASR References: *Regulations 139.705, 139.773, 139.835, 139.840, 139.845
and 139.915*

Section 20.1: General

20.1.1 Standard: Staff Qualifications

- 20.1.1.1 Officers in charge of ARFFS operations at Level 1 aerodromes must be a person who holds the following qualification:
- (a) **for aerodromes categorised, category 6 and above**, a minimum of an ARFFS AFC Advanced Diploma;
 - (b) **for aerodromes categorised, category 5 and below**, a minimum of an ARFFS AFC Diploma.
- 20.1.1.2 Officers in Charge of ARFFS operations at Level 2 aerodromes where established in accordance with [Chapter 2](#) of the MOS must be a person who holds the qualification:
- (a) **for aerodromes categorised, category 6 and above**, a minimum of an ARFFS AFC Advanced Diploma;
 - (b) **for aerodromes categorised, category 5 and below**, a minimum of an ARFFS AFC Diploma.
- 20.1.1.3 A shift supervisor must not exercise responsibility for staff of operational fire fighters or for any activity unless he or she is qualified to do so and holds any required AFC diploma in accordance with the requirements set out in the AFC Training Modules in paragraphs [18.1.1.6](#) and [18.1.1.10](#).
- 20.1.1.4 All operational staff must hold a current/valid CASA Certificate of Competency and a current competency in Aviation Fire Fighting Operations for the skill qualifications required for the operating position in accordance with CASA requirements of the AFC Training Modules.

20.1.2 Staffing Levels Recommendations

- 20.1.2.1 During promulgated hours of operation and while any other movements of aircraft that require use of a licensed aerodrome are taking place, sufficient trained personnel are to be detailed and readily available to staff the rescue and fire fighting vehicles and to operate the equipment at the discharge rates appropriate to the aerodrome category. These trained personnel must be deployed in a way that ensures the minimum response time can be achieved and that continuous agent application at the appropriate rate can be fully maintained should an aircraft accident or incident occur.

- 20.1.2.2 Aerodromes meeting Level 1 criteria (see [Chapter 2](#) of this Manual) must ensure that the designated staffing levels are met to provide protection for all aircraft movements and property during each operational shift.
- 20.1.2.3 At non 24-hour aerodromes the ARFFS must be fully operational 15 minutes prior to and after departure of the nominated aircraft coverage as advertised in ERSA.
- 20.1.2.4 At aerodromes meeting Level 2 criteria (refer to [Chapter 2](#) of this Manual) the ARFFS fire stations where established must be fully operational for a minimum of 15 minutes prior to the scheduled aircraft arrival and staff must remain on duty and in operational readiness for 15 minutes following the last air transport departure.
- 20.1.2.5 When formulating staff numbers, consideration must be given to the type of aircraft using the aerodrome and the need for personnel for vehicle operation, to use handlines, ladders, and other rescue and fire fighting operations including command and control of fire ground as the combatant authority.
- 20.1.2.6 ARFFS staff engaged in extraneous duties must be capable of meeting the response time from those duties. They must not be employed on fuelling duties when forming part of the minimum staff due to the hazard of fuel contaminated clothing and the safety requirements in closing down such an operation.
- 20.1.2.7 Fire vehicles capable of producing foam or other media through a monitor, must ensure that the role of the monitor operator must not be performed by the driver of that vehicle, other than when the vehicle is stationary.
- 20.1.2.8 Introduction of new technology that can reduce staffing levels in vehicle operation may be approved subject to the requirements of [Chapter 23](#), Change Management Systems.

20.1.3 ARFFS Training Requirements

- 20.1.3.1 Processes must be in place to allow supervisory staff who are qualified and competent to perform the tasks required of them to monitor the continuing competency levels of the staff under their control on a periodic basis.
- 20.1.3.2 Training can be divided into the following categories:
 - (a) initial training to achieve a new qualification or competency;
 - (b) training to transfer or upgrade from a current qualification or competency to a new qualification or competency;
 - (c) special requirements for 'direct entry' staff;
 - (d) local aerodrome ARFFS competencies;
 - (e) all operational fire fighting staff must be given on-the-job training in accordance with a program to ensure that core competencies applicable to the functional level are maintained and validated regularly with a maximum permissible interval of 90 days.

- 20.1.3.3 Core competency training for each qualification held is required within the 90-day period. The core competencies are listed below. This list is not conclusive and may require local ratings, e.g. Water Rescue Service.
- (a) application of foam onto a fire by an attack vehicle monitor;
 - (b) topography;
 - (c) aircraft familiarisation;
 - (d) Fire Station Communication Centre;
 - (e) fire alarms:
 - (i) indicator panels;
 - (ii) detection and suppression systems;
 - (f) driving and operation of vehicles;
 - (g) don and start-up of BA;
 - (h) firemanship to include:
 - (i) hose and branch work;
 - (ii) knots and lines;
 - (iii) use of ladders;
 - (iv) agent application applied through operational branches and use of rescue equipment;
 - (i) first aid CPR/EAR and injury management;
 - (j) perform Incident Command System (ICS) skills in simulated operations/or incidents;
 - (k) pre-incident planning; SOPs, MOAs, AEP and tactical plan.
- 20.1.3.4 ARFFS staff training can be by either conducting approved in-house training to the levels required or by out sourcing any or all of its training to an establishment approved by CASA.
- 20.1.3.5 A yearly fire station Training Programme that complements the 90-day validity check must be developed, displayed and retained in accordance with [Chapter 28](#) of the MOS.
- 20.1.3.6 In-house training must define, document and maintain processes, which address the integrity of staff training compatible with the Australian Fire Competency (AFC) or other qualification accepted and approved by CASA.
- 20.1.3.7 Where in-house training is conducted the training program for each course must be comprehensive and achieve the goals established in the training, in particular:
- (a) training must align with the vehicle requirements for the aerodrome category certification; and

- (b) all qualified staff must participate on a regular basis in realistic exercises representing a crash/accident/incident to simulate the category of the aerodrome.
- 20.1.3.8 The assessment process must include a robust record keeping system which records all progress and completion assessments.
- 20.1.3.9 A remedial process must be implemented to identify deficiencies in technique, application or knowledge and must rectify these promptly with follow up action to ensure compliance. The process must ensure that officers in need of remedial training are afforded the appropriate level of counselling and assistance.
- 20.1.3.10 When developing a training programme a time limit on validity of elements of a training programme must be set.
- 20.1.3.11 ARFFS training conducted by external sources must ensure that the training establishment has been approved by CASA for this purpose.
- 20.1.3.12 ARFFS external training must provide the following:
- (a) a process for reporting staff experience levels and qualifications of the training establishments; and
 - (b) a process for identifying staff requiring update or new competency training.
- 20.1.3.13 The safe transition of recently qualified staff into operational service must be through:
- (a) a transition process; and
 - (b) consolidation of acquired skills prior to full operational service.
- Local competency requirements must include:
- (a) topography on/off aerodrome;
 - (b) first aid;
 - (c) Fire Station Communication Centre (FSCC);
 - (d) aircraft familiarisation:
 - (i) vehicle and water rescue equipment where applicable;
 - (ii) difficult environment that may be encountered within the response area;
 - (e) Hazchem procedures;
 - (f) Incident Command System (ICS).
- 20.1.3.14 A process must be in place for maintaining and updating records of staff qualifications including Certificates of Competency for all levels.

CHAPTER 21: ARFFS MEDICAL/PHYSICAL FITNESS

CASR Reference: *Regulation 139.840*

Section 21.1: General

21.1.1 **Standard: Medical Standards for ARFFS Recruitment**

- 21.1.1.1 Before beginning initial training, prospective candidates must pass a medical examination. CASA's Aviation Medical Certificate Class 2 is the minimum standard.
- 21.1.1.2 ARFFS staff must take into account their obligations under OH&S and the responsibilities under Duty of Care and notify their employer of any existing medical condition that would adversely affect their ability to perform ARFFS duties.

21.1.2 **Medical requirements for ARFFS staff**

- 21.1.2.1 All staff must ensure that they maintain a continued level of medical and physical fitness to enable them to perform at the level required for their function.
- 21.1.2.2 ARFFS staff must take into account their obligations under OH&S and the responsibilities under Duty of Care and notify their employer of any existing medical condition that would adversely affect their ability to perform ARFFS duties.
- 21.1.2.3 A physical fitness policy must be developed for all operational staff to maintain a continued level of medical and physical fitness to enable them to perform at the level required for their function.
- 21.1.2.4 A physical fitness test should be developed for prospective employees.

21.1.3 **Fitness for Duty**

- 21.1.3.1 A person must not act in any capacity for which the authority of the ARFFS Certificate of Competency as defined in this Manual is required if, by reason of having consumed, used or otherwise absorbed alcoholic liquor, a drug or pharmaceutical or medical preparation or other substance, the person's capacity so to act is impaired.
- 21.1.3.2 ARFFS staff must be aware that certain medications can affect their ability to operate fire vehicles and associated fire fighting equipment. Staff must seek medical advice on the effect of any such medication on the level of performance of ARFFS functions.

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CHAPTER 22: ARFFS FACILITIES

CASR References: *Regulations 139.715, 139.760, 139.772, 139.805, 139.820, 139.825, 139.830, 139.860, 139.885 and 139.895*

Section 22.1: General

22.1.1 Standard: Fire Station Facility

- 22.1.1.1 Facilities must be established that are appropriate to enable the fire service to respond to airport emergencies.
- 22.1.1.2 The siting of a fire station facility must take into consideration the requirement of achieving response times as defined in [Section 6.1](#), of this Manual.
- 22.1.1.3 New or modified fire stations at Level 1 must provide an FSCC where all landings and take-offs of air transport aircraft are observed so as not to delay response times.

22.1.2 FSCC Requirements

- 22.1.2.1 Where a new FSCC is provided the control cabin must provide clear vision of the runway and 'short final' approaches. This may require the elevation of the FSCC cabin.
- 22.1.2.2 Crash Alarm and Direct Lines facilities must be provided where a TWR is located on the same aerodrome. Two-way activation of facilities is required.
- 22.1.2.3 Aerodrome fire alarms to terminate at aerodrome ARFFS FSCC.
- 22.1.2.4 Transfer facilities to be provided to either the TWR or Local Fire Brigade.
- 22.1.2.5 Communication facilities for notification of emergency services.
- 22.1.2.6 Alerting P/A system for fire staff personnel located at the fire station and its environs.
- 22.1.2.7 All aircraft landings and take-off of air transport must be observed by the FSCC operator or designated officer.
- 22.1.2.8 Aerodromes meeting Level 2 category requirements may provide an FSCC.

22.1.3 Access Roads to Movement Areas

- 22.1.3.1 Access roads to movement areas will be constructed to enhance operational responses.

22.1.4 Communication Equipment

- 22.1.4.1 All ARFFS vehicles must be provided with suitable communication equipment.

- 22.1.4.2 Communication equipment frequencies must be compatible with associated Air Traffic Services and Marine Frequencies (where appropriate).
- 22.1.4.3 Communication equipment within the fire station and work areas must be provided and be linked with the FSCC alerting system. The FSCC must have facilities to monitor operational, emergency and UHF radio frequencies as nominated by the ARFFS provider and approved by CASA.

22.1.5 Vehicle Maintenance Facilities

- 22.1.5.1 An ARFFS provider must have in place a process which will ensure that maintenance facilities or an appropriate maintenance provider will service and repair equipment, vehicle and radios to manufacturers specifications.
- 22.1.5.2 After fire service use, areas for vehicles which would include a vehicle wash down area, replenishment area, hose cleaning and drying area must be provided.

22.1.6 Training Facilities

- 22.1.6.1 Training facilities that must be provided for ARFFS use are listed:
 - (a) training ground that can support fire vehicles and adequate facilities to allow hot fires, tactical positioning and application of extinguishing agents;
 - (b) a raised platform for ladder and branch work and suitable for the use of BA;
 - (c) a suitable lesson room for theoretical training;
 - (d) a breathing apparatus training facility.
- 22.1.6.2 Storage facilities must be provided for the safe storage of reserve stocks of fire fighting agent.

Note: All training facilities must conform to the Local, State and Federal Government Environmental Laws.

22.1.7 Inshore Rescue Boats

- 22.1.7.1 If provided, inshore rescue boats must be housed under cover, and appropriate stowage facilities must be made available for wetsuits (and drysuits where applicable), personal flotation devices (PFD) and associated equipment. Suitable drying and stowage areas must be provided.
- 22.1.7.2 Flotation platforms/life rafts for 50% of passengers on the largest aircraft using the aerodrome must be provided.
- 22.1.7.3 Launch ramps on aerodromes must be well lit, identified and maintained to enable a quick response to any emergency response.
- 22.1.7.4 Where a Rescue Boat is located, appropriate facilities must be maintained for towing and launching at designated locations within the airport boundary.

22.1.7.5 Arrangements for testing and recording of maintenance of flotation platforms or life rafts and certification must be undertaken to ensure serviceability of the equipment as per the appropriate Australian Standard or in the absence of a standard the manufacturer's instructions.

22.1.8 Commissioning of a New Service or Vehicle

22.1.8.1 An ARFFS provider may not commission a new service, vehicle or facility unless:

- (a) the requirements of this MOS are complied with in respect to the new service or facility, and the applicable inclusions have been made to the holder's operations manual;
- (b) a formal acknowledgment which includes the new service vehicle or facility has been issued by CASA to the holder;
- (c) the commissioning is carried out in accordance with the commissioning process included in the holder's operations manual.

22.1.8.2 Commissioning of a new service or vehicle also needs to take into account the requirements of [Chapter 23](#), Change Management Systems.

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CHAPTER 23: CHANGE MANAGEMENT SYSTEMS

CASR Reference: **Regulation 139.895**

Section 23.1: General

23.1.1 Standard: Safety Management

- 23.1.1.1 A change management system must be established and documented, which defines the policy, procedures and practices for managing the safety of the ARFFS and any change in the level of service provision.
- 23.1.1.2 The procedure must be designed to reduce the risk to any changes that may occur within the operational service and may employ any, or a combination of the following (this is not a restrictive list):
- (a) process and/or procedural redesign;
 - (b) equipment redesign/new equipment;
 - (c) introduction of new extinguishing agents;
 - (d) staff training;
 - (e) administrative controls;
 - (f) any additional ARFFS operational hazard.
- 23.1.1.3 The procedures must ensure that all changes are documented in such a way that all users are informed of the change and details approval authorities who are linked to the identified safety accountabilities.
- 23.1.1.4 The approving authority is required to be linked to any action relating to system design, system operation or restoration of a service and monitoring system, these areas can be defined as:
- (a) system design authority that is responsible for the design of the system and procedures;
 - (b) operating authority that is responsible for the general operation of the system or procedure; and
 - (c) maintenance authority that is responsible for the maintenance of the system or procedure.
- 23.1.1.5 Introduction of new technology that can reduce staffing levels in vehicle operation may be approved by CASA following the submission of a safety case.

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CHAPTER 24: FACILITY MAINTENANCE PLAN

CASR References: *Regulations 139.870 and 139.885*

Section 24.1: General

24.1.1 **Standard: Vehicles, Electrical, Radio, Ancillary Equipment and BA Sets**

- 24.1.1.1 A methodology must be in place, in relation to vehicles, electrical equipment, radio equipment, ancillary equipment and BA Sets, to ensure the integrity of systems and maintenance schedules for the provision of the ARFFS.
- 24.1.1.2 A maintenance program including preventive maintenance must be established.

24.1.2 **Engine Heaters**

- 24.1.2.1 A maintenance program including preventative maintenance must be established.

24.1.3 **Battery Chargers**

- 24.1.3.1 Maintenance schedules must conform to the requirements of [Chapter 26](#) of this Manual.

24.1.4 **Flotation Platforms**

- 24.1.4.1 Guidelines for a facility maintenance plan will need to consider the requirements of Australian Standards, Manufacturers Instructions and Guidelines.



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CHAPTER 25: INTERRUPTION OR CHANGE TO LEVEL OF OPERATIONAL SERVICE AND CONTINGENCY PLANS

CASR References: *Regulations 139.855, 139.860, 139.870 and 139.910*

Section 25.1: General

25.1.1 Standard: Change to Level of Operational Service

25.1.1.1 Any proposed change to the level of service provision of ARFFS as defined in Chapters 2, 3, 4, 5, 6, 7, 9, 18 and 20 of this MOS must be approved by CASA before publication in ERSA.

25.1.2 Service Failure

25.1.2.1 A procedure must be in place to minimise the impact of any interruption to the level of operational service.

25.1.2.2 A procedure must be in place to report and rectify any failure which results in a loss of level of service as detailed in this Manual.

25.1.2.3 These contingency procedures must prescribe detailed requirements for operational staff in the event of any interruption to the level of service provision.

25.1.2.4 The process will ensure that all affected and interested parties are promptly notified of the interruption to the operational service and its consequences. The notification process will address both internal and external industry needs.

25.1.3 Reporting Action

25.1.3.1 If there is a need to temporarily reduce the category of the ARFFS provision due to an unforeseen circumstance affecting impending aircraft movements, all affected parties shall be notified immediately by NOTAM.

25.1.3.2 NOTAM action is not necessary for temporary reductions in ARFFS provisions, provided that the type of aircraft movement planned for the aerodrome during the temporary reduction does not exceed the reduced category. In these circumstances ARFFS is to advise ATC of the details of the reduction by direct recorded line.

25.1.3.3 Procedures for the re-establishment of normal service must ensure the safe and orderly transition to full operational service for parties affected.

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CHAPTER 26: SERVICE AND FACILITY MANAGEMENT REQUIREMENTS

CASR References: *Regulations 139.772, 139.885, 139.890 and 139.90*

Section 26.1: General

26.1.1 Standard: Service and Facility Management

- 26.1.1.1 Procedures must be defined and documented which will ensure the continuous, safe operation of, or reduction of, the level of service and facility provided.
- 26.1.1.2 To assure the satisfactory operation of systems, equipment and procedures in accordance with the safety management requirements, the following processes must be in place.
- (a) the current configuration, that is to be identified in specifications, drawings and documents to assure the system is being operated to a known state;
 - (b) preventive and corrective maintenance and quality assurance procedures. This requirement must assure the ongoing operation is in accordance with the performance standards;
 - (c) reliability and maintainability data analysis to confirm performance standards and/or safety assessment;
 - (d) integrity monitoring and control processes to assure ongoing operation of the system is in accordance with its performance standards;
 - (e) defect reporting processes to ensure equipment and procedures meet an ongoing performance standard equal to its performance expectation at design, acquisition, acceptance and after modification;
 - (f) a critical system failure reporting procedure as a means of linking the performance of the elements of the airways system to management accountabilities; and
 - (g) an equipment fault and air safety incident reporting system to ensure that there is a method of monitoring the level of service provision against that required by the users.

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CHAPTER 27: DOCUMENT AND DATA CONTROL

CASR Reference: *Regulation 139.875*

Section 27.1: General

27.1.1 Standard: Documentation

- 27.1.1.1 The following procedures must be in place:
- (a) define, document and maintain a process for document control;
 - (b) ensure that the authority for issue and/or amendment is appropriate to the management and safety accountability structures;
 - (c) ensure that the latest version of all documentation is readily available to all users requiring provision;
 - (d) ensure that a master copy of all operational and technical documents are secure;
 - (e) ensure that a copy of obsolete documentation is archived and all other versions are destroyed promptly;
 - (f) check that operational and technical instructions conform with agreed policy and internal documentation standards;
 - (g) encourage all levels of operation to confine like type documents to standard presentation formats.

27.1.2 Electronic Data

- 27.1.2.1 An electronic system must be available to record all voice data and system activation in relation to ARFFS operation in the FSCC.
- 27.1.2.2 Radio transmissions dealing with aircraft emergencies and operational incidents must be electronically recorded.

27.1.3 Amendment Control

- 27.1.3.1 Amendments may be proposed by industry or as a result of information received through safety audits, incidents or occurrence reports or other mechanisms.
- 27.1.3.2 Amended documents must be duly noted and dated.

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CHAPTER 28: RECORDS

CASR References: *Regulations 139.865 and 139.875*
 Australian Standard 4390.1-6,1996

Section 28.1: General

28.1.1 Standard: Record Keeping

- 28.1.1.1 Recognised quality assurance procedures must be established to identify, collect, index, store, update and maintain records necessary for the safe provision of service. The procedures must ensure that legible and permanent records and a traceable history are kept.
- 28.1.1.2 These records may be called upon by the Australian Transport Safety Bureau, CASA, a coroner, the police force of a State or Territory and any other agency with authority to do so.
- 28.1.1.3 Records must be maintained and available for five years or for a specified time as indicated below.

28.1.2 Record Types and Retention Period

Record Type	Time period
Aircraft rescue and fire fighting report	2 years
Airways operational journal or computer print out	3 months
ARFFS equipment maintenance records	5 years
ARFFS facility fault register	2 years
ARFFS Incident report	2 years
ARFFS staff development appraisal	1 year
Building fire report	2 years
Certificate of Proficiency Life of employee at location	
Competency based training records	5 years
Equipment maintenance	3 years
First aid	5 years
Fire Station Communication Centre computer print-out (if applicable)	3 months
Fire Station Communication Centre voice recordings	30 days
Hazchem reports	
Staff involved (OH&S requirement)	5 years

Record Type	Time period
NOTAM action	3 months
Personal protective equipment	1 year
Register of staff competency	5 years
Fire station training programme	7 years
Vehicle maintenance records	Life of vehicle
Validity check of competency	90 days
Vehicle inspection and tests	5 years

Note: This is not a comprehensive list, other areas may be added to the list at the discretion of the provider.

28.1.3 Advisory Circular

28.1.3.1 AC No. 5 provides a list of detailed information required in the compilation of reports for accidents and incidents where the ARFFS has responded.

CHAPTER 29: APPLICANT'S ORGANISATION

CASR References: *Regulations 139.880 and 139.905*

Section 29.1: General

29.1.1 Standard: Provider's Credentials

29.1.1.1 Potential ARFFS providers must establish with the aerodrome operator that sufficient resources are available to enter into contractual arrangements to provide an ARFFS at the level specified for the category of the aerodrome.

29.1.1.2 It is recommended that the licensee consider the following:

- (a) operational expertise/ training qualifications
- (b) financial structure;
- (c) suppliers of essential supplies;
- (d) human resource management policies;
- (e) environmental policy;
- (f) training policy;
- (g) quality assurance policy;
- (h) provision of operational manual;
- (i) vehicle performance records;
- (j) vehicle specification/performance and ability to supply ARFFS at the specified level;
- (k) vehicle equipment maintenance policy and the ability to provide a continual provision of ARFFS.

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REVISION HISTORY

Note: The Revision History shows the most recent amendment first. Scroll down the table to view details of previous amendments.

Version	Date	Chapter/ Section	Details
1.2	Jan 2005	Foreword	Changed.
		1.1.1.1	“ARFFS stated in this Part will be established by Civil Aviation Regulation 139.H, which reflects” replaced by: “Aerodrome Rescue and Fire Fighting Services (ARFFS) reflects”.
		1.1.1.2	Changed completely.
		1.1.1.3	Changed completely.
		1.1.2.1 (a) and (b)	Relevant subparagraphs substituted..
		1.1.2.4	“and disallowance” inserted and new note added at the end.
		1.1.2.6	Deleted.
		1.1.2.7	“and operators” inserted.
		1.1.2.8	“Regulations” replaced by “CASRs”.
		1.1.3.1	Changed. “Manual of Standards (MOS)” replaced by “MOS”.
		1.1.5.1	“Manual of Standards (MOS)” replaced by “MOS”.
		1.1.5.3	“intimated” replaced by “initiated”.
		1.1.6.1 (c)	“9002: 1944” deleted.
		1.2	A number of changes made and following new definitions added: “Appliance”, “Flotation Platform”, “Operational Vehicle”. Definition of “Licensee” changed.
		Chap 2	CASR References in headings changed.
		2.1.1.2	Replaced.
		2.1.4.1	“criteria Level 1 or Level 2” replaced by “Level 1 in accordance with paragraph 139.755 (2) (b)”. “critical aircraft using the aerodrome within a period not exceeding 12 months” replaced by “aircraft using the aerodrome”.
		Chap 3	CASR References in headings changed.
		3.1.2.2	“ensue” replaced by “ensure”.
		3.1.3.2	Text after “Chapter 25” changed.
		Chap 4	CASR References in headings changed.
		4.1.1.5	“ADR” replaced by “Australian Design Rules (ADR)”.
		Chap 5	CASR References in headings changed.
		Chap 6	CASR References in headings changed.
		6.1.1.1	“at the aircraft or site of the incident or accident” inserted.
		6.1.4.2	“off aerodrome” replaced by “off-aerodrome”.

Version	Date	Chapter/ Section	Details
1.2	Jan 2005	6.1.4.3	“On aerodrome” replaced by “On-aerodrome”.
		6.1.4.4	“include” replaced by “require”.
		Chap 7	CASR References in headings changed.
		7.1.1.5	Replaced.
		7.1.2.3	“production” replaced by “discharge”.
		7.1.3.1	Replaced.
		7.1.3.3	Replaced.
		Chap 8	CASR References in headings changed.
		8.1.1.1	“be” inserted before “regularly”, “operation” replaced by “operational”.
		8.1.1.5	All words after “list” replaced.
		Chap 9	CASR References in headings changed.
		9.1.1	Heading changed (“— Level 1” added).
		9.1.1.3	“transport” inserted after “air”.
		9.1.1.4	Replaced.
		Chap 10	Chapter Title changed. CASR References in headings changed.
		10.1.1	Chapter Title changed. to “Standard: Operational Risk Assessment”.
		10.1.2	New subsection added.
		Chap 11	CASR References in headings changed.
		Chap 12	CASR References in headings changed.
		12.1.2.1	“and local competencies” inserted.
		12.1.2.2	Deleted.
		Chap 13	CASR References in headings changed.
		Chap 14	CASR References in headings changed.
		14.1.3.1	Replaced.
		14.1.4.1	“operate.” replaced by “operate, including:”.
		Chap 15	CASR References in headings changed.
		15.1.1.1	“Procedure” replaced by “Procedures”.
		Chap 16	CASR References in headings changed.
		16.1.1.1	“must be” inserted.
		16.1.2.1	“Civil Aviation Act” replaced by “ <i>Civil Aviation Act 1988</i> ”.
		16.1.2.2	New note added.
		Chap 17	CASR References in headings changed.
Chap 18	CASR References in headings changed.		
18.1.1.3	“programme to ensure that core competency” replaced by “in accordance with a program to ensure that core competencies”.		
18.1.1.8	“Officers” replaced by “An officer”.		
18.1.1.9	Replaced.		
18.1.1.10	“crew” replaced by “staff”. “Modules, and” replaced by “Modules.”		
18.1.1.11	“a crew” replaced by “staff”.		

Version	Date	Chapter/ Section	Details
1.2	Jan 2005	18.1.1.16	“prerequisite” replaced by “prerequisites”.
		Chap 19	CASR References in headings changed.
		19.1.1.1 (b)	“must have” replaced by “and which has”.
		19.1.4.7	All words after “audit” replaced by “showing that it has rectified the items of non-compliance.”.
		Chap 20	CASR References in headings changed.
		20.1.1.3	Replaced.
		20.1.2.1	“to use a” replaced by “use of a”. “crew” replaced by “staff”. “aircraft accident” replaced by aircraft accident or incident “”.
		20.1.2.2	Replaced.
		20.1.2.4	“Aerodromes” replaced by “At aerodromes”. “the schedule aircraft arrival and must” replaced by “the scheduled aircraft arrival and staff must”.
		20.1.2.6	“crew” replaced by “staff”.
		20.1.3.2 (e)	“programme to ensure that core competency” replaced by “in accordance with a program to ensure that core competencies”.
		20.1.3.3 (a)	“appliance” replaced by “vehicle monitor”.
		20.1.3.3 (d)	Replaced.
		20.1.3.3 (f)	“appliances” replaced by “vehicles”.
		20.1.3.3 (h) (iv)	“branch’s” replaced by “branches and”.
		20.1.3.3 (j)	“ICS” replaced by “Incident Command System (ICS)”.
		20.1.3.7	“program.” replaced by “, in particular:” (and subparagraphs added).
		20.1.3.9	“them” replaced by “these”.
		20.1.3.11	“an” deleted.
		20.1.3.14	Note 2 (after paragraph) deleted.
		Chap 21	CASR References in headings changed.
		21.1.1.1	Replaced.
		21.1.3.1	Replaced.
		21.1.3.2	Added.
		Chap 22	CASR References in headings changed.
		22.1.1.1	“(where not provided)” deleted.
		22.1.1.3	“a FSCC” replaced by “an FSCC”.
		22.1.2.1	“Fire Station Communication Centre (FSCC) replaced by “FSCC”.
		22.1.2.2	“Two-way activation of facilities is required.” inserted.
		22.1.4.3	All words after “provided” replaced by new text.
		22.1.5.1	“radio’s” replaced by “radios”.
		22.1.5.2	“After (fire service) use areas for vehicle” replaced by “After fire service use, areas for vehicles”.

Version	Date	Chapter/ Section	Details
1.2	Jan 2005	22.1.6.1	“appliances” replaced by “vehicles”. CASR References in headings changed. After subparagraph (c), new subparagraph (d) added.
		22.1.6.2	“proved” replaced by “provided”. “the Local, State and Federal Government’s” replaced by “Local, State and Federal Government”.
		22.1.7.1	Replaced
		22.1.7.5	“floatform platforms/life rafts” replaced by “flotation platforms or life rafts”. “manufacturers” replaced by “manufacturer’s”.
		22.1.8	“Vehicles” replaced by “Vehicle”.
		22.1.8.1 (a)	“MOS” replaced by “this MOS”.
		Chap 23	CASR References in headings changed.
		23.1.1.1	“their provision of service” replaced by the level of service provision “”.
		23.1.1.4	“defines” replaced by “defined”.
		23.1.1.4 (a), (b) and (c)	“who” replaced by “that”.
		Chap 24	CASR References in headings changed.
		24.1.1	Subheading changed.
		24.1.1.1	Replaced.
		Chap 25	CASR References in headings changed.
		25.1.1.1	Replaced
		Chap 26	CASR References in headings changed.
		26.1.1.2 (a)	“configuration. This” replaced by “configuration, that”.
		Chap 27	CASR References in headings changed.
		27.1.2.1	After “system” (<i>first occurrence</i>), “must be available” inserted.
		27.1.2.2	Replaced.
		Chap 28	CASR References in headings changed.
		28.1.1.1	“A recognised” replaced by “Recognised”. “store” replaced by “store,”.
		28.1.1.2	All words after “by” replaced with new text.
		28.1.2	“Fire Station Communication Centre tape voice” and “Recordings – 3 months” replaced by “ire Station Communication Centre voice recordings – 30 days”
		Chap 29	CASR References in headings changed.
		29.1.1.2	“need to” deleted.
		1.1	February 2003
2.1.1.2			
2.1.4			
3.1.2.2	“Aerodrome operator” changed to “ARFFS provider”		
Chapter 5	ICAO reference amended to “Chapter 6 ...”		
9.1.1.4.	“Departure” added to paragraph 9.1.1.4		

Version	Date	Chapter/ Section	Details
1.1	February 2003	13.1.1.3	Items “j” and “u” amended in paragraph 13.1.1.3
		15.1.1.3	“Aerodrome operator” changed to “ARFFS provider”
		16.1.2.1	“Aerodrome operator” changed to “ARFFS provider”
		18.1.1.11	Note 1 under Diploma column in the CASA Certificate of Attainment schedule at paragraph 18.1.1.11 amended
		22.1.8.1	“Aerodrome operator” changed to “ARFFS provider”
		Chapter 24	Previous paragraphs 24.1.2 and 24.1.3 replaced with paragraphs 24.1.2 , 24.1.3 and 24.1.4
1.0	June 2002	All	First issue of MOS Part 139H

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