OVERSEAS TERRITORIES AVIATION REQUIREMENTS (OTARs)

Part 140

RESCUE AND FIRE-FIGHTING SERVICES (RFFS) REQUIREMENTS

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Enquiries regarding the content of this publication should be addressed to:

Air Safety Support International, 3rd Floor, The Galleria, Station Road, Crawley, RH10 1WW, UK

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Revisions

OTAR Issue	Subject
Issue 1	First issue published for information.
Issue 2	Second issue released for gazetting, with minor editorial changes.
Issue 3	Editorial changes including change from requirement for approval of RFFS to setting out the operational requirements for an aerodrome RFFS. This issue also reflects Amendment 10 to Annex 14 Vol 1 and Amendment 4 to Volume 2.
Issue 4	Fourth issue reflects a fundamental revision of the OTAR to better organise and consolidate subject areas and remove duplication. Appendix A provides cross-referencing of the RFFS Manual content with the main OTAR paragraphs. This issue also reflects Amendment 11 to Annex 14 Volume 1 and Amendment 5 to Annex 14 Volume 2.
Issue 5	This issue incorporates the requirements for aviation security with effect from 1 April 2015. Paragraph 140.93 has been corrected.
Issue 6	This issue reflects a fundamental revision of the OTAR with editorial and external reference changes. Additionally, Paragraph 140.29 has been edited to mirror Paragraphs in OTARs 139 and 172.
Issue 7	This issue reflects a major revision of the OTAR as well as editorial changes. New requirements for water aerodromes and heliports have been added.
Issue 8	This issue incorporates the RFFS requirements for Water Aerodromes and Heliports which were previously included in OTAR 139. The remaining changes are minor and editorial.

Contents

Subpart A – General

140.1 Purpose

(a) The requirements of OTAR Part 140 cover the management, operation and maintenance of any Rescue and Fire-fighting Service (RFFS) provided at a certificated aerodrome and at such non-certificated aerodromes as the Governor shall direct.

(b) These Requirements are not in themselves Law. Failure to comply may not constitute an offence. However, the Requirements repeat or reproduce provisions of the Air Navigation (Overseas Territories) Order ("the Order"). Therefore, failure to comply with these Requirements may:

(1) Constitute a breach of the Order; and

(2) Result in proceedings for breaches of the Order; or

(3) Result in the refusal of an application for renewal of a certificate or licence; or

(4) Result in action to suspend or revoke a certificate or licence.

(c) The Order details the legal obligations governing the operation of an aerodrome including the planning, implementation and management of any direct or indirect operational service provision in meeting those obligations. The Order specifies these obligations in rather general terms, therefore there is a provision in the Order which requires the Governor to publish Requirements to augment, amplify and detail more precisely the manner in which these obligations shall be met. The Requirements are the means by which an aerodrome operator will be able to satisfy the Governor as to the fulfilment of the obligations in respect to the provision of an RFFS for the aerodrome, or the entitlement of the holder to hold and exercise the privileges of a certificate.

(d) The issue of an aerodrome certificate indicates only that the holder is considered competent to ensure the safe and secure operation of an aerodrome (including RFFS) in accordance with the Airport Manual and, where applicable, the Aerodrome Security Programme. The aerodrome certificate holder shall be responsible for compliance with the Order and any other legislation in force and shall have responsibility for oversight of any service provider contracted to meet the requirements imposed by the Order.

(e) Other OTAR Parts may impinge upon activities conducted under this Part. In particular, Part 1 contains definitions which apply, unless otherwise stated, to all Parts. A full list of OTAR Parts, a description of the legislative structure and the place of OTARs and Overseas Territory Aviation Circulars (OTACs) within it can be viewed on the ASSI website www.airsafety.aero. OTACs relevant to this Part can be viewed at: http://www.airsafety.aero/Requirements-and-Policy/OTACs.aspx.

(f) References to the Governor in this OTAR Part mean the regulator designated by the Governor of the Territory to exercise his functions under the Order.

(g) General and non-specific RFFS requirements shall be interpreted as requirements for both heliports and water aerodromes.

140.3 Use of English

All documentation, written communications and data (electronic or otherwise) referred to in this OTAR shall be provided in English.

140.5 Laws, requirements and procedures

Each aerodrome operator shall take reasonable care to ensure that all persons employed, engaged, or contracted by the operator to perform safety-related activities, are familiar with the appropriate sections of legislation, the Overseas Territories Aviation Requirements, any applicable conditions on the aerodrome certificate and the procedures specified in the certificate holder's manual(s) or programme(s).

140.7 Procedure compliance

Each person performing duties in relation to aerodrome operations shall conform to the applicable procedures specified in the Aerodrome Manual. RFFS Manual and, where applicable, Airport Security Programme.

140.9 Power to inspect

(a) Each aerodrome certificate holder or operator of an aerodrome shall ensure that any person authorised by the Governor is allowed access to an aerodrome or place where an aircraft has taken off or landed.

(b) Each aerodrome certificate holder shall ensure that any person authorised by the Governor has access to all documentation relating to RFFS operations at an aerodrome within a reasonable period of the request from that person.

(c) Each aerodrome certificate holder or operator of an aerodrome shall comply with any request by the Governor for a practical demonstration or test to verify compliance with the OTARs.

140.11 Definitions and Abbreviations

The definitions used throughout this Part are in accordance with OTAR Part 1. Additionally, in this Part:

(Fire-fighting) Response Area means the area including any point of each operational runway, and all other areas of the aerodrome where aircraft park or taxi immediately prior to or following any flight and an area that extends at least 1000 metres from the approach and departure ends of the operational runway(s).

Hazard Zone means the area immediately surrounding an incident or accident where access is unsafe for personnel other than the RFFS.

Heliport means an aerodrome or a defined area on a structure intended to be used wholly or in part for the arrival, departure and surface movement of helicopters.

Monitor means a device for generating, directing and controlling a stream of water, foam, powder, or other fire-extinguishing substance. May also be referred to as a turret.

Touchdown and lift-off area (TLOF) - An area on which a helicopter may touch down or lift off.

Final approach and take-off area (FATO) - A defined area over which the final phase of the approach manoeuvre to hover or landing is completed and from which the take-off manoeuvre is commenced. Where the FATO is to be used by helicopters operated in performance class 1, the defined area includes the rejected take-off area available

Abbreviations

AIP	Aeronautical Information Publication
AIS	Aeronautical information service
ATS	Air Traffic Services
FATO	Final approach and take-off area
FMS	Fixed Monitor System
QMS	Quality Management System
RFF	Rescue and Fire Fighting
RFFS	Rescue and Fire Fighting Services
SMS	Safety Management System
TLOF	Touchdown and lift-off area
TRA	Task Resource Analysis

Subpart B – General Applicability and Compliance

140.25 Applicability

(a) The requirements of OTAR Part 140 shall apply to all certificated aerodromes, certificated heliports and certificated water aerodromes unless explicit reference is made within the Subpart or OTAR reference.

(b) The Governor shall determine those non-certificated aerodromes at which an RFFS will be provided and to what extent OTAR Part 140 will apply.

140.27 ICAO compliance

(a) The operator of a certificated aerodrome shall follow the relevant ICAO Standards and Recommended Practices relating to aerodromes and the requirements contained in this OTAR Part.

(b) An alternative means of compliance to that specified in paragraph 140.27(a) may be proposed through submission to the Governor of a risk assessment.

(c) Any agreement or contract between an aerodrome operator and any service provider or sub-contractor providing services to the certificate holder shall include the specific requirement for compliance with ICAO Annex 14 and/or OTAR Part 139 and/or OTAR Part 178 if operating on an aerodrome applying an Airport Security Programme.

140.29 Safety and Quality Management Systems

(a) An RFFS provider shall establish and maintain, to the satisfaction of the Governor, a Safety Management System (SMS) appropriate to the size of the organisation and complexity of the operation.

(b) The SMS shall include:

(1) a safety policy and objectives signed by the accountable manager which reflects an organisational commitment towards safety throughout the organisation and sets out:

(i) management commitment; and
(ii) safety accountability and responsibilities within the SMS; and
(iii) appointment of key safety personnel including a safety manager who is responsible for the implementation and maintenance of an effective SMS; and
(iv) SMS documentation; and
(v) coordination of emergency response planning

(2) provision for safety risk management including:

(i) hazard identification based on reactive and proactive methods; and
(ii) safety reporting and investigation processes; and
(iii) safety risk assessment and mitigation.

(3) provision for safety assurance including:

(i) safety performance monitoring and measurement; and
(ii) the management of change; and
(iii) continuous improvement.

(4) safety promotion including:

(i) training and education, appropriate to each individual's involvement in the SMS, to ensure that personnel are trained and competent to perform their duties; and
(ii) safety communication.

(5) a quality management system, that as a minimum:

(i) identifies applicable requirements, regulations and standards and demonstrate compliance with them;
(ii) ensures technical manuals, checklists and other documentation is appropriately maintained and incorporates the latest amendments; and
(iii) ensures that training programmes maintain staff proficiency and competency
(iv) internal audit programme

(c) The safety and quality management systems shall be described in the relevant documentation and shall be acceptable to the Governor.

(d) The safety and quality management system used, may be that of the aerodrome certificate holder or a separate complementary system.

Note: OTAC 140-2 describes the overall concept of Safety Management Systems (SMS).

Subpart C – RFFS provision and objectives

140.51 Provision of RFFS at certificated aerodromes, water aerodromes and heliports

(a) The operator of a certificated aerodrome shall ensure that the RFFS:

(1) is organised, equipped, staffed, trained and operated to meet its proper functions; and

(2) is located on the aerodrome, or an off-aerodrome location where the minimum response time and discharge rate can be met.

(b) Where an aerodrome is located close to water/swampy areas or difficult terrain, and where a significant portion of approach or departure operations takes place over these areas, specialist rescue services and fire-fighting equipment appropriate to the risk shall be made available[1].

(c) Any change to the category and availability of the aerodrome's RFFS published in the Aeronautical Information Publication (AIP) shall be notified to the appropriate ATS and AIS units.

(d) The minimum staffing levels for all RFF Categories provided at an aerodrome are promulgated and notified to the Governor or referred to, in the RFFS Manual and the Aerodrome Manual.

(e) Policies and procedures relating to the provision and management of the RFFS shall be described in the RFFS Manual as detailed in Appendix A.

Note: OTAC 140-4 gives guidance to both the aerodrome certificate holder and the RFFS provider on their obligations to ensure that their respective regulatory responsibilities in relation to RFFS, are met.

140.53 Provision of RFFS at non-certificated aerodromes

(a) The establishment and designation of RFFS shall follow the principles of this OTAR, OTAR 139, and OTAR 190.

(b) The RFFS shall be organised, equipped, staffed and trained to ensure rapid and effective deployment in the event of an accident or incident.

(c) Policies, procedures and systems relating to the provision and management of the RFFS shall be described in the RFFS Manual as detailed in Appendix A.

140.57 Hours of service

An RFFS provider shall provide for each aerodrome covered by its RFFS, a schedule of the intended hours of service.

[1] The aerodrome operator may make arrangements with public or private organisations suitably located and equipped to provide/support the RFFS.

140.59 Level of protection to be provided at Aerodromes

(a) An RFFS provider shall set up systems and procedures to ensure that the level of protection provided at an aerodrome for rescue and fire-fighting shall be appropriate to the aerodrome category as determined from Table 1.

Table 1: Aerodrome category for rescue and firefighting

Aerodrome category	Aeroplane overall length	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 49 m	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

Note: To categorise the aircraft, first evaluate their overall length and secondly, their fuselage width.

(b) If, after selecting the category that corresponds to the overall length of the longest aeroplane, the fuselage width of that aeroplane exceeds the category's maximum width specified in Table 1, then the category for that aeroplane shall be one category higher.

(c) During anticipated periods of reduced activity, the level of protection shall be no less than that required for the highest category of aircraft anticipated to use the aerodrome during that time-period, regardless of the number of movements.

(d) Changes to the level of protection must be notified as required by paragraph 140.73 and staffing levels defined as required by paragraph 140.103 for each aerodrome category.

140.63 Objectives of the RFFS

The objectives of the RFFS shall be to:

(a) save lives in the event of an aircraft accident or incident occurring at, or in the immediate vicinity of an aerodrome.

(b) respond to an aircraft accident or incident within the Fire-fighting Response Area in accordance with paragraph 140.65, 140.HE.55 and 140.WA.57; and

(c) assume command and control of the Hazard Zone the accident or incident site in an effective and efficient manner; and

(d) preserve the accident or incident site for aircraft investigation.

140.65 Response time objective at Aerodromes

The response time is defined as the time interval between the initial call to the rescue and firefighting services and the arrival of the first responding vehicle(s) in position to apply foam at a rate of at least 50% of the discharge rate specified in Table 4.

An RFFS provider shall set up systems and procedures to ensure that:

(a) from the initial call the operational objective of the RFFS is to achieve the best possible response time, which shall not exceed:

(1) two minutes to any point of each operational runway; and

(2) three minutes to any other point of the movement area in optimum visibility and surface conditions;

Note: The term "optimal visibility and surface conditions" refers to daytime, good visibility, no precipitation, and a normal response route free of surface contamination, such as water, ice, or snow.

(b) To achieve the operational objective as closely as possible under less-than-ideal visibility conditions, particularly during low visibility operations, appropriate guidance, equipment, and/or procedures for rescue and firefighting services shall be provided.

(c) Where the hours of operation are not notified, the RFFS shall be maintained at least 15 minutes after the time of departure of any aircraft requiring the use of a heliport or until the aircraft has reached its destination, whichever is shorter.

140.71 Response time objective – Additional Information

(a) Any other vehicles required to deliver the amounts of extinguishing agents specified in Table 4 for aerodromes, Table HE-2 or Table HE-3 for heliports, arrive no more than four minutes from the initial call to provide continuous agent application.

(b) In order to meet the operational objective as nearly as possible in less than optimum conditions of visibility, suitable guidance, equipment and/or procedures for rescue and fire-fighting services are provided.

(c) For areas for which the RFFS undertakes to provide a rescue service (the Rescue and Fire-fighting response area) outside the movement area, the procedures shall be tested and the achieved response time documented.

(d) A preventive maintenance programme for rescue and firefighting vehicles and watercraft shall be implemented to ensure the equipment's effectiveness and compliance with the specified response time for the duration of the vehicle's life.

140.73 Notification of facility status

(a) An RFFS provider shall set up systems and procedures with the aerodrome operator to notify changes in the operational status or availability of each facility or service listed in the RFFS Manual.

(b) The procedures shall ensure that:

(1) operational information for each of the provider’s RFFS is sent to the Aeronautical Information Service responsible for the AIP; and

(2) the RFFS provider shall notify without delay, any change in operational status of the service or facility that may affect the RFF category; and

(3) information concerning any change in operational status is sent to the Aeronautical Information Service for promulgation by NOTAM.

140.75 Watch administration

An RFFS provider shall establish a procedure to ensure that adequate time is provided at the beginning of each watch, to ensure that the RFF facilities are fully serviceable, and staff fully prepared for operational duties.

140.77 Withdrawal or transfer of service

(a) The provider of an RFFS who wishes permanently to withdraw an RFFS shall give the aerodrome certificate holder or operator at least 90 days notice of the proposal and include in that notice a summary of factors considered in arriving at the decision to withdraw the service.

(b) An RFFS provider who intends permanently to reduce the hours of operation of an RFFS shall provide to the aerodrome certificate holder or operator notice at least 90 days in advance of, and the reasons for, the proposed reduction.

(c) An RFFS provider who is the outgoing provider of an RFFS shall not hinder the incoming provider of an RFFS and make available all necessary assistance in the preparation and execution of the transitional arrangements required by paragraph 140.77(b).

(d) An RFFS provider intending to assume responsibility for providing any RFFS from an existing provider shall make available to the Governor full details of transitional arrangements endorsed by the RFFS Manager and the Aerodrome Certificate holder or Airport Manager concerned.

Subpart D – Personnel

140.101 RFFS Manager

An RFFS provider shall nominate a senior person identified as the RFFS Manager who has the authority within the organisation to ensure that the RFFS organisation:

(a) can be adequately financed and resourced; and

(b) is provided following the requirements prescribed by this OTAR Part; and

(c) complies with the requirements of this OTAR Part; and

(d) has sufficient personnel to manage, support and provide the RFFS with any associated training or assessment listed in the RFFS Manual.

140.103 Personnel

An RFFS provider shall set up systems and procedures to ensure that:

(a) the minimum number of RFFS personnel required for the published category or categories of operation is established by a Task Resource Analysis (TRA)[2] and the staffing level documented in the RFFS Manual; and

(b) the minimum level of staffing includes an adequate number of competent supervisors/managers, according to the RFFS Category of the aerodrome; and

(c) the promulgated minimum staffing level is not reduced without an assessment being conducted and forwarded by the aerodrome operator, in writing, to the Governor; and

(d) personnel selected for operational rescue and fire-fighting duties are assessed as medically fit, both initially and on a recurring basis, and capable of their duties; and

(e) all RFFS personnel forming part of the minimum staffing level are trained and assessed to an appropriate standard of competence as applicable to their role and task; and

(f) during the hours of service enough trained and competent personnel are rostered and readily available to ride the rescue and fire-fighting vehicles and to operate the equipment at maximum capacity; and

(g) These trained personnel are deployed in a way that ensures that the required response times can be achieved and that continuous agent application at the appropriate rate can be maintained; and

(h) personnel are able to use hand lines, ladders and other rescue and fire-fighting equipment normally associated with aircraft rescue and fire-fighting operations.

[2] The TRA shall be an appendix to the RFFS manual.

Note: OTAC 140-6 provides guidance on the requirements for RFFS staffing and conducting TRA

140.105 Extraneous duties

(a) No extraneous duty shall create conditions likely to compromise individual or crew performance or introduce additional hazards.

(b) RFFS personnel designated as part of the minimum level for response, and who are engaged on extraneous duties, shall be capable of meeting the response time objective whilst carrying out those duties.

(c) Other than routine refuelling of fire-fighting equipment, personnel designated as part of the minimum riding strength shall not be engaged on duties involving the handling of fuel.

Note: Personnel must ensure clothing and equipment used for fire-fighting tasks is not contaminated with any kind of fuel.

140.107 Training and exercises

An RFFS provider shall establish systems and procedures to ensure that:

(a) all personnel involved in rescue and fire-fighting duties receive appropriate initial and recurrent comprehensive training to maintain their competence in skills, knowledge and understanding commensurate with the types of aircraft and type of rescue and fire-fighting equipment in use at the aerodrome; and

(b) all rescue and fire-fighting personnel participate in live fire drills commensurate with their role and task, types of aircraft and type of rescue and fire-fighting equipment in use at the aerodrome, including pressure-fed fuel fires (fires associated with fuel discharged under very high pressure from a ruptured fuel tank are defined as “pressure-fed fuel fires”); and

(c) the rescue and fire-fighting personnel training programme shall ensure that both personnel and equipment will be capable of dealing with a major aircraft fire or accident and include the following subjects as a minimum:

(1) training in human performance, including team co-ordination; and
(2) fire dynamics, toxicity and basic first aid; and
(3) extinguishing agents and firefighting techniques; and
(4) handling of vehicles, vessels and equipment; and
(5) airfield layout and aircraft construction; and
(6) operational tactics and manoeuvres; and
(7) emergency communication; and
(8) leadership performance; and
(9) physical fitness; and
(10) auxiliary modules including difficult terrain or environs.

(d) practical training facilities commensurate with the aerodrome operation and suitable for initial and ongoing maintenance of competence are available or sourced externally. Practical training facilities shall be documented, or referred to, in the Aerodrome Manual; and

(e) training records for all staff are kept up to date and, on request, made available to the aerodrome certificate holder or operator and any authorised person; and

(f) the RFFS training programme, in addition to the aerodrome's obligation for regular airport emergency exercises as set out in OTAR Part 139 and Annex 14, includes exercises to practice the initial emergency response; and

(g) in addition to testing the RFFS internal responses, some exercises also involve external agencies, such as the municipal or domestic fire service, ambulance service and police to ensure the adequacy of the following:

(1) co-ordination and communication; and

(2) response of all personnel involved; and

(3) emergency plans and procedures; and

(4) inter-agency co-ordination; and

(5) emergency equipment.

Note: OTAC 140-7 provides guidance on the requirements for RFFS training and competence.

Subpart E – Appliances and Equipment

140.125 Fire-fighting vehicles

(a) An RFFS provider shall establish systems and procedures to ensure that the minimum number of rescue and fire-fighting vehicles provided at an aerodrome are in accordance with Table 3:

Table 3: Minimum number of RFFS Vehicles.

Aerodrome category	Rescue and Fire-fighting Vehicles
1	1
2	1
3	1
4	1
5	1
6	2
7	2
8	3
9	3
10	3

(b) All rescue and fire-fighting vehicles shall be operationally fit for purpose on or off the aerodrome within the response area.

Note: Guidance on minimum characteristics of RFFS vehicles is given in the ICAO Airport Services Manual (Doc 9137), Part 1 – Rescue and Fire-Fighting. The Manual also gives guidance on vehicle procurement.

(c) All vehicles shall be capable of carrying their full load with maximum traction and mobility on and off paved surfaces in optimum weather conditions. They shall be able to operate over all types of terrain on or around the aerodrome, at a speed commensurate with safety.

(d) Vehicles shall be capable of continuous agent application for a range appropriate to the declared category, measured using aspirated foam, according to Tables 4 and 5.

(e) Vehicles equipped with foam monitors shall be able to produce foam whilst on the move at slow speeds (8 - 10 km/hr, 5 – 6 miles/hr). Monitors shall be capable of producing foam in a jet or dispersed pattern with fully variable selections throughout the range.

(f) For aerodromes which operate during the hours of darkness, vehicles shall be fitted with portable/fixed lighting equipment sufficient to illuminate the incident/accident site.

(g) All rescue and fire-fighting vehicles shall have flashing obstacle lights and be marked in a single conspicuous colour of red or yellowish green.

(h) For heliports, the vehicle requirements do not apply if the operational objectives of the rescue and fire-fighting services can be met through other means.

140.127 Rescue equipment and medical supplies

An RFFS provider shall set up systems and procedures to ensure that:

(a) all responding rescue and fire-fighting personnel are provided with protective clothing[3] and respiratory equipment to enable them to perform their duties in an effective manner; and

(b) as a minimum, rescue equipment and medical first aid kits equal to the RFFS category is provided on the rescue and fire-fighting vehicle(s).

(c) fire-fighting protective clothing and personal equipment is inspected on a regular basis to ensure that items are not excessively degraded and retain an appropriate level of protection for the individual(s)[3].

Note: ICAO Airport Services Manual (Doc 9137), Part 1 – Rescue and Fire-Fighting gives guidance.

140.129 Commissioning, maintenance, test and inspection

An RFFS provider shall establish systems and procedures to ensure that:

(a) immediately prior to, or on receipt of new or replacement vehicles, equipment, facility, plant or untested supplies appropriate commissioning is carried out to ensure compliance with specification, and to verify function according to the design objectives or specifications.

(b) in order to ensure that foam production by an RFFS vehicle is of an acceptable standard a Foam Production Performance Test (i e an “Acceptance Test”) is carried out:

(1) when an RFFS vehicle is first acquired by the certificate holder for operational use at an aerodrome.

Note: Acquisition may mean the new or second-hand purchase, leasing or hire or donation of a RFFS Vehicle.

(2) when significant maintenance, refurbishment or component replacement has been undertaken on an RFFS vehicle that could cause a change in the foam quality or production performance of the foam-making system. This includes a change of foam-making branches, nozzles or monitors. Only those parts of the system that could have been affected by the work undertaken or the component change need to be tested.

(c) a system of preventive maintenance of rescue and fire-fighting vehicles is employed to ensure effectiveness of the equipment and compliance with the specified response time throughout the life of the vehicle; and

(d) all equipment and supplies are regularly inspected, tested and undergo structured maintenance to assure reliability; and

[3] See: NFPA 1851.

(e) consequential action is taken where an inspection has revealed a defect or deficiency; and

(f) all RFFS vehicles equipped with foam-making equipment are formally tested at least once a year to ensure that the quality of foam production is maintained; and

(g) foam proportioning systems are subjected to regular quality testing based on a recognised standard and checked for induction accuracy.

Subpart F – Extinguishing agents

140.151 Extinguishing agents at Aerodromes

An RFFS provider shall set up systems and procedures to ensure that:

(a) both principal and complementary agents are provided at an aerodrome; and

(b) the principal extinguishing agent is a foam meeting performance level B or C; or

(c) for aerodrome categories 1 and 2 up to 100 per cent of the water may be substituted with complementary agent;

(d) the complementary extinguishing agent is a dry chemical powder suitable for extinguishing hydrocarbon fires, or an alternative complementary agent having equivalent fire-fighting capability. Complementary agents shall comply with the appropriate specifications of the International Organisation for Standardisation (ISO) and that the discharge rate of complementary agents is selected for optimum effectiveness of the agent;

(e) the amounts of water for foam production, foam concentrate and the complementary agents to be provided on the rescue and fire-fighting vehicles are in accordance with the aerodrome category determined by Table 4;

Note 1: Water amounts specified for foam production are based on a 5.5 L/min/m^2 application rate for foam meeting performance level B and 3.75 L/min/m^2 application rate for foam meeting performance level C.

Note 2: When any other complementary agent is used, it is necessary to verify the substitution ratios.

(f) At aerodromes where operations by aircraft larger than the average size in a given category are planned, water quantities shall be recalculated and the amount of water for foam production and foam solution discharge rates shall be increased accordingly.

(g) the quantity of foam concentrates provided separately on vehicles for foam production are in proportion to the quantity of water provided and sufficient to produce at least two loads of foam solution;

(h) supplementary water supplies are provided for the expeditious replenishment of rescue and fire-fighting vehicles at the scene of an aircraft accident.

(i) When an aerodrome provides a mix of foams with varying performance levels, the total amount of water required for foam production shall be calculated for each foam type and the distribution of these quantities documented for each vehicle and applied to the overall rescue and firefighting requirement.

(j) The discharge rate of the foam solution shall not be less than the rates shown in Table 4.

(k) Dry chemical powder shall be replaced only with agents that have equivalent or superior firefighting capabilities for all types of fires in which a complementary agent is expected to be used.

Table 4: Minimum usable amounts of extinguishing agents for aerodromes

	Foam meeting performance level B		Foam meeting performance level C		Complementary agents	
Aerodrome Category	Water [L]	Discharge rate foam solution/ minute [L]	Water [L]	Discharge rate foam solution/ minute [L]	Dry chemical powders [kg]	Discharge Rate [kg/second]
1	230	230	160	160	45	2.25
2	670	550	460	360	90	2.25
3	1 200	900	820	630	135	2.25
4	2 400	1 800	1 700	1 100	135	2.25
5	5 400	3 000	3 900	2 200	180	2.25
6	7 900	4 000	5 800	2 900	225	2.25
7	12 100	5 300	8 800	3 800	225	2.25
8	18 200	7 200	12 800	5 100	450	4.5
9	24 300	9 000	17 100	6 300	450	4.5
10	32 300	11 200	22 800	7 900	450	4.5

Note 1: The amounts of water are based on the average overall length of aircraft in each category.

Note 2: The amounts were calculated by multiplying the quantity of extinguishing agents required to achieve a one-minute control time in the practical critical area by the quantity of extinguishing agents required to maintain control of the fire thereafter and/or for possible complete extinguishment.

140.155 Certification of foam specification

(a) Foam concentrates used to provide the extinguishing agents quantities listed in Table 4 shall meet either Performance Level B or C as designated by ICAO in the Airport Services Manual (Doc 9137), Part I - Rescue and Fire-Fighting, Chapter 8. The performance level is to be determined and certificated by the manufacturer carrying out either of the tests described in the ICAO specification.

(b) Where individual users do not have the facilities for conducting the tests which will establish the specified properties and performances, independent certification of the concentrate shall be obtained from the manufacturer, supplier, or recognised third party testing authority[4] based on the local operating conditions.

140.157 Reserve supply agents at Aerodromes

(a) A reserve supply of foam equivalent to 200 per cent of the quantities of these agents to be provided in the rescue and fire-fighting vehicles, shall be maintained on the aerodrome for vehicle replenishment purposes.

[4] In future, ICAO will require the certification of the firefighting performance of a concentrate to be validated by a third-party testing authority. To avoid duplication; reduce further environmental impact; reduce costs to both manufacturers and aerodrome operators, and provide clarity and conformity, the establishment of a Qualified Product List is proposed.

Note: Foam concentrate carried on fire vehicles in excess of the quantity identified in Table 4 can contribute to the reserve.

(b) A reserve supply of complementary agent, with propellant system, equivalent to 100 per cent of the quantity identified in Table 4, shall be maintained on the aerodrome for vehicle replenishment purposes. Sufficient propellant gas shall be included to utilise this reserve complementary agent.

(c) Category 1 and 2 aerodromes that have replaced up to 100 per cent of the water with complementary agent shall hold a reserve supply of complementary agent of 200 per cent.

(d) Where a major delay in the replenishment of this supply is anticipated, the amount of reserve supply shall be increased to a suitable level.

140.161 Foam production performance testing

(a) The foam produced by an RFFS vehicle, or other such appliance, shall be of an acceptable quality and the delivery parameters such as monitor jet range and pattern are met and are maintained to the appropriate operational requirement.

(b) Once the Foam Production System has been fully tested, and assuming no changes have been made, the in-service testing shall consist of periodic checks to ensure proportioning accuracy.

(c) The Foam Production Performance Test shall confirm the following:

(1) the induction percentage for all foam-making devices; and

(2) the foam solution discharge rates for all foam-making and complementary agent devices, based on Table 4, and for level heliports - Table HE-2 or Table HE-3.

(3) the ongoing capability of the foam production system; and

(4) the jet range of the main monitor; and

(5) the spray pattern of the main monitor.

(d) The test shall be carried out to confirm the performance against a specification based on ICAO Airport Services Manual (Doc 9137), Part 1 – Rescue and Fire-fighting, Chapter 8, and conducted to an appropriate standard.

(e) The frequency of the in-service tests shall be determined and conducted in conjunction with the vehicle maintenance provider. The foam specimen for checking the proportioning percentage can be collected during normal procedural “spot” tests or training.

Note: The most common method of conducting such a test is by comparing the results of the foam discharged on a graph using a refractometer or a conductivity meter. However, other methods are available.

(f) For vehicles equipped with foam monitors capable of producing foam whilst on the move, the tests shall include an assessment of this capability. Where both a high and low discharge capability has been provided on larger monitors, this provision shall be tested in line with manufacturer's guidance.

(g) The upper and lower rates for induction at 6%, 3% and 1% (±10%) are set out in Table 140.02.

Table 7: Foam Induction Rates

Induction Rate	Induction Range	
(%)	Lower (%)	Higher (%)
6	5.5	7
3	3	4
1	1	1.1

Pre-mixed foam systems shall have foam concentrate introduced to within a tolerance of 1.0 to 1.1 times the manufacturer's desired induction rate.

(h) Pre-mixed foam units shall be maintained and hydraulically pressure tested in accordance with the intervals set by manufacturer's guidance. Only foam concentrates suitable for use in pre-mixed form shall be used in these kinds of pressure vessels.

(i) Care should be taken in the use of freeze point depressants where pre-mixed foam systems are exposed to low temperatures, since excessive amounts of additives may have adverse effects on fire extinguishing performance.

Note: OTAC 140-5 provides guidance on the requirements for extinguishing agent performance and testing.

140.163 Supplementary water supplies

An RFFS provider shall set up systems and procedures to ensure that supplementary water supplies ensure rapid replenishment of RFFS vehicles. The objective shall be to support the principle of continuous application of principal fire extinguishing agent (foam) to maintain a survivable environment around the immediate vicinity of an aircraft accident for longer than that provided for by the minimum quantities of water for foam production set out in Table 4 for aerodromes, and, Table HE-2 or Table HE-3 for heliports.

Subpart G – Facilities

140.175 Facility requirements

An RFFS provider shall establish suitable facilities, including training and assessment facilities, appropriate to the RFFS described in the RFFS Manual(s).

140.177 Fire station(s)

(a) An aerodrome operator shall ensure that the location of the airport fire station and vehicle positioning are based on minimising response times to areas where aircraft accidents and incidents may occur. The location shall be free of obstructions or interference from facilities or uses, such as access roads, fuelling areas, and aircraft taxiing operations/parking areas.

(b) The location of the fire station shall provide the maximum opportunity for monitoring the movement area.

(c) Satellite fire stations shall be provided whenever the response times specified in para 140.65, 140.HE.55 and 140.WA.57 cannot be achieved from a single fire station

(d) All rescue and fire-fighting vehicles shall be housed in a fire station.

(e) The fire station shall be located so that the access for rescue and fire-fighting vehicles into the runway area is direct and clear, requiring a minimum number of turns.

(f) Emergency access roads shall be provided on a aerodrome, so as to facilitate achieving minimum response times.

(g) Emergency access roads shall be capable of supporting the heaviest vehicles which will use them and be useable in all weather conditions and be paved if any portion of the road is within 90 m of a runway to prevent surface erosion and the transfer of debris to the runway.

(h) When the surface of the access road is indistinguishable from the surrounding area, or in areas where the location of the roads may be obscure, edge markers shall be placed at intervals of about 10 m.

Note 1: Aerodrome service roads may serve as emergency access roads when they are suitably located and constructed.

Note 2: Particular attention should be given to the provision of ready access to approach areas up to 1 000 m from the threshold, or at least within the aerodrome boundary.

Note 3: Where a fence is provided, the need for convenient access to outside areas should be taken into account and sufficient vertical clearance should be provided from overhead obstructions for the largest vehicles.

140.179 Alerting system

An RFFS provider shall establish:

(a) an audible alerting system for rescue and fire-fighting personnel, capable of being operated from that station, any other fire station on the aerodrome and the aerodrome control tower; and

(b) a discrete communication system linking the fire station with the control tower, any other fire station on the aerodrome and the rescue and fire-fighting vehicles.

140.181 Radio communications

An RFFS provider shall set up systems and procedures to ensure that:

(a) radio communication is provided with adequate and effective communication equipment; and

(b) systems and equipment have an effective range which will ensure reception within all areas that the fire service may be needed to operate; and

(c) the RFFS personnel can communicate with:

(1) Air Traffic Services; and

(2) the flight deck crew whilst the aircraft is on the ground; and

(3) responding external emergency services; and

(4) incident commanders; and

(5) (if applicable) other fire-fighting vehicles.

Subpart H – Documentation and records

140.201 Requirement for an RFFS Manual

(a) The RFFS provider shall provide, for compliance by its personnel, an RFFS Manual for the services listed in its exposition and which complies with Appendix A.

(b) The RFFS provider shall provide the aerodrome certificate holder or operator with a complete and current copy of the RFFS Manual.

(c) The RFFS provider shall make available enough copies of the RFFS Manual for one to be readily accessible by all personnel who may need to refer to it.

(d) The RFFS provider shall take all reasonable steps to ensure that each member of the RFFS staff:

(1) is aware of the contents of every part of the RFFS Manual which is relevant to his/her duties as such; and

(2) undertakes his/her duties in conformity with the relevant provisions of the Manual.

(e) Where the Governor grants the aerodrome certificate holder a deviation from complying with any requirement set out in this OTAR Part, the RFFS Manual shall show the identifying reference given to that deviation by the Governor, the date that the deviation came into effect and any conditions or procedures under which the deviation was granted.

(f) If any prescribed subject is not included in the RFFS Manual because it is not applicable to the RFFS at an aerodrome, the RFFS provider shall state in the Manual the reason for non-applicability of that subject.

(g) The RFFS provider shall alter or amend the RFFS Manual, whenever necessary, to maintain the accuracy of the information in it.

(h) The RFFS provider shall notify the aerodrome certificate holder or operator as soon as practical of any significant changes that the RFFS provider wishes to make to the RFFS Manual.

(i) The RFFS provider shall comply with any directive issued by the Governor to the aerodrome certificate holder or operator requiring alteration or amendment of the RFFS Manual.

140.203 Documentation

(a) An RFFS provider shall have immediate access to current copies of the relevant technical manuals and any other document necessary for the provision and operation of the services listed in its RFFS Manual.

Note: Documents may be in hardcopy or electronic. Electronic documents must be accessible to all staff requiring access.

(b) The provider shall establish a procedure to control all the documentation required by paragraph (a) which shall ensure that:

(1) all incoming documentation, including amendments, are reviewed and actioned as required by authorised personnel; and

(2) all documentation is reviewed and authorised before issue; and

(3) current issues of all relevant documentation are available to personnel at all locations where they need access to such documentation for the provision and operation of RFFS; and

(4) all obsolete documentation is removed promptly from all points of issue or use; and

(5) any obsolete documents retained as archives are suitably identified as obsolete; and

(6) changes to documentation are reviewed and approved by authorised personnel who shall have access to pertinent background information upon which to base their review and approval; and

(7) safety-significant changes are assessed in accordance with the safety management system; and

(8) the current version of each item of documentation can be identified to preclude the use of out-of-date editions.

140.205 Watchroom log

(a) An RFFS provider shall ensure that a logbook, with sequentially numbered pages, is kept at each RFFS station.

(b) The procedure shall ensure that:

(1) the logbook is maintained by the senior person on duty, or the person on watch at a nominated operating position; and

(2) the logbook is maintained throughout the hours of watch of the station; and

(3) all entries include the time of entry; and

(4) the person responsible for maintaining the logbook signs On Watch, and effects transfer of responsibility by successive On Watch entries; and

(5) logbook entries are:

(i) in chronological sequence and in ink; and

(ii) without erasure, defacement, or obliteration; and

(iii) corrected by drawing a single line through the erroneous information and initialling the correction.

(6) actual times of opening and closing watch are recorded in the logbook, together with the reason for every variation from published hours of service; and

(7) the operational category is stated at the beginning of each watch and any changes in the operational status recorded and that the operational status and any changes to it is confirmed by the senior officer in-charge of the watch signing the log; and

(8) logbooks are retained for a period of 5 years from the date of final entry.

Note: Recording and maintaining a watchroom log electronically is acceptable as long as the intent of the requirements in 140.205 can be demonstrated.

140.207 Records

(a) An RFFS provider shall establish systems and procedures to identify, collect, file, store securely, maintain for at least 5 years, access and dispose of records necessary for:

(1) the operational provision of RFFS; and

(2) the purpose of assisting with any accident or incident investigation.

(b) An RFFS provider shall compile, maintain and retain records in the following areas, but not limited to:

(1) RFFS personnel:

(i) training received; and
(ii) competency and performance evaluations.

(2) RFFS vehicle(s):

(i) commissioning/initial performance testing; and
(ii) initial certification and recurrent foam system testing; and
(iii) initial certification and recurrent complementary agent system testing; and
(iv) regular inspection; and
(v) maintenance; and

(3) Ancillary equipment:

(i) maintenance; and
(ii) inspections; and
(iii) tests; and

(4) Fire-fighting agents:

(i) foam certification of conformity to ICAO; and
(ii) complementary agent conformity to ISO; and

(5) Watchroom log, in accordance with paragraph 140.205; and

(6) Incidents/accidents reports; and

(7) Safety Management reports/assessments; and

(8) Any other record required by the RFFS provider and/or aerodrome operator.

Subpart HE – Heliport Rescue and Fire-Fighting Service

140.HE.53 Level of protection to be provided at Heliports

(a) For primary media applications, the discharge rate (in litres/minute) applied over the assumed practical critical area (in m^2) shall be based on the requirement to extinguish any fire that may occur on the heliport within one minute of system activation at the appropriate discharge rate.

(b) The practical critical area shall be calculated by multiplying the helicopter fuselage length (m) by the width (m) of the helicopter fuselage plus a width factor (W1) of 4 m. The fuselage dimensions in Table HE-1 shall be used to determine categorisation from H0 to H3.

Note 1: This calculation is for the practical critical area where primary media is applied as a solid stream.

Note 2: This calculation is not applicable to helidecks, regardless of how primary media is being delivered.

Note 3: For helicopters that exceed one or both dimensions for a category H3 heliport, the level of protection must be recalculated using practical critical area assumptions based on the helicopter's actual fuselage length and width, plus an additional width factor (W1) of 6 m.

Table HE-1: Heliport firefighting category

Category	Maximum fuselage length	Maximum fuselage width
H0	up to but not including 8 m	1.5
H1	from 8 m up to but not including 12 m	2
H2	from 12 m up to but not including 16 m	2.5
H3	from 16 m up to 20 m	3

(c) When the primary media is applied in a dispersed pattern:

(d) The practical critical area for heliports, except for helidecks, shall be based on an area contained within the heliport perimeter, which always includes the TLOF and, to the extent that it is load bearing, the FATO.

(e) The practical critical area for helidecks shall be determined by the largest circle that can be accommodated within the TLOF perimeter.

Note: This method is applied for the practical critical area calculation for helidecks regardless of how primary media is being delivered.

(f) The response time is defined as the time interval between the initial call to the rescue and firefighting services and the arrival of the first responding vehicle(s) in position to apply foam at a rate of at least 50% of the discharge rate specified in Table 5.

140.HE.55 Response time objective at Heliports

The response time is defined as the time interval between the initial call to the rescue and firefighting services and the arrival of the first responding vehicle(s) in position to apply foam at a rate of at least 50% of the discharge rate specified in Table 5.

An RFFS provider shall set up systems and procedures to ensure that:

(a) the RFFS shall achieve a response time not exceeding 2 minutes to any point of the movement area in good visibility and surface conditions.

(b) At elevated heliports, surface-level heliports with limited capacity, and helidecks, the response time for primary media discharge at the required application rate shall be 15 seconds measured from system activation. If RFFS personnel are required, they shall be immediately available on or near the heliport during helicopter operations.

(c) Rescue arrangements commensurate with the overall risk of the helicopter operation shall be provided at the heliport.

(d) For the application of primary media, the discharge rate applied over the assumed practical critical area shall be predicated on a requirement to bring any fire which may occur on the heliport under control within one minute, measured from activation of the system at the appropriate discharge rate.

(e) Where the hours of operation are not notified, the RFFS shall be maintained at least 15 minutes after the time of departure of any aircraft requiring the use of a heliport or until the aircraft has reached its destination, whichever is shorter.

140.HE.57 Extinguishing agents at Heliports

(a) The requirements of this OTAR specified for aerodromes in terms of distribution of extinguishing agents, response time, rescue equipment, and personnel apply to areas for the exclusive use of helicopters at aerodromes primarily for the use of aeroplanes.

(b) For surface level heliports with primary media applied as a solid stream using a portable foam application system, the quantity of primary media and complementary agents used shall be consistent with Table HE-2.

Note 1: Except for a small surface-level heliport, it is assumed that foam dispensing equipment will be transported to the location of the incident or accident via an appropriate vehicle.

Note 2: In Table HE-2, the minimum discharge duration is assumed to be two minutes. However, if backup specialist fire services are not readily available near the heliport, consideration shall be given to increasing the discharge duration from two to three minutes.

Table HE-2: Minimum usable amounts of extinguishing agents for surface-level heliports

	Foam meeting performance level B		Foam meeting performance level C		Complementary agents	
Category	Water [L]	Discharge rate foam solution/ minute [L]	Water [L]	Discharge rate foam solution/ minute [L]	Dry chemical powders [kg]	Discharge Rate [kg/second]
H0	500	250	330	165	23	9
H1	800	400	540	270	23	9
H2	1200	600	800	400	45	18
H3	1600	800	1100	550	90	36

(c) For elevated heliports with primary media applied as a solid stream using a fixed foam application system the amount of foam media and complementary agents shall be in accordance with Table HE-3. In Table HE-3, the minimum discharge duration is assumed to be five minutes.

Note: Primary media (foam) is assumed to be delivered via a fixed foam application system, such as an FMS.

Table HE-3: Minimum usable amounts of extinguishing agents for elevated heliports

	Foam meeting performance level B		Foam meeting performance level C		Complementary agents	
Category	Water [L]	Discharge rate foam solution/ minute [L]	Water [L]	Discharge rate foam solution/ minute [L]	Dry chemical powders [kg]	Discharge Rate [kg/second]
H0	1250	250	825	165	23	9
H1	2000	400	1350	270	45	18
H2	3000	600	2000	400	45	18
H3	4000	800	2750	550	90	36

Note: Please refer to Annex 14 v. II for any other types of heliports.

140.HE.59 Heliport RFFS training

The aerodrome operator shall ensure that RFFS personnel:

(a) receive initial and recurrent competence-based training relevant to their role and task, and shall at all times be medically and physically capable of performing the tasks expected of them; and

(b) be provided with appropriate personal protective equipment for Fire-Fighting functions.

140.HE.61 Reserve supply agents at Heliports

In the case of a heliport, the amount of water does not need to be stored at the heliport provided there is a suitable pressurised water main system capable of sustaining the required discharge rate.

140.HE.63 Heliports Means of escape

(a) Elevated heliports and helidecks must have a main access and at least one additional means of escape.

(b) Access points shall be located as far apart from each other as is practicable.

Note: Provision of an alternate means of escape is required for evacuation and RFF personnel access. The size of an emergency access/egress route may be determined by the number of passengers and the nature of special operations such as helicopter emergency medical services that require passengers to be carried on stretchers or trolleys.

Subpart WA –Water Aerodrome Rescue and Fire-Fighting Service

140.WA.55 Provision of RFFS at Water Aerodromes

(a) Procedures for the enhancement of passenger and crew post-accident survival shall be developed and resourced in terms of staff and equipment, appropriate to the type of seaplane operations anticipated at the water aerodrome. Within the provision of these procedures and resources, account shall be taken of the effect that various environmental conditions could have on the ability of the RFFS to respond rapidly to accidents and incidents.

(b) A rescue vessel shall be provided and be of a design and size that would allow survivors to be brought aboard, or it shall be equipped with an adequate number of floatation devices of a design that would enable survivors to remove themselves from the water.

140.WA.57 Response time objective at Water Aerodromes

(a) The RFFS shall achieve a response time not exceeding 5 minutes to any point of the movement area in good visibility and water surface conditions.

(b) For the published hours of the water aerodrome, the RFFS shall be available:

(1) 15 minutes prior to the published hours of the water aerodrome; until

(2) 15 minutes after take-off of the last departing aircraft.

(c) Where the hours of operation are not notified, the RFFS shall be available prior to the engine start of the first departing seaplane, or to the first arriving seaplane commencing its final approach; and until the last arrival is moored, or 15 minutes after take-off of the final seaplane.

140.WA.59 Water Aerodrome RFFS training

The aerodrome operator shall ensure that RFFS personnel:

(a) receive initial and recurrent competence-based training relevant to their role and task, and shall at all times be medically and physically capable of performing the tasks expected of them; and

(b) be provided with appropriate personal protective equipment for Fire-Fighting and seaborne functions.

Appendix A – Content of the RFFS Manual

Content of the RFFS Manual	OTAR Paragraph
(a) The RFFS Manual shall describe compliance with the OTAR.	
(b) Describe the policy, organisation, capability, facilities, equipment and operational procedures of the RFFS and shall include:	
(1) a statement signed by the RFFS Manager on behalf of the organisation confirming that the manual: (i) defines the organisation and demonstrates its means and methods for ensuring continuing compliance with this and any other applicable Part; and (ii) is required to be complied with by its personnel at all times; and	
(2) an organisation chart showing lines of responsibility; and	
(3) in the case of withdrawal or transfer of service, the transitional arrangements, and	140.77
(4) the establishment of RFFS and any transitional arrangements; and	
(5) where a higher category is available by prior arrangement the procedure necessary to upgrade the facility including, where necessary, actions to be taken by other departments; and	140.59, 140.HE.53, 140.73
(6) a policy and procedures indicating how depletion of the RFFS is to be managed including the extent to which operations are to be restricted, how pilots are to be notified and the maximum duration of any depletion; and	140.73, 140.77
(7) objectives for each RFF category provided, including a description of: (i) amounts and type of extinguishing media provided; and (ii) discharge rates; and (iii) number of foam-producing appliances; and (iv) staffing levels; and (v) levels of supervision; and	140.63, 140.65, 140.HE.55, 140.WA.57
(8) a statement describing the process by which the provider initially selects RFF personnel; and	140.103
(9) the process by which RFF personnel selected for operational duties are assessed as medically fit and capable of their duties; and	140.103(a)
(10) the processes by which the provider ensures initial and continued maintenance of competence of their RFF personnel according to role and task, including First-Aid training; and	140.107(a), 140.WA.59, 140.HE.59
(11) details of the practical training facilities available for initial and recurrent maintenance of competence on the aerodrome or sourced externally; and	140.107(d)

(12)	details of the specific requirements and assessment to determine the provision of personal and respiratory protective equipment; and	140.127(a)
(13)	the RFFS Manager or designated watch officer's safety accountabilities required by paragraph 140.101 which shall also be promulgated or referred to in the Aerodrome Manual; and	140.101
(14)	details of the type and operational capability of the fire vehicles employed for each RFF category required; and	140.125
(15)	details of specialist equipment such as rescue craft, emergency appliances, hose layers, appliances with aerial capability, etc, where the RFFS provides these, and procedures to be followed if these facilities are temporarily unavailable; and	140.127(b)
(16)	policies or letters of agreement, where the RFFS is reliant upon other organisations to provide equipment which is essential for ensuring safe operation of the aerodrome (such as water rescue) and contingency plans in the event of non-availability shall be described; and	140.27(c)
(17)	details of the rescue and medical equipment to be stowed on the fire vehicles and where rescue and medical equipment is held other than on the RFF vehicles a statement indicating its location and how it is to be transported to an incident site; and	140.127(b)
(18)	details of both the principal and complementary extinguishing agent to be provided; and	140.151, 140.HE.57, 140.155
(19)	the availability of additional water supplies following an aircraft accident and details of the policy and procedures to be followed in the event of circumstances that requires isolation or depletion of supplies; and.	140.163, 140.HE.61 (see 140.73, 140.77 also)
(20)	details of the radio communication system to be provided; and	140.181
(21)	a statement describing the process for the testing, inspecting and maintenance of extinguishing media, rescue and medical equipment, specialist equipment, vehicles and radio communication systems; and	140.129, 140.161
(22)	details of the fire station(s) facilities and location; and	140.175, 140.177
(23)	details of the crash maps to be used by the RFFS, external emergency services and ATS in the event of an aircraft accident or incident on or in the vicinity of the aerodrome; and	
(24)	a procedure for monitoring the aircraft movement areas for the purpose of alerting RFF personnel including:	
	(i) how RFF personnel are alerted throughout the range of functions (training, extraneous duties, etc) and geographical locations from where they may be expected to respond; and	140.179

	(ii) how the adequacy of the response time capability throughout their functions and locations is tested, monitored and maintained; and	140.65, 140.HE.55, 140.WA.57
	(iii) how RFF personnel engaged in extraneous duties are managed to ensure that response capability is not affected; and	140.107
(25)	where a provider expects the RFFS to respond to aircraft accidents landside, the policy and procedures which shall include management of the effects on continued aircraft operations; and	140.65(b)
(26)	procedures indicating how accidents within 1,000 metres of the threshold of each runway, and other difficult environs where they exist, are to be accessed; and	140.65, 140.HE.55, 140.WA.57
(27)	where a provider expects the RFFS to respond to domestic fires or special services, procedures for managing the impact of this upon the normal aircraft RFF response; and	140.107
(28)	where an aerodrome accepts freight aircraft, ambulance flights or movements not required to use a certificated aerodrome, company objectives regarding RFF category; and	140.51
(29)	the provider's arrangements for ensuring the adequacy of responses in abnormal conditions ie Limited Visibility Procedures; and	140.65(a)(2)
(30)	procedures to notify changes in operational status with the aeronautical information services responsible for the AIP and the aerodrome certificate holder or operator; and	140.73
(31)	the procedures regarding the keeping of a watchroom log; and	140.205
(32)	details of the emergency access roads and gates provided, as required by OTAR Part 139; and	
(33)	details of the procedures regarding the control of documentation; and	140.203
(34)	details of the systems, procedures, and programmes regarding the safety and quality management system; and	140.29
(35)	procedures to control, amend and distribute the manual.	140.29
(36)	task resource analysis for each RFFS category.	140.103

END