

ARFFS Hearing - Questions on Notice for CASA

QoN 1 (p23)

Senator GALLACHER: How many category 6 airports don't have aviation rescue and firefighting services?

Mr Walker: That's correct. A number of airports don't have a firefighting service.

Senator GALLACHER: Do you know how many?

Mr Walker: No. I'd have to take that on notice in terms of how many of the 26 airports that are covered by Airservices Australia—and there are an additional two—do cover, as I say, the 96 per cent of passenger movements in the country.

Answer:

The term 'ARFFS Category' describes the level of service provided (i.e. from Category 6 to Category 10) and not to an airport designation as such. Airservices provides ARFFS at 26 airports (including all those at Category 6) with Proserpine (Whitsunday Coast Airport) expected to be operational in 2020.

QoN 2 (p26)

Senator GALLACHER: How many aviation rescue firefighting service experts do you employ?

Mr Walker: I'd have to take that on notice.

Mr Parker: The answer is two.

Mr Walker: We have two staff.

Senator GALLACHER: How long ago did they leave the aviation rescue firefighting service?

Mr Parker: One only recently, in the last 12 months to two years, and the other three to four years ago. The exact time frame, if you need it, we'll take on notice.

Answer:

The two CASA staff left the aviation rescue firefighting service in 2006 and 2008 and joined CASA in 2014 and 2018 respectively.

QoN 3 (p27)

Senator GALLACHER: On what date did Proserpine hit the 350,000 establishment trigger?

Mr Walker: I'd have to take that on notice. Both CASA and Airservices monitor passenger movements nationally. To avoid the risk of giving you inaccurate information, I'd take it on notice, but it would have been in the last couple of years, and it would have been sustained for quite some time.

Answer:

The 350,000 trigger for passenger movements at Proserpine was reported by the Bureau of Infrastructure, Transport and Regional Economics on 30 June 2017.

QoN 4 (p27)

Senator GALLACHER: Will you see if you can take on notice the date? Is your memory refreshed? What date did Proserpine hit 350,000? Was it three years ago?

Mr Walker: My memory is fresh when it comes to the review in 2015. I'm happy to take that on notice and get for you the date when the threshold was first reached.

Answer:

See answer to QoN 3.

QoN 5 (p28)

Senator O'SULLIVAN: Let me put the question another way. Is the timing of the establishment of this service in Proserpine on time in accordance with the pre-existing legislation or not?

Mr Walker: My understanding is that it is on time.

Senator PATRICK: You introduced the idea, when you were answering Senator Gallacher—

Mr Walker: Yes, and my apologies—

Senator PATRICK: This was the thing that muddied the water. What you've just said to Senator O'Sullivan is that it actually didn't; it simply is a case of it having hit a threshold and there being time within the act for the transition to having a service in place.

Mr Walker: Yes.

Senator PATRICK: Can you point me to that legislation, or don't you know that?

Mr Walker: We can take that on notice and provide that to you.

Answer:

The reference is in Section 2.1.1 of the Manual of Standards (MOS) Part 139H – Standards Applicable to the Provision of Aerodrome Rescue and Firefighting Services.

QoN 6 (p28)

Senator GALLACHER: Perhaps on notice: were the Stryker Mk 7 vehicles fully ADR compliant when they were brought back into service only a year or two ago?

Mr Monahan: Yes, we'll take it on notice.

Answer:

CASA has no evidence to suggest that ADR compliance was not achieved with re-registration of the vehicles.

QoN 7 (p29)

Senator GALLACHER: MOS chapter 6, section 6.1.1.3(a), sets the aviation rescue firefighting services objective as a two-minute response time. Are you familiar with that?

Mr Walker: Yes.

Mr Monahan: Yes.

Senator GALLACHER: Will the new Brisbane fire station for the NPR meet that objective?

Mr Walker: We can take that on notice. My understanding is that if the fire station has been approved it will meet that standard.

Answer:

The additional Brisbane Airport Fire Station will meet all response times according to the supplied Airservices Safety Case. These will be tested when taxiway and runway facilities are completed.

QoN 8 (p29)

Senator GALLACHER: Airservices are building a couple of new fire stations, right? One is in Brisbane; one is in Melbourne. The question very directly to CASA, who write the standards, is: will they meet the two-minute response time?

Mr Monahan: We'll have to take it on notice to look at that actual plan, since that's not complete yet. But it will—it should—meet the time line.

Answer:

See QoN 7 above for the Brisbane station. The new Melbourne runway and any associated fire station is yet to be determined.

QoN 9 (p30)

Senator PATRICK: I was just actually looking at the act, which is what I tend to do. One of the Civil Aviation Safety Regulations subpart 139.H says that the service must come into effect if there are 350,000 passengers passed on air transport flights during the previous financial year, so that's the trigger. Going back to our previous question for Proserpine, do you know the year that it hit that trigger?

Mr Walker: No, I don't have that level of knowledge, but we can find out for you. The numbers are sourced from both Airservices Australia's own data, because obviously they are invoicing and billing operators for air traffic control services, and that is also supplemented through BITRE through their passenger movements. There tends to be some lag, as you are aware, for the BITRE data to be available.

Answer:

See answer to QoN 3.

QoN 10 (p31)

Senator PATRICK: Is it possible just to provide the committee with their case, in that circumstance, and then your response? These aren't secret documents in any way, shape or form, I presume?

Mr Walker: No. We are happy to take that on notice, if we can. The only thing that I would have to check, because I don't have direct knowledge of it, is where that process is actually up to, in terms of whether we've completed our deliberations on that—

Answer:

A copy of the current version of the Airservices Safety Case is attached. Note that as it is still subject to CASA assessment, aspects of this document may change during that process.

QoN 11 (p31)

Senator PATRICK: In that instance, I understand you haven't reached finality in your determination. Could you step back to the point where you've given an interim approval or given it some sort of interim tick, and provide us with the documentation for that? You might have heard the conversation where we were talking about: 'How much difference do three firefighters make to a particular effort? What firefighting assets are down the road?' It would be helpful for the committee to see one of these for real and to see what they considered in the context of that change.

Mr Monahan: Certainly.

Mr Walker: Certainly.

Senator PATRICK: Thank you.

Mr Monahan: We understand you want it up to where we are now.

Senator PATRICK: Yes, basically. If you are halfway through a process, I don't want that, but just where you got up to, which is a tentative endorsement—or whatever you would call it.

Answer:

See answer to QoN 10 above.

Perth Aviation Rescue Fire Fighting Service Permanent Change from Category 9 to Category 9 with the ability to increase to 10 All Phases

Safety Case

SAF-SC-15033-F

Version 1.0

Effective 05 DEC 2018

Prepared: [REDACTED]
Operational Risk and Safety Specialist [REDACTED]

I declare that this Safety Case:

- has been prepared in accordance with the requirements of Airservices Safety Management System that are necessary to manage the Operational-Safety aspects of the change
- accurately reflects the Operational Safety Program performed in support of this change

Agreed: [REDACTED]
Local Operations Manager Perth [REDACTED]

I declare that the Operational Safety Program described within this Safety Case:

- accurately reflects the safety program performed in support of this change
- includes outstanding activities that are incorporated within the change schedule, resource and budget planning

Endorsed: Executive General Manager
Safety and Assurance [REDACTED]

I am satisfied, following review of this Safety Case, that it:

- describes a Safety Program that meets the requirements of the Safety Management System necessary to manage the Operational-Safety aspects of the change
- provides a valid, evidenced safety argument

Accepted: Western Operations Manager [REDACTED]

I am satisfied, following review of this Safety Case, that it:

- accurately describes the approved and executed Operational Safety Program
- provides a valid, evidenced safety argument that confirms the:
 - specified requirements have been adequately traced into the design
 - design has been implemented
 - technical transition and ongoing support have been adequately planned and reviewed to ensure the specified requirements are met
 - change, as implemented, ensures all identified Operational Safety risks associated with the design, technical implementation, transition, and ongoing technical operation are able to be managed to ALARP

Accepted: [REDACTED]

I am satisfied, following review of this Safety Case, that it:

- accurately describes the approved and executed Operational Safety Program
- provides a valid, evidenced safety argument that confirms the:
 - validity of the operating concept, for which an accurate and valid set of requirements, including safety requirements, has been articulated
 - solution implements the operating concept
 - operational transition and ongoing operation have been adequately planned and reviewed to ensure the specified requirements are met
 - change, as implemented, ensures all identified Operational Safety risks associated with the operational implementation, transition, and ongoing operation are able to be managed to ALARP

Uncontrolled if printed

Document Review Record

Those listed below have reviewed this document in the context of their area of expertise and in accordance with their area of accountability. All issues raised from the reviews have been addressed to the satisfaction of all reviewers.

Name	Role / Position	Date	Version
██████████	Operations Manager Perth	15 NOV 2018	0.1
██████████	Western Operations Manager	15 NOV 2018	0.1
██████████	Regulator Performance Manager	05 DEC 2018	0.1

Change summary

Version	Date	Change description
0.1	13/11/2018	Initial version prepared by [REDACTED]
1.0	05/12/2018	Inclusion of review amendments by [REDACTED]

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Document storage locations:

All Safety Case	Number
Electronic copy	SAF-SC-15033-F

1 Executive summary

Aviation Rescue and Fire Fighting Services (ARFFS) provided within Australia must conform to mandated requirements to ensure the operational capability of the service whilst maintaining safety of ARFFS staff and the travelling public.

Categories of ARFFS are established so as to ensure the provision of resources adequately matches that of the worst plausible incident (category/critical aircraft) at a given aerodrome.

Dependent upon aircraft movements the category may change from time to time, and when such a change occurs it is important that the necessary changes are made in accordance with Airservices Part 139H Operations Manual.

Perth has been providing category 9 with an ability to increase to category 10 (in accordance with the CASA issued operating certificate) since 2015.

Whilst Airservices prepared safety documentation in 2015, SCARD (PH A380 commencement), to support the amendment to the provider certificate (60/15), CASA has requested a safety case be provided to further document the safety argument and evidence that supports the current operating model at Perth.

2 Purpose

The purpose of this safety case is to demonstrate that the way ARFFS provides category 10 (during nominated hours) services at Perth meets Regulatory requirements and any operational safety risk associated with the permanent change to service category has been managed to ALARP.

This will be achieved by providing evidence that the requirements that vary between categories will continue to be met and demonstrating that potential hazards associated with the change have been identified and managed to ALARP. The primary evidence for this will be ARFF-FORM-001 and the hazard identification conducted via the applicable steps of the SCARD process.

3 Background

ARFFS locations are subject to ongoing variations in movements and aircraft types.

Sustained variations can trigger a requirement for a category change so as to ensure adequate operational resources and capability are provided for the worst plausible scenario at a given aerodrome in accordance with ARFFS regulations and standards.

Variation can also be triggered due to a regular aircraft movement which is of a greater category than that currently provided, and in which Airservices ARFFS seeks to supply that level of category without utilising the ability to provide service one level below the largest regularly operating aircraft¹.

Perth ARFFS has experienced regular A380 movements since 2015, and in accordance with the position defined within the ARFFS category 10 service provision safety case, irrespective of the frequency of movement – category 10 service will be provided relevant to each A380 movement.

¹ MOS139H s. 3.1.2.1.

As such, Perth ARFFS changed its level of service to category 9 with the ability to increase to category 10 (during nominated hours) in May 2015, with the Civil Aviation Safety Authority amending the provider certificate (CASA 60/15). This amendment to the provider certificate was undertaken on the advice of CASA, (Amendment to ARFFS provider instrument of approval) and was accepted and processed by CASA on the basis of a SCARD (sent to CASA 22 April 2015) and the Request for Amendment of ARFFS Provider Approval Instrument letter requesting this change.

The current ARFFS provider certificate continues to correctly refer to Perth ARFFS as category 9 with an ability to increase to category 10 (during nominated hours).

Airservices has identified, whilst safety documentation was prepared to support the provider certificate being amended, additional change has been undertaken in relation to the method in which resources are utilised when providing category 10 at Perth. This additional change was undertaken in 2016, and a SCARD was prepared.

This safety case documents the argument and evidence that supports ARFFS category 10 operating model at Perth. The safety case has been developed in accordance with the relevant safety plan (Attachment 2), and is supported in its design by the Airservices Safety Management System along with the initiating Safety Case Assessment and Reporting Determination (SCARD).

This safety case fulfils the requirement consistent with section 2.1.1.2 of the Manual of Standards Part 139H.

4 Scope

The scope of this safety case relates to Perth ARFFS only, including the particulars associated with the provision of service at category 9 and the ability to increase (when required) to category 10.

5 Assumptions, constraints and dependencies

Certain assumptions, constraints and dependencies may have applied to this change.

5.1 Assumptions

The following assumptions remain applicable as per the safety plan:

1. The ARFFS location which is being subjected to a category change will achieve and maintain the necessary movements in order to substantiate a change to category.

This assumption has been validated and is no longer an assumption.

A380 movement have and continue to occur at Perth ARFFS.

Evidence provided in table 1.

ARFFS Aircraft Movements by Service Category Report

YPPH - PERTH
Local Time

Date	CAT 5		CAT 6		CAT 7		CAT 8		CAT 9		CAT 10		Total	Port Cat (Calc)
	Act.	Roll. 3 Mths	Act.	Roll. 3 Mths	Act.	Roll. 3 Mths	Act.	Roll. 3 Mths	Act.	Roll. 3 Mths	Act.	Roll. 3 Mths		
May 2014	995		4,903		2,232		1,451		1,000		0		10,641	0
Jun 2014	962		4,726		2,160		1,406		940		0		10,234	0
Jul 2014	1,104	3,021	5,185	14,814	2,222	6,684	1,599	4,486	1,014	2,654	4	4	11,128	9
Aug 2014	962	3,048	4,805	14,716	2,264	6,666	1,493	4,496	995	2,640	0	4	10,510	9
Sep 2014	1,006	3,072	4,941	14,931	2,245	6,732	1,496	4,556	1,007	3,007	0	4	10,696	9
Oct 2014	969	2,937	5,254	15,010	2,251	6,761	1,652	4,641	1,012	3,005	2	2	11,150	9
Nov 2014	905	2,860	4,726	14,931	2,105	6,603	1,421	4,595	995	3,015	0	2	10,154	9
Dec 2014	950	2,824	5,120	15,110	2,126	6,483	1,579	4,652	1,072	3,690	2	4	10,949	9
Jan 2015	780	2,635	5,133	14,979	2,053	6,285	1,537	4,537	1,071	3,199	0	2	10,574	9
Feb 2015	959	2,589	4,345	14,598	2,043	6,227	1,430	4,546	907	3,050	0	2	9,939	9
Mar 2015	967	2,506	4,795	14,263	2,193	6,299	1,606	4,373	967	2,945	0	0	10,523	9
Apr 2015	964	2,320	4,868	13,998	2,173	6,424	1,571	4,607	965	2,840	0	0	10,577	9
May 2015	874	2,335	4,703	14,356	2,144	6,520	1,541	4,718	937	2,870	62	62	10,261	9
Jun 2015	793	2,661	4,780	14,351	2,159	6,481	1,476	4,590	932	2,835	60	122	10,202	9
Jul 2015	763	2,435	5,083	14,566	2,274	6,577	1,653	4,672	923	2,792	66	168	10,767	9
Aug 2015	547	2,206	4,826	14,691	2,340	6,773	1,396	4,529	864	2,719	55	161	10,132	9
Sep 2015	614	2,029	5,129	15,040	2,171	6,785	1,509	4,560	810	2,697	61	162	10,264	9
Oct 2015	862	1,843	5,274	15,231	2,174	6,665	1,523	4,430	862	2,536	62	178	10,477	9
Nov 2015	499	1,856	4,944	15,347	2,165	6,510	1,364	4,426	775	2,451	60	163	9,941	9
Dec 2015	555	1,616	5,374	15,592	2,223	6,567	1,451	4,396	891	2,532	64	166	10,573	9
Jan 2016	447	1,481	5,051	15,379	2,129	6,522	1,464	4,339	874	2,544	62	166	10,037	9
Feb 2016	495	1,477	4,943	15,376	1,980	6,337	1,373	4,316	791	2,555	54	160	9,636	9
Mar 2016	261	1,223	5,366	15,370	2,113	6,222	1,517	4,354	845	2,514	64	160	10,190	9
Apr 2016	245	1,021	5,075	15,388	1,936	6,029	1,480	4,370	812	2,452	62	160	9,614	9
May 2016	234	760	5,130	15,575	2,031	6,080	1,254	4,291	823	2,434	60	166	9,572	9
Jun 2016	267	766	4,983	15,192	2,113	6,080	1,177	3,951	901	2,636	58	160	9,515	9
Jul 2016	272	793	5,022	15,136	2,030	6,174	1,370	3,841	937	2,711	60	178	9,741	9
Aug 2016	199	758	5,296	15,303	2,134	6,277	1,418	3,965	835	2,773	119	237	10,053	9
Sep 2016	201	672	5,175	15,496	1,925	6,069	1,432	4,220	870	2,742	119	298	9,722	9
Oct 2016	220	620	5,143	15,616	1,959	6,018	1,479	4,329	913	2,665	116	354	9,930	9
Nov 2016	263	674	5,175	15,493	1,848	5,732	1,487	4,396	878	2,661	62	297	9,703	9
Dec 2016	182	655	5,192	15,510	1,851	5,653	1,450	4,446	919	2,710	120	298	9,744	9
Jan 2017	170	605	5,199	15,556	1,803	5,502	1,450	4,417	918	2,715	124	306	9,654	9
Feb 2017	158	510	4,784	15,155	1,712	5,366	1,262	4,192	811	2,648	70	314	8,797	9
Mar 2017	169	517	5,254	15,227	1,918	5,433	1,426	4,136	899	2,626	62	286	9,746	9
Apr 2017	169	516	4,902	14,940	1,813	5,443	1,258	3,976	835	2,595	60	152	9,117	9
May 2017	163	543	5,295	15,455	1,971	5,702	1,176	3,890	827	2,611	62	164	9,590	9
Jun 2017	190	544	5,179	15,380	1,842	5,626	1,271	3,735	737	2,499	60	162	9,326	9
Jul 2017	219	564	5,176	15,654	2,033	5,851	1,318	3,765	855	2,470	61	163	9,656	9
Aug 2017	203	612	5,387	15,742	2,271	6,151	1,208	3,797	852	2,495	62	163	9,903	9
Sep 2017	170	562	5,133	15,696	2,085	6,194	1,157	3,723	821	2,529	62	165	9,486	9
Oct 2017	161	554	5,281	15,801	2,165	6,521	1,350	3,755	845	2,522	62	166	9,906	9
Nov 2017	166	537	5,295	15,673	1,903	6,233	1,159	3,736	891	2,561	60	164	9,566	9
Dec 2017	177	544	5,039	15,679	2,125	6,273	1,308	3,847	915	2,655	60	162	9,624	9
Jan 2018	214	577	5,211	15,909	2,264	6,372	1,237	3,734	899	2,705	62	162	9,887	9
Feb 2018	221	612	4,613	14,863	1,960	6,349	1,041	3,566	795	2,609	58	160	8,636	9
Mar 2018	251	666	5,009	14,833	2,279	6,503	1,114	3,392	926	2,620	62	162	9,641	9
Apr 2018	254	726	4,723	14,345	2,329	6,968	1,094	3,249	912	2,633	60	160	9,372	9
May 2018	276	761	5,162	14,894	2,402	7,010	1,020	3,228	807	2,645	124	246	9,791	9
Jun 2018	244	774	4,789	14,674	2,277	7,008	966	3,110	799	2,618	120	304	9,226	9
Jul 2018	300	820	5,209	15,160	2,405	7,084	1,115	3,131	834	2,490	122	366	10,036	9
Aug 2018	287	831	5,142	15,140	2,383	7,040	1,104	3,215	823	2,505	124	366	9,936	9
Sep 2018	152	779	4,922	15,273	2,251	7,014	1,014	3,233	837	2,594	124	370	9,390	9
Oct 2018	1	480	24	10,085	10	4,619	2	2,120	7	1,717	0	243	44	9
Total	24,555		287,165		112,119		72,379		47,438		3,115		526,906	

Report Notes:
 1. Movements data is available one month in arrears on the 28th of each month. For example, January data will be available on the 28th February.
 2. Movements at ARFF Pontoons are based on data used for charging purposes.
 3. Port Category (Calc) represents a derived category based on the port's rolling 3 month movements for each category.
 4. Freight and Recreational Aviation (RA) movements at airports are not included in overall statistics.

Table 1 - ARFFS PH aircraft movement data highlighting A380 commencement and ongoing operations

- The ARFFS location which is being subjected to a category change is currently listed on the ARFFS approval certificate.

This assumption has been validated and is no longer an assumption. Perth is listed on the ARFFS provider certificate.

5.2 Constraints

The following constraints remain applicable as per the safety plan:

1. CASA approval of a category change is required via a change to the provider certificate (or other method as determined by the CASA) before any permanent change to category can occur.

Note: temporary change to category is permitted in accordance with ARFFS OPS-005 so as to ensure the correct level of ARFFS is provided.

This constraint no longer remains a constraint as CASA has approved category 10 upon the issuance of provider certificate 60/15.

2. En-Route Supplement Australia (ERSA) cannot be amended to reflect a changed level in category provision until the relevant provider certificate has been amended or as otherwise advised from the CASA.

Note: ERSA may refer directly to NOTAM.

This constraint no longer remains a constraint as CASA has approved category 10 upon the issuance of provider certificate 60/15.

5.3 Dependencies

No dependencies were identified associated with this change

6 Responsibilities

In order to effectively manage the category change, the following responsibilities were defined.

Title and name	Primary responsibilities
Local Operations Manager	<ul style="list-style-type: none"> • Act as the change manager as per Appendix A of the associated safety plan • Undertake and coordinate the required category change activities (as defined in the Safety Plan) so as to ensure capability and resources match mandated requirements • Provide completed forms and documentation to lead safety specialist (including the FORM-001) • Undertake functions of an accountable manager as required • Ensure adequate operational coverage in an interim capacity is provided whilst permanent category change and approval certificate amendment is being sought in accordance with established procedure
Regional Operations Manager	<ul style="list-style-type: none"> • Provide assistance to the Local Operations Manager undertaking the category change activities • Undertake functions of an accountable manager as required • Maintain oversight of operational capability along with correct provision of category • Accept the FORM-001 after seeking assurance that required category change activities have been completed correctly and verified.
Chief Fire Officer	<ul style="list-style-type: none"> • Overall internal approval of the proposed category change prior to seeking the approval by Civil Aviation Safety Authority
Operational Standards Manager	<ul style="list-style-type: none"> • As delegated operational authority for ARFFS systems – when required, assist with the coordination and involvement of System Authorities applicable to the proposed change

Operational Risk and Safety Specialist	<ul style="list-style-type: none"> • Undertake the function of lead safety specialist • Coordinate the involvement of necessary Safety & Assurance specialists as required (e.g. safety surveillance manager, safety assurance manager, regulatory performance manager). • Provide specialist assistance for the preparation of the safety documentation associated with the category change • Facilitate development of the Safety Case and other associated safety documentation including reviews
Regulatory Performance and Safety Surveillance	<ul style="list-style-type: none"> • Provide specialist regulatory advice and input • Review safety documentation • Facilitate communication with the Civil Aviation Safety Authority

7 Consultation and communication

Consultation and communication associated with the change to category at Perth has been managed through the planned change activities.

These included:

- ARFF Operations Administrative Guide – ASG 001
- ARFF-FORM-001 – Permanent Change to Category Checklist

8 Design process

8.1 Functional and performance requirements

Functional and performance requirements for a change in category are defined within the ARFFS operational documentation set, specifically AFFM-CT Aviation Fire Fighting Manual – Category and ARFFS OPS-005. These documents define standards and requirements in accordance with the CASA Manual of Standards (MOS) Part 139H.

ARFFS locations must comply with the functional and performance specifications defined relevant to their category.

Unless established consistent with a relevant supporting safety case, any and all resources provided in excess of AFFM-CT and OPS-005 are not aligned with functional and performance requirements and are not to be considered components of category.

The ARFFS operations administrative guide ASG-001 provides the requirements for managing the progressive implementation of the required changes.

8.2 Design integrity

The design and formulation of category is underpinned by Australian regulations and standards which are further supported by standards and recommended practices (along with guidance documentation) from the International Civil Aviation Organisation (ICAO).

The application of these regulations and standards along with Airservices Safety Management System and the ARFFS Operations Manual; provides assurance of the overall design integrity.

8.3 Design procedures and standards

In undertaking this change, the Airservices Safety Management System along with the ARFFS Operations Manual requirements have been met.

In doing so, compliance with the Manual of Standards part 139H has been achieved.

In the event that service provision cannot be provided in accordance with category requirements (no longer meet the specified minimum requirements of AFFM-CT), industry will be informed via the application of process documented in ARFFS Operational Procedure 'Service Provision for Temporary Change to Category – OPS-005'.

8.4 Design confirmation

The design specification are defined in sections 8.1 to 8.3. These requirements are ratified and mandated as applicable by the relevant regulating authority, and Airservices ARFFS defines compliance with these requirements within its operation manual.

Compliance of the proposed change with the ARFF Operations Manual is evidenced by the completion of FORM-001 (refer to section 8.7).

The following design confirmation applies at Perth ARFFS in meeting and/or exceeding design requirements.

- When providing category 9 service, minimum functional performance design requirements (AFFM-CT and OPS-005) are confirmed (evidence in section 8.7).

In addition to these requirements - resources above the minimum requirements of AFFM-CT and OPS-005 are also provided. This includes a domestic response vehicle (DRV) staffed with 1 Officer and 2 Fire Fighters. As per section 8.1 of this safety case – these resources do not form a component of category and as such, do not form a component of the safety argument established within this safety case.

Such additional resources are provided to assist with the achievement of Airservices self-established performance indicators.

- When providing category 10 service during nominated hours, minimum functional performance design requirements (AFFM-CT and OPS-005) are confirmed (evidence in section 8.7).

An Aerial Special Vehicle (ASV) is provided consistent with the ARFFS category 10 service provision safety case.

In addition to these requirements - resources above the minimum requirements of AFFM-CT and OPS-005 may be provided, this includes:

- A Domestic Response Vehicle (DRV). When available, this vehicle type enhances operational response capability by:
 1. Providing a vehicle better suited to responding to non-aircraft emergencies, especially those emergencies in and around airport terminals and other key airport infrastructure.
 2. Ensuring the vehicles required to meet response times and discharge firefighting agent applicable to category 10 requirements remain readily available to respond in line with the MOS chapter 20.1.2.1.

The CASA approved staffing level of 14 staff for Category 10 ensures there are sufficient staff available to drive and operate all the required foam producing vehicles

for Category 10, the ASV and the DRV. Should the DRV not be available, staff allocated to the DRV are redistributed across the foam producing vehicles and ASV.

8.5 Design limitations and shortcomings

There are no identified design limitations or shortcomings.

8.6 Design authorities

This section is not applicable for the scope of this safety case

8.7 Design safety management activities

Certain safety management activities have been undertaken to ensure the risk associated with a change to category at Perth ARFFS is managed effectively. These activities have been completed (so far as practicably able) and form attachments to this safety case.

Required activities:

1. Completion of a Safety Case Assessment and Determination Report (SCARD). **Attachment 1.**
2. Completion of ARFF-FORM-001. This safety management activity specifically addresses important individual areas of change in relation to operational resources, documentation, training and stakeholder engagement. The completed form shows that the service will continue to be compliant with the requirements of the ARFF Operations Manual after the change in category. **Attachment 2.**
3. Identification of safety hazards (e.g. a hazard identification workshop) and associated risk assessment and mitigation to support the category change at a particular ARFF location (to meet the content requirement of a safety case for safety risk management). This activity may be addressed during the SCARD process (activity 1) and included in the SCARD preliminary hazard analysis table. **Attachment 1.**
4. Document the above activities and outcome in a Safety Case. Refer to this safety case document.

Safety management activity 3 (identification of safety hazards) was undertaken in conjunction with the SCARD process. This activity identified a number of operational hazards which were mapped against the Operational Risk Assessment applicable to Perth. In doing so, confirmation was obtained that these hazards relate to existing risks that remain effectively identified and managed through the ARFF ORAs and no further additional hazard assessment and risk management is required.

Hazard Title	ORA Mapping
Failure to supply the correct provision of category	<ul style="list-style-type: none"> • Hazard 1 – Insufficient staff on duty to effectively respond to and manage an incident. D class. • Hazard 2 – Insufficient vehicles and equipment to respond to and manage an incident. D class.

Amending ERSA to reflect incorrect category	<ul style="list-style-type: none"> • Hazard 1 – Insufficient staff on duty to effectively respond to and manage an incident. D class. • Hazard 2 – Insufficient vehicles and equipment to respond to and manage an incident. D class.
Inability for the existing facilities to adequately store/house/facilitate the required equipment, resources or staffing for category 9/10.	<ul style="list-style-type: none"> • Hazard 1 – Insufficient staff on duty to effectively respond to and manage an incident. D class. • Hazard 2 – Insufficient vehicles and equipment to respond to and manage an incident. D class.
Failure to supply the correct firefighting capability in accordance with cat 9/10	<ul style="list-style-type: none"> • Hazard 1 – Insufficient staff on duty to effectively respond to and manage an incident. D class. • Hazard 2 – Insufficient vehicles and equipment to respond to and manage an incident. D class. • Hazard 6 – Ineffective operations strategy and tactics. D class • Hazard 11 – Reduced ability to access very large aircraft.
Failure to supply the correct reserve stock	<ul style="list-style-type: none"> • Hazard 2 – Insufficient vehicles and equipment to respond to and manage an incident. D class.
Failure to supply the correct ancillary equipment for category 9/10	<ul style="list-style-type: none"> • Hazard 2 – Insufficient vehicles and equipment to respond to and manage an incident. D class.
Response time are impacted due to category increase	<ul style="list-style-type: none"> • Hazard 2 – Insufficient staff on duty to effectively respond to and manage an incident. D class. • Hazard 4 – Inadequate notification of incident. D class. • Hazard 6 – Ineffective operations strategy and tactics. D class
Failure of staff to execute the required operational tactics for category 9/10	<ul style="list-style-type: none"> • Hazard 1 – Insufficient staff on duty to effectively respond to and manage an incident. D class. • Hazard 2 – Insufficient vehicles and equipment to respond to and manage an incident. D class. • Hazard 3 – Inadequate incident control. D class. • Hazard 6 – Ineffective operations strategy and tactics. D class
Insufficient staff to provide the correct category level	<ul style="list-style-type: none"> • Hazard 1 – Insufficient staff on duty to effectively respond to and manage an incident. D class.
Failure to amend controlled documents to reflect the increased category	<ul style="list-style-type: none"> • Hazard 6 – Ineffective operations strategy and tactics. D class
Failure to inform/advise external parties / stakeholders (specifically relating to service	<ul style="list-style-type: none"> • This hazard does not align with specific information within the ORA – however it is addressed via the application of the FORM-001 to ensure that there is communication with required stakeholders.

agreements/MOUs/LOAs)	
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8.8 Design hazards, controls and safety requirements

No new design hazards, controls or safety requirements were identified that are not already recorded in the ARFF ORAs.

8.9 Design risk management

No new design risks were identified that are not already recorded in the ARFF ORAs.

9 Implementation process

9.1 Transition to operations

The change of capability, resources and documentation associated with the change (in category) has been assessed to determine the ability of the Perth ARFFS capability to meet the requirements of the change.

The process of transition is managed in accordance with the defined requirements of ASG-001 and the associated ARFF-FORM-001.

Due to CASA amendment of the provider certificate – transition activities have already been completed.

9.2 Implementation procedures and standards

The requirements of ASG-001 have been achieved in relation to the category change at Perth.

9.3 Implementation safety management activities

The safety management activities described in section 8.7 also apply to the implementation of the change.

The completed ARFF-FORM-001 – note, this form has been completed retrospectively due to CASA approval already being provided as defined in section 3.

The hazard identification activity conducted as part of the SCARD process identified no new operational hazards related to the implementation of the change. The hazards that were identified have been confirmed to be covered by existing ARFF ORAs (refer to the mapping table in section 8.7).

9.4 Implementation hazards, controls and safety requirements

No new implementation hazards, controls or safety requirements were identified that are not already recorded in the ARFF ORAs.

9.5 Implementation risk management

No new implementation risks were identified that are not already recorded in the ARFF ORAs.

9.6 Pre-implementation risk assessment

No new risks were identified related to this change that are not already recorded in the ARFF ORAs. As such this activity is not required.

10 Procedures and engineering support

The existing procedures and engineering support arrangements for the ARFFS accommodates variations in category.

11 Safety performance monitoring

Category availability monitoring occurs for all locations in accordance with the advertised level of coverage. Monitoring is undertaken consistent with an Airservices developed corporate national performance target² of 99.9%; time at the required category level during a locations published hours of operations.

Table 2 illustrates the reviewed data related to the period spanning October 2017 to Sep 2018 at Perth. Refer to the [operational risk review](#) for additional reviewed data information.

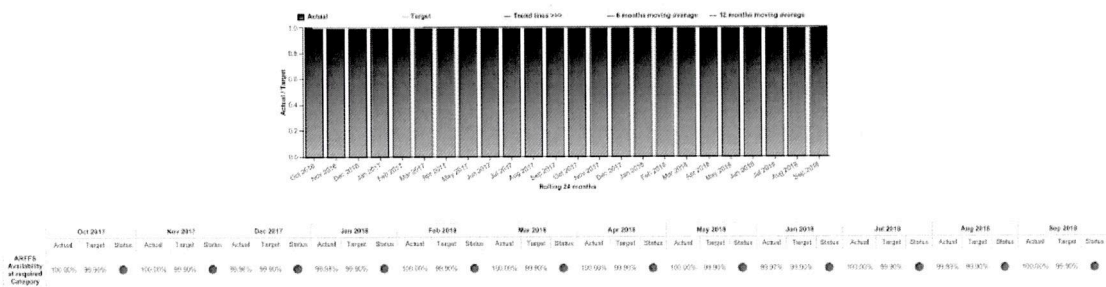


Table 2 Category maintenance (availability data review)

Where applicable, additional resources may be established in support of managing performance relative to this indicator, however, such resources are in addition to category requirements (as per section 8.1).

12 Training and education

The training and education associated with the change in category has been captured as an element of the ARFF-FORM-001 completion. There are no additional training or education requirements.

13 Business continuity

This section is not applicable for the scope of this safety case

²This is a non-regulated corporate performance target measure developed by Airservices that may change at Airservices discretion.

14 Conclusion

This safety case defines the process undertaken in accordance with the Airservices Safety Management System and the defined category change requirements within Airservices Part 139H Operations Manual.

It confirms that operational risk associated with the permanent change to service category has been managed to ALARP.

In undertaking these activities, Perth ARFFS can continue to be formally recognised on Airservices Part 139H Provider Certificate as a Category 9 with the ability to increase to 10, as demonstrated by this safety case and supporting evidence.

15 Safety Post Implementation Review

Category 10 has been in operation at Perth since 2015. An operational risk review has been completed in relation to the provision of category 10.

16 Document review

16.1 Service Delivery Line/Business Branch or Unit

This document has been reviewed by the ARFFS. It can be confirmed that the content contained within this report is valid, and that the processes in accordance with the Airservices SMS and the ARFFS Operations Manual have been complied with.

16.2 Safety and Assurance



The Safety and Assurance have reviewed this safety case in accordance with review requirements and recommendations for improvement have been acted upon where applicable and suitable.

17 Definitions








Within this document, the following definitions, acronyms and abbreviations apply:







Term	Definition
ALARP	As Low As Reasonably Practicable
ARFF	Aviation Rescue Fire Fighting – the practical activity of aviation rescue and fire fighting
ARFFS	Aviation Rescue and Fire Fighting Service – the approved statutory authority for the provision of ARFF in Australia
Category	The level of ARFFS provided in accordance with the Manual of Standards 139 subpart H – Chapter 3
CASA	Civil Aviation Safety Authority
CASR	Civil Aviation Safety Regulations
MOS 139H	Manual of Standards part 139H – Standards Applicable to the Provision of Aerodrome Rescue and Fire Fighting Services
ICAO	International Civil Aviation Organisation
ORA	Operational Risk Assessment

18 Attachments

No.	Title and version
1	SCARD prepared April 2015 (PH A380 commencement)  CAT 10 SCARD for new roster model (n)
2	Completion of ARFF-FORM-001  Perth permanent category change 15

19 References

Title and version	Number/Link
Operational Safety Change Management Requirements (1 September 2017)	 aa-nos-saf-0104.pdf
ARFFS Category 10 Service Provision Safety Case (28 September 2007)	 saf-sc-07014[1].pdf
SCARD prepared 14 April 2015 (PH A380 commencement)	 CAT 10 SCARD for new roster model (n)
Email to CASA 22 April 2015 with the SCARD for Commencement of A380 aircraft operations - Perth	 RE Commencement of A380 aircraft operations
CASA response 24 April 2015 SCARD for Commencement of A380 aircraft operations - Perth	 FW Commencement of A380 aircraft operations
Amendment to ARFFS provider instrument of approval (7 May 2015)	 FW Amendment to ARFFS provider instrument
Request for Amendment of ARFFS Provider Approval instrument (7 May 2015)	 Request to update ARFFS provider instrument

<p>ARFFS Provider Certificate 60/15 (20 May 2015)</p>	<p> casa_60-15 provider certificate - replaced</p>
<p>SCARD prepared August 2016 (PH roster modification SCARD) 5 August 2016</p>	<p> Perth Roster Modification SCARD</p>
<p>Current ARFFS Provider Certificate (CASA.139H.0004) 5 June 2018</p>	<p> CASA_139H_0004.pdf</p>
<p>Standard Permanent Change to Aviation Rescue and Fire Fighting Service Category – All Phases Safety Plan (11 October 2018)</p>	<p> SAF-SP-15033.pdf</p>
<p>Operational risk review – Perth category 10 operating model (19 Oct 2018)</p>	<p> Perth ARFFS utilisation of DRV d</p>
<p>ARFFS Operations Administration Guide ASG-001 (17 May 2018)</p>	<p> ASG-001.pdf</p>

