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Civil Aviation Safety Authority

**ADVISORY CIRCULAR
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ARFFS - Recommended practices: Category determination

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Acknowledgement of Country

The Civil Aviation Safety Authority (CASA) respectfully acknowledges the Traditional Custodians of the lands on which our offices are located and their continuing connection to land, water and community, and pays respect to Elders past, present and emerging.

Artwork: James Baban.

Advisory circulars are intended to provide advice and guidance to illustrate a means, but not necessarily the only means, of complying with the Regulations, or to explain certain regulatory requirements by providing informative, interpretative and explanatory material.

Advisory circulars should always be read in conjunction with the relevant regulations.

Audience

This advisory circular (AC) applies to:

- ARFFS providers
- aerodrome operators.

Purpose

This AC provides guidance and information to ARFFS providers and aerodrome operators where aerodrome rescue and fire fighting services are provided or required.

For further information

For further information or to provide feedback on this AC, visit CASA's [contact us](#) page.

Status

This version of the AC is approved by the National Manager, Flight Standards Branch.

Note: Changes made in the current version are not annotated. The document should be read in full.

Table 1: Status

Version	Date	Details
v2.0	December 2025	Technical review and update to include additional guidance material relating to ARFFS category.
v1.1	November 2022	Administrative review only.
(0)	April 2003	Initial AC.

Unless specified otherwise, all subregulations, regulations, Divisions, Subparts and Parts referenced in this AC are references to the *Civil Aviation Safety Regulations 1998 (CASR)*.

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1 Reference material

1.1 Acronyms

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

Table 2: Acronyms

Acronym	Description
AIP	Aeronautical Information Publication
ARFFS	Aerodrome Rescue and Fire Fighting Service
CASA	Civil Aviation Safety Authority
ERSA	En Route Supplement Australia
ICAO	International Civil Aviation Organization
MOS	Manual of Standards

1.2 Definitions

Terms that have specific meaning within this AC are defined in the table below. Where definitions from the civil aviation legislation have been reproduced for ease of reference, these are identified by 'grey shading'. Should there be a discrepancy between a definition given in this AC and the civil aviation legislation, the definition in the legislation prevails.

Table 3: Definitions

Term	Definition
NOTAM	a notice issued by the NOTAM Office containing information or instructions concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to persons concerned with flight operations

1.3 References

Legislation

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

Table 4: Legislation references

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

International Civil Aviation Organization documents

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

Many ICAO documents are also available for reading, but not purchase or downloading, from the ICAO eLibrary (<https://elibrary.icao.int/home>).

Table 5: ICAO references

Document	Title
Annex 14, Volume 1	Aerodrome Design and Operations
Airport Services Manual, Part 1	Rescue and fire fighting

2 Aerodrome rescue and firefighting categories

- 2.1 A category represents a level of aerodrome rescue and firefighting capability, established in accordance with MOS Part 139H requirements (and consistent with ICAO standards). It provides a common reference for the level of ARFFS protection available at a given aerodrome and ensures consistency in communication through Aeronautical Information Publication (AIP).
- 2.2 The category comprises the minimum number of operational rescue and fire fighting vehicles to achieve adequate protection, and the minimum usable quantities of fire extinguishing agents. Where provided, rescue and firefighting capability should be available during their promulgated hours of operation, and for other aircraft movements that require such services. Sufficient trained personnel are to be detailed and readily available to staff the rescue and fire fighting vehicles and to operate the equipment at the discharge rates appropriate to the aerodrome category.
- 2.3 For the purpose of determining the aerodrome category, each take-off or landing of an air transport operation normally using the aerodrome shall be counted as a movement.
- 2.4 An ARFFS service provider may choose to provide additional resources that exceed the minimum requirements for category. Such resources may be established based on:
- a. risk assessments
 - b. task resource analyses
 - or
 - c. other operational planning processes.

Each ARFFS service provider must clearly define how it complies with aerodrome category requirements within its Operations Manual for the service. This includes a clear distinction between the minimum required resources for aerodrome category compliance and any additional resources provided.

This clarification is essential to ensure:

- a. consistent management of variations or interruptions to aerodrome category service levels
- b. accurate reflection of the firefighting protection available at the aerodrome
- c. alignment with ICAO and MOS Part 139H aerodrome category requirements.

3 Category determination

- 3.1 ARFFS category is determined in accordance with the process outlined in Chapter 3 of MOS Part 139H. The category is based on the overall length and maximum fuselage width of the largest aircraft normally using the aerodrome, as well as the frequency of operations.
- 3.2 The level of protection to be provided at an aerodrome must reflect the operational needs of the aircraft using the aerodrome. This includes consideration of aircraft dimensions and the regularity and frequency of operations. The assigned category determines the minimum requirements for vehicles and fire extinguishing agents as specified in MOS Part 139H and ICAO Annex 14, Chapter 9.
- 3.3 Sufficient trained personnel are to be detailed and readily available to staff the rescue and fire fighting vehicles and to operate the equipment at the appropriate discharge rates. For the avoidance of doubt, sufficient trained personnel applies to category requirements only and does not include additional resources as set out in section 2.4 of this advisory circular.
- 3.4 Level 1 ARFFS coverage is required at any:
- aerodrome where international passenger air services operate
 - domestic aerodrome that recorded more than 350,000 passenger movements on air transport flights during the previous financial year.
- 3.5 Aerodromes subject to Level 1 coverage must meet the specific requirements outlined in MOS Part 139H, including minimum staffing levels, equipment and firefighting agent standards, vehicles and response times. These requirements are consistent with ICAO Annex 14 and the Airport Services Manual, which emphasise timely response, adequate resources, and operational readiness.
- 3.6 Level 2 Aerodrome Rescue and Firefighting Service (ARFFS) coverage applies at aerodromes where annual passenger movements on air transport flights are fewer than 350,000, if a level of ARFFS is provided. Where Level 2 ARFFS is provided, it must comply with the requirements specified in MOS Part 139H for Level 2 coverage. If the service is published in the AIP-En Route Supplement Australia (AIP-ERSA) and forms part of the Aerodrome Emergency Plan (AEP), it will be subject to regulatory audit.
- 3.7 The aerodrome category for Level 1 or Level 2 ARFFS shall be determined in accordance with the process outlined in Chapter 3 of MOS Part 139H. This includes consideration of aircraft dimensions and movement frequency. For Level 2 ARFFS, specific provisions may apply—such as the ability to relax the requirement related to fuselage length, as described in MOS Part 139H section 3.1.3.1.
- 3.8 The ARFFS category assigned to an aerodrome should be based on the overall length and maximum fuselage width of the largest aircraft normally operating at the aerodrome. This ensures that the level of protection provided is appropriate to the operational risk and consistent with ICAO Annex 14 and national standards.
- 3.9 The table to determine the aerodrome category can be found in, Chapter 3, of the MOS Part 139H, and replicated here:

Table 6: ARFFS aerodrome categories

ARFFS aerodrome category	Length of aircraft	Maximum fuselage width
1	0 m up to but not including 9 m	2 m
2	9 m up to but not including 12 m	2 m

ARFFS aerodrome category	Length of aircraft	Maximum fuselage width
3	12 m up to but not including 18 m	3 m
4	18 m up to but not including 24 m	4 m
5	24 m up to but not including 28 m	4 m
6	28 m up to but not including 39 m	5 m
7	39 m up to but not including 49m	5 m
8	49 m up to but not including 61 m	7 m
9	61 m up to but not including 76 m	7 m
10	76 m up to but not including 90 m	8 m

- 3.10 To determine the appropriate aerodrome rescue and firefighting category, begin by assessing the overall length of the longest aircraft normally operating at the aerodrome. Once the corresponding category is identified, evaluate the aircraft's maximum fuselage width. If the fuselage width exceeds the maximum allowed for the initially selected category, the aerodrome must be assigned the next higher category to ensure adequate protection.
- 3.11 The aerodrome category for ARFFS is determined based on aircraft movements during the busiest consecutive three-month period of the year. The following principles apply:
- If the number of movements of the highest category aircraft (referred to as the 'critical aircraft') is 700 or more, the aerodrome should be assigned the category corresponding to that aircraft. (See Table 7, Example 1).
 - If the number of movements of the critical aircraft is fewer than 700, the aerodrome may be assigned a category one level lower than the designated aerodrome category. (See Table 8, Example 2).
 - If the 700 movements include aircraft with significantly different dimensions, the aerodrome category may be further reduced, but not more than one category below the highest aircraft category. (See Table 9 Example 3).
 - This approach ensures that the level of protection is proportionate to operational risk while allowing flexibility for mixed fleet operations.
- 3.12 The following examples illustrate the method for determining the aerodrome category.

Table 7: Example 1 - Method for determining the aerodrome category

Aeroplane	overall	Fuselage	Category	Movements
A321	44.5	4	7	405
B737-800	39.5	3.8	7	320
Embraer-190	36.2	3	6	350

- 3.13 The longest aircraft are categorised by determining (ref. ICAO Airport Services Manual Part 1):
- their overall length
 - their width

c. until 700 movements are reached.

3.14 Example 1 results in the aerodrome category being category 7.

Table 8: Example 2 - Method for determining the aerodrome category

Aeroplane	Overall length	Fuselage width	Category	Movements
B737-800	39.5	3.8	7	400
Fokker F100	35.5	3.3	6	200
DHC8-400	32.8	2.7	6	515

3.15 The longest aircraft are categorised by determining (ref. ICAO Airport Services Manual Part 1):

- a. their overall length
- b. their width
- c. until 700 movements are reached.

3.16 It can be seen that the number of movements of the longest aeroplanes in the highest category totals only 400.

3.17 Example 2 results in the aerodrome category being category 6, one category below that of the longest aeroplane.

Table 9: Example 3 - Method for determining the aerodrome category

Aeroplane	Overall length	Fuselage width	Category	Movements
B777-300	73.9	6.2	9	150
B737-800	39.5	3.8	7	600

3.18 The longest aircraft are categorised by determining (ref Airport Services Manual Part 1):

- a. their overall length
- b. their width
- c. until 700 movements are reached.

3.19 Example 3 results in the aerodrome category being category 8, the number of movements of the highest-category aircraft (e.g. B777-300) totals fewer than 700.

3.20 Where there is a change in the size of aircraft using an aerodrome that, on applying the standard set out in Chapter 3 of MOS Part 139H, is seen to require a reduction or increase in the aerodrome category, the ARFFS provider must submit to CASA a safety case based on the standard set out in Chapter 3 of MOS Part 139H in order to obtain approval of the necessary reduction or increase in the ARFFS.

4 Obligation to maintain category

- 4.1 For an aerodrome, consistent with the approved level/s of category recorded on the ARFFS provider certificate, the ARFFS provider must ensure the service is available during the period or periods published in AIP-ERSA as the period or periods of its availability.
- 4.2 An ARFFS provider can only publish approved levels of service in AIP-ERSA. Approved level(s) are recorded on the ARFFS provider certificate.
- 4.3 Relative to the approved levels of category, variation or interruption may occur and may be temporary or permanent in nature.
- 4.4 Temporary variation/change may occur:
 - a. As a result of, amongst other things, unavailability of extinguishing agents, unavailability of equipment to deliver the agents or unavailability of enough personnel to operate the equipment. In such situations, the service provider must determine the level of category that is available in accordance with the category requirements set out in its operations manual and ensure temporary change to category process is followed. Where such temporary changes occur due to service failure, the requirements of MOS Part 139H Chapter 25 apply or
 - b. Due to periods of predictable reduced aircraft activity. Where such a temporary change to category is implemented, the ARFFS provider must ensure it is within allowable limits and that the correct level of service is being provided relative to the aircraft movements.
- 4.5 Temporary variations to category must be managed in accordance with the ARFFS provider's operations manual and may require issuance of NOTAM and notification to CASA.
- 4.6 Permanent variation/change:
 - a. As a result of the normal aircraft movements at an aerodrome changing to either increase or decrease the aerodrome category in accordance with the category determination process.
- 4.7 Permanent variation/change to category must be managed in accordance with the ARFFS provider's operations manual and will require the submission of a safety case requesting amendment to the ARFFS provider certificate.