



POLICY PROPOSAL

PP 2101AS



Proposed changes to aerodrome rescue and firefighting services legislation (Creation of new Part 176 of CASR)

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Policy overview

This policy proposal (PP) outlines the regulatory issues considered in the CASA review of the aerodrome rescue and firefighting services (ARFFS) ruleset, and the proposed policy changes for consideration in the development of the new ARFFS ruleset—identified as Part 176 of the *Civil Aviation Safety Regulations 1998* (CASR) to replace Subpart 139.H of the CASRs.

Detailed consideration of International Civil Aviation Organization (ICAO) standards and recommended practices (SARPS); the recommendations arising from the Department of Infrastructure, Transport, Regional Development and Communications (the Department) policy review and Senate Rural and Regional Affairs and Transport References Committee reviews; and the approach taken by other aviation regulators worldwide have informed CASA's review of the current (Subpart 139.H of the CASR ruleset).

The Department completed an independent review and consultation of the Subpart 139.H ruleset in 2015, announcing the outcomes of the review (17 recommendations) in December 2016. This included a proposal to increase the air transport passenger trigger for establishment and disestablishment of an ARFFS to 500,000 and 400,000 respectively. Following further consideration, in June 2018 the Department proposed to return to the current passenger number triggers for establishment/ disestablishment of 350,000 and 300,000 passengers respectively.

The Senate Rural and Regional Affairs and Transport References Committee also reviewed the provision of rescue, firefighting and emergency response at Australian airports during 2019, making 8 recommendations in relation to the Subpart 139.H ruleset in their report of August 2019.

The recommendations from these reviews, along with additional opportunities to modernise the ARFFS ruleset with an increased focus on performance-based approaches, have been considered in the development of the proposed policy.

The CASA review identified a suite of proposed changes to the current ruleset, with the proposed regulatory changes centred across six broad policy areas:

1. Functions of ARFFS.
2. ARFFS establishment criteria.
3. ARFFS establishment requirements.
4. Graduated ARFFS.
5. Removal of prescriptive regulatory requirements.
6. Modernisation of ARFFS standards.

The proposed changes, to apply to existing and prospective ARFFS providers, accredited ARFFS training providers and aerodrome operators, are intended to provide:

- better alignment of safety regulations governing ARFFS with the ICAO SARPS and guidance material
- a clearer definition of the role and functions of ARFFS, to ensure ARFFS providers can perform their core functions and prioritise non-aviation requests
- defined aerodrome responsibilities in the establishment and provision of ARFFS

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- clearer ARFFS establishment/disestablishment requirements and timeframes
- location specific ARFFS resource (staffing and equipment) and training requirements, based on aircraft operations and aerodrome factors, providing a stronger safety focus.

Additionally, CASA proposes to transition the Subpart 139.H ruleset to form its own part of the CASRs, Part 176 of CASR, as a standalone ARFFS regulation, which will aid clarity and visibility.

The proposed changes to the current ruleset identify opportunities to support the adoption of modern, outcome-based approaches in the performance of ARFFS functions while continuing to maintain a safe aviation environment.

Why are we consulting

Subpart 139.H of the *Civil Aviation Safety Regulations 1998 (CASR)*, *Aerodrome rescue and firefighting services*, and the Manual of Standards (MOS) Part 139H, *Standards applicable to the provision of aerodrome rescue and fire fighting services*, were amongst the first rule parts to transition from the Civil Aviation Regulations 1988 (CAR) and Civil Aviation Orders (CAO).

The Subpart 139.H legislative framework regulates the provision of ARFFS, applying to organisations that are approved as an ARFFS provider at aerodromes. CASA proposes to transition Subpart 139.H to form its own standalone part of the CASRs, to be known as Part 176 of CASR, which will aid clarity and visibility.

Considering the recommendations of reviews by the Department (2015-2016) and the Senate Rural and Regional Affairs and Transport References Committee (2018-2019), CASA's review of the Subpart 139.H ruleset incorporates contemporary ICAO SARPS and guidance to propose regulatory amendments that ensure ARFFS can adopt modern, outcome-based approaches in the performance of their functions.

This document sets out the PP for Part 176 of CASR for public consideration and comment.

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1 Reference material

1.1 Acronyms

The acronyms and abbreviations used in this PP are listed in the table below.

Acronym	Description
AFAC	Australasian Fire and Emergency Service Authorities Council
AFC	Australian Fire Competencies
AA	Airservices Australia
ARFFS	Aerodrome Rescue and Fire Fighting Service
ASAP	Aviation Safety Advisory Panel
BITRE	Bureau of Infrastructure and Transport Research Economics (BITRE)
CAOs	<i>Civil Aviation Orders</i>
CAR	<i>Civil Aviation Regulations 1988</i>
CASA	Civil Aviation Safety Authority
CASR	<i>Civil Aviation Safety Regulations 1998</i>
CATS	consequential, application, transitional and savings regulations
the Department	Department of Infrastructure, Transport, Regional Development, Communications and the Arts
DRS	domestic response services
FSCC	fire station communications centre
GA	general aviation
ICAO	International Civil Aviation Organization
MOS	Manual of Standards
OIC	officer in charge
OPC	Office of Parliamentary Counsel
PP	policy proposal
PST	public safety training
SARPS	Standards and Recommended Practices [ICAO]
TRA	task resource analysis
TWG	Technical Working Group
WRS	water rescue service

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1.2 References

Legislation

Legislation is available on the Federal Register of Legislation website <https://www.legislation.gov.au/>

Document	Title
CASR	<i>Civil Aviation Safety Regulations 1998</i>
MOS Part 139H	Standards Applicable to the Provision of Aerodrome Rescue and Fire Fighting Services
MOS Part 139	Aerodromes Civil Aviation Legislation Amendment (Flight Operations—Consequential Amendments and Transitional Provisions) Regulations 2021 Air Service Act 1995 <i>Air Services Regulations 2019</i>

International Civil Aviation Organization documents

International Civil Aviation Organization (ICAO) documents are available for purchase from <http://store1.icao.int/>

Document	Title
AN14-1	Annex 14, Aerodromes — Volume I, Aerodrome Design and Operations (Ninth Edition, July 2022)
Doc 9137-AN/898	Airport Services Manual Part 1 — Rescue and Fire Fighting (Fourth Edition, 2015)

Other documents

Document
DIRD (Department of Infrastructure and Regional Development) (2015) Aviation Rescue and Fire Fighting Services Regulatory Policy Review: Public Consultation Paper
DIRD (Department of Infrastructure and Regional Development) (2016) Aviation Rescue and Fire Fighting (ARFFS) Regulatory Policy Review: Agreed Recommendations
DIRD (Department of Infrastructure and Regional Development) (2016) Aviation Rescue and Fire Fighting (ARFFS) Regulatory Policy Review: Agreed Reforms
Rural and Regional Affairs and Transport References Committee. (2019) The provision of rescue, firefighting and emergency response at Australian airports
Australian Government response to the Senate Rural and Regional Affairs and Transport References Committee report: The Provision of Rescue, Firefighting and Emergency Response at Australian Airports

2 Introduction

2.1 Background

Subpart 139.H of the *Civil Aviation Safety Regulations 1998 (CASR)*, *Aerodrome rescue and firefighting services*, and the Manual of Standards (MOS) Part 139H, *Standards applicable to the provision of aerodrome rescue and fire fighting services*, were amongst the first rule parts to transition from the CAR and CAOs.

The Subpart 139.H legislative framework applies to organisations that are approved as an ARFFS provider at aerodromes.

CASA proposes to transition the Subpart 139.H ruleset to form its own part of the CASRs, Part 176 of CASR, as a standalone ARFFS regulation to aid clarity and visibility.

CASA committed to conducting a comprehensive review of the Subpart 139.H ruleset in 2007 that would look at ensuring the rules were effective in protecting the delivery of safe ARFF services for the benefit of the travelling public, while not creating complexity or unnecessary operating costs.

The Department released an ARFFS Regulatory Policy Review Public Discussion Paper¹ that considered future arrangements in relation to the provision of ARFFS at Australian airports in December 2015, with 11 public and industry submissions received by early 2016.

In December 2016, the then Minister for Infrastructure and Transport, the Hon Darren Chester MP announced the outcomes of the ARFFS Regulatory Policy Review². The main change elements of the regulatory reform package arising from the review included:

- a. increasing the passenger trigger thresholds from 350,000 to 500,000 for ARFFS establishment and from 300,000 to 400,000 for ARFFS disestablishment
- b. the use of risk reviews to determine whether to establish/disestablish an ARFFS at airports.

Following further consideration, in June 2018 the then Deputy Prime Minister and Minister for Infrastructure and Transport, the Hon Michael McCormack MP, adjusted the regulatory policy reforms to return to the current passenger number triggers for establishment/disestablishment of 350,000 and 300,000 passengers respectively. Subsequently, 17 agreed reforms were published as part of the policy review³.

In late 2018, the Senate Rural and Regional Affairs and Transport References Committee commenced a review of the provision of rescue, fire fighting and emergency response at

¹ DIRD (Department of Infrastructure and Regional Development) (2015) [Aviation Rescue and Fire Fighting Services Regulatory Policy Review: Public Consultation Paper](#)

² DIRD (Department of Infrastructure and Regional Development) (2016) [Aviation Rescue and Fire Fighting \(ARFFS\) Regulatory Policy Review: Agreed Recommendations](#)

³ DIRD (Department of Infrastructure and Regional Development) (2016) [Aviation Rescue and Fire Fighting \(ARFFS\) Regulatory Policy Review: Agreed Reforms](#)

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Australian airports. The Committee issued its report in August 2019, making 8 recommendations in relation to the Subpart 139.H ruleset⁴.

CASA's review of the Subpart 139.H ruleset, in conjunction with the consideration of the recommendations arising from the Department and Senate Committee reviews, has informed the proposed changes to the current ARFFS regulatory ruleset. Additionally, CASA's review has provided opportunities to ensure ARFFS services can adopt modern, outcome-based approaches in the performance of their functions.

⁴ Rural and Regional Affairs and Transport References Committee. (2019) [The provision of rescue, firefighting and emergency response at Australian airports](#)

3 Regulatory issues

3.1 Creation of a standalone regulation

For visibility, CASA proposes to transition the ruleset to its own part, moving it from Subpart 139.H of CASR to Part 176 of CASR.

Additionally, reorganisation of the regulation and MOS will increase clarity and consistency between the regulation and MOS—that is, create a head of power and decrease duplication.

3.1.1 Removal of the eligible ARFFS provider table from the ARFFS regulation

Subpart 139.H of CASR includes an approved provider table (regulation 139.925 of CASR) that identifies persons and aerodrome(s) that are eligible to apply to CASA for approval to provide ARFFS. At present, any change to the table such as the eligible provider or aerodrome details necessitates a regulation change.

Removal of the ARFFS provider table from CASR will provide greater administrative efficiency to the ARFFS approval process and in some circumstances allow persons other than those specified in the table to be an approved ARFFS provider. In accordance with the current ruleset, the provision of ARFFS would be subject to CASA approval but only where the establishment triggers are met.

3.2 Incorporation of the policy reform recommendations

Detailed consideration of the 25 recommendations put forward in the Department and Senate Committee reviews has been undertaken as part of the proposed changes to the ARFFS ruleset. This consideration proposes that most of the recommendations be incorporated into the new ARFFS ruleset via either the continuation or refinement of current regulatory requirements, or the introduction of new requirements.

A summary of the proposed policy references for each of the recommendations (by key policy area) is included at Chapter 5.2 of this PP and additional information in relation to incorporation of the recommendations is included at Appendix A of this PP.

3.3 Changes to the Government's agreed regulatory policy position

Additional changes to the existing regulatory framework have been considered taking into account the ICAO SARPS, international practices, current regulatory requirements and the Australian ARFFS operating environment.

In relation to the Government's agreed regulatory policy position, it is recommended that the proposed introduction of ARFFS establishment risk reviews not be adopted but instead changes be made to the ARFFS establishment trigger criteria. These recommendations are discussed below.

3.3.1 Establishment risk review

The proposed introduction of ARFFS establishment risk reviews would require CASA to undertake an establishment risk review within 6 months of an ARFFS trigger event. If the establishment risk review determined an ARFFS is not required at a location, CASA would be required to monitor activities at the location, and complete further risk review(s) after twelve months⁵, or earlier if there are significant changes in other safety risk factors.

Detailed consideration of the requirement to conduct a risk review⁶ to determine the establishment of ARFFS, following an ARFFS trigger event, found it would likely:

- increase disparity between ICAO SARPS and Australia's regulations, particularly where a risk review determines an ARFFS is not required
- increase uncertainty regarding if/when an ARFFS must be established
- significantly impact on CASA, requiring additional resources to review, determine and monitor the requirement for ARFFS to be established.

Removal of the proposed introduction of a CASA establishment risk review was supported by the Department.

The current risk review in relation to the disestablishment of services, where an ARFFS provider develops and submits a safety case (risk review), is proposed to be retained.

3.3.2 ARFFS establishment/disestablishment trigger criteria

Historically, ARFFS were provided in Australia at domestic airports (those with passenger-carrying aircraft operations) when annual passenger numbers exceeded 150,000, and at general aviation (GA) capital city secondary airports (such as Jandakot, Moorabbin, Bankstown and Archerfield airports) when annual aircraft movements exceeded 175,000⁷.

However, ARFFS were removed from smaller domestic airports and GA capital city secondary airports at the request of aerodrome operators and the GA sector, following industry consultation and the development of a safety case justifying the removal in 1991. From that point until 2002, Airservices Australia (AA) provided ARFFS at airports (counted in descending order by traffic volume) that cumulatively accounted for approximately 90% of all domestic passengers travelling on scheduled passenger services in Australia over a year⁸.

The 90% passenger coverage criteria resulted from the application of the principle that the total number of passengers effectively covered by ARFFS should be maximised to the extent of available financial and human resources. In effect, the coverage represented what was possible at that time within an acceptable level of available resources⁹.

When ARFFS regulations were introduced into the CASRs, there was no change made to these arrangements. Using 2000-01 financial year data, 90% coverage equated to a criteria of

⁵ Where passenger numbers continue to be above 350,000 or the airport continues to receive scheduled international passenger air services.

⁶ Agreed Reforms 1, 2, 5, 6, 9 and 10 of DIRD (Department of Infrastructure and Regional Development) (2016) [Aviation Rescue and Fire Fighting \(ARFFS\) Regulatory Policy Review: Agreed Reforms](#).

⁷ [DIRD. ARFFS Policy Review \(2015\): 10.](#)

⁸ [DIRD. ARFFS Policy Review \(2015\): 10.](#)

⁹ [DIRD. ARFFS Policy Review \(2015\): 10.](#)

approximately 350,000 passengers per year at an individual airport. As a consequence, 350,000 air transport passengers per year was adopted as the trigger for requiring the establishment of an ARFFS¹⁰.

The Department's regulatory policy review initially recommended increasing the passenger number trigger to 500,000 (December 2015). However, this recommendation was subsequently amended (2018) to retain the current ARFFS establishment hard trigger of 350,000 passengers per year. As no formal (regulatory) changes had been made to the applicable passenger triggers, the initial recommended change did not require reversal.

In 2018-19 financial year, ARFFS coverage was provided for approximately 95% of the total number of passengers, with 94% of domestic and 99% of international passenger movements on Regular Public Transport (RPT) operations covered¹¹. Although COVID-19 related travel restrictions were in place throughout 2020, this percentage coverage was maintained across domestic and international passenger movements in the 2019-20 financial year.

3.4 Review of the current ARFFS ruleset

CASA's review of the current regulatory ruleset, including consideration of the 25 recommendations put forward in the Department and Senate Committee reviews, identified a number of regulatory issues for consideration in relation to the development of the new ARFFS ruleset.

These issues have been grouped into six key policy areas:

1. Functions of ARFFS.
2. ARFFS establishment criteria.
3. ARFFS establishment requirements.
4. Graduated ARFFS.
5. Removal of prescriptive regulatory requirements.
6. Modernisation of ARFFS standards.

The key regulatory issues are discussed further in the following Chapters.

3.4.1 The functions of ARFFS

Since the introduction of the current Subpart 139.H ruleset, ongoing non-aviation related development on, and within the vicinity of, aerodromes has challenged the notion of what should be considered an 'aerodrome' in relation to the function(s) and response area of ARFFS.

AA, as the core provider of certified ARFFS, has traditionally provided ARFFS as well as other services at airports, including fire alarm monitoring (and response), first aid response and other non-aviation related responses, from existing capacity. However, the provision of such services to airport hotels, nearby large-scale retail outlets, commercial buildings and business parks has increasingly presented challenges in relation to AA response capacity, particularly noting

¹⁰ [DIRD. ARFFS Policy Review \(2015\): 10.](#)

¹¹ [BITRE \(Department of Infrastructure, Transport, Regional Development, Communications and the Arts\) \(7 December 2022\) Airport traffic data](#)

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subregulation 139.710(2) of CASR that requires an ARFFS provider to give priority to aircraft operations and on aerodrome property in delivering the functions of an ARFFS.

In Australia, the functions of ARFFS are currently specified in regulation 139.710 of CASR, with the *Air Services Act 1995* and the *Air Services Regulations 2019* also outlining the functions of AA in relation to provision of ARFFS¹².

Under regulation 139.710 of CASR, the functions of an ARFFS for an aerodrome are to:

- a. rescue persons and property from an aircraft that has crashed or caught fire during landing or take-off
- b. to control and extinguish, and to protect persons and property threatened by, a fire on the aerodrome, whether or not in an aircraft.

The *Air Services Regulations* were amended in 2019, following the Department's policy review, to establish priority for Airservices rescue and firefighting personnel to provide aviation related services¹³. Under *Air Services Regulations 2019*¹⁴, AA has the following functions in relation to providing rescue and firefighting services:

- a. conducting operations to rescue people or property from, or to protect people or property threatened because of, an aircraft fire, aircraft accident or aircraft incident (at an aerodrome; or in the vicinity of an aerodrome)
- b. conducting operations to protect people or property threatened by a fire, accident or incident (other than an aircraft fire, aircraft accident or aircraft incident) in an area of an aerodrome connected with, or used for the purposes of, activities related to aviation
- c. conducting operations to control and extinguish a fire referred to in paragraph (a) or (b)
- d. performing activities and provide services related to an operation or a circumstance mentioned in paragraph (a), (b) or (c).

The *Air Services Regulations 2019* amendments also clarified AA ARFFS may provide services and facilities to assist in emergency situations and other circumstances not otherwise covered by the *Air Services Regulations 2019* or CASR, at its discretion, provided the services are related to the function of providing rescue and firefighting services and do not impede AA's capacity to perform its rescue and firefighting services functions in accordance with regulatory requirements—that is, the performance of additional functions such as first aid, mutual aid and special services must utilise spare capacity¹⁵.

"... save lives in the event of an aircraft accident or incident occurring at, or in the immediate vicinity of, an aerodrome. The rescue and firefighting service is provided to create and maintain survivable conditions, to provide egress routes for occupants and to initiate the rescue of those occupants unable to make their escape without direct aid."

While regulation 139.710 of CASR and the *Air Services Regulations 2019* encompass intent of the ICAO SARPS, they also outline additional ARFFS functions to be performed by an ARFFS

¹² *Air Services Act 1995*, section 8 and the *Air Services Regulations*, Section 16.

¹³ <https://www.legislation.gov.au/Details/F2019L00371/Explanatory%20Statement/Text>

¹⁴ *Air Services Regulations*, Section 16.

¹⁵ *Air Services Act 1995*, section 8 and the *Air Services Regulations 2019*, Section 20.
<https://www.legislation.gov.au/Details/F2019L00371/Explanatory%20Statement/Text>.

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provider. Under subregulation 139.710 (b) of CASR, Australia's ARFFS are also required to:

" control and extinguish, and to protect persons and property threatened by, a fire on the aerodrome, whether or not in an aircraft."

and the *Air Services Regulations 2019* (16(b)) states AA rescue and firefighting services functions include:

" ...conduct operations to protect people or property threatened by a fire, accident or incident in an area of an aerodrome connected with, or used for the purposes of, activities related to aviation."

While the *Air Services Regulations 2019* amendments provided clarification to AA in relation to its ARFFS functions, the functions are broader than Subpart 139.H of CASR, which does not currently limit responses to a 'non-aircraft' fire, accident or incident to an area of an aerodrome connected with, or used for the purposes of, activities related to aviation either at the aerodrome or within its vicinity.

It is proposed the new regulatory framework will incorporate updates to align the functions of ARFFS with the *Air Services Regulations 2019*, to ensure all ARFFS providers are subject to the same requirements in relation to the functions of ARFFS, response area and permissible 'additional' services (inclusive of operational considerations or limitations).

Consistent with Australia's obligations under the Chicago Convention, the proposed regulations would require the ARFFS provider to save lives in the event of an aircraft accident or incident occurring at, or in the immediate vicinity of, an aerodrome by creating and maintaining survivable conditions, to provide egress routes for occupants and to initiate the rescue of those occupants unable to make their escape without direct aid.

Supporting this focus, it is proposed requirements for the provision of rescue and fire services for aviation and related activities and infrastructure would be within 1,000 metres of the runway threshold, reflecting the focus of ARFFS as an aerodrome-based and focused rescue and firefighting service. The provision of services for non-aircraft and non-aviation related activities (refer to Table 1) would not be serviced by ARFFS as part of their core functions, instead the provision of such services should be related to the function of providing rescue and firefighting services and only undertaken where 'spare capacity' permits¹⁶¹⁷.

¹⁶ Air Services Regulations 2019, Section 20.

¹⁷ <https://www.legislation.gov.au/Details/F2019L00371/Explanatory%20Statement/Text>

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Table 1: Potential ARFFS functions

Aviation activities / infrastructure	Non-aircraft / non-aviation activities
<ul style="list-style-type: none"> • Aircraft movements. • Airport terminals. • Air traffic control towers. • Aircraft hangers. • Taxiways, runways, aprons, airside roads. • Airside grounds. • Aircraft parking areas. • On-airport maintenance facilities. • Airside freight handling and staging areas. 	<ul style="list-style-type: none"> • First aid. • Fire alarms (retail and business precincts). • Road accidents. • Vehicle fires (e.g., carpark). • Special services.

The proposed provisions adopt the 'activity-based' concept identified in the Department's policy review, to reinforce the functions of ARFFS to focus primarily on the provision of services for aviation and related activities and infrastructure.

An ARFFS provider may assist in emergency situations and other circumstances outside its primary functions—that is, non-aircraft and non-aviation related operations. However, such assistance would only be provided where an incident or circumstance that causes, or threatens to cause death or injury to persons, damage to property, harm to the environment or disruption to essential services exists. Additionally, the provision of such assistance must be related to the function of providing rescue and firefighting services and not impact upon the delivery of ARFFS—that is, utilise spare capacity¹⁸.

The clarification of ARFFS functions, with increased emphasis on responses in areas of an aerodrome connected with, or used for the purposes of, activities related to aviation would provide greater clarity regarding the delineation of roles of the ARFFS provider and State and territory fire authorities.

3.4.2 ARFFS establishment criteria

Under the current requirements of regulation 139.755 of CASR and the MOS Part 139H, ARFFS are required to be established at locations where an international air service operates and any other aerodrome that exceeds 350,000 air transport passengers during the previous financial year. These establishment requirements do not recognise that some regional and remote aerodromes, used for international passenger operations, have lower total air transport passenger numbers and/or infrequent international passenger air service flights.

Additionally, Australia's adoption of ARFFS establishment and disestablishment trigger events is not consistent with ICAO SARPS in relation to the provision of ARFFS. As a consequence, Australia currently has a difference filed with ICAO in relation to the establishment of ARFFS at all certified aerodromes under ICAO Annex 14 Standard section 9.2.1:

"Rescue and firefighting services are only provided at aerodromes that meet the regulatory establishment criteria. These criteria capture approximately 95% of air

¹⁸ Air Services Regulations 2019, Section 20.

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transport passengers. Rescue and firefighting services to Annex 14 Volume I standards is not provided at all international aerodromes.¹⁹

Removal of the distinction between international and domestic passenger services

The international expectation that an ARFFS be provided at all international passenger air service airports presents specific issues for Australia as the low volume and frequency of international flights at some of our airports is not conducive to providing a cost effective and permanent ARFFS capability at the airport²⁰.

Modelling of the potential removal of the international air passenger service component of the current ARFFS establishment criteria identified only one location where ARFFS could be potentially withdrawn, Norfolk Island. Norfolk Island's 2018-19 financial year total passenger numbers of 59,525 were well below the 300,000 passenger disestablishment criteria.

ARFFS is also not currently provided at some restricted use or alternate designated international airports with low volumes of passengers, including Learmonth, Lord Howe Island, Kalgoorlie, Horn Island, Christmas Island and Cocos (Keeling Island)²¹.

It is important to note aerodromes are subject to emergency planning and response requirements under Part 139 of CASR (Aerodromes) and Chapter 24 of the Part 139 MOS, with requirements determined by the type and frequency of aircraft operations occurring at the aerodrome. Operators of certified aerodromes are required to record (or reference), in their aerodrome manual, the aerodrome emergency response procedures and make available to emergency agencies the location details, or maps, of the aerodrome, and its immediately vicinity²².

Additionally, all certified aerodromes that have scheduled international air transport operations, 50,000 or more air transport passenger movements or 100,000 or more aircraft movements in a financial year must have an aerodrome emergency plan (AEP) in place²³. Aerodromes with scheduled international air transport operations or 350,000 or more air transport passenger movements in a financial year must also establish an Aerodrome Emergency Committee (AEC)²⁴. At small aerodromes, where an AEP is not required, the aerodrome must be clearly identified within the applicable local or state emergency response plan and emergency response arrangements²⁵.

Removing the distinction between international and domestic passenger services would enable aerodromes with low total international passenger numbers and/or very few international movements to avoid incurring the significant cost to establish and maintain an ARFFS where the safety benefit may be minimal. Importantly, Australia would continue to require the provision of ARFFS services at all major airports (retaining the existing ARFFS establishment hard trigger of 350,000 or more total scheduled air transport passengers per financial year).

¹⁹ [Annex14vol1_01DEC2022.pdf \(airservicesaustralia.com\)](#)

²⁰ [DIRD. ARFFS Policy Review \(2015\): 12.](#)

²¹ [DIRD. ARFFS Policy Review \(2015\): 12.](#)

²² section 11.12 of the Part 139 (Aerodromes) MOS.

²³ section 24.02 of the Part 139 (Aerodromes) MOS.

²⁴ section 24.01 of the Part 139(Aerodromes) MOS.

²⁵ section 24.03 of the Part 139(Aerodromes) MOS.

Clarification of passenger number calculations

The Department currently collects and publishes passenger transport data in relation to the ARFFS establishment and disestablishment triggers (section 2.1.4 of the MOS Part 139H), with this data monitored by CASA and AA. These reports currently contain passenger numbers from scheduled regular public transport (RPT) services—that is, international and domestic (including Regional) airline RPT services, with charter or other non-scheduled activity not included. At present, this data is used to determine ARFFS provision requirements.

Updates to the CASR Dictionary (Part 1) took effect in conjunction with the introduction of new rules for the certification and management for air transport operators on 2 December 2021. Included in these changes was the replacement of regular public transport operations with a new definition²⁶:

*scheduled air transport operation*²⁷ means an air transport operation, other than a medical transport operation, that is conducted:

- a. in accordance with fixed schedules to and from fixed terminals over specific routes with or without intermediate stopping places between terminals; and
- b. in circumstances in which the accommodation in the aircraft is available for use by persons generally.

The updates to the CASR Dictionary (Part 1) also defined non-scheduled air transport operations²⁸. Under this definition, non-scheduled air transport operations include an operation for the carriage, in accordance with fixed schedules to and from fixed terminals, of passengers or cargo, or passengers and cargo, in circumstances in which the accommodation in the aircraft is not available for use by persons generally.

With consideration to the existing data collection and reporting limitations, which have been present for many years, and the intent of ARFFS regulation to provide coverage to scheduled air passenger services, it is proposed the term *scheduled air transport operation* be adopted in relation to the establishment and provision of ARFFS.

Note: The proposed adoption of these updated definitions would see the continued provision of ARFFS to passenger services (as is case currently), with ARFFS also continuing to be provided for all aircraft movements, such as charter operations, all-cargo operations and medical transport operations during ARFFS published hours of operation (as determined by scheduled air transport operations).

3.4.3 ARFFS establishment requirements

Under the current regulatory framework, it is only an offence for an ARFFS to be provided without an approval²⁹. There is no direct regulatory obligation for an ARFFS to be provided even where the ARFFS establishment criteria is triggered. It is proposed the regulation be amended to

²⁶ Civil Aviation Legislation Amendment (Flight Operations—Consequential Amendments and Transitional Provisions) Regulations 2021, page 11

²⁷ Civil Aviation Legislation Amendment (Flight Operations—Consequential Amendments and Transitional Provisions) Regulations 2021, page 46

²⁸ Civil Aviation Legislation Amendment (Flight Operations—Consequential Amendments and Transitional Provisions) Regulations 2021, page 42.

²⁹ regulation 139.711 of CASR.

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provide that an aerodrome operator commits an offence if an ARFFS is not provided when an establishment trigger and associated timeframes discussed below are not met.

In Australia, AA is accountable for providing services and facilities for the purpose of Australia or another country giving effect to the Chicago Convention³⁰, with AA' functions including the provision of rescue and firefighting services³¹. While the current regulatory framework also allows for the provision of ARFFS services by other (approved) providers, Norfolk Island Regional Council is the only other authorised provider of ARFFS at the present time.

It is proposed that AA is identified as the principal, but non-exclusive, provider of ARFFS in Australia³². This proposal would clearly establish the intent that AA would likely provide ARFFS services at Australian aerodromes where an establishment requirement is triggered, but it would not preclude the provision of ARFFS services by other approved providers, as allowed for in the current ARFFS regulation. This proposed change emphasises the legislated role of AA, while also providing flexibility to enable an aerodrome operator to either provide ARFFS, or engage an alternate ARFFS provider, subject to CASA approval requirements in either instance where the establishment requirement is met.

Additionally, where an aerodrome operator is required to ensure the provision of ARFFS at their aerodrome where an ARFFS establishment event is triggered, it is proposed that specific responsibilities in relation to the establishment and the provision of ARFFS at an aerodrome be introduced for aerodrome operators, irrespective of who provides (or is intended to provide) the ARFFS (refer to Chapter 3.4.6 of this PP for further discussion). This approach would be consistent with aerodrome responsibilities (larger aerodromes) to establish an AEC³³, as identified in Chapter 3.4.2 of this PP.

However, as the intended primary provider of ARFFS services, AA would continue to be required to monitor published passenger movement data and undertake discussions with CASA and the aerodrome operator in relation to the potential establishment of ARFFS as passenger movement data approaches the ARFFS establishment trigger, consistent with current practice.

In relation to the ARFFS establishment process and timeframes, CASA issued advice to AA in late 2016 that requires AA to:

- a. submit safety documentation to CASA within 3 months, where the passenger trigger exceeds the ARFFS establishment hard trigger of 350,000 passengers in the preceding financial year as published by the Department, seeking approval to establish an ARFFS at the relevant aerodrome, with the safety documentation to detail the key activities required:
 - i. to establish the service; proposed target dates for each key activity (including the operational service commencement date
 - ii. propose service elements (where a graduated ARFFS delivery approach is proposed)
 - iii. any regulatory exemptions that may be sought, including the reasons for such.

³⁰ *Air Services Act 1995*, section (8)(1)(a)(i).

³¹ *Air Services Act 1995* section (8)(1A) ; and *Air Services Regulations* reg 18.

³² Airservices would continue to be subject to all ARFFS provider approval requirements.

³³ section 24.01 of the Part 139 (Aerodromes) MOS Part 139H.

In issuing this advice, CASA stated its intention that the advised provisions would be explicitly adopted in the updated regulations. It remains CASA's proposal that these requirements be incorporated into the updated regulation.

In relation to the ARFFS establishment process and timeframes, CASA is proposing to introduce establishment timeframes to ensure ARFF services are established as soon as practicable. An ARFFS provider (at the request of an aerodrome operator) would be required to initiate the ARFFS establishment process via the submission of ARFFS establishment documentation to CASA within 3 months of passenger numbers exceeding the ARFFS establishment hard trigger of 350,000 passengers per year, seeking approval to establish an ARFFS at the relevant aerodrome. The ARFFS establishment documentation would detail the key service establishment activities and the proposed target dates for each key activity (including the proposed operational service commencement date).

These proposed changes provide aerodromes with ready access to an established ARFFS provider, with national experience, resources and qualified staff when and where an ARFFS is required to be established. The proposals are consistent with existing requirements in AA regulation and AA functions. The assurance of ARFFS provision, via AA, is consistent with Australia's obligation as set out in Section 9 of Annex 14 to the Chicago Convention to provide ARFFS.

The introduction of timeframes associated with the commencement of service establishment activities is intended to provide clear timeframes, and assurance to the aerodrome and aviation community, in relation to the establishment of ARFFS.

The proposed ARFFS establishment (and disestablishment) process and timeframes are detailed in Chapter 3.4.4 of this PP.

3.4.4 Graduated ARFFS

The establishment of a new ARFFS is an expensive, complex and lengthy process, requiring significant building and infrastructure works at an aerodrome. The process involves detailed planning, procurement and building activities, which can be time consuming and costly. Such processes can be more complex at established aerodromes, due to existing building and infrastructure, and the requirement to identify a suitable on-aerodrome location for the fire station to meet regulatory requirements such as response times. Establishing ARFFS at regional and remote locations may also present additional establishment challenges where access to building materials and specialised resources can be limited.

Recognising the establishment of a new ARFFS can take up to two years³⁴, and the potential length of time possible between an ARFFS establishment trigger event (ARFFS establishment hard trigger where total passenger numbers reach or exceed 350,000) and the establishment of an ARFFS, it is proposed to allow, where an ARFFS cannot be established in accordance with regulatory requirements within the 12 months of the establishment trigger event, the establishment of an ARFFS capability that is to be referred to as graduated ARFFS.

³⁴ Rural and Regional Affairs and Transport References Committee. [The provision of rescue, firefighting and emergency response at Australian airports](#) (2019): 3.59, 3.65.

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This proposed approach would permit the initial establishment of an aerodrome-based aviation-related emergency response capability—that is, not to full regulatory standards, which would focus on providing assistance during aviation-related emergencies and incidents at an aerodrome, pending the establishment of a full ARFF service. Such an approach would provide early deployment of partially increased safety benefits at the aerodrome while work continued to deploy the full ARFFS, meeting all necessary requirements of the regulations. The graduated ARFFS would be incrementally established in accordance with agreed timeframes.

A similar service establishment model was implemented, with CASA approval, by AA at Whitsunday Coast aerodrome in 2019. AA established an 'early ARFFS capability' (EAC) to provide a specialist emergency capability prior to a full (category 6) ARFFS being established in 2020.

In relation to the ARFFS establishment process and timeframes for graduated ARFFS, and as outlined in the previous Chapter 3.4.3 of this PP, the ARFFS provider would initiate the ARFFS establishment process via the submission of safety documentation to CASA within 3 months of passenger numbers exceeding the ARFFS establishment hard trigger of 350,000 passengers per year, seeking approval to establish an ARFFS at the relevant aerodrome.

Under the proposed graduated ARFFS establishment approach, the ARFFS provider would have up to:

- a. three months to submit safety documentation to CASA seeking approval to establish an ARFFS at the relevant aerodrome (inclusive of any graduated ARFFS)
- b. twelve months to establish either a graduated ARFFS capability, or full ARFFS
- c. an additional 12 months to establish a full ARFFS, where a graduated ARFFS is first established—that is, a full ARFFS to be established within 2 years following the requirement to establish an ARFFS.

The current regulatory framework for disestablishment of an ARFFS, where annual air transport passenger numbers fall below 300,000 and remain below this level for a 12-month period, would be retained.

It is proposed the ARFFS disestablishment process and timeframes would be similar to the establishment process, with many of the elements of the disestablishment process proposed below already undertaken (by AA).

Under the proposed graduated ARFFS disestablishment approach, following the ARFFS provider would have up to:

- a. three months to submit of safety documentation to CASA seeking approval to disestablish an ARFFS at the relevant aerodrome (following the service disestablishment trigger event)
- b. twelve months (following the service disestablishment trigger event) to disestablish the ARFFS, with a full ARFFS or graduated ARFFS capability provided up to the closure of the ARFFS.

3.4.5 Removal of prescriptive regulatory requirements

While compliant with Annex 14 SARPS, Subpart 139.H of CASR and the MOS Part 139H contain a number of requirements that are now considered to be unnecessarily prescriptive and

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additional to Annex 14 requirements. While the need to comply with standards provided by ICAO will be retained, opportunities for greater innovation and improvements to service delivery could be facilitated by a more systems and outcome-based approach to regulation.

Reflecting this approach, in recent years CASA has already granted a number of exemptions from certain regulatory requirements, with such exemptions reissued on a number of occasions. The continual renewal of some exemptions identifies opportunities to remove or amend some prescriptive and inefficient requirements within the current regulatory framework and replaces them with a more outcome and performance-based approach.

Focused on removing prescriptive requirements, a number of amendments to the regulatory framework have been identified:

- a. Amend the existing colour requirement for all ARFFS firefighting vehicles at an aerodrome to be a single conspicuous colour.
 - i. The current regulatory framework requires all firefighting vehicles be signal red in accordance with Australian Standard 2700, colour R13, while ICAO recommends emergency vehicles be a single conspicuous colour, preferably red or yellowish green.
- b. Amend the minimum reserve supply of complementary agent and expellant gas cylinders, to require reserve supply holdings to be consistent with ICAO SARPS.
 - i. The current requirement (section 7.1.3.1 of the MOS Part 139H,) requires the retention of complementary agent and expellant gas cylinders equivalent to 200% of the quantities required for the aerodrome category for replenishment purposes. This requirement is above the ICAO SARPS requirement of 100%.
- c. Remove prescriptive requirements that are not directly linked to operational performance, such as the removal of the requirement for inshore rescue boats to be housed undercover.
 - i. The current requirement (section 22.1.7.1 of the MOS Part 139H,) requires inshore rescue boats, where provided, to be housed undercover. This requirement does not take into consideration manufacturer recommendations in relation to the boat(s), the size of the boat(s) and rapid deployment requirements; and has the potential to impact efficient deployment. It is proposed that the ARFFS provider determine the housing of difficult terrain vehicles/vessels/equipment with consideration given to manufacturer operating and maintenance recommendations, local environmental conditions, national/local regulatory requirements, vessel location and response requirements.
- d. Allow the location of ARFF-related facilities provided to be determined by operational requirements, including the location of the boat ramp and launch facilities (where a water rescue service is provided) and the location of ARFFS training facilities.
 - i. The current regulation (regulation 139.772 of CASR) requires:
 - A. boat ramp and boat launching facilities, where a Water Rescue Service (WRS) is provided
 - B. ARFFS training facilities to be located at the aerodrome.
 - ii. It is proposed that the ARFFS provider be provided with the flexibility to determine the location of boat ramp and boat launching facilities (where provided), and ARFFS training facilities, in accordance with location-specific factors and

operational requirements, noting continuation of the requirement to adhere to existing operational response and training requirements.

This regulatory approach is in line with CASA's preferred systems-based model for regulation and is consistent with better practice regulation principles.

3.4.6 Modernisation of ARFF standards

While intended to comply with the Annex 14 SARPS, Subpart 139.H and the MOS Part 139H contain a number of requirements that are now considered to be out-dated.

In response, CASA has granted a number of exemptions from certain regulatory requirements, with such exemptions reissued on a number of occasions. The continuing renewal of a number of exemptions identifies opportunities to remove or amend some prescriptive and inefficient requirements within the current regulatory framework and replace them with a more outcome and performance-based approach.

Opportunities for greater innovation and improvements to service delivery may be facilitated by a more systems and outcome-based approach supported by modernised regulation.

Updating the regulatory framework with consideration to policy (including international standards), technology and operational practices would likely provide an opportunity for efficiency and productivity gains in the delivery of ARFFS.

In addition to the proposed clarification of the role of ARFFS (refer 3.4.1 of this PP), and changes to the ARFFS establishment criteria (refer 3.4.2 of this PP), a number of amendments to the regulations and MOS have been identified including modernising regulatory requirements in relation to the roles and responsibilities.

- a. Define the roles and responsibilities of the aerodrome and ARFFS provider in relation to the establishment and provision of ARFFS, including the provision of required facilities and infrastructure on the aerodrome.
 - i. Under the current regulatory framework, operators of aerodromes that meet ARFFS establishment triggers are expected to provide a rescue and firefighting service, and any aerodrome otherwise choose to provide an ARFFS. However, Subpart 139.H of CASR (and MOS Part 139H) does not contain any provisions that define the roles and responsibilities of an aerodrome in relation to the establishment and provision of ARFFS.
 - ii. Currently, regulation 139.772 of CASR requires an ARFFS provider to ensure the necessary buildings and facilities, replenishing water supply and appropriate emergency access roads for the ARFFS are in place, with these aerodrome-based requirements often necessitating pre-establishment aerodrome works to support the delivery of approved ARFFS. With no specific requirements in relation to the establishment and ongoing provision of facilities and infrastructure on aerodromes necessary to the provision of ARFFS, clearly defined roles and responsibilities for both the ARFFS provider and the aerodrome are not included within the current regulatory framework.
 - iii. Consistent with the Department's regulatory policy review recommendations, it is proposed that the responsibilities of the aerodrome in facilitating the provision of

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ARFFS are clarified, such that the aerodrome operator should be required to facilitate the provision of:

- A. access to on airport utilities to meet service delivery requirements
 - B. adequate facilities for rapidly replenishing water supply (for fire vehicles)
 - C. appropriate emergency roads, including sealed roads that provide direct access from the fire station to the movement area
 - D. crash gates for off airside that enable immediate response by ARFFS vehicles
 - E. suitable arrangements for regular communication with the ARFFS provider about the provision of services at the airport
 - F. access for the ARFFS provider to a reasonable area on the airport for storage, training and other ARFFS related uses.
- iv. It is anticipated the proposed changes will be reflected in Part 139 of CASR (Aerodromes) via consequential amendments.
- b. Allow the ARFFS Fire Station Communications Centre (FSCC) to use technology-based solutions, such as runway view cameras, to assist in the observation of all aircraft approaches and departures.
- i. The current requirement (section 22.1.2 of the MOS Part 139H,) requires a FSCC to provide clear vision of the runway and 'short final' approaches, with all aircraft landings and take-offs required to be observed by the FSCC operator or designated officer. The FSCC control cabin of the FSCC must provide clear vision of the runway and 'short final' approaches, which may require elevation of the cabin.
 - ii. Consistent with ICAO guidance, it is proposed to allow for the introduce of technological solutions, such as the installation of closed-circuit television (CCTV) cameras, to enhance the view of all landings and take-offs of aircraft.
- c. Amend the requirement for aerodrome fire alarms to terminate at the FSCC, reflecting a change in industry requirements (increasing use of Approved Fire Alarm Service Provider(s)) and the clarified role of ARFFS—that is, aircraft and aviation-focused. Refer to Chapter 3.4.1 of this PP).
- i. The current requirement requires aerodrome fire alarms to terminate at the aerodrome FSCC (section 22.1.2.3 of the MOS Part 139H). Amending this requirement, to enable alternate fire alarm monitoring and alarm termination arrangements to be made by an aerodrome owner/operator, provides flexibility to aerodromes to streamline infrastructure and communications requirements.
- d. Introduce minimum operational staffing requirements for aircraft-related incidents/accidents in accordance with aerodrome-specific requirements, as determined by a task resource analysis (TRA) methodology, with minimum staffing levels to be approved by CASA.
- i. The current requirement does not specify minimum operational (firefighter) staffing numbers, instead requiring sufficient trained personnel to perform ARFFS functions. Designated staffing levels (as determined by the ARFFS provider) must provide protection for all aircraft movements and protection during each operational shift (section 20.1.2 of the MOS Part 139H).
 - ii. While ICAO does not specify minimum staffing levels, it does recommend the use of the TRA methodology to determine the minimum number of rescue and firefighting personnel required at an aerodrome (section 9.2.44 of Annex 14 to the Chicago Convention). As outlined in the Airport Services Manual (Doc 9137), Part

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- 1, Chapter 10.5, the TRA methodology consists of a qualitative analysis of the ARFFS response to a realistic, worst-case, aircraft accident scenario, giving consideration to the types of aircraft using the aerodrome, as well as the need for personnel to use self-contained breathing apparatus, handlines, ladders and other ARFFS equipment associated with ARFFS operations. The TRA provides a methodology to establish justification as to the minimum number of qualified/competent personnel required to deliver an effective ARFFS to deal with (specifically) an aircraft incident/accident.
- iii. Consistent with the recommendations arising from the 2019 Senate Committee review, it is proposed to introduce the requirement for ARFFS to use the TRA to determine the minimum number of qualified ARFFS personnel required to respond to aircraft and aviation incident/accidents, increasing Australia's consistency with ICAO SARPS.
 - e. Introduce flexibility to allow the ARFFS provider to determine location-specific rescue (ancillary) equipment requirements, subject to CASA approval.
 - i. The current requirement specifies ancillary equipment requirements for operational use (Chapter 13 of the MOS Part 139H). While this allows an ARFFS provider to develop a list of ancillary equipment for CASA approval, it also specifies an extensive list of mandatory items, which, over time may not optimise operational capability due to technological advancements.
 - ii. While ICAO does not specify equipment requirements, ICAO guidance does provide a list of suggested equipment, and recommends a thorough location-based assessment be undertaken to establish the scope, types and quantities of rescue equipment applicable to determine requirements.
 - iii. Consistent with this ICAO guidance, it is proposed ARFFS providers would be required to determine and document location-specific operational and rescue equipment requirements, via a thorough assessment at each location to establish equipment requirements, with consideration to **CASA approved minimum staffing levels**, service requirements and location-specific factors such as type-of-aircraft operations and other emergency response capability.
 - f. Update minimum qualification requirements for the ARFFS officer in charge (OIC) role and clarify OIC operational requirements, consistent with the functions of ARFFS and industry standards.
 - i. The current requirements (subregulation 139.773(1) of CASR and Chapter 20 of the MOS Part 139H) refer to minimum qualification requirements (Australian Fire Competencies (AFC)) which are now out-dated (the AFC framework was superseded by the Public Safety Training (PST) package in 2000).
 - ii. Examination of qualification requirements has determined the 'Advanced Diploma' level qualification specified is above requirements for the OIC role performed by ARFFS, with the Australasian Fire and Emergency Service Authorities Council (AFAC) verifying the diploma-level Public Safety (Firefighting Management) qualification as appropriate to the OIC role. The role of a firefighter at this level is to manage emergency incidents, protect lives and prevent the destruction of property and the environment. The Diploma qualification includes the units of competency

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- required by firefighters to manage operations and a multi-team sector and to perform a range of related fire management activities³⁵.
- iii. It is proposed that the required minimum OIC qualification be reduced from Advanced Diploma to Diploma of Public Safety (Firefighting Management) (or its equivalent); and the role of the OIC be updated to require the OIC to be based at the aerodrome and one of the firefighters on each operational shift. These changes reflect the primary function(s) of ARFFS as an emergency responder to an aerodrome incident.
 - g. Modernise ARFFS initial and recurrent training requirements to allow tailored competency based ARFFS training and skill demonstration, in accordance with contemporary training requirements.
 - i. The current requirements (regulation 139.845 of CASR and Chapters 18 and 20 of the MOS Part 139H) include training requirements and frequency, e.g., 90-day ARFFS firefighter core competency training/demonstration requirement and 4-yearly CASA-accredited technical training requirement, that are considered to be inconsistent with contemporary training and practices.
 - ii. ICAO recommends the ARFFS training curriculum include initial and recurrent instruction across a number of areas (Annex 14, Attachment A, 18.2). Additionally, ICAO guidance states the entire training programme must be designed to ensure that both personnel and equipment are at all times fully efficient. These SARPS do not provide specific guidance on timeframes for firefighter retraining or competency review.
 - iii. Under the proposed amendments, ARFFS providers would be required to develop a competency-based initial and recurrent training program, inclusive of skill demonstration elements, consistent with contemporary training practices that ensures the fully efficient utilisation of ARFFS personnel.
 - iv. ARFFS providers would be required to provide a training and proficiency program (as determine by a suitable Training Needs Analysis) that ensures both personnel and equipment are fully efficient at all times.
 - h. Introduce specific requirements in relation to foam testing, foam production and foam production systems to ensure foam production and foam performance.

The current requirements (regulation 139.785 of CASR and Chapter 7 of the MOS Part 139H) requires an ARFFS provider to provide manufacturer verification that the firefighting foam achieves the relevant (to the foam performance level) specification but does not contain specific requirements in relation to foam testing, foam production and in-service testing of foam production systems.

- i. ARFFS providers currently utilise a number ongoing foam purity testing and foam production performance practices to assure foam quality and the operational foam production reliability, with regard given to environmental considerations.
- ii. While the Senate Committee recommended the implementation of firefighting foam testing program for firefighting foams in use at Australian airports, it is important to acknowledge the firefighting foam in use by all Subpart 139.H ARFFS providers is currently independently tested and certified as meeting ICAO guidelines. Any changes to the ICAO test method parameters—that is, use of significantly higher

³⁵ [Qualification details PUA50519 - Diploma of Public Safety \(Firefighting Management\) \(Release 3\)](#)

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testing temperatures, would impose additional requirements in Australia that are not imposed on other ICAO member States, many of which experience more extreme (and hotter) climatic conditions than Australia.

- iii. Consistent with the ICAO guidance regarding the required physical properties and fire extinguishing performance criteria needed for a foam to achieve an acceptable performance level (specific to the type of foam in use), it is proposed to strengthen current requirements in relation to foam testing, foam performance and foam production.

CASA supports further consideration of foam performance testing requirements to understand the performance of ICAO-certified ARFFS foam in local operating (temperature) conditions, with further information regarding the proposed requirements in relation to foam testing, foam production and foam production systems included at Appendix B.

Consistent with Senate Recommendation #3 and proposed by TWG members recognising industry research and scientific review is developing in this area, it is proposed that CASA develop guidance (Advisory Circular) to assist ARFFS providers undertake such additional (optional) testing. This guidance could be updated as industry and ICAO consideration is given to potential alteration of the existing performance specifications, noting such a proposition has not been subject to ICAO review to date.

Additionally, it is recognised some adaptation of ICAO guidance may be required given Australia's environmental considerations in relation to firefighting foam.

- i. Permit the use of training foam, as a substitute for operational foam, during ARFFS training activities/exercises.
 - i. ICAO SARPs and guidance do not contain provisions in relation to the use of training foam, as a substitute for operational foam, for use during ARFFS training activities/exercises.
 - ii. It is proposed to permit the use of training foam, as a substitute for operational foam, during ARFFS training activities/exercises, where it can be demonstrated the proposed training foam mimic the characteristics of operational foam. This updated approach recognises Australia's environmental policy position and the environmental benefits the introduction of such foams may provide.

4 Previous consultation

4.1 Government consultation

Members of the public and key stakeholders in the aviation industry were previously consulted via the Department's ARFFS Regulatory Policy Review (2015-2016) and the Senate Rural and Regional Affairs and Transport References Committee inquiry (2018-2019) into the provision of rescue, firefighting and emergency response. A total of 37 submissions were received from a cross section of key stakeholders in the aviation industry in relation to the provision of ARFFS.

4.2 Aviation Safety Advisory Panel - Technical Working Group

The Part 176 Technical Working Group (TWG) was established by the Aviation Safety Advisory Panel (ASAP) in December 2021. The TWG is comprised of the following representatives:

- Brian Greeves - Australian Airline Pilots' Association (AusALPA).
- Glenn Robinson - Proserpine/Whitsunday Coast Airport.
- James Goodwin - Australian Airports Association.
- Leigh Gesthuizen - Fire Protection Association Australia.
- Mike Willson - Willson Consulting.
- Nicholas Dyce- McGowan - Department of Defence.
- Peter McMahon - Aviation Rescue Services Pty Ltd.
- Samuel Woodman - Airservices Australia.
- Sandy McFeeters - Norfolk Island Fire Service.
- Scott Chamberlin - Airservices Australia.
- Shane Wallis - Norfolk Island Fire Service.
- Wesley Garrett - United Firefighters Union of Australia.

The TWG met on five occasions to consider this PP (2-3 February 2022, 9 February 2022, 16 March 2022 and 16 June 2022). During these meetings the TWG provided relevant technical expertise and industry sector insight in relation to this PP.

The TWG provided General Consensus on 16 June 2022 that this PP is suitable for public consultation.

5 Policy assessment

5.1 Intended policy position

Section 98(3)(s) of the *Civil Aviation Act 1988* provides the power to make regulations about the provision of ARFFS. CASA is proposing to repeal Subpart 139.H of CASR and substitute it with a new Part 176 and an associated Manual of Standards (to be referred to as Part 176 MOS - Standards Applicable to the Provision of Aerodrome Rescue and Fire Fighting Services).

CASA has identified six broad policy areas for consideration in the development of the new ARFFS ruleset:

1. Functions of ARFFS.
2. ARFFS establishment criteria.
3. ARFFS establishment requirements.
4. Graduated ARFFS.
5. Removal of prescriptive regulatory requirements.
6. Modernisation of ARFFS standards.

The proposed changes to the current ruleset are outlined below.

5.1.1 Functions of ARFFS

Since the introduction of the current Subpart 139.H ruleset, ongoing non-aviation related development on airport land, and within the vicinity of aerodromes, has raised challenges in relation to the function(s) and response area of ARFFS, particularly in relation to the concurrent, and at times conflicting, management of aviation and non-aviation related responses.

The proposed changes to the ARFFS ruleset seek to better reflect the core functions of the ARFFS provider as the primary responder to aviation-related activities at an aerodrome and address identified inconsistencies between Subpart 139.H of CASR and the *Air Services Regulations 2019*, in respect to functions of an ARFFS provider. The proposed changes also reflect the principal objective of a rescue and firefighting service per ICAO Annex 14 which is

"...to save lives in the event of an aircraft accident or incident occurring at, or in the immediate vicinity of, an aerodrome, by creating and maintaining survivable conditions, to provide egress routes for occupants and to initiate the rescue of those occupants unable to make their escape without direct aid."

The following changes to the ARFFS rules are proposed:

5.1.1.1 Proposal 1 - Amend the ARFFS functions to be primarily aviation-related

This proposal aims to amend the functions of ARFFS to:

- a. rescue and protection of people and property from, or threatened by, aircraft fire, accident and incidents at, or in the vicinity³⁶ of, an aerodrome

³⁶ Within 1000 metres of the runway threshold.

- b. protection of people and property threatened by a fire, accident and incident in an area of an aerodrome connected with, or used for the purposes of, activities related to aviation
- c. control and extinguishment of a fire referred to in paragraph (a) or (b)
- d. performance of activities and provision of services related to an operation or a circumstance mentioned in paragraph (a), (b) or (c).

The proposal will clearly define the functions of the ARFFS, as a primary ARFFS provider for aviation-related activities at or in the vicinity of an aerodrome.

This change will increase consistency with ICAO SARPS³⁷ and alignment with *Air Services Regulations 2019*³⁸.

5.1.1.2 Proposal 2 - Introduce ARFFS priority response area requirements

This proposal introduces the response area requirements when performing ARFFS functions, requiring an ARFFS provider to give priority to operations at an aerodrome, within 1000 metres of the runway threshold.

The proposal will clearly identify ARFFS providers as a primary responder for aircraft and aviation-related activities at, or in the vicinity, of an aerodrome.

This change will increase consistency with ICAO SARPS³⁹, including guidance in relation to emergency access roads and emergencies in difficult environments.

5.1.1.3 Proposal 3 - Introduce constraints for non-aircraft and non-aviation related ARFFS operations

This proposal will introduce new provisions that enable an ARFFS provider to deliver assistance outside its primary functions. This relates to non-aircraft and non-aviation related operations, only where an incident or circumstance that causes, or threatens to cause death or injury to persons, damage to property, harm to the environment or disruption to essential services, and where such assistance is related to the function of providing rescue and firefighting services and does not impact upon the delivery of ARFFS of its primary functions in any way.

An ARFFS provider's primary role is to be a first (emergency services) responder for aircraft and aviation-related activities at, or in the vicinity of, an aerodrome. The provision of ARFFS in support aircraft and aviation-related activities is the primary function of the ARFFS provider and must not be compromised by the provision of other (non-aviation related) services.

The current requirement for interface arrangements with State or Territory fire brigades to be documented will continue to ensure response arrangements to aviation related infrastructure, and within the vicinity of the aerodrome, are clearly defined and consistent with safety accountabilities.

³⁷ Annex 14, Aerodromes — Volume I, Aerodrome Design and Operations (Ninth Edition, July 2022), Chapter 9.2 (General).

³⁸ Air Services Regulations 2019, Section 16(1) and (2).

³⁹ Annex 14, Aerodromes — Volume I, Aerodrome Design and Operations (Ninth Edition, July 2022), Chapter 9.2 (General).

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Notes:

1. ARFFS providers will continue to be permitted to provide non-aviation related services, provided the provision of such services does not compromise the provision of aircraft and aviation-related ARFFS at, or in the vicinity of, an aerodrome. In providing such assistance, an ARFFS provider would be required to give priority to an incident or circumstances that occur at an aerodrome, or within 1000 metres of the runway threshold. Additionally, State and Territory fire authorities would be able to assist an ARFFS provider in the provision of ARFFS when providing such services either under the direction of an approved ARFF provider, and/or where providing services under a formal agreement with the ARFFS provider.
2. ARFFS providers would only be permitted to continue to respond to non-aircraft and non-aviation related incidents or circumstances outside of an aerodrome where the provision of such assistance was subject to written agreement with, or formal request of, state and territory fire services under an MOU or other applicable regulatory provisions (such as those contained within Air Services Regulations 2019 (Section 20) where AA is providing ARFF services), and the provision of aircraft and aviation-related ARFFS at, or in the vicinity of, an aerodrome is not compromised.

5.1.2 ARFFS establishment criteria

Under the current ARFFS ruleset, ARFFS should be established at locations where either: an international air service operates and any other aerodrome that exceeds 350,000 air transport passengers during the previous financial year.

Amending the existing ARFFS establishment criteria, to be based on the total number of scheduled air transport passengers only, would remove the current distinction between international and domestic passenger services, and retain passenger numbers as the regulated ARFFS establishment trigger.

The following changes to the current ARFFS rules are proposed:

5.1.2.1 Proposal 4 - Introduce a single ARFFS establishment trigger

This proposal removes the distinction between international and domestic air passenger services in relation to the ARFFS establishment criteria, with the proposed establishment criteria to retain the current ARFFS establishment hard trigger of 350,000 annual passenger criteria.

The removal of the distinction between international and domestic air passenger services is intended to allow occasional or seasonal international passenger services at regional and remote aerodromes without imposing ARFFS requirements.

Note: The 350,000 annual passengers establishment criteria will be based on scheduled air transport operations (refer to 3.1.2.2 below).

5.1.2.2 Proposal 5 - Amend the ARFFS establishment trigger definition

This proposal will amend the ARFFS establishment trigger definition to require the provision of ARFFS for **scheduled air transport operations**⁴⁰ passenger numbers, clarifying the requirement to establish (or provide) an ARFFS is based on an aerodrome's total regular scheduled annual (per financial year) passenger numbers only.

This proposed change is intended to ensure the provision of ARFFS at all major airports, while allowing occasional or seasonal charter passenger services at regional and remote aerodromes without triggering ARFFS establishment requirements.

⁴⁰ Civil Aviation Legislation Amendment (Flight Operations—Consequential Amendments and Transitional Provisions) Regulations 2021, page 46.

The clarification of the air transport passenger basis of the ARFFS establishment criteria is consistent with the current calculation of passenger numbers approach.

Note: Consistent with the definition of scheduled and non-scheduled air transport operations, it is proposed that ARFFS are not specifically provided for air transport operations that are not available for use by persons generally.

Where an ARFFS is in place, it is proposed an ARFFS would continue to respond to all aircraft (including charter operations and all-cargo aeroplane operations) during the ARFFS published hours of operation.

5.1.3 ARFFS establishment requirements

It is proposed to identify AA as the principal, but non-exclusive, provider of ARFFS in Australia⁴¹. This proposed approach emphasises the legislative role of AA, while also providing flexibility for an aerodrome operator to either provide ARFFS, or engage an alternate ARFFS provider, subject to ARFFS approval requirements in either instance.

In relation to the establishment and the provision of ARFFS, the proposed regulation would also incorporate specific accountabilities for aerodrome operators. However, AA would continue to monitor published passenger movement data and undertake discussions with the aerodrome operator in relation to the potential establishment of ARFFS, consistent with current practice.

The proposed regulation is intended to provide greater direction and flexibility in relation to the ARFFS establishment process and timeframes.

The following changes to the ARFFS rules are proposed:

5.1.3.1 Proposal 6 - Introduce ARFFS establishment requirements for the aerodrome operator

It is an offence for an aerodrome operator not to provide an ARFFS when establishment triggers and associated timeframes are met.

This proposal will introduce a requirement for the aerodrome operator to commence discussions with the ARFFS provider regarding the potential establishment of ARFFS, prior to the exceedance of the ARFFS establishment hard trigger of 350,000 passengers every year.

As the intended primary provider of ARFFS services, the aerodrome operator should undertake discussions with AA (or an alternate CASA-approved provider of ARFFS) in relation to the potential establishment of ARFFS.

5.1.3.2 Proposal 7 - Introduce a default requirement for Airservices Australia to provide ARFFS

This proposal introduces a requirement for AA to provide ARFFS at the aerodrome unless an aerodrome operator elects an alternate CASA-approved ARFFS prior to the submission of establishment safety documentation (for the establishment of an ARFFS).

This amendment would create a requirement for AA to establish ARFFS, where an establishment requirement is triggered, unless an aerodrome operator elects an alternate CASA-approved ARFFS provider (noting the requirements of 3.1.3.4 below in relation to the timeframe for the submission of the establishment safety documentation).

⁴¹ Airservices would continue to be subject to all ARFFS provider approval requirements.

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Note: In the interests of aviation safety, the updated regulation is proposed to retain existing regulatory provisions that enable the Minister to direct AA to provide ARFFS, even where an establishment event may not have been triggered, where the Government (including CASA) has identified a safety imperative or other basis for the provision of such services. In these circumstances, AA would need to establish and operate the ARFFS in accordance with all ARFF regulatory requirements.

5.1.3.3 Proposal 8 - Introduce a timeframe for the submission of ARFFS establishment documentation

This proposal will introduce a requirement for an approved ARFFS provider to submit ARFFS establishment documentation to CASA, within 3 months of passenger numbers for the preceding financial year being published by the Bureau of Infrastructure and Transport Research Economics (BITRE) (typically in October) expressing the ARFFS establishment hard trigger of 350,000 passengers per year has been met. The ARFFS establishment documentation should:

- detail the key activities required to establish an ARFF service
- the proposed target dates for each activity (including service operational commencement date)
- the proposed key elements of the service (including where a graduated ARFFS approach⁴² is proposed)
- any regulatory exemptions sought in delivering the service, including the reasons for such exemption(s).

This amendment would create a requirement for the ARFFS provider to submit establishment documentation to CASA. On the basis of the establishment documentation provided, CASA would engage in risk-based discussions with the approved ARFFS provider to determine establishment dates and service levels on a case-by-case basis.

5.1.3.4 Proposal 9 - Introduce documented ARFFS establishment requirements and timeframes

This proposal will, through risk-based discussions between CASA and the approved ARFFS provider, introduce provisions to allow initial ARFFS service levels⁴³ and establishment dates to be determined on a case-by-case basis.

Recognising the establishment of a new ARFFS can take up to two years⁴⁴, it is proposed that the new regulation permit the implementation of an incremental ARFF capability (graduated ARFFS), where a full service cannot be established in accordance with regulatory requirements (timeframe), subject to CASA approval.

The introduction of documentation requirements and timeframes associated with the commencement of a new ARFFS service establishment activities are intended to provide a clearer establishment process, greater responsiveness and increased flexibility in relation to the establishment of new ARFFS.

⁴² Refer to 3.4.4 Graduated ARFFS.

⁴³ Refer to 3.4.4 Graduated ARFFS.

⁴⁴ Rural and Regional Affairs and Transport References Committee. [The provision of rescue, firefighting and emergency response at Australian airports](#) (2019): 3.59, 3.65.

5.1.4 Graduated ARFFS

It is recognised that the establishment of a new ARFFS can be an expensive, complex and lengthy process, requiring significant building and infrastructure works on an aerodrome. Similarly, the withdrawal of an ARFFS can also significantly impact upon the safety services available at an aerodrome and, potentially, increase demands on both aerodrome and local (state/territory) fire services.

The following changes to the ARFFS rules are proposed, where ARFFS establishment/disestablishment triggers are met.

5.1.4.1 Proposal 10 - Introduce provisions for graduated ARFFS establishment

This proposal introduces the option for graduated ARFFS during the establishment of ARFFS, allowing the provision of ARFFS to be a lower category than the required ARFFS category during an agreed establishment period for up to 12 months, where a full service cannot be established in accordance with regulatory requirements (timeframe) (and subject to CASA approval).

The ability for an ARFFS to be established under graduated arrangements would enable ARFFS coverage to be provided much earlier than achievable under a full (certified) operational model. Additionally, the ARFFS provider would also benefit from establishing a location presence and working closely with local fire services and the aerodrome prior to determining any location-specific service requirements.

5.1.4.2 Proposal 11 - Introduce provisions for graduated ARFFS disestablishment

This proposal introduces the option for graduated services during the disestablishment of ARFFS, allowing the provision of ARFFS to be a lower category than the required ARFFS category during an agreed disestablishment period of up to 12 months.

The approved withdrawal (disestablishment) of an ARFFS could be undertaken in a phased manner that takes into account aircraft operations, location-specific factors such as existing emergency response capability and any other safety considerations as part of the withdrawal of ARFFS.

These proposed policy changes are intended to encourage services to be established earlier and, where disestablishment is approved, ensure the withdrawal of services are undertaken in manner that supports the continued provision of appropriate emergency response capability.

5.1.5 Removal of prescriptive regulatory requirements

While compliant with the Annex 14 SARPS, Subpart 139.H of CASR and the MOS Part 139H contain a number of requirements that are now considered to be unnecessarily prescriptive.

The proposed changes seek to enhance ARFFS operations through a strengthened outcome-based approach to regulation via the removal of prescriptive regulatory requirements that do not deliver clear safety or operational benefits.

The following changes to the ARFFS rules, are proposed:

5.1.5.1 Proposal 12 - Amend fire vehicle colour requirements

This proposal will amend the existing colour requirement for ARFFS firefighting vehicles to be a single conspicuous colour, consistent with ICAO SARPS.

The current regulation requires fire vehicles to be 'signal red' (section 4.1.1.7 of the MOS Part 139H), a requirement that is more prescriptive than ICAO's SARPS that recommends a single conspicuous colour, preferably red or yellowish green for emergency vehicles and yellow for service vehicles, should be used.

5.1.5.2 Proposal 13 - Amend complementary agent and expellant gas cylinders reserve supply requirements

This proposal will amend the minimum reserve supply of complementary agent and expellant gas cylinders, to require reserve supply holdings to be consistent with ICAO SARPS.

The current requirement (section 7.1.3.1 of the MOS Part 139H) requires the retention of complementary agent and expellant gas cylinders equivalent to 200% of the quantities required for the aerodrome category for replenishment purposes. This requirement is higher than the ICAO SARPS requirement of 100%. The proposed change will increase consistency with ICAO SARPS.

The proposed amendment would increase consistency with ICAO SARPS. It is intended the existing requirement to hold additional reserve stocks where replenishment delays may be reasonably anticipated would remain, with such circumstances and amounts to be determined by the ARFFS provider.

Note: The existing requirement to hold additional reserve stocks where replenishment delays may be reasonably anticipated would remain, with such circumstances and additional reserve holdings (amounts) to be determined by the ARFFS provider.

5.1.5.3 Proposal 14 - Remove the requirement for inshore rescue boats to be housed undercover

This proposal will amend prescriptive requirements that are not directly linked to operational performance, such as the current requirement for inshore rescue boats to be housed undercover. This would enable the ARFFS provider to determine the housing of difficult terrain vehicles/vessels/equipment with consideration given to manufacturer operating and maintenance recommendations, local environmental conditions, national/local regulatory requirements, vessel location and response requirements.

The current regulation requires inshore rescue boats, where provided, to be housed undercover. This requirement does not take into consideration manufacturer recommendations in relation to the boat(s), the size of the boat(s) and rapid deployment requirements. This proposed change will remove a prescriptive requirement.

5.1.5.4 Proposal 15 - Amend provisions that specify the location of ARFFS - related facilities

This proposal amends requirements in relation to the location of ARFF-related facilities to be informed by operational requirements, rather than prescribing specific requirements.

For example:

- Amend the requirement for boat ramp and boat launching facilities to be located at the aerodrome (where a WRS is provided).
- Amend the requirement for the provision of ARFFS training facilities to be located at the aerodrome.

These proposed changes will enable ARFFS providers the flexibility to tailor the delivery of operational services and training in accordance with operational and location-specific factors, noting each will continue to require adherence to existing operational response and training requirements. This change will remove a prescriptive requirement.

5.1.6 Modernisation of ARFFS standards

Subpart 139.H of CASR and the MOS Subpart 139.H, contain some requirements that are considered to be out-dated. Additionally, CASA has granted exemptions from certain regulatory requirements, with some exemptions subject to a number of renewals over time.

CASA is seeking to enhance the provision of ARFFS through a strengthened outcome-based approach to regulation. This is via the update of requirements to provide greater clarity, reflect technology changes and provide outcome-based flexibility.

Maintaining alignment with the ICAO Annex 14 SARPS, where possible, will remain a priority.

The following changes to the ARFFS rules are proposed.

5.1.6.1 Proposal 16 - Introduce defined roles and responsibilities (aerodrome and the ARFFS provider) for ARFFS establishment and provision

This proposal seeks to define the roles and responsibilities of the aerodrome and ARFFS provider in relation to the establishment and provision of ARFFS, including the provision of required facilities and infrastructure on the aerodrome.

The establishment and provision of ARFFS requires access to airport land and the provision of specific infrastructure, such a suitable site for an ARFFS station, facilities to rapidly replenish water, appropriate access and emergency roads, the provision of crash gates and the provision of suitable areas for storage and training. It is proposed the introduction of clearly defined roles and responsibilities of the aerodrome operator and the ARFFS provider in relation to the establishment and ongoing provision of ARFFS, particularly in relation to required aerodrome-based facilities and infrastructure, will assist in the expeditious establishment and ongoing delivery of ARFFS.

5.1.6.2 Proposal 17 - Amend ARFFS Fire Station Communications Centre (FSCC) requirements

This proposal seeks to allow the ARFFS Fire Station Communications Centre (FSCC) to use technology-based solutions, such as runway view cameras, to assist in the observation of all aircraft approaches and departures.

The current requirement requires a Fire Station Communications Centre (FSCC) from which all landings and take-offs of air transport aircraft are observed so as not to delay ARFFS response

times. The control cabin of the FSCC must provide clear vision of the runway and 'short final' approaches, which may require the elevation of the FSCC cabin.

The proposed changes will enable ARFFS providers to enhance the observation function(s) of the FSCC through the combination of traditional and technology-based solutions (such as closed-circuit television (CCTV) cameras) in accordance with operational and location-specific factors, providing opportunities to maximise service delivery efficiency.

5.1.6.3 Proposal 18 - Amend the requirement for aerodrome fire alarms to terminate at the ARFFS Fire Station Communications Centre (FSCC)

This proposal will amend the requirement for aerodrome fire alarms to terminate at the ARFFS FSCC, reflecting a change in industry requirements (increasing use of Approved Fire Alarm Service Provider(s)) and the clarified (aircraft and aviation-focused) role of ARFFS.

The current requirement requires aerodrome fire alarms to terminate at the aerodrome ARFFS FSCC. Amending this requirement, to allow alternate fire alarm monitoring and alarm terminate arrangements to be made by an aerodrome owner/operator, provides flexibility to aerodromes to streamline infrastructure and communications requirements.

Note: The requirement to maintain appropriate notification of aerodrome fire alarms to the ARFFS provider (during ARFFS hours) would remain in place.

5.1.6.4 Proposal 19 - Introduce minimum operational (firefighter) staffing requirements

In accordance with aerodrome-specific requirements, this proposal will introduce minimum operational staffing requirements for aircraft-related incidents/accidents specific to aerodrome requirements, as determined by the TRA, with minimum staffing levels to be approved by CASA.

The current regulation does not specify operational (firefighter) staffing requirements, including minimum staffing numbers. The proposed changes introduce the use of the TRA to determine the minimum number of qualified rescue and firefighting personnel required to respond to the aircraft and aviation incident/accidents. If an ARFFS is required to attend to non-aircraft incidents/accidents, due regard must be given to the inability of not meeting required response times and robust procedures should be introduced accordingly.

Amending this requirement will allow ARFFS providers to establish minimum staffing levels specific to the aerodrome category and location-specific operational requirements and risk assessment, with reference to ICAO guidance.

5.1.6.5 Proposal 20 - Amend ancillary equipment requirements

This proposal will introduce flexibility to allow the ARFFS provider to determine location-specific rescue (ancillary) equipment requirements, subject to CASA approval.

The current requirement specifies ancillary equipment requirements for operational use. Amending this requirement will allow ARFFS providers to establish the scope, types and quantities of rescue equipment applicable to the range of airport categories, with reference to ICAO SARPS.

ARFFS providers would be required to determine and document location-specific operational and rescue equipment requirements, via a thorough assessment at each location to establish equipment requirements, with consideration to CASA approved minimum staffing levels, service

requirements and location-specific factors such as type-of-aircraft operations and other emergency response capability. This change will provide greater flexibility to ARFFS providers to determine equipment requirements appropriate to each ARFFS location. This change will increase consistency with ICAO SARPS.

5.1.6.6 Proposal 21 - Amend ARFFS Officer in Charge (OIC) minimum qualification requirements

This proposal will update the minimum qualification requirements for the ARFFS OIC role and clarify OIC operational requirements, consistent with industry standards.

The current requirement specifies out-dated minimum qualification requirements that are above industry practice. Consistent with the current regulatory exemptions, the required OIC qualification would be reduced from Advanced Diploma to Diploma of Public Safety (Firefighting Management) (or its equivalent) as a minimum, and the role of the OIC updated to require the OIC to be based at the aerodrome and a member of firefighters on operational shift. These changes reflect the primary functions of ARFFS as an emergency responder to an aerodrome incident.

5.1.6.7 Proposal 22 - Amend initial and recurrent ARFFS training requirements

This proposal seeks to modernise ARFFS initial and recurrent training requirements to allow ARFFS training providers to tailor competency based ARFF training and skill demonstration in accordance with contemporary training requirements.

The current requirement specifies training requirements and frequency that are outdated and not consistent with contemporary training and practice (e.g., 90-day ARFFS firefighter core competency training/demonstration requirement and 4-yearly CASA-accredited technical training requirement).

ARFFS providers would be required to develop and deliver a training and proficiency program (as determined by a suitable Training Needs Analysis) that ensures both personnel and equipment are, at all times, fully efficient.

5.1.6.8 Proposal 23 - Introduce specific requirements for foam testing, foam production and in-service testing of foam production systems

This proposal will introduce specific requirements in relation to foam testing, foam production and foam production systems relating to foam quality and the operational foam production reliability, consistent with ICAO guidance.

The current requirements (regulation 139.785 of CASR and section Chapter 7 of the MOS Part 139H) do not contain specific requirements in relation to foam testing, foam production and in-service testing of foam production systems.

The proposed introduction of specific requirements in relation to foam testing, foam production and foam production systems is intended to strengthen ongoing assurance activities that the physical properties and fire extinguishing performance of firefighting foam achieves acceptable ICAO performance levels.

It is proposed to maintain consistency with ICAO wherever possible, some adaptation of ICAO guidance in relation to the production and application of firefighting foam may be necessary given Australia's environmental policy position in relation to firefighting foam.

5.1.6.9 Proposal 24 - Introduce provisions to permit the use of training foam during training activities/exercises

This proposal will permit the use of training foam, as a substitute for operational foam, during ARFFS training activities/exercises.

The current requirement does not permit the use of training foam, as a substitute for operational foam, during training activities/exercises. In recognition of environmental considerations, ARFFS Providers/ARFFS Training Providers would be permitted, subject to CASA approval, to use training foam where such foam is demonstrated to mimic the characteristics of operational foam, during operational training activities and exercises. ARFFS Providers/ARFFS Training Providers would be required to maintain the integrity of operational foam where training foam is approved for use in training activities.

5.2 Adoption of the policy reform recommendations

As outlined in Chapter 2.2 and Chapter 3.1 of this PP most of the 25 recommendations put forward in the Department and Senate Committee reviews will be incorporated into the new ARFFS ruleset through either the continuation or refinement of current regulatory requirements, or the introduction of new requirements. The primary exception to this is in relation to the recommended introduction of a CASA risk review in relation to the establishment and disestablishment of ARFFS (Recommendations 1-7 and 8-11 from the Departments' policy review). As outlined in Chapter 2.2 and Chapter 3.1 of this PP, elements of these recommendations have been proposed for inclusion in the updated ruleset.

In undertaking this ruleset review, CASA considered Subpart 139.H of CASR, MOS Part 139H, Australia's adherence to Chapter 9 of Annex 14 of the Chicago Convention, and other relevant regulations, standards and procedures (Recommendation 1 of the Senate Review).

Table 2 and Table 3 summarises the specific Department and Senate Committee review recommendations proposed to be incorporated in the updated ruleset and its associated proposed policy reference (where applicable).

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Table 2: Department and Senate Committee recommendations proposed for inclusion in the updated ARFFS ruleset

Policy Area	Dept Agreed Reforms (June 2018)	Senate Committee (RFFS) Recommendations (November 2019)	Policy Proposal
5.1.1 The functions of ARFFS	13	8	Proposal 1 Proposal 2 Proposal 3
5.1.2 ARFFS establishment criteria	8		Proposal 4 Proposal 5
5.1.2.3 ARFFS establishment requirements	1,2,5,6,9,10		Proposal 6 Proposal 7 Proposal 8 Proposal 9
5.1.4 Graduated ARFF services	3,4,5,7,10,11	7	Proposal 10 Proposal 11
5.1.5 Removal of prescriptive regulatory requirements	N/A	N/A	Proposal 12 Proposal 13 Proposal 14 Proposal 15
5.1.6 Modernise ARFFS standards	14,16,17	2,3,4,5,6	Proposal 16 Proposal 19 Proposal 20 Proposal 21 Proposal 22 Proposal 23 Proposal 24

Table 3: Department and Senate Committee recommendations proposed policy position for inclusion in the updated ARFFS ruleset

Dept Agreed Reforms (June 2018)	Senate Committee (RFFS) Recommendations (November 2019)	Policy Position
n/a	1	Part 176 to maintain or increase current alignment with ICAO SARPS where possible.
12	n/a	Part 176 to maintain current requirement that where an ARFFS is required at an airport, it must be CASA certified and subject to the requirements of Part 176. The provision of a capability where an ARFFS is not required is not subject to Part 176 requirements.
15	n/a	Part 176 to maintain current requirement for interface arrangements

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Dept Agreed Reforms (June 2018)	Senate Committee (RFFS) Recommendations (November 2019)	Policy Position
		with State or Territory Fire Brigade to be ensure interface arrangements are defined and consistent with safety accountabilities.

On the basis that the primary function of the ARFFS provider is to focus on and respond to aviation-related activities at or in the vicinity of an aerodrome, the Government did not support the Recommendation 8 of the Senate Review - *the establishment of a Task Resource Analysis for Domestic Response Services responding to emergencies at aerodromes (DRS TRA)*⁴⁵.

As discussed in Chapter 3.4.1 of this PP, the proposed ruleset seeks to better define the function(s) of ARFFS providers, consistent with ICAO SARPS. The updated ruleset will affirm an ARFFS provider's primary role is to be a first (emergency services) responder for aircraft and aviation-related activities at, or in the vicinity of, an aerodrome and that these functions must not be compromised by the provision of other (non-aviation related) services. It should be noted that there is no current regulatory requirement to provide a domestic response service. However, such services are provided when resources are available, and when the response will not compromise the primary role related to aviation safety.

A detailed summary of the proposed policy position in relation to each of the recommendations is included at Appendix A of this PP.

5.3 Impacts on industry

Airline operators have consistently raised concerns that the high establishment and ongoing costs of providing ARFFS are difficult to justify alongside advanced, preventative safety measures in air traffic control and aircraft avionics.

Most of the proposed changes to ARFFS regulation reflect operational practices permitted under existing regulatory exemptions to current ARFFS providers. Many of the proposed changes provide greater flexibility through the introduction of an outcome-based approach, providing the potential to consider location-specific requirements such as aircraft operations and aerodrome factors in the provision of ARFFS, rather a than a one-size-fits-all approach.

The proposed change to remove the distinction between international and domestic air passenger services will enable aerodromes with low international passenger numbers and very few international movements to not incur significant costs where the safety impact may be minimal. However, Australia will maintain consistency with international expectations in that ARFFS services will continue to be provided at all major international airports.

While some changes, such as the proposed introduction of the TRA, raise concerns with ARFFS providers, these changes are considered to provide a stronger safety focus as part of the provision of ARFFS.

⁴⁵ [Australian Government response to the Senate Rural and Regional Affairs and Transport References Committee report: The Provision of Rescue, Firefighting and Emergency Response at Australian Airports](#)

Clarifying the role of ARFFS providers may also raise concerns in relation to the future provision of services to non-aviation related facilities and infrastructure. However, such a change will ensure service primacy remains aligned with ICAO SARPS.

Finally, some changes may result in a shared aerodrome operator/ARFFS provider responsibility to ensure the efficient establishment and provision of ARFFS, including the provision of necessary on-aerodrome facilities and infrastructure.

5.4 Implementation and transition

5.4.1 Implementation considerations

The ruleset will also be transitioned to its own part, moving from Subpart 139.H of the Part 139 regulations to Part 176 of CASR. Having Part 176 of CASR as a standalone regulation will aid clarity and ensure greater visibility of ARFF specific standards.

Subject to feedback on the PP and the subsequent draft Part 176 regulation and MOS, the new ruleset will also necessitate the development and implementation of new guidance material. CASA aims to implement the new ruleset in late 2024 with the implementation of some supporting processes and material to extend into 2025.

5.4.2 Transitional considerations

It is highly likely consequential, application, transitional and savings regulations (CATS) associated with the proposed changes will be required, particularly in relation to the role and responsibilities of aerodrome operators in the provision of ARFFS.

Closing date for comment

CASA will consider all comments received as part of this consultation process and will incorporate changes to the regulation as appropriate. Comments on the draft new policy should be submitted through the online response form by close of business 9 August 2023.

Appendix A

Department/Senate/Part 176 of CASR policy matrix

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Table 1: Department/Senate/Part 176 policy matrix

Dept Agreed Reforms (June 2018)	Senate Committee (RFFS) Recommendations (November 2019)	Part 176 – Proposed Policy
ICAO		
	<p>Recommendation One</p> <p>The committee recommends that the Australian Government conduct a review of Australia’s adherence to the International Civil Aviation Organization Standards and Recommended Practices for the provision of Aviation Rescue Fire Fighting Services in Australia. The review should consider:</p> <ul style="list-style-type: none"> • Subpart 139.H of the Civil Aviation Safety Regulations 1998; • the associated Manual of Standards; • Australia’s adherence to Chapter 9 of Annex 14 of the Chicago Convention; and • Any other relevant regulations, standards and procedures (including those issued by the National Fire Protection Association). <p>Where the review identifies non-compliance with international standards, the rationale for this should be explained.</p> <p>The Government supports this recommendation.</p>	<p>Part 176 to maintain or increase current alignment with ICAO SARPS where possible.</p>
Establishment		
<p>1. ARFFS be required to be established at a location where a relevant trigger event occurs and where the Civil Aviation Safety Authority (CASA) decides, following its conduct of a risk review, that ARFFS is required at that location.</p> <p>2. Two measures constitute a trigger event for the conduct of a risk review relating to the establishment of an ARFFS - the receipt of scheduled international passenger air services, or 350,000 passengers on scheduled</p>	<p>Recommendation Seven</p> <p>The committee recommends that the Department of Infrastructure, Transport, Cities, and Regional Development undertake a review of the current establishment criteria used for determining whether to implement an Aviation Rescue Fire Fighting Service (ARFFS). The review should consider whether the current methodology of utilising passenger numbers allows for sufficient provision of ARFFS across</p>	<p>Do not adopt establishment Risk Reviews, maintain Subpart 139.H establishment trigger events (with amendment to definitions).</p> <p><i>Refer: 3.3.1, Proposal 4, Proposal 5, Proposal 6, Proposal 7, Proposal 8, Proposal 9</i></p> <p>Make it an offence not to</p>

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Dept Agreed Reforms (June 2018)	Senate Committee (RFFS) Recommendations (November 2019)	Part 176 – Proposed Policy
<p>commercial air services passing through the airport during a rolling twelve-month period.</p> <p>5. CASA and the ARFFS provider, consult as appropriate, with industry, the public and relevant government agencies during the conduct of risk reviews.</p> <p>6. CASA must complete a risk review relating to the possible establishment of an ARFFS within six months of receiving advice from the Department that scheduled international passenger air services have been approved to commence at an airport which currently does not have an ARFFS, or data becomes available from the Bureau of Infrastructure, Transport and Regional Economics (BITRE) confirming the passenger number trigger of 350,000 passengers has been met at an airport.</p> <p>8. Australia adopts the ICAO classification/terminology of scheduled commercial air transport services, which would include regular public transport and charter operations, noting this would require a change in the current BITRE ARFFS reporting.</p> <p>9. Where the outcome of an establishment risk review is a decision that ARFFS is not required at a location, CASA is required to monitor activities at the location to determine whether a further risk assessment is required. If after twelve months passenger numbers continue to be above 350,000 or the airport continues to receive scheduled international passenger air services, a further risk review is to be undertaken. However, a risk review should be undertaken earlier if there are significant changes in other safety risk factors.</p> <p>10. Where the outcome of the risk review is a decision that ARFFS is required at a location, CASA is to determine, in consultation with the</p>	<p>Australian aerodromes, in light of increasing passenger numbers in recent years.</p> <p>The Government notes this recommendation.</p>	<p>provide an ARFFS when establishment triggers and associated timeframes are met.</p> <p>Allow for Graduated Service Approach during the establishment of ARFFS.</p> <p><i>Refer: Proposal 10</i></p>

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Dept Agreed Reforms (June 2018)	Senate Committee (RFFS) Recommendations (November 2019)	Part 176 – Proposed Policy
<p>ARFFS provider, the timeframe in which the ARFFS should be established. CASA may permit some kind of graduated service arrangements to be in place prior to the establishment of full operations.</p> <p>A graduated service could include The initial provision of ARFFS at a category lower than the final ARFFS category of services required. Alternatively, other measures to enhance safety could be adopted in the first 12-18 months including the training of the local fire brigade, and the provision of some personnel and firefighting equipment at the airport.</p>		
Disestablishment		
<p>3. ARFFS be required to be disestablished at a location where a relevant trigger event occurs and where CASA decides, following the conduct of a risk review by the ARFFS provider and the receipt of advice from the ARFFS provider, that ARFFS should not be required at that location.</p> <p>4. Two measures constitute a trigger event for the conduct of a risk review relating to the disestablishment of an ARFFS - withdrawal of scheduled international passenger air services or passenger numbers on scheduled commercial air services falling below 300,000 and remaining below this level for a twelve-month period.</p> <p>5. CASA and the ARFFS provider, consult as appropriate, with industry, the public and relevant government agencies during the conduct of risk reviews.</p> <p>7. The ARFFS provider must complete a risk review relating to the possible disestablishment of an ARFFS within six months of the withdrawal of scheduled international passenger air services or the BITRE confirming that passenger numbers have remained below 300,000 for a twelve-month period.</p>		<p>Maintain current risk review requirements associated with ARFFS disestablishment. Allow for Graduated Service Approach during the disestablishment of ARFFS.</p> <p><i>Refer: Proposal 11</i></p>

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11. Where the outcome of a disestablishment risk review indicates that the ARFFS should remain at the location, and if twelve months after CASA's decision, passenger numbers remain below the disestablishment trigger or the airport does not receive a scheduled international passenger air service, a further risk review should be undertaken by the ARFFS provider, for consideration and decision by CASA.		
Non-certified ARFFS		
12. A “fire-fighting related service” provided at an airport that is not required to have an ARFFS under the CASR is not an “ARFFS” within the meaning of the CASR. A “fire-fighting related service” could still be provided at an airport but would not be subject to the regulatory framework or regulation by CASA.		Maintain current requirement that where an ARFFS is required at an airport, it must be CASA certified and subject to the requirements of Part 176. The provision of a capability where an ARFFS is not required is not subject to Part 176 requirements.
Scope of ARFFS		
13. The provision of ARFFS is aligned to areas or facilities at an airport which are used or intended to be used for aviation activities and/or for activities closely connected with aviation activities. Such aviation-related infrastructure would include: <ul style="list-style-type: none"> • taxiways, runways, aprons, airside roads, airside grounds and aircraft parking areas; • airside freight handling and staging areas; • air traffic control towers; • airport terminals; and • aircraft hangars, on-airport maintenance facilities and aviation fuel storage/refuelling facilities. 	<p>Recommendation Eight</p> <p>The committee recommends that the Australian Government mandate the establishment of a Task Resource Analysis for Domestic Response Services responding to emergencies at aerodromes (DRS TRA). The DRS TRA should determine the additional Aviation Rescue and Fire Fighting (ARFF) staff required for responses to non-regulated and non-aviation emergencies across the aerodrome, over and above the staff required for an ARFF station to maintain category in the case of an aviation emergency.</p> <p>The Government does not support this recommendation.</p>	Clarify the function(s) and response area of ARFFS, with a strengthened focus on aircraft and aviation-related activities and infrastructure. <i>Refer: Proposal 1, Proposal 2, Proposal 3</i>
State and Territory assistance		

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15. State and territory fire authorities are not required to hold separate CASA approval to assist an ARFFS provider in the provision of ARFFS where they are providing the service under an agreement with the ARFFS provider.		Maintain current requirement for interface arrangements with State or Territory Fire Brigade to be ensure interface arrangements are defined and consistent with safety accountabilities. <i>Refer: Proposal 3</i>
Staffing		
	<p>Recommendation Four</p> <p>The committee recommends that the Civil Aviation Safety Authority mandates that Aviation Rescue Fire Fighting Service (ARFFS) providers use the Task Resource Analysis (TRA) methodology, as prescribed by the International Civil Aviation Organization, to determine the suitable staffing levels for ARFFS at all aerodromes in Australia where an ARFFS is provided. The TRA should take into consideration the category of each aerodrome.</p> <p>The Government supports this recommendation.</p> <p>Recommendation Five</p> <p>The committee recommends that the Civil Aviation Safety Authority mandate that the Task Resource Analysis (TRA) process undertaken by Airservices must involve appropriate consultation, via the direct engagement of Aviation Rescue Fire Fighting staff and officers at all stages of the TRA process. The consultation should be transparent, and the outcomes made publicly available as soon as is practicable.</p> <p>The Government supports this recommendation.</p> <p>Recommendation Six</p> <p>The committee recommends that the Australian Government introduce legislation which stipulates the</p>	<p>Introduce minimum operational staffing requirements or aircraft-related incidents/accidents in accordance with aerodrome-specific requirements (minimum staffing numbers to be determined by the Task Resource Analysis (TRA), consistent with ICAO SARPS.</p> <p><i>Refer: Proposal 19</i></p>

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	<p>minimum Aviation Rescue Fire Fighting (ARFF) staffing level in accordance with airport category, at all Australian aerodromes where an ARFF service is provided. The legislated staffing levels should reflect the outcomes of the Task Resource Analysis at each aerodrome.</p> <p>The Government notes this recommendation.</p>	
Vehicles/Equipment		
	<p>Recommendation Two</p> <p>The committee recommends that the Civil Aviation Safety Authority conduct an audit of all Aviation Rescue Fire Fighting Service (ARFFS) vehicles and equipment currently in operation across Australia, to determine the level of compliance with the International Civil Aviation Organization standards, and associated Australian regulations and standards (such as the Civil Aviation Safety Regulations 1998 and the Manual of Standards). The audit should consider whether the vehicles and equipment adhere to the relevant ARFFS airport category at each aerodrome.</p> <p>The Government supports this recommendation.</p>	<p>Introduce minimum location-specific operational and rescue equipment requirements, taking into consideration service requirements and other factors such as aircraft types and local emergency response capability.</p> <p><i>Refer: Proposal 20</i></p>
Equipment		
<p>17. Where possible, prescriptive requirements relating to training and equipment provisions be replaced with a more systems and outcome-based approach supported by the regulatory requirement for the ARFFS provider to establish a safety management system which is approved and audited by CASA.</p>		<p>Introduce minimum location-specific operational and rescue equipment requirements, taking into consideration service requirements and other factors such as aircraft types and local emergency response capability.</p> <p><i>Refer: Proposal 20</i></p>
Training		

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17. Where possible, prescriptive requirements relating to training and equipment provisions be replaced with a more systems and outcome-based approach supported by the regulatory requirement for the ARFFS provider to establish a safety management system which is approved and audited by CASA.		Introduce requirements that allow an ARFFS provider to develop training program(s) that ensure personnel and equipment are fully efficient at all times. <i>Refer: Proposal 22</i>
Foam		
	<p>Recommendation Three</p> <p>The committee recommends that the Civil Aviation Safety Authority implement a testing program for the firefighting foams in use at Australian airports, in accordance with International Civil Aviation Organization guidelines. The testing should take place under conditions unique to Australia (such as higher ambient temperatures), to establish whether the foams operate effectively to extinguish aviation fires.</p> <p>The Government supports this recommendation.</p>	Introduce specific requirements in relation to foam testing, foam production and foam production systems relating to foam quality and the operational foam production reliability, consistent with ICAO guidance. <i>Refer: Proposal 23</i>
Airport Infrastructure		
<p>14. That aviation-related infrastructure may also include infrastructure that is identified as such in an agreement (Memorandum of Agreement) between an ARFFS provider and a state and territory fire authority, in relation to the provision of rescue and fire services at a particular airport. Such agreements should be developed in consultation with the airport owner/operator.</p> <p>16. The responsibilities of the airport operator in facilitating the provision of ARFFS are clarified, such that the airport operator should be required to facilitate the provision of:</p> <ul style="list-style-type: none"> • access for the ARFFS provider to on airport utilities to meet service delivery requirements • adequate facilities for rapidly 		Introduce provisions to ensure the roles and responsibilities of the aerodrome and ARFFS provider, in relation to the provision of ARFFS, are clearly defined. <i>Refer: Proposal 16</i>

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<p>replenishing water supply for fire vehicles</p> <ul style="list-style-type: none"> • appropriate emergency roads, including sealed roads capable of supporting immediate response of ARFFS vehicles that provide direct access from the fire station to the movement area • crash gates for off airside that enable immediate response by ARFFS vehicles • suitable arrangements for regular communication with the ARFFS provider about the provision of services at the airport • access for the ARFFS provider to a reasonable area on the airport for storage, training and other ARFFS related uses. 		

Appendix B

Proposed foam testing requirements

B.1 Proposed foam testing requirements

Consistent with Senate Recommendation #3 and proposed by TWG members, CASA supports further consideration of foam performance testing requirements to understand the performance of ICAO-certified ARFFS foam in local operating (temperature) conditions.

Further information regarding the proposed requirements in relation foam testing, foam production and foam production systems is outlined below:

- **Foam testing**
 - Continue to maintain the existing requirement for firefighting foam to be certified to ICAO standards (certification tested to be completed in accordance with ICAO Fire Test Method⁴⁶ASM 8.1.8).
 - Introduce a requirement for foam sample testing to be completed when foam is produced (in testing or training activities), e.g., during Foam Behaviour & Branch Application training, from each fire vehicle which produces operational foam (minimum annually).
- **Foam production**
 - Adopt the Foam Performance Acceptance Test⁴⁷ with amendments^{B.1.1} due to environmental considerations and existing facilities under the current regulatory framework (training grounds not available at all ARFF locations).
- **In-service test**
 - Adopt the ICAO In-service Test⁴⁸ (in its entirety) for application not exceeding twelve (12) months and applicable to all fire vehicles (including training vehicles).

B.1.1 Proposed amendments to ICAO Testing of Foam Production guidance:

Recognising not all ARFFS locations have/will have training grounds, and that alternate (non-foam producing tests) are or can be utilised, it is proposed that the following testing approaches be introduced:

- Initial testing (foam production) - when a vehicle type is first acquired for operational use by the service: full Foam Production Performance Test (utilising the Fire Test Method), with foam production. This test can be completed as part of Vehicle Acceptance Testing if testing cannot be completed at the aerodrome location.

Note: It is assumed the initial foam production system test will be undertaken and verified as part of the Vehicle Acceptance Testing process⁴⁹.

- Annual testing (foam production) – per each type of operational fire vehicle in service (available for operational use), with foam production, to be undertaken annually.

Note: Annual testing to include an assessment of producing water (rather than foam) while on the move. Where both a high and low discharge capability has been provided on larger monitors, this provision should be tested in line with the manufacturer's guidance.⁵⁰

⁴⁶ Doc 9137-AN/898, 4th ed. (2015) Airport Services Manual Part 1 - Rescue and Firefighting: 8.1.8.

⁴⁷ Doc 9137-AN/898 (2015): 8.1.6.

⁴⁸ Doc 9137-AN/898 (2015): 8.1.7.

⁴⁹ Doc 9137-AN/898 (2015): Chapter 5.

⁵⁰Doc 9137-AN/898 (2015): 8.1.6.3.

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- Maintenance Testing (foam optional) – Utilise In-service Test.

Recognising industry research and scientific review is developing in this area, and such a proposition has not been subject to ICAO review to date, it is proposed that CASA develop guidance (Advisory Circular) to assist ARFFS providers undertake such additional (optional) testing. This guidance could be updated as industry and ICAO consideration is given to potential alteration of the existing performance specifications.