

**FAR NORTH FREEFALL CJPM MANUAL Version 1**  
**APF CODE: FARNTH**  
**FOR PARACHUTE DESCENTS THROUGH CLOUD**  
**DZ LOCATION: Tully Aerodrome, QLD**

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## Representative Particulars

<b>Club Name</b>	FAR NORTH FREEFALL CLUB INC.	<b>APF Code</b>	FARNTH
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<b>Qualifications</b>	APF Senior Instructor	<b>Mobile</b>	0414245872
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<b>Drop Zone Location</b>	Tully Aerodrome	<b>Latitude</b>	S17° 55.85
		<b>Longitude</b>	E145°56.34
<b>APF CJPM Authorisation No.</b>	APF RS60 05/2022	<b>Issue Date</b>	04/07/2022
		<b>Start Date</b>	04/07/2022
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Previous CJPM Authorisations			
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### OPERATIONS MANUAL COMPLIANCE

The instructions, procedures and information contained in this manual have been devised to ensure safety and standardisation in the conduct of Far North Freefall Club Inc. Cloud Jumping Operations and Procedures. Personnel are also reminded of their obligation to be conversant with and comply with the following documents: APF Operational Regulations & Regulatory Schedules.

Amendments issued for this manual shall be incorporated immediately upon receipt and noted in the amendment record page of the manual. Amendments are to be notified to the APF as per the issued APF cloud jumping authorisation.

### COMPLIANCE RECORD CERTIFICATE

A signature contained on the Compliance Record Certificate in Appendix 5, constitute acknowledgment of training, and acceptance of responsibility by individuals for participation in parachute operations conducted in accordance with Far North Freefall Club Inc. Cloud Jumping Procedures Manual.

Compliance Record Certificate signatures are held in Appendix 5 of the Master Copy of this manual.

In the event that any discrepancy between this manual and operational procedures is noticed, it must be brought to the attention of the Chief Instructor as soon as possible so corrective action can be taken.

### **CJPM Definitions**

Words used in this manual shall have the same definitions as used in the APF regulations unless stated otherwise.

**APF Operational Regulations (OR)** means regulations approved by CASA and issued by the APF, which are binding on Members.

**APF Regulatory Schedules (RS)** expand on some of the regulatory areas in the OR and include procedural regulations. They are binding on Members.

**ALARP** means As Low As Reasonably Practicable

**Applicant** means the person making an application on behalf of an APF Organisation.

**ATC** means Air Traffic Control provided by Airservices Australia.

**Cloud Ceiling** means the height above the ground or water of the base of the lowest layer of cloud below 20,000FT covering more than one-half of the sky (Broken or Overcast).

**Controlled Airspace** means airspace of defined dimensions within which air traffic control services are provided to IFR flights and to VFR flights in accordance with the airspace classification.

**Elevation** means the vertical distance of a point or a level, on or affixed to the surface of the earth, measured from mean sea level.

**GCA (Ground Control Assistant)** means the person appointed by the DZSO who is responsible for communication with the jump aircraft as to the advisability of exiting the aircraft. It should be noted that a person using a radio to communicate with an aircraft is required to hold either an Aircraft Radiotelephone Operator Certificate of Proficiency (AROCP), or use radio communications under the exemption issued by - CASA Instrument number CASA EX61/19.

**Height** means the vertical distance of a level, a point or an object considered as a point measured from a specific datum, or the vertical dimension of an object.

**ICAO** means International Civil Aviation Organisation.

**IFR** means Instrument Flight Rules. IFR must be used by flights conducted in circumstances other than those specified for VFR and Special VFR. See AIP ENR 1.3.

**IMC** means Instrument Meteorological Conditions

**Loadmaster** is the parachutist on each load with specific responsibilities when jumping through cloud operations are in progress.

**LSALT** means the lowest safe altitude, which will provide safe terrain clearance at a given place as defined in the AIP.

**Manifester** is the person who maintains the Master Log in which all descents carried out by the organisation are recorded.

**Night VFR (NGT VFR)** means flight at night under VFR.

**PIC** means pilot in command.

**PJE** aircraft means an aircraft engaged in a parachute jump exercise.

**Responsible person (RP)** means the person or position within the organisation, identified by this manual, that the APF holds responsible for ensuring that jumping through cloud is undertaken strictly in accordance with the procedures approved by CASA & APF.

**Senior Pilot** means the pilot who is nominated by the APF member organisation as responsible for ensuring compliance with CASA Instrument Number 84/18.

**VFR** means Visual Flight Rules. VFR flight may only be conducted in VMC.

**VMC** means Visual Meteorological Conditions and its meaning for each class of airspace is described in AIP ENR 1.2

## **1 Organisation**

**1.1** The procedures contained in this Operations Manual are those for the Far North Freefall Inc. The organisation's head office is situated at 5 Chesterfield Close, Brinsmead QLD 4870 and may be contacted by phone on 0412 916949. Postal Address is: 5 Chesterfield Close, Brinsmead QLD 4870. Local Operational Centre address is: Aerodrome Road, Tully QLD 4854

**1.2 Responsible Person:** This person is Chief Instructor Thomas Boehm. The Responsible Person may be contacted by phone at 0414245872. Email is: Chiefinstructor@farnorthfreefall.com

**1.3 Senior Pilot:** This person is Mark Whaley (APF Jump Pilot Authorisation No. 472). The SP can be contacted by phone on 0478704930 and email at: flightops@skydive.com.au

## **2 Location**

**2.1 Tully DZ:** The procedures in this manual apply to operations at the Tully Drop Zone (DZ) situated at S17° 55.85 E145°56.34. For DZ target reference purposes the target is 200 metres southeast of the administration/operation centre at an elevation of 47 FT AMSL.

**2.2 Significant Topographical Features.** Significant topographical features within 5km of the YTUY DZ that must be accounted for when through cloud parachuting operations are in progress are:

- Mt Mackay is 2375ft AMSL located 2.1 NM east of the DZ
- Mt Tyson is 2254ft AMSL located 1.9NM to the west-northwest of the DZ
- There is a hill reaching 240ft AMSL located 700m east of the DZ
- There is a golf course to the southwest adjacent to the runway
- There is a sugar mill .78 NM to the southwest of the DZ

## **3 Airspace**

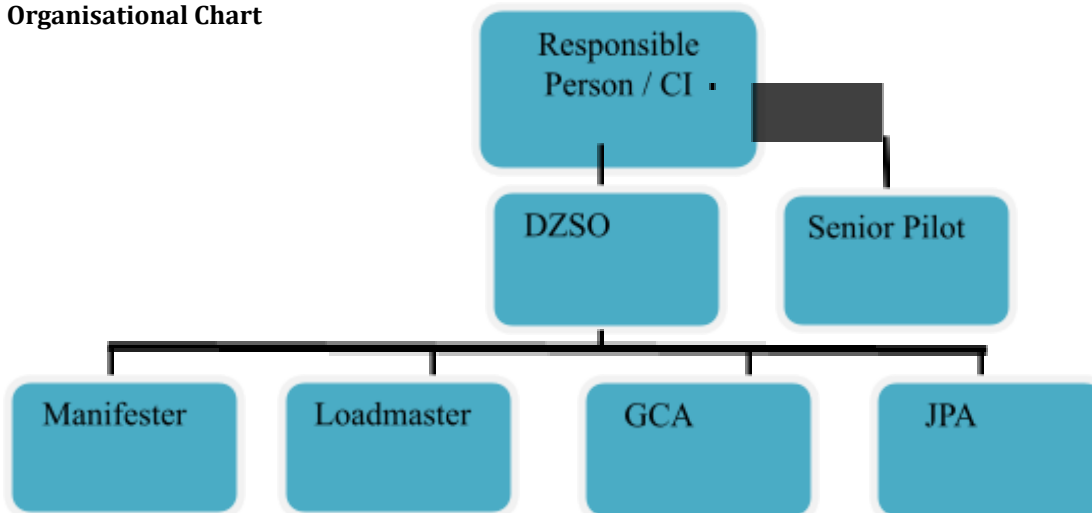
**3.1 Tully DZ** is situated on the 184 radial 23 NM DME from Innisfail Airport. Drop operations are conducted from the surface (47FT AMSL) to FL150. Within Class G airspace descents shall be confined to within a 2NM radius of the DZ target and within Class C airspace up to FL150 within 2NM radius.

**3.2** The overlying airspace comprises Class C with underlying Class E and Class G. Parachuting activity is identified on the VNC for Far North Freefall Club Inc. with a parachuting symbol and alert which warns: The ERC LOW L2 similarly identifies the DZ.

See Appendix 1 showing VNC of the DZ area.

## **4 Duties & responsibilities**

### **4.1 Organisational Chart**



### **4.2 The Responsible Person shall:**

- Ensure that the PIC, Loadmaster, Manifester, DZSO & GCA are trained and competent in the procedures described in this manual for parachuting in cloud procedures,
- Supervise the operation in accordance with APF Regulations,
- Appoint the DZSO
- Ensure all parachutists endorsed for cloud operations have been recorded in the Parachutist Endorsement Master List

### **4.3 The DZSO shall:**

- Directly supervise parachute operations in accordance with this manual, and may liaise with the Chief Instructor on matters of discretion,
  - Determine the meteorological conditions prior to jumping through cloud operations,
  - Consult with the PIC when operations are to be conducted in accordance with this manual.
  - Determine the planned exit point (in consultation with the PIC and Loadmaster).
  - Appoint the Loadmaster
  - Ensure the pre-jump briefings are held prior to each descent.
  - Cease cloud jumping operations should the meteorological conditions fall below minima, as specified at Paragraph 9.6
- Minimum qualifications: as required by the APF Regulations

### **4.4 The GCA shall:**

- Attend the pre-jump briefing and comply with the arrangements made at the briefing,
- Three minutes prior to the exit of the parachutists, be located at the centre of the DZ in an area with the best possible view of the airspace below the cloud through which the parachutists will descend.
- Observe the airspace to ensure that there are no aircraft visible that would be likely to conflict with the descent of the parachutists.
- Advise the PIC of the PJE aircraft when the airspace below the cloud is clear, and when not clear, the expected delay.
- Minimum qualifications: as required by the APF Regulations

### **4.5 The Loadmaster for each load shall:**

- Conduct the pre-jump briefing and comply with the arrangements made at the briefing
- On climb note the cloud ceiling AGL and advise those on board to refrain from engaging in manoeuvres that will not be able to comply with this manual.
- During the jump run visually check that the airspace above the cloud is clear of aircraft that are likely to conflict with the drop.
- Confirm the integrity of the exit point via method at 11.4.
- Having determined that the airspace is clear as per section 12 the Loadmaster will permit the parachutists to exit the aircraft.
- Minimum qualifications: The LM is to hold the endorsement required to jump through cloud and is to be the holder of a current APF Sporting Licence and an APF Certificate Class D.

#### 4.6 The Pilot in Command (PIC) shall:

- Attend the pre-jump briefing and comply with the arrangements made at the briefing.
- Obtain clearances from ATC, and from the GCA that airspace is clear of aircraft likely to conflict with parachutists on descent prior to relaying the information to the parachutists as per section 12.
- Minimum qualifications: as required by the APF Regulations and for the meteorological conditions allowed by this manual.

#### 4.7 The Manifester shall:

- When parachute operations are conducted in accordance with this manual manifest **only** those authorised to jump through cloud,
- Ensure that a Loadmaster is appointed for each load,
- Monitor the VHF Base Station radio on 119.2 MHz and ensure the GCA is notified of an impending drop five minutes before the time of drop,
- When operating in accordance with this manual the manifester shall record the return of all jumpers after each sortie.

#### 4.8 The Parachutists shall:

- Attend the pre-jump briefing and comply with the arrangements made at the briefing.
- Make every effort to comply with the planned cloud jumping procedures.
- Report to manifest on their return from the descent to the DZ
- Minimum qualifications: Must hold the Club/DZ specific endorsement required to jump through cloud and is to be the holder of a current APF Sporting Licence, meet the certificate/display rating requirements for the specific landing area and at least an APF Certificate Class B. Alternatively they may be an APF tandem student.

### 5 Arrangements with the Airspace Manager and other users

5.1 Arrangements are in place with Airservices Australia to facilitate parachuting operations at Tully DZ. A Letter of Agreement (LOA) has been drafted which details procedures at Appendix 2.

5.2 Additional consultation has been made on the Aviation State Engagement Forum (AvSEF). The submission and outcomes of the consultation are at Appendix 3.

### 6 Authorisation for parachutists who may jump through cloud

6.1 Before a parachutist is permitted to manifest for a parachute descent that is likely to involve them passing through cloud they shall have been assessed by the RP or DZSO as being competent, capable, current and safe to jump through cloud. The minimum qualification to be endorsed shall be an APF Certificate Class B.

6.2 The assessment is to ensure that the parachutist is conversant with the following training:

#### **Entering Cloud in Freefall.**

Parachutists who find that they have entered cloud whilst in free fall are to limit their freefall manoeuvres until becoming clear of cloud or reaching their planned opening height. It is stressed that no radical free fall manoeuvres are to be conducted if the participant experiences limited visibility. There will be minimal tracking or horizontal flight movement in cloud when all members of the group are not clearly visible. The parachutists must be constantly looking for others in free fall especially prior to parachute deployment. The participants will be made aware of the dangers of mid-air collision if these guidelines are not adhered to.

#### **Entering Cloud under Canopy.**

Parachuting will not proceed if it is likely that the parachute will need to be opened or flown in cloud. In the event that the parachutists inadvertently find themselves under canopy in cloud, they are to limit their airspeed by flying their canopies at the 'slow right-hand turn, half brake' position.

#### **Off DZ Landings.**

Parachutists who find themselves landing off Drop Zone are to locate an appropriate alternate landing area clear of obstacles such as powerlines, trees, buildings and water hazards.

Where possible parachutists should attempt to land as a group. This will enable the group to assist each other in the event of an injury. This will also assist those on the ground in the recovery of all parachutists. All participants are to report to Manifest upon returning to the Drop Zone.

### 6.3 Endorsement

After the parachutist has been determined competent by the RP or DZSO, they must sign the Far North Freefall Club Inc. CJPM Parachutist Endorsement Master List (Appendix 7) to be authorised to undertake parachute descents through cloud. This is to be witnessed/dated by the RP or DZSO

The RP or DZSO shall also endorse the person's logbook that they are authorised to undertake parachute descents through cloud at Tully DZ.

Depending upon the person's competency, and overall experience, the RP or DZSO may include limitations such as confined to solo descents only, limited to formations of four participants, or the like. The RP or DZSO shall remove noted limitations when they are no longer deemed necessary.

The DZSO shall ensure that every person participating in the activities described in this manual has signed the Parachutist Endorsement Master List (Appendix 7)

The Master List will be held at Manifest to allow for cross referencing.

## 7 Flight Planning and Meteorological Conditions

**7.1 Tully DZ:** Each day, prior to the commencement of operations the PIC shall obtain the ARFOR for Area 45 and TAF for potential diversion airfields.

**7.2** If the ARFOR suggests and the PIC decides that the PJE aircraft will need to operate in IMC for any part of the flight then an IFR Flight Plan will be activated with Air Services Australia. The plan shall include the usual IFR requirements, i.e. planned alternate(s), fuel requirements for planned alternates and LSALT either side of track from the DZ to alternates.

**7.3** When a decision is made to operate to VFR the PIC shall activate a Flight Plan with Air Services Australia.

**7.4** The DZSO, Loadmaster, GCA and PIC will continually monitor meteorological conditions. Any one of these persons may decide to suspend operations at any time due to actual or potentially deteriorating conditions.

**7.5** If conditions have deteriorated below the minima as mentioned in Paragraph 9.6 the DZSO must suspend cloud jumping operations.

## 8 Aircraft Operations

**8.1** Aircraft used by Far North Freefall Club Inc. to support PJE shall be suitably equipped and maintained for the type of operation proposed.

**8.2** When the PJE aircraft operate in accordance with this manual and operate at any stage in IMC, the aircraft and PIC shall be IFR rated and the aircraft operate to the IFR.

**8.3** When the PJE aircraft operate in accordance with this manual and operate in VMC, operations shall be in accordance with the requirements of CASA for VFR flight.

**8.4** Aircraft used for PJE operations in accordance with this manual require two functioning VHF transceivers. For the purposes of the radio procedures that follow, these are designated Com 1 and Com 2.

**8.5 Operations in Class G airspace:** Aircraft operating below 8500FT AMSL in Class G airspace shall broadcast intentions on Frequency 132.9 MHz in the manner specified in AIP ENR 5.5.

**8.6 Operations in Class E airspace:** Aircraft operating above 8500ft up to FL125 shall obtain traffic information from Brisbane Center 124.9MHz

**8.7 Operations within Class C airspace:** Aircraft operation above FL125 AMSL shall obtain an airways clearance.

## 9 Manifesting

**9.1** Sorties shall be planned and manifested with the information required under APF Operational Regulations Part 12 – Master Log.

**9.2** Where the extent of cloud coverage is such that parachutists could pass through cloud during their descent the DZSO shall advise the Manifester of the experience level necessary to determine who may manifest to jump.

**9.3** In making this determination the DZSO will take account of the:

- Extent of cloud coverage within proximity of the drop zone
- Cloud ceiling (Base of the Broken or Overcast) in feet AGL
- Relative experience of the parachutists, and
- Type of jumps being conducted (i.e. Rel, Solo, Tandem, Wing-suiters etc).



**9.4** Students (except tandem passengers) and parachutists with less than a Certificate Class B (Novice Parachutists) **shall not** be permitted to manifest themselves for a descent that would require them to pass through cloud.

**9.5** Parachutists with a Certificate Class B and above **may** manifest themselves for a descent through cloud provided they have been endorsed as per 6.3 and they plan to remain clear of cloud from breakoff through to landing.

**9.6** Descents shall not proceed beyond the manifest stage unless the cloud ceiling for:

- Solo descents is at least 7000FT AGL (7047FT AMSL)
- Relative-work descents is at least 7000FT AGL (7047FT AMSL)
- Tandem descents is at least 7000Ft AGL (7047FT AMSL)

## **10 Pre-flight briefing**

**10.1** Prior to commencing parachute operations in accordance with this manual the DZSO (in consultation with the Loadmaster) shall determine the run in, and the preferred exit point with reference to the Drop Zone waypoint.

**10.2** At the aircraft, prior to take-off the Loadmaster will brief the PIC on the composition of the load, i.e. altitude(s) required and the number out on each pass.

**10.3** The Loadmaster is also to ensure that all those about to board the aircraft are conversant with the prevailing meteorological conditions and are clear about the procedures for a descent through cloud.

**10.4** The Loadmaster will determine the exit order and the time to be allowed between successive groups exiting on the same pass so as to minimise the risk of collision.

**10.5** The pre-flight briefing shall include, but is not limited to:

- Run in direction and preferred exit point;
- Exit height;
- Parachute Opening Heights;
- Actions on entering cloud in free fall;
- Actions on entering cloud under canopy;
- Canopy Circuit direction and right of way, and
- Off Drop Zone landings.

## **11 Determination of the parachutist's exit point (spotting)**

**11.1** Wind information will be used by the DZSO, in consultation with the PIC, to determine the run-in direction of the aircraft and the parachutist exit point in relation to the DZ landing area.

**11.2** The DZ is 23NM DME from Innisfail Aerodrome on the 184 radial. The DME shall be used to confirm GPS integrity.

**11.3** The run in and exit point shall be given as a reference using GPS. A reference 185 point 5 short will mean the aircraft approaches the target on a track of 185 and indicates the exit point (with an "exit" light) when half a mile before overhead the target.

**11.4** At about 1 minute before exit the Loadmaster shall open the in-flight door so they may check:

- For aircraft visually below likely to conflict, and
- To confirm the integrity of the exit point, when in VMC the loadmaster will visually verify the spot and when in IMC the loadmaster will verify by checking the aircraft GPS position.

**11.5** An "exit" light (or an "OK to exit", from the PIC) means that the pilot has an airways clearance to drop, the GCA clearance to drop and the aircraft is over the exit point.

## 12 Determination the airspace is clear – authorisation to exit

All the airspace needs to be assessed as being free of conflicting traffic before any parachute descent is initiated.

**12.1** Air Traffic Control provides separation from IFR traffic and aircraft in Class E airspace and advises the PIC of other known and observed traffic likely to conflict, prior to authorising the drop clearance.

**12.2** The PIC issues an all stations broadcast on Area and CTAF frequencies for the airspace that the parachutists will fall through. The exit shall not proceed until other known and reported traffic is clear.

**12.3** The GCA scans the airspace above the DZ up to cloud level and advises the pilot that it is free of observed conflicting traffic.

**12.4** The Pilot having received

- clearance to drop from ATC,
- satisfactory or no response as a result of the broadcast,
- and the advice from the GCA that the airspace below the cloud is clear,

advises the parachutists that the jump run is commencing.

**12.5** The Loadmaster will open the door and scan the airspace beneath the jump aircraft to be sure it is free from conflicting aircraft before authorising the exit.

**12.6** If any part of airspace through which the parachutists may fall cannot be reasonably determined to be clear of conflicting traffic, a parachute descent will not be permitted to proceed.

**12.7** While descents are being made through cloud and until all parachutists are on the ground the GCA shall remain positioned on the DZ and shall be in communication with the PJE aircraft about other traffic observed to be in or about to transit.

**12.8** The PIC of the jump aircraft will also maintain a listening watch on the appropriate frequencies so as to maintain situational awareness of the airspace during the canopy descents and make appropriate broadcast to inform potential conflicting traffic of the current status of the airspace in question.

## 13 Descent phase

**13.1** ATC, in clearing the PJE aircraft to drop and descend, will keep the aircraft within Class C airspace above the DZ and clear of other traffic.

**13.2** It is the responsibility of the PJE PIC to remain clear of the parachutists. To achieve this, the PIC shall descend the aircraft away from the parachutist exit and opening points, until operating in VMC.

**13.3** Descent at this DZ is conducted by turning in the direction that will take the aircraft to the southeast sector towards Dunk Island and stay in the area until visual then return to the DZ.

**13.4** If not visual by the lowest safe altitude of 3500ft AMSL the aircraft will remain at or above the LSALT. Inform the ATC, DZ and divert to the planned alternate or hold in the area until the weather improves. Depending on the forecast, alternates that are available are YIFL and YBCS. These alternates all have instrument approaches if required.

## 14 Landing and debriefing

**14.1** When operating in accordance with this manual the DZSO shall ensure all those on the load are accounted for. The DZSO shall ensure that a representative from each group and each solo parachutist has reported to Manifest after landing.

**14.2** In the event of changing conditions, or unexpected conditions encountered on the previous jump, a debrief will be arranged by the DZSO to consider subsequent operations.

## 15 Safety systems

**15.1 Ground to air communication:** The Manifester shall use the DZ Public Address system as a primary means to summon the DZSO and/or GCA to the base station VHF transceiver.

Alternatively means of communication between the Manifester and DZSO and GCA and PIC shall be via hand-held transceiver on the Company frequency.

If the PIC fails to respond to the radio calls on the Company frequency, then ATC shall be contacted by telephone to pass on a message.

**15.2 Air to ground communication:** If the PIC loses radio contact with ATC while in Class C airspace the PJE aircraft shall squawk 7600, listen out on ATIS and/or voice modulated nav aids. Transmit intentions prefixing calls with "Transmitting Blind" proceed in accordance with the airways clearance. If the clearance does not include a drop and/or a drop and descent clearance the PJE aircraft **shall not** drop parachutists and if practical, leave controlled airspace. The PJE aircraft will, as soon as possible establish and maintain visual navigation and land at the most suitable aerodrome.

**15.3** When operations are conducted in accordance with this manual and the PIC fails to elicit a response by radio from the GCA that the airspace below the cloud is clear, the drop **shall not** proceed. The PIC shall advise ATC of a loss of communication with the ground.

**15.4 ALA fails to meet the minima:** If the meteorological conditions are such that the aircraft cannot return to YTUY ALA the aircraft shall divert to its flight-planned alternate.

**15.5 In flight emergency:** If an in-flight emergency develops on climb depending on the nature of the emergency the pilot may elect to:

- divert to an alternate which can provide the necessary ground support, or
- declare an emergency and issue a drop authorisation to the Loadmaster and parachutists to exit by means of the "stand by" light followed immediately by the "exit" light. The PIC shall make the appropriate Mayday, or Pan broadcast to alert ATC.

**15.6 Unable to declare all Class G airspace clear:** When the meteorological cloud conditions are multi-layered such that other non-transponder equipped and OCTA aircraft could likely pass over the DZ undetected between layers of cloud, the drop shall not proceed.

An example of when a parachute descent should not proceed is where the aircraft is above 2 layers of cloud separated by at least 2000 feet of clear air outside Class "C" airspace. In such a situation, another aircraft, operating to VFR, may fly between the cloud layers and as such not be required to monitor the radio. Unless ATC can advise that the airspace between the 2 layers of cloud is free of known traffic likely to conflict then a parachute descent will not be made from above the upper layer of cloud.

## 16 Reporting and monitoring requirements

**16.1** The APF requirements in respect to reporting of incidents are the responsibility of the DZSO and shall be reported as per APF Regulations.

**16.2** Club Far North Freefall Club Inc. acknowledges that the APF Safety & Training Manager (STM) or Safety & Training Officer (STO) may impose, from time to time, reporting requirements for descents through cloud additional to those required by APF Regulations, so as to monitor the effectiveness of the procedures contained in this manual.

**16.3** Club Far North Freefall Club Inc. acknowledges that the APF may require this organisation to modify these procedures and practices, from time to time, to take account of changes to approved procedures. Such modifications will be incorporated into this manual.

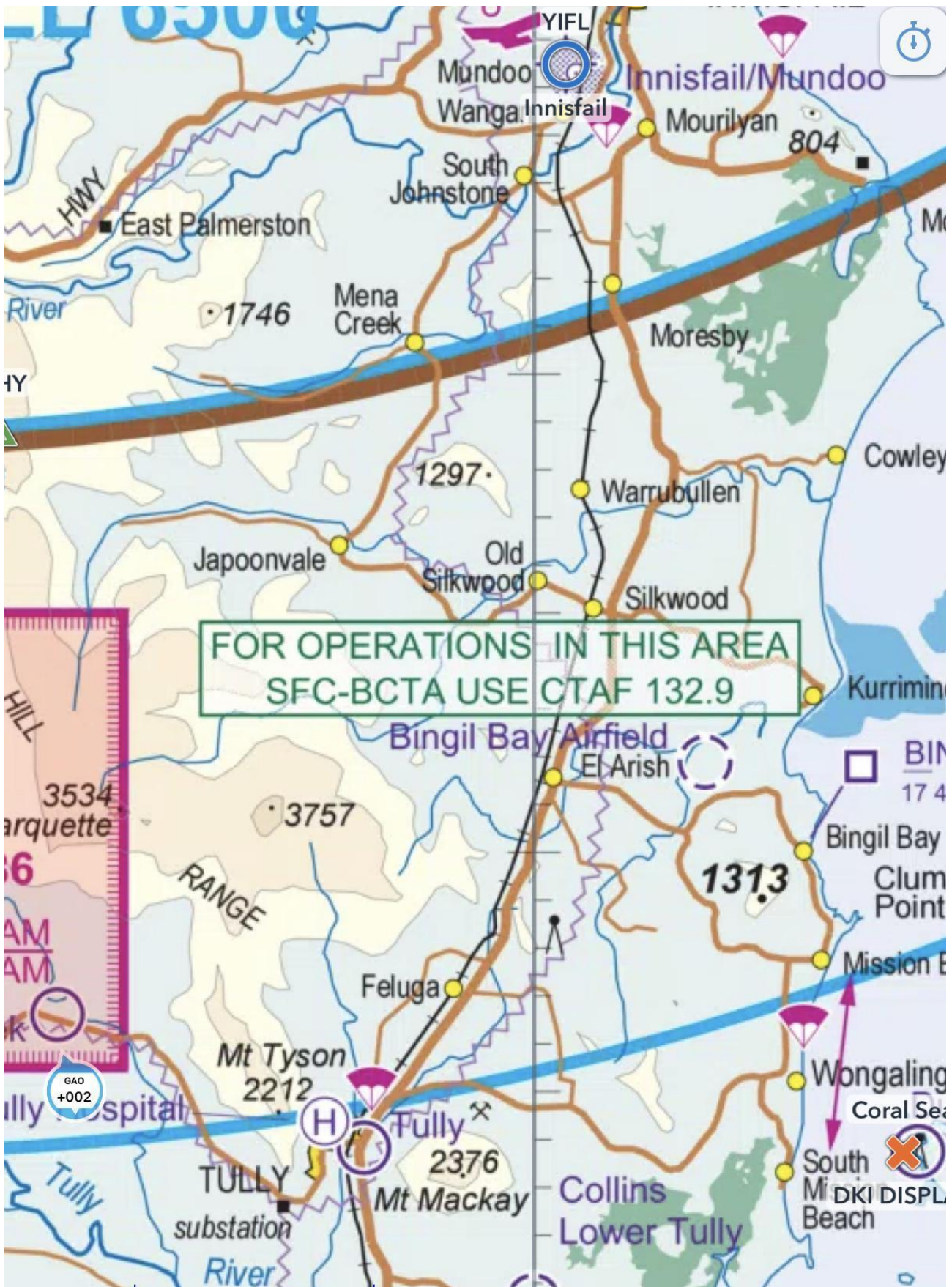
**16.4** Club Far North Freefall Club Inc. acknowledges that ANY amendments to the manual must be recorded in the manual's amendment register and notified to the APF in a timely manner for approval. These include, but are not limited to, such changes as detailed in the club's APF authorisation at Schedule 1, point 3.

## 17 References

**17.1** This manual shall be read in conjunction with the requirements of the APF and CASA and Airservices Australia's in respect to:

- CASA CAR 152
- CASA Instrument (latest issue) issued under CASA 11.245
- AIP ENR 5.5 - Parachuting
- CASA/AA MOU.Airways-1(0)
- Airservices Australia MATS Parachuting
- APF Operational Regulations
- APF Regulatory Schedules
- Far North Freefall Club Inc.'s Training Operations Manual
- Far North Freefall Club Inc.'s Aircraft Operations Manual
- Far North Freefall Club Inc.'s SMS Manual
- Letter of Agreement with the Airspace Manager, Airservices Australia
- APF Jump Pilot Manual

Appendix 1: Airspace Chart



## Appendix 2: LOA Airservices Australia



# Parachuting Operations from Tully Aerodrome

## Letter of Agreement

**LoA\_608**

**Version 18**

**Effective 30 July 2020**

**Between:** Airservices Australia/Airspace Services Brisbane (Reef)  
Skydive Australia Group Pty Ltd

### Authorised

David Wells  
Director Operations  
Airspace Services Brisbane Airservices  
Australia

Mark Whaley  
Flight Operations Manager  
Skydive Australia Group Pty Ltd

## Change summary

LoA_608 Version 18: Effective 30 July 2020		
Clause number and/or title	Change description	NRFC
Various	<ul style="list-style-type: none"> <li>Updated to comply with the new template, no change bars</li> <li>Operator business name and contact information changed</li> </ul>	42426
2	Reference to operator being approved to drop through cloud removed	
3.3	Pilot reliance on retransmit on 124.6 removed, broadcasts on appropriate area and/or CTAF frequencies the responsibility of the pilot	
3.6.2	Self-separation for company aircraft operating at the same drop zone, or drop zones in close proximity added	
3.8	PJE aircraft not entering a Restricted Area for TRA Cowley Beach added	
4	Additional elements added to the noise minimisation paragraph taken from the most recent noise investigation report	

This document was created using ATS Parachuting Operations LoA template C-TEMP0340 Version 2

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Parachuting Operations from Tully Aerodrome

**1. Purpose**

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This Letter of Agreement (LoA) reflects the agreement between the parties on operational issues (for which no consideration is provided).



## 2. Scope

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This LoA defines the procedures agreed upon by Airservices Australia (ATS) and Skydive Australia Group (the Operator) for the conduct of parachute operations from Tully Aerodrome. Skydive Australia Group Pty Ltd is referred to as the aircraft operator providing aircraft services to and in support of parachuting operations for Australian Parachute Federation registered clubs: Skydive Cairns (APF) Inc. trading as Jump The Beach Mission Beach.

This agreement does not constitute an obligation for Airservices to facilitate the described operations. ATC clearance may be withheld or amended in the interest of safety.

### 3. Agreed procedures

#### 3.1. Pilot responsibilities

Pilot responsibilities are as per AIP.

#### 3.2. Flight notification

The operator is required to submit a flight plan for each day. ATS will allocate a discrete transponder code to be used for each day.

The operator is required to submit a new plan when changing aircraft registration throughout the day.

#### 3.3. Frequency management

The operator will contact Brisbane Centre on 124.6 or 120.15. Area and CTAF broadcast responsibilities remain the responsibility of the pilot in accordance with AIP.

#### 3.4. Start approval

Start approvals are not required before each flight.

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#### 3.5. Drop location(s)

Drop zone	Drop area	Restriction/requirement
Bali Hai (Mission Beach) (17 53.75S 146 05.90E)	2 NM radius of Bali Hai (Mission Beach)	
Beach Shack (17 51.61S 146 06.81E)	2 NM radius of Beach Shack	
Bingal Bay (17 49.82S 146 06.02E)	2 NM radius of Bingal Bay	
Castaways (17 52.37S 146 06.40E)	2 NM radius of Castaways	
Dunk Island (17 56.20S 146 08.17E)	2 NM radius of Dunk Island	
Jackey Jackey (17 56.97S 146 05.47E)	2 NM radius of Jackey Jackey	
Narragon (17 50.80S 146 06.30E)	2 NM radius of Narragon	
Reid Road (17 55.48S 146 05.85E)	2 NM radius of Reid Road	
Scotties (17 54.33S 146 05.84E)	2 NM radius of Scotties	
Shrubbery (17 52.05S 146 06.52E)	2 NM radius of Shrubbery	
South Mission Beach (17 56.25S 146 05.69E)	2 NM radius of South Mission Beach	
Tully Aerodrome (17 55.85S 145 56.34E)	2 NM radius of Tully Aerodrome	

### 3.6. Separation responsibility

#### ATC separation with non-PJE aircraft

When the PJE aircraft is cleared to operate not below the parachutists, the PJE pilot must fly the aircraft at a level above the altitude of the highest parachutist. ATC will separate non-PJE aircraft from parachutists based on the verified pressure altitude of the PJE aircraft.

#### Self-separation

The operator accepts responsibility for self-separation where two or more aircraft are operating in the same PJE drop zone.

The operator also accepts separation for both parachutes and company aircraft when two or more aircraft are operating at PJE drop zones located in close proximity. Drop zones listed in paragraph 3.5 are considered to be in close proximity to each other.

### 3.7. Declaring the drop area clear

The pilot must advise ATC when the PJE aircraft and parachutist have left 8500 FT on descent.

### 3.8. PJE aircraft not entering a Restricted Area

A PJE pilot may be assigned responsibility for not entering the following Restricted Area(s):

Restricted Area	Conditions
TRA Cowley Beach	The parachuting aircraft must be: <ol style="list-style-type: none"> <li>1. a VFR flight under its own navigation,</li> <li>2. conducting parachute jumping operations, and</li> <li>3. at or below FL150.</li> </ol>

When requesting responsibility to remain clear of a Restricted area, the PJE pilot must include the phrase 'CLEAR OF RESTRICTED AREA (*number(s)*), VISUAL' with the clearance request.

### 3.9. Contact details

Name/Position	Phone, fax or email
Skydive Australia Group Pty Ltd Flight Operations Manager (Mark Whaley)	0478 704 930 flightops@skydive.com.au
BN ATC Shift Manager	07 3866 3315
Brisbane Operations Manager	07 3866 3224

#### **4. Noise – minimisation**

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The parties to this LoA:

1. agree to take all reasonable measures to minimise noise disturbance to members of the community
2. are aware of potential noise outcomes relating to the operations associated with this LoA and will work together to identify, investigate and where possible implement noise improvement measures
3. agree that future reviews of this LoA will take into consideration any noise complaints relating to the operations undertaken as part of this LoA.

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## **5. Miscellaneous**

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### **5.1. Costs**

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Each party must bear its own costs in performing this LoA.

### **5.2. Variation**

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No variation or amendment to this LoA will apply unless:

1. it is in writing, authorised by each party to this LoA and
2. results in a new version of this document.

### **5.3. Termination**

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Either party may terminate this LoA by providing the other party with advance written notice of the termination date.

### **5.4. No legal effect**

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This LoA is not intended to create any legal rights or obligations as between Airservices and Skydive Australia Group.

## 6. Definitions

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Within this document, the following definitions apply:

<b>Term</b>	<b>Definition</b>
LoA	This Letter of Agreement, including all attachments and appendixes.
Drop zone	Is the intended landing area on to which the parachutists will descend
Drop area	Is the airspace through which the parachutists will descend after leaving the parachute aircraft

### Appendix 3: LOA other interested parties & AvSEF consultation

RAPAC - Office of Airspace Regulation  
Civil Aviation Safety Authority  
GPO Box 2005  
CANBERRA ACT 2601  
Ph: 02 6217 1410  
Email: [rapac@casa.gov.au](mailto:rapac@casa.gov.au)  
8th July 2020

Dear Secretary

Re: QLD RAPAC Agenda Item

Skydive the Beach & Beyond are seeking QLD RAPAC support to conduct cloud jumping operations in accordance with CASA's standard cloud jumping procedures manual. Commencement of such operations will only be conducted subject to CASA's final approval.

Currently Skydive the Beach & Beyond conducts parachuting operations at Mission Beach south of Cairns, of which we have already gained support from RAPAC QLD. Tully (YTUY) is located 10.7 nm to the South West of Mission Beach

We are now seeking support from RAPAC QLD to conduct cloud jumping operations at Tully Aerodrome, for our Tully DZ

If you require any further information I can be contacted anytime on the number below.

Yours faithfully



**Mark Whaley**

Flight Operations Manager

Skydive Australia

Mobile: +61 407 065 728

Email: [flightops@skydive.com.au](mailto:flightops@skydive.com.au)

## Appendix 4: Risk Analysis of a Collision between Aircraft and Parachutists

### a Data Collection of Traffic OCTA

Aircraft movements transiting the 2 NM area surrounding the drop zone at Tully have been documented visually over a two-week period by the Senior Pilot who is based at Tully Aerodrome from 30/05/2022 to 12/06/2022  
A 25% buffer was then added to the numbers to allow for any increased variation during the operational period.

Aircraft Type	Aircraft total two-week observation period	Total Aircraft /yr	Data entered risk model + 25% buffer
GA (incl Helicopters)	28	728	910
Light twin	4	104	130
Commuter	1	26	33
RPT	0	0	0

### b Parachutist Traffic

Parachuting is anticipated to operate two weeks of each month subject to weather.  
A total of 6,720 parachute descents were made at the Tully drop zone in the 2021/22 Financial year.

### c Drop Zone Area

**Drop Zone area was calculated as follows:**

1nm = 1852m (area of circle = pi x radius squared) hence  $3.14 \times 1852 \times 1852$   
DZ Area 2nm radius is 43,101,444 square meters



# COLLISION HAZARD FOR A MIX OF AIRCRAFT ENCOUNTERING PARACHUTISTS IN A DROP ZONE

## NOTES

### COMMON PARAMETERS

Factor	Value	Units
Feet to Metres	0.3048	Constant
Knots to M/Sec	0.5148	Constant
Drop Zone - Area	43,101,444	Sq Metres

### KEY

Input
Calculated Fields
Results

### PARACHUTISTS DROPPING

Factor	Value	Units
Span	2	Metres
Length	2	Metres
Height	2	Metres
Length of the Drop Day	8	Hours
Drop Velocity	120	Knots
Parachutists Dropping Per Year	6720	Integer

### RISK MITIGATION

Factor	GA	Light Twin	Commuter	RPT	Units
DZ Active Alert Radio Communication Failure	0.1	0.01	0.001	0	Probability
DZ Alert Incorrect Aircrew Reaction	0.3	0.1	0.01	0	Probability
Probability of ATC Separation	0	0.3	0.7	0	0 = No ATC
Safety Improvement Factor	2.70	13.11	303.31	#DIV/0!	

### AIRCRAFT TRANSITING

Factor	GA	Light Twin	Commuter	RPT	Units
Span	12	15	20	50	Metres
Length	8	10	15	40	Metres
Height	4	5	6	10	Metres
No of People in Aircraft	2	6	40	150	Integer
Aircraft in DZ Per Year	910.00	130.00	33.00	0.00	Fractions OK
Expected Lives at Risk Per Year, <b>TOTAL</b>	1820	780	1320	0	<b>3920</b>

### BLIND DROP RESULTS

Factor	GA	Light Twin	Commuter	RPT	Units
Probability of a Coincidence in Space	8.91E-06	1.39E-05	2.78E-05	1.86E-04	Probability
Probability of a Coincidence in Time	9.23E-09	1.08E-08	1.23E-08	1.85E-08	Probability
Probability of a Collision: Single Aircraft & Parachutist	8.23E-14	1.50E-13	3.43E-13	3.43E-12	Probability
<b>Collisions Per Year: Compound of Aircraft and Drops</b>	<b>5.03E-07</b>	<b>1.31E-07</b>	<b>7.60E-08</b>	<b>0.00E+00</b>	Probability

**RISK MITIGATED DROP RESULTS**

Factor	GA	Light Twin	Commuter	RPT	Units
Probability of a Coincidence in Space	3.30E-06	1.06E-06	9.18E-08	#DIV/0!	Probability
Probability of a Coincidence in Time	3.42E-09	8.22E-10	4.06E-11	#DIV/0!	Probability
Probability of a Collision: Single Aircraft & Parachutist	3.04E-14	1.14E-14	1.13E-15	#DIV/0!	Probability
<b>Collisions Per Year: Compound of Aircraft and Drops</b>	<b>1.86E-07</b>	<b>1.00E-08</b>	<b>2.51E-10</b>	<b>#DIV/0!</b>	Probability

**CASA RISK ENVELOPE**

Casualties	Intolerable	Scrutiny	ALARP	Acceptable
1	1.000E-01	1.000E-02	1.000E-04	1.000E-05
10	1.000E-02	1.000E-03	1.000E-05	1.000E-06
100	1.000E-03	1.000E-04	1.000E-06	1.000E-07
1000	1.000E-04	1.000E-05	1.000E-07	1.000E-08
RESULTS	People At Risk	EXPECTED FATALITIES		
GA	2	GA Blind	GA Risk Mitigated	
		2.01E-06	7.45E-07	
Light Twin	6	Light Twin Blind	Light Twin Risk Mitigated	
		5.24E-07	4.00E-08	
Commuter	40	Commuter Blind	Commuter Risk Mitigated	
		3.04E-07	1.00E-09	
RPT	150	RPT Blind	RPT Risk Mitigated	
		0.00E+00	#DIV/0!	

**PARACHUTE COLLISION RISK MAPPED ON CASA'S HAZARD ASSESSMENT CRITERIA**

