



Remote Station Submission for Category 6 & 7 Stations





Contents

1. Background.....	3
1.1 Trigger passenger numbers under review	4
2. Issues surrounding Remote Stations.....	5
2.1 (1) Insufficient staff on duty to effectively respond to and manage an incident	5
2.2 (2) Insufficient Equipment / vehicle to effectively respond to and manage an incident.....	7
2.3 (3) Inappropriate support of mutual aid provision	10
2.4 (4) Ineffective management of casualties	11
2.5 (5) No localised infrastructure to cope with the aftermath of a catastrophic event (Not Identified by ARFFS)	13
3. Conclusion	16
4. List of Tables	17



1. Background

Aircraft passenger numbers have grown significantly in regional and remote airports over the past 8 years. This is largely due to economic growth stimulated by a strengthening resource and mining industry and increasing domestic tourism in our regional areas. This growth has initiated the establishment of ARFFS Aviation Rescue Fire Fighting Services (**ARFFS**) at various locations around Australia that had not previously had the service. The current trigger for ARFFS presence is 350,000 passengers per year in Australia. Due to the growth in passenger numbers at these regional locations, the aviation industry has moved to use larger aircraft to meet economies of scale. For example, previously airlines operated aircraft such as a Dash 8, BAE 146, Fokker F100 or ATR 72 with capacity ranges of 50 -100 passengers and of 3000l – 13000l of fuel. The jump in aircraft size to category 6 and 7 aircraft such as Airbus A320, Boeing 737 (800) and the Boeing 717 also correlates to an increased risk with up to 184 passengers and fuel loading expansion up to 29,000l.

Most of the regional and remote locations are unique in that their remoteness precludes them from any reasonable scale emergency support from other agencies. This places an emphasis on ARFFS at these locations being resourced appropriately as stand-alone services.

The table below identifies when all recent and proposed station establishments trigger year and lag time to service provision.

Table 1. Recent and proposed stations, trigger and establishment years

Category 6/7 locations	Trigger year	Establishment year
Ayres Rock NT	1999	2004
Sunshine Coast QLD	2004	2010
Hamilton Island QLD	2005	2005
Broome WA	2007	2009
Karratha WA	2008	2009
Port Hedland WA	2011	2012
Coffs Harbour NSW	2012	2014
Ballina NSW	2012	2014
Gladstone QLD	2012	2014
Newman WA	2013	2014
Proserpine QLD	2017	Not established
Newcastle NSW	2004	Not established
<i>No service provided by RAAF (doesn't cover all RPT flights now over 1million passengers)</i>		

Trigger year source; BITRE Airport Traffic DATA February 2019

NOTES on Table 1:

- Proserpine 2018; 469,958 passengers Not established trend identified in 2016; 348,000 passengers.
- Newcastle reached the trigger in 2004. No service is provided by ARFFS (Airservices). The RAAF fire service provides coverage but doesn't cover all Regular Passenger Transport (RPT) flights, with passenger numbers now over 1million.



1.1 Trigger passenger numbers under review

In 2007 the Civil Aviation Safety Authority (**CASA**) initiated a Post Implementation Review (**PIR**) of the Civil Aviation Safety Regulations (**CASR**) Subpart 139.H, including a consultation process during 2011.

The Union believe that, as part of the PIR consultation process, Airservices submitted to the Department of Transport and Regional Services (**DoToRs**), now Department of Infrastructure and Regional Development and Cities (**DIRD**) recommending an increase of the passenger number trigger for ARFFS presence to 500,000 passenger movements per year, and that DIRD recommended this model to the Minister and broader industry. We request that the inquiry should ask for these documents as evidence of collusion, or at the very least an example of the service provider influencing the regulator to give effect to commercial cost cutting decisions. The increase to 500,000 as a trigger for a new service and 400,000 passengers to remove an existing service, would have the effect of removing ARFFS from towns such as Coffs Harbour, Gladstone, Newman, Port Hedland and Proserpine.

In December 2015, DIRD initiated a regulatory policy review, and consequently in 2016 proposed a shift in the trigger for new ARFFS establishment to 500,000 passengers, in line with the Airservices submission as part of the PIR. This Proposal was, unsurprisingly, supported by Airservices in February 2016. The Transport Minister, Hon Michael McCormack MP, rejected the DIRD proposal and advised in June 2018 that the current passenger limit triggers would remain.

In 2013, Airservices ceased ordering MK 8 Panthers despite the fact that five (5) new stations would need to be resourced under the current 350,000 passenger trigger guidelines in the next few years. The Union submit that the intent was not to resource these locations on the assumption that the trigger to add a service was going to be increased to 500,000 passengers and the trigger to remove a service was going to be increased to 400,000 passengers. At the time they did not have sufficient resources to fulfil the ARFFS obligations to open the all of the stations proposed in 2014, and made the decision to bring the MK7 Mills Tui fire vehicle out of retirement, to service the Sunshine coast and Gladstone stations. A subsequent roll over of this vehicle type for the second time has seen it removed from service again.



2. Issues surrounding Remote Stations

Most issues regarding remote stations have been identified by ARFFS within existing Operational Risk Assessments (ORAs) and the same terminology around these considerations are used in this submission. ORAs are completed by ARFFS for all stations. Of all the considerations within the ORA, the Union has selected 4 (four) to focus on in this Submission:

- (1) Insufficient staff on duty to effectively respond to and manage an incident
- (2) Insufficient Equipment / vehicles to respond to and manage an incident
- (3) Inappropriate support of mutual aid provision
- (4) Ineffective management of casualties

The Union has three key concerns with the application of the ORA at regional and remote ARFFS locations for the purposes of this submission. The first concern is the risk rating assigned to the above hazards by ARFFS is too low; the second is that the mitigating factors are given too much weight or are ineffective, and the third is that the ORA should include an additional consideration that is specifically relevant to the regional/remote locations -

- (5) No localised infrastructure to cope with the aftermath of a catastrophic event.

For most of the considerations ARFFS safety have identified (considerations (1)-(4) above) an initial hazard rating of "moderate" was allocated to the remote locations. We have outlined below the Union's position in regard to each of the considerations in the next section of this document.

The application of "mitigators" are of significant concern to the Union, as they have the effect of dropping the hazard and risk rating from an already low rating of "moderate" to merely "minor". The Union rejects the assessment that an aircraft incident at or near an aerodrome with 180 passengers on board at risk of serious injury or death is merely minor. While, the likelihood may be low (1 in 50 years / 1 in 100 years), the impact is likely to be catastrophic.

2.1 (1) Insufficient staff on duty to effectively respond to and manage an incident

ARFFS provides services at these locations at Category 6 (1 Officer and 4 Firefighters), Category 7 (2 Officers and 4 Firefighters). Most Category 6 stations receive the same size aircraft size, but a remission factor is applied.

A remission factor is an allowance that the service provision can be one level lower than the aircraft size if the aircraft movements are less than 700 over the busiest consecutive three-month period, International Civil Aviation Authority (ICAO) Reg 9.2.3 and CASA Manual of Standards (MOS) 3.1.2.1).

The staffing numbers per category are determined by the ICAO ANNEX 14 which recommends a Task Resource Analysis (TRA) be conducted (9.2.45) and the guidance is provided in Airport Services manual DOC 9137 Part 1; 10.5.

The TRA process was adopted from the NFPA 403; 8.1.2.1 TRA. The National Fire Protection Authority (NFPA) 403 stipulates that the minimum numbers must not fall below table

A (TRA)Task resource Analysis has never been completed by ARFFS Airservices.



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Table 2. Minimum staffing numbers for Cat 6/7 is 9 firefighters.

▲ Table 8.1.2.1 Minimum Required ARFF Personnel at Airports

Airport Category	ARFF Personnel
1	2
2	2
3	2
4	3
5	6
6	9
7	9
8	12
9	15
10	15

Note: See also Annex D.

We do not believe that the current number of firefighters under the Airservices model (currently around 5/6 firefighters per Category 6/7 stations) are adequate to manage an incident. Indeed, these staffing levels are less than that recommended in Table 2 (minimum of nine (9)) and on the basis of the Union's submission, may need to be greater again based on a TRA and other considerations identified.

A further example of the deficiency in ARFFS staffing levels can be demonstrated by ARFFS themselves having recently conducted a roadshow of safe Compressed Air Breathing Apparatus (**CABA**) procedures for internal operations staff across most stations. Airservices ceased these presentations late in 2018, and the Union submits that this was due to the realisation of the impact such procedures would have on ARFFS current staffing models. This new safe CABA procedural model would have brought ARFFS in line with all State Fire Brigades. It identified that the minimum numbers required to conduct internal rescue and or fire fighting operations should be:

- six (6) staff;
- two (2) Breathing Apparatus operators;
- an entry control officer;
- Rapid Intervention Team (**RIT**) of two (2) ;and
- an Incident Control System (**ICS**) officer.

The minimum standards of the CABA, highlights the current deficiency in staffing numbers at all stations staffed in category 8 and below as per the standard above in Table 2. Further, it demonstrates that the ARFFS do not have enough staff to conduct rescue as there are no firefighters and officers left to manage the external components of an incident (fire, hazards, rescue).

One of the ORA mitigators for this consideration is the ability to recall staff. However, this mitigator is not relevant in a significant number of remote locations due to Fly in Fly Out (**FIFO**) operated stations (for example Ayers Rock and Newman), and due to the distance from work location and staff residences (for example Hamilton Island). This renders that mitigator irrelevant at most remote locations.

ARFFS are currently investigating their options with regard to a graduated service, likely to effect stations in Newman and Gladstone, which have or are likely to fall below the 300,000 current dis-establishment trigger. The Union believes these graduated services will entail specification of a modified level 2 ARFFS (graduated service) as per the Safety Case Assessment and Reporting



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Determination (**SCARD**) November 2018. The implementation of this process will result in reduced staffing numbers at these locations.

In conclusion, it is clear in considering the Minimum Staffing Numbers as set by the NFPA above in Table 2, plus the CABA procedures considered a standard procedure in state Fire Brigades, that ARFFS is failing to meet the minimum staffing numbers in remote and regional locations.

2.2 (2) Insufficient Equipment / vehicles to effectively respond to and manage an incident

There is a serious shortage of ARFFS vehicles around Australia. This creates two issues, one, inability to maintain category caused by a breakdown of these vehicles, and two, lack of quick access to reserves agent.

The cessation of ARFFS in ordering vehicles in 2013 due to the anticipated increasing of the passenger trigger for new stations increasing to 500,000 passengers (from 350,000) – has effectively created a situation where the ARFFS cannot resource the stations adequately with the necessary vehicles.

This situation was unfortunately foreseeable in 2013, and the Union and staff clearly raised their concerns regarding meeting future requirements with the Executive General Manager (**EGM**), in 2013 prior to the final order being settled. Airservices was banking on the trigger increasing to 500,000 passengers that would negate the opening of some stations. This is demonstrated by the fact there are no spare vehicles to allocate to Proserpine or permit expansion in stations such as Brisbane for the New Parallel Runway (**NPR**). There has also been a commensurate reduction in Emergency Vehicle Technicians (**EVTs**) from 32 to 26 employed to maintain this specialist fleet.

2.2.1 The impact on maintaining Category

All spare vehicles have been removed from remote locations, and Airservices embarked on a vehicle sharing system in 2018. ARFFS anticipate that remote/regional locations will be able to share vehicles on occasions where the primary vehicle has broken down. These sharing arrangements for these fire stations present a substantial risk to the travelling public, in that these stations do not have the minimum requisite contingency to manage breakdowns and maintain a minimum standard of service delivery.

NFPA 403 Standards for Aircraft Rescue and Fire Fighting Services at Airports

6.1.3 Consideration shall be given to the provision of an additional vehicle or vehicles in order that minimum requirements are maintained during periods when a vehicle is out of service.



Table 3. Distances between shared stations (vehicles)

Location	Distance	Location
Ayers Rock	468km	Alice Springs
Ballina	216km	Coffs Harbour
Port Hedland	599km	Broome
Karratha	634km	Newman
Sunshine Coast	431km	Gladstone
Gladstone	112km	Rockhampton

Note – one vehicle is shared between Sunshine Coast, Gladstone and Rockhampton which amounts to a total distance of 543km maximum distance between them.

The sharing arrangement presents a risk to the travelling public in that ARFFS cannot maintain category during a breakdown and will have to wait for a spare vehicle to be delivered by another station.

Another concern is that these vehicles cannot be driven on public roads without special permits and are required to be low loaded (truck transport). Only EVT's are qualified to load these vehicles onto trucks and many of these remote/regional stations do not have an EVT stationed on location. For example, all Western Australian stations are managed remotely from Perth for emergency mechanical repairs and transportation arrangements. Further, these stations would suffer the delay of arranging private contractors for transportation.

Table 4. Stations without EVT located on site

Locations with no Emergency Vehicle Technicians					
WA	NSW	Vic	QLD	Tas	NT
Broome	Coffs Harbour	Avalon	Sunshine Coast	Launceston	Alice Springs
Karratha			Gladstone		Ayers Rock
Port Hedland			Hamilton Island		
Newman					

Reference; ARFFS Asset Lifecycle Maintenance Organisation Chart 2019

Vehicle breakdowns require EVT's to be flown in to locations to resolve issues, major breakdowns require the relocation of trucks. This system puts significant delays on returning stations to operational capability, in doing so places the flying public at risk.

2.2.2 No immediate access to reserve agent (water)

Another issue created by the vehicle sharing arrangements relates to the reduction in overall water/agent storage capacity at an incident. For example, having a spare vehicle available allows for an additional 9434L of agent at any one incident. During the Phase 1 workshops (standard three-yearly centralised training) ARFFS presented an analysis of aircraft crashes internationally and identified that most aircraft crashes required over three times the agent tabled in the CASA MOS and ICAO or available as storage in current ARFFS vehicles.



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ARFFS is required to respond to emergencies anywhere on the movement area within three minutes as per the below standards.

CASA 6.1.1.3 The operational directive of the ARFFS must be to achieve response times not exceeding three minutes to the end of each runway in optimum visibility and surface conditions.

ICAO Annex 14 SARPS 9.2.27 The operational objective of the rescue and firefighting service shall be to achieve a response time not exceeding three minutes to any point of each operational runway, in optimum visibility and surface conditions.

Meeting this obligation and combined with the pump output of ARFFS vehicles (MK8, 6200lpm), the ARFFS will be **without agent inside 6 minutes** without the benefit of a spare vehicle. ARFFS carries enough agent to meet the agent requirements from CASA and ICAO.

All ongoing operations beyond 6 minutes are at the behest of arriving fire services if no spare vehicle is available to resupply agents. Removal of a truck for resupply from an incident will remove it for a minimum of 15 minutes. Most metropolitan fire service appliances do not have a large water tank capacity and are reliant on connection to a hydrant system. At best they may be able to refill one ARFF appliance to 1/3 of a tank.

This is acknowledged in 'ARFFS Fuel & Foam Replenishment' Concept of Operations 2017.

This will also result in the removal of at least 1 fire fighter from the incident for a prolonged period. This creates a window of up to 15 minutes where no fire fighting or rescue can be conducted subject to availability of Metropolitan Fire Service and agent capacity. The availability of such external assistance is limited in remote and regional service locations.

NOTE: ARFFS ORA (Operational Risk Assessments) for each station list a spare vehicle as a mitigator to maintain enough resources for an incident, when this is not the case.

A spare vehicle is vital at locations to maintain category and have potential available additional agent for large-scale incidents.

ARFFS are currently investigating their options in regards to a graduated service, this is likely to effect Newman and Gladstone as they have fallen below the 300,000 dis-establishment trigger.

Specification of a modified level 2 ARFFS (graduated service) Safety Case Assessment and Reporting Determination (SCARD) November 2018. It may also apply to Proserpine. The implementation of this process will result in reduced vehicle numbers at these locations.



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In conclusion, the shared vehicle arrangements between remote/regional stations prohibit the ARFFS from being able to provide the minimum standard of service delivery, particularly on occasion when one vehicle is out of order.

2.3 (3) Inappropriate support of mutual aid provision

ARFFS is fully reliant on Memorandum of Understandings (**MOUs**) with State Fire Brigades, to coordinate emergency services to maximise manpower in critical situations. They ensure a continued fire fighting and rescue capability for large-scale incidents. Such arrangements are based on an assumption that these State Brigades offer immediately available resources, and does not factor in Volunteer services or stations operating on a retained fire service model, which is a common resourcing method in fire brigades in small and medium towns.

Gladstone, Sunshine Coast and Coffs Harbour have a more immediate emergency support network than most small stations. Others such as Alice Springs, Yulara (Ayers Rock), Newman, Port Hedland, Karratha and Hamilton Island are so resource poor it provides no real assistance in the maximisation of preserving life.

Table 5. Non-ARFFS Fire service resources

Manned fire Stations			
inside 10min	inside 15min	inside 20min	beyond 25min
Gladstone	Coffs Harbour		Alice Springs NTFRS (30 min)
Pumper 1500	Arial tanker 1500l		1 pumper 1 water carrier
Sunshine Coast	Ayers Rock (1 person)		Ballina NSWFB (40min)
2 pumpers 4000l	1 pumper 3000l		2 pumpers 4000l
			Gladstone
			5 appliances 6000l
			Karratha VFB (40min)
			2 trucks 2000l
Retained (unmanned fire stations)			
inside 10min	inside 15min	inside 20min	beyond 25min
	Sunshine Coast	Ballina NSWFB	Newman VFB
	4 stations	1 pumpers 2000l	1 pumper 200l
	Hamilton Is VFB	Broome FESA	Karratha VFB (40min)
	2 pumpers 4600l	2 pumpers 3000l	2 trucks 4000l
		Coffs Harbour	Port Hedland VFB
		2 pumpers 3000l	2 light / 2 med Pumpers 4000l
Rural Fire Support (volunteers)			
inside 10min	inside 15min	inside 20min	beyond 25min
		Broome RFB	Coffs Harbour RFB
		2 vehicles 3000l	2 pumpers 6000l
		Ayers Rock RFB	1 tanker 9000l
		water tankers	



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VFB Volunteer Fire Brigade (times may be greater due to availability and recall)

RFB Volunteer Rural Fire Brigade (times may be greater due to availability and recall)

As identified in the previous section, there is a window of up to 15 minutes without fire fighting agent once trucks are depleted. Many of these regional ARFFS stations, must leave the crash scenario to self re-supply, leaving 180 lives at stake in the hands of only 4 or 5 firefighters (dependent of category). This is far from an acceptable method for incident handling which would not be tolerated at other city ARFFS stations and demonstrates a complete disregard for human life in regional areas.

Airservices may rebut this argument by drawing on the fact that aircraft must be able to evacuate in 90 seconds as part of aircraft certification, however in reality the following factors impact on this standard measured in sterile/standard conditions:

- Some exits may not work due to damage;
- Some exits are not available due to smoke, fire and fuel;
- Children, elderly and the disabled;
- Slide damage rendering it unusable;
- Internal blockages, due damage / baggage; and
- Passenger panic

These certifications are done with fit people in an orchestrated system that takes planning to execute within the timeframe, and in the Union's opinion does not accurately assess human behaviour in a life threatening situation.

Reliance on internal ARFFS staff for recall doesn't meet these needs either as the variables such as; FIFO, distance, availability and small stations with local staff do not have a large workgroup to select from. Additionally, many of these stations particularly in the West are located in areas that have extremely high temperature averages not conducive to fire fighting apparel for more than short periods. Places like Newman, Karratha, Port Hedland, Broome and Yulara have temperatures averaging over 35 degrees for more than three months of the year and at times reaching peaks in the mid forties.

When ARFFS staffing models in regional areas are being considered, these local support factors must be included and applied to the Task Resource Analysis. Firefighters are human and have limited working times in heavy and hot Personal Protective Equipment (PPE) and 5 or 6 firefighters cannot operate indefinitely. Aircraft incidents run into hours and rescue is a slow and tedious process. It is unrealistic to place this burden of a small but dedicated group of operators. The NFPA model of a minimum of 9 firefighters would provide a far more effective intervention. But some locations with extreme weather conditions without back up support might justify even more staff.

2.4 (4) Ineffective management of casualties

One of the factors that are overlooked when considering what level of emergency service is required at Airports, is the ability to effectively cope with large scale casualties. An incident with 180 casualties or more with varying degrees of injuries from minor to life threatening will quickly exhaust on site emergency services with the highest level of support, and overwhelm those without.

The initial response and triage are critical to maximise the numbers of survivors and the ability to transport victims without depleting on scene service provision.

The following table shows the local capabilities of the Ambulance Services in assisting with critical incidents in regional/remote areas.



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Table 6. Ambulance Service Capability

Ambulance Service Capability			
1 Ambulance	2 Ambulances	2-4 Ambulances	4 or more
Newman (1)	Alice Springs	Port Hedland (3)	Coffs Harbour (8)
Hamilton Is (1)	Broome		
Yulara (1)	Ballina (2)		Gladstone (6)
Karratha (1)			Sunshine Coast (19)

Unable to cope with scale of event

Limited capability to cope with scale

Has the potential to cope

The above chart considerations are consistent with ICAO Doc 9137-AN/898 Airport Services Manual Chapter 7. Ambulance and medical services.

Additional Ambulance resources of those in the critical (red) regions

- **Hamilton Island** requires resources to be brought over by ferry, barge or helicopters and will create additional problems with relocating casualties to further medical support.
- **Yulara** has the potential to have a second ambulance with 25 minutes manned by volunteers subject to availability. Any further ambulatory assistance is 470km's (5 hours) away. Alice Springs provision of 2 full time ambulances.
- **Newman** A single on call ambulance of 3 crew (volunteers). Next available ambulance is Karratha at a distance of 425km's (4.25 hours) which only has one ambulance itself, followed by Port Hedland at 455km's (4.5 hours) with 3 ambulances.
- **Karratha** could draw resources from Port Hedland 250km (2.5 hours) away with the possibility of 3 ambulances, next out is Newman being next at 425km's (4.25 hours) with 1 ambulance.
- **Port Hedland** is as above within the triangle of services to be shared between Karratha and Newman resources list previously.
- **Broome** Port Hedland within 220km's (2 hours) and the Port Hedland at 660 km's (6 hours and not viable).
- **Alice Springs** may have a capability being a regional infrastructure town to recall staff and made additional ambulance available, this has not been quantified but it may provide up to 3 extra crews.

Additional Ambulance resources of those in the critical (yellow) regions

- **Coffs Harbour** due to higher density population on the Northern NSW coast has at least 6 manned stations within an hour and 4 volunteer stations and more outside this range.
- **Gladstone** Has adjacent towns such as Mt Larcom, Calliope and Boyne Island followed by Rockhampton at 107km's, just over an hour away.
- **Ballina** has a higher township density surrounding and can draw in resources from Lismore, Byron Bay, Tweed heads, Mullimbimby, Alstonville and Casino inside an hour.



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Additional Ambulance resources of those in the critical (Green) regions

- **Sunshine Coast**, being a high-density area and close to a capital city will have no issue drawing in additional resources.

While the requirements of the ARFFS do not make it responsible for making up the short fall in localised resources, it should still be a consideration on the basis that the ARFFS as the combat authority will ultimately be left to deal with the situation at the at-risk locations. Factoring staffing numbers into these situations is required to provide some relief and support for a long duration operation.

2.5 (5) No localised infrastructure to cope with the aftermath of a catastrophic event (Not Identified by ARFFS)

There are many factors that need to be considered following an incident, this includes a community's ability to cope with the scale of the event. The coordination of things like:

- Food;
- Shelter,
- Critical Incident Stress Debriefing or similar psychological support; and
- Communication.

Perhaps more critical, is the management of the deceased, seriously injured, and capable passengers' welfare. Access to appropriate medical services is key; on site treatment, transportation and hospital facilities.

Table 7 identifies the medical facilities available in remote station locations.



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Table 7. Medical facilities in remote/regional locations

Infrastructure Availability					
Airport	Alt Rnwy	Alternate transport	Small Hospital	Regional Hospital	Major Hospital
Alice Springs	Yes	Airport Yulara 470km	N/A	Alice Springs (13km)	Darwin (1510km)
Ballina	No	road GC 86km /	District(4km)	Lismore (35km)	Gold coast (127) km
Broome	No	Port Hedland (604km)	District (1km) Port Hedland (604km)		Perth (2224km)
Coffs Harbour	Yes	Flight	N/A	Coffs Harbour (6km) Port Macquarie (156km)	
Hamilton Island	No	Barge / Ferry / road	Ferry (35min) water add Proserpine (36km)	Mackay Base (160km) Rockhampton (467km)	Brisbane (1083km)
Karratha	No	long taxiway Rnwy (opt)	Regional (13km) Port Hedland (243km)		Perth (1524km)
Newman	No		District (11km) Port Hedland (451km)		Perth (1171km)
Port Hedland	Yes	Flight 2nd runway	Port Hedland (10km) Karratha (243km)		Perth (1625km)
Sunshine Coast	Yes	Caloundra/ Bne airport	N/A	Sunshine coast (21km) Nambour (16km) Caboolture (66km)	Brisbane (112km) 8
Yulara	No	Alice Springs airport	NIL	Alice Springs (470km)	Darwin (1942km)

Airports without sufficient localised or close range medical facilities

Airports with regional hospital capability but not sufficient for scale

Airport with adequate localised and close range hospital access



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Although the ARFFS are not responsible for providing this type of support, it should be at least acknowledged in the ORAs as it impacts on the overall emergency service response. Ultimately it would be the firefighters on the ground left sorting out all facets of the emergency. While the Union appreciates it is not realistic or viable to build expensive infrastructure for this purpose, it should be considered reasonable to provide additional Firefighters in these locations to cope.

Airport highly vulnerable to failure in maximising survivability of an aerodrome crash

All the airports within this category lack one key or more key services; adequate hospitals transportation options, distance to major infrastructure.

- **Yulara** is by far the most at risk, it has a single runway which if compromised due to an incident renders road transport as the only means of access at 470km to the nearest regional town of Alice Springs. It has almost non-existent ambulatory service or on-site medical facilities.
- **Broome** does not fare much better, it has limited medical and ambulatory service. It also has no second runway if it was required to fly in support services and is isolated to the nearest major town of Port Hedland by 604kms.
- **Newman** also is highly vulnerable, with a single runway, small district hospital and significant distance to Port Hedland of 451kms.
- **Karratha and Port Hedland** are in similar situation where they rely on each other for support, but both only have district/ small regional level hospitals. Both have runway alternatives.
- **Hamilton Island** suffers its own unique difficulties, it is also isolated by water, and the only means of access if the runway is unavailable, this is limited to one privately run ferry and a barge, both of which are subject to weather conditions (rough seas). There are district facilities on the mainland and regional at Mackay 167kms away.

Moderately vulnerable Airports with regional hospital capacity

- **Alice Springs** fares better due to increased infrastructure and the town providing regional level hospital resources. However, it does not have surrounding towns to assist. Isolation from Darwin is 1510km and Adelaide 1536km. It does however have an alternate runway for support services. Flight times of approximately 1 hour from both cities.

Airports with adequate support services to meet need

- **Ballina and Coffs Harbour** both due to a higher density in their regional areas have higher level of support from surrounding townships that increase their capability. They have multiple hospitals and ambulatory services within a 1 hour driving range to enhance a post incident response.
- **Sunshine Coast** is within close proximity to a capital city and with a high population base has significant amount of supporting infrastructure. It has the same category and staffing base as the other stations but this is where the similarities end. Its inclusion in the submission is more for the purpose of providing a benchmark. A small airport at this category has a dramatically increased chance of an acceptable outcome with surrounding support.

In conclusion, the Union submit that ARFFS should consider this additional hazard in the ORAs. The supporting infrastructure of a remote community is highly relevant to the outcome of the services ARFFS need to be providing to the travelling public in these areas.



3. Conclusion

Establishing and maintaining ARFFS at remote locations is complex and the Aviation Branch of the United Firefighter's Union of Australia (UFUA) do not believe that Airservices has given adequate consideration to the risks associated with service provision in regional and remote stations. They attempt to narrow the scope of risk assessments and give too much weight to the impact of mitigating factors.

Insufficient numbers of firefighters at remote locations have far more of a significant impact where there are limited, or in some cases non-existent, external support. Access to reserve vehicles and agent are also extremely relevant, with agent only lasting 6 minutes into an event before having to be re-supplied. The lack of local external support means the re-supply or continued service would be impossible at many locations. ARFFS carry 200% of reserve agent in fire fighting foam, and a dry powder extinguishing agent, however without a means of accessing it or additional water, effectively renders it useless during a catastrophic event.

The Union hope that the Inquiry will consider the severity of the impact on providing a service at the lowest possible level on aviation safety and the lives of the travelling public.

Thank you for the opportunity to provide a submission.



4. List of Tables

	Page
Table 1. Recent and proposed stations, trigger and establishment years	3
Table 2. Minimum staffing numbers for Cat 6/7 is 9 firefighters.	6
Table 3. Distances between shared stations (vehicles)	8
Table 4. Stations without EVT located on site	8
Table 5. Non-ARFFS Fire service resources	10
Table 6. Ambulance Service Capability	12
Table 7. Medical facilities in remote/regional locations	14