

In-Flight Emergency Response Checklist (IFER)

Procedure

ATS-PROC-0062

Version 20

Effective 21 March 2024

Authorised: ATM Standards
 Airservices Australia

 HQSRG A8 SO1 CM ANSP
 Royal Australian Air Force

ATTENTION
Temporary amendments may apply

Change summary

In-Flight Emergency Response Checklist (IFER) Version 20: Effective 21 March 2024		
Location of change	Change description	CRC
6	Addition of NOMC contact number	32923
13	Clarify who to advise upon declaration of a DISTRESS phase	
15	Addition of automatic distress tracking (ADT) transmitter detection	
45	Replaced NCC with NOMC	

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[View change summaries for the previous six months](#)

Table of contents

General.....	5
IFER checklist telephone contacts	6
Critical initial actions	7
Critical initial actions	7
Emergency phases	8
Unlawful interference	13
Bomb Warning	13
Hijack	14
General aircraft emergencies	15
Distress beacon detected	15
Autonomous distress tracking (ADT) transmitter detected	15
Emergency declarations by data link aircraft within your FIR	16
Emergency declarations by data link aircraft outside your FIR	17
Smoke or Fumes	18
Fuel shortage	19
Fuel dumping	20
Aircraft deviating into active Restricted or Military Operating Area	21
In-flight contingencies in oceanic airspace	22
Aircraft equipment failures	23
Instrument failure	23
Directional guidance phraseologies	23
Aircraft malfunction	24
Able to continue (with restrictions), aircraft proceeds to destination	24
Not able to continue	25
Aircraft communications failure	26
Speechless radar approach procedures (ERSA)	28
Landings.....	29
Aerodrome emergency landing	29
Forced landing or ditching and Landing - not forced	31

In-Flight Emergency Response Checklist (IFER)

General.....	5
IFER checklist telephone contacts	6
Medical/Military emergencies	33
Hypoxia	33
Hung ordnance/unsafe weapons	34
Hydrazine - F16	34
Ejection	35
Pilot incapacitation – Emergency Autoland System (EAL) activation	36
VFR emergencies	37
Uncertain of position.....	37
VFR in IMC	39
VFR on top of cloud.....	40
DAY VFR at night	42
Unauthorised RPAS within controlled airspace.....	45

General

The [Manual of Air Traffic Services \(MATS\)](#) specifies policy and procedures applicable to aircraft emergencies and SAR alerting. The In-Flight Emergency Response Checklists contain information and guidance on the handling of in-flight emergencies (IFE).

This document contains procedures for responding to specific IFEs as detailed in the following checklists. It contains supplemental information which should be considered or implemented as appropriate.

1. An ATSO on becoming aware of an IFE should immediately carry out the Critical Initial Actions checklist in an attempt to stabilise the situation.
2. Attempt to ascertain the extent of the pilot's requirements for assistance. Provision of assistance should then be directed to satisfy these requirements.
3. ATSOs shall alert their supervisor and hand over management of the IFER to an IFER manager (if available) as soon as possible after declaration of the IFE.
4. Alert JRCC Australia or Joint Personnel Recovery (JPR) to a situation likely to require search and rescue action at the earliest opportunity. The JPR should only be contacted when the situation involves military aircraft.
5. Seek a balance in acquiring necessary information while keeping communications to a minimum.
6. Consider obtaining information from sources other than the distressed aircraft, e.g. company, squadron, wing headquarters, another pilot or SAR databases held by JRCC Australia.
7. Do not assume that relevant information is necessarily common knowledge to all parties involved.
8. Consider the merits of retaining a distressed aircraft on a discrete frequency. This may be best achieved by requiring other traffic to change frequency.
9. Unidentified aircraft subject to an emergency should make regular radio contact either by responding to ATS transmissions or keeping agreed skeds. Appropriate scheduled reporting intervals will vary with circumstances, five minutes is common.
10. Subject to cloud cover and aircraft performance, increased altitude may assist identification, improve VHF/UHF radio communication, clear hazards and assist visual and radio navigation.
11. The optimum response to IFEs may vary with each situation. Consider alternative courses of action. Resist any inclination to a predetermined approach.
12. JRCC Australia is available to provide assistance to Airservices Australia with regards:
 - i. arranging for the provision of ditching forecasts from the Bureau of Meteorology (BoM)
 - ii. position of ships in the area of a ditching and any reports of local weather conditions
 - iii. arranging coordination of maritime assets for over water emergencies
 - iv. on request, provide access to the JRCC Australia Aviation Database information in relation to contact and airfield details
 - v. when Airservices Australia is the lead agency, providing general assistance where resources are available.

13. ATSOs shall seek ATMD/Military Supervisor approval before diverting aircraft to assist in an emergency. In an emergency, when an ATMD/Military Supervisor is not immediately available, ATSOs may request, but not instruct, an airborne aircraft to divert for the purpose of providing assistance. Any such action taken must be referred to an ATMD/Military Supervisor at the earliest opportunity.
14. During an IFE, ATSOs should continually review checklist items to ensure all necessary actions have been taken.
15. **Keep it simple.**

IFER checklist telephone contacts

JRCC Australia	1800 815 257
<i>In exceptional circumstances where JRCC Australia is unable to accept immediate coordination of a SAR incident from an ATS unit or ATMD, the incident should be transferred by the ATS unit or ATMD to the relevant State/Territory Police.</i>	
National Situation Room	1300 243 222
National Operations Management Centre (NOMC)	02 6268 4442
Military SAR	
<i>Primary</i> Joint Personnel Recovery (JPR) (Business hours)	02 6128 4849; or 02 6128 4850
<i>Secondary</i> Air and Space Operations Centre (AOC)	02 6128 4810
<i>Tertiary</i> HQJOC – JOR Watch Commander (24 hours/7 days)	02 6128 4333

Critical initial actions

Acknowledge	<ul style="list-style-type: none"> • Emergency • Alarms • Confirm aircraft's identity and location • Record time.
Assess	<ul style="list-style-type: none"> • Nature of the problem • Pilot's intentions • Pilot's requirements • Time available for response.
Separate	<ul style="list-style-type: none"> • Resolve immediate separation/conflict problems • Provide safety alerts on traffic, terrain or other hazards.
Coordinate	Immediate coordination requirements
Phase	<ul style="list-style-type: none"> • Declare the appropriate phase • Notify supervisor.

Emergency phases

Emergency condition	Latest time action should be taken			
	Comm checks	INCERFA	ALERFA	DETRESFA
Doubt exists for aircraft's safety	At appropriate time	At appropriate time	-	-
Apprehension exists for aircraft's safety	At appropriate time	-	At appropriate time	-
Reasonable certainty that the aircraft is in danger	At appropriate time	-	-	At appropriate time
Note: 'Appropriate time' may be related to Failure To Report or to reported or suspected irregular operation.				
Unlawful interference				
Bomb warning	-	-	Immediately - not on the ground where ATS is on duty	Immediately when determined 'genuine' - not on the ground where ATS is on duty
Hijack	-	-	Immediately	-
Distress beacon				
Activated for greater than 10 seconds	-	-	-	Immediately
Autonomous distress tracking (ADT) transmitter				
When detected	Immediately	-	-	3 min after communication checks commenced and no response
Emergency declarations by data link				
ADS-C Emergency or 'MAYDAY' RECEIVED				When condition is confirmed
'PAN PAN' RECEIVED			Immediately	

In-Flight Emergency Response Checklist (IFER)

Emergency condition	Latest time action should be taken			
	Comm checks	INCERFA	ALERFA	DETRESFA
Fuel shortage				
Fuel is exhausted (unless SARTIME notified)	-	-	-	Immediately
Aircraft deviating into active Restricted or Military Operating Area				
On entry	-	-	When recognised	
Instruments				
Not on proper track or at proper level Unable to use appropriate nav aids Experiencing navigational difficulties Lost	-	When recognised	When you believe the conduct of the flight is in jeopardy	-
Aircraft malfunction				
Impaired operating efficiency Difficulty - maintaining height/making a normal approach and landing	-	-	When recognised	-
Major impaired operating efficiency - forced landing likely	-	-	-	When recognised
Aircraft communications failure				
Departure after ready to taxi or take-off call	10 min after taxiing call	30 min after taxiing call	-	-
Departure after airborne call	5 min after airborne call	30 min after airborne call	-	-
Position or scheduled report, NOCOM cancellation time or OPS NORMAL time	3 min after report due	30 min after report due	-	-
After a frequency change	3 min after call due	30 min after call due	-	-
NO response after a call by a ground station, when listening watch is required	3 min after call	30 min after call	-	-
Arrival at a non-controlled aerodrome	10 min after estimate	30 min after estimate	-	-

In-Flight Emergency Response Checklist (IFER)

Emergency condition	Latest time action should be taken			
	Comm checks	INCERFA	ALERFA	DETRESFA
Arrival or departure having nominated SARTIME	At SARTIME	30 min after SARTIME	-	-
After subsequent checks and enquiries to other relevant sources fail to reveal news of the aircraft	-	-	When recognised	-
Unsuccessful checks and enquiries indicate the aircraft is probably in distress	-	-	-	When recognised
Failure to land				
Aircraft at a controlled aerodrome fails to report landing after having been given approach or landing instructions	At estimated landing time	-	5 min after estimated landing time	-
Aerodrome emergency landing and forced landing or ditching				
That a pilot is about to, or has, force landed, ditched or crashed	-	-	-	Immediately
Landing not forced				
Pilot is about to, or has, made a landing other than a forced landing: a) where the position is in doubt b) on an unprepared surface or c) at an aerodrome (in the case of helicopters, a landing area) which is considered by the pilot as being operationally unsuitable.	-	When recognised	-	-

In-Flight Emergency Response Checklist (IFER)

Emergency condition	Latest time action should be taken			
	Comm checks	INCERFA	ALERFA	DETRESFA
Hypoxia				
Unusual pilot behaviour	-	-	When recognised	-
Emergency Autoland System (EAL) activation				
Pilot incapacitation	-	-	-	When recognised
Hung ordnance/unsafe weapons				
Unsafe weapons	-	-	When recognised	-
Hydrazine				
F-16 Emergency Power Unit (EPU) has been activated	-	-	When recognised	-
Ejection				
Pilot advises premeditated ejection or You become aware that a pilot has ejected	-	-	-	When recognised
Uncertain of position				
Not on proper track or at proper level Unable to use appropriate nav aids Experiencing navigational difficulties or is lost VFR on top of cloud	-	When recognised	When you believe the flight is in jeopardy	-
VFR in IMC/DAY VFR at night				
VMC flights in IMC, or daylight flights at night	-	-	When recognised	-

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Bomb warning

**Aircraft airborne or on ground at aerodrome where
ATC not on duty**

Record	Last observed/known position, altitude, track and speed
Consider	<ul style="list-style-type: none"> Increasing ADS-C reporting rate to five minutes if not identified Initiating skeds.
Notify	<p>All instances:</p> <ul style="list-style-type: none"> National Situation Room. <p>Aircraft at uncontrolled aerodrome:</p> <ul style="list-style-type: none"> Aircraft operator/representative or, if unavailable, pilot in command Aerodrome operator. <p>Aircraft in flight:</p> <ul style="list-style-type: none"> JRCC Australia/JPR Pilot when threat: <ul style="list-style-type: none"> has been assessed as genuine by the aircraft operator; or has not been assessed but, after 30 minutes, is treated as 'genuine'.
Aircraft at controlled aerodrome	Follow AEPs or Local Instructions
Relay	Messages between aircraft and authorities as requested
Threat 'genuine'	Upgrade to DISTRESS phase

Hijack

Avoid overt reference to the nature of the situation and maintain normal communications

- Do not expect normal response from aircraft
- Avoid referring to the hijack unless the aircrew has specifically referred to it.

Respond to aircraft squawking code 7500	<ul style="list-style-type: none"> • Use (<i>callsign</i>) CONFIRM SQUAWKING ASSIGNED CODE • Regard the absence of a reply to the above as possible evidence of the emergency • See also Emergency declarations by data link aircraft within your FIR on page 16
Record	Last observed/known position, altitude, track and speed. Plot aircraft track
Notify	<ul style="list-style-type: none"> • National Situation Room • JRCC Australia/JPR • Aircraft operator/representative • Aerodrome operator of known or assumed destination • Adjacent/concerned units.
Relay	Appropriate messages between aircraft and authorities – exercise prudence
Consider	<ul style="list-style-type: none"> • Informing other aircraft in the vicinity • Using other aircraft for information • Using different frequencies where possible • Increasing ADS-C reporting rate to five minutes if not identified (unless a concurrent ADS-C emergency is in effect - in which case this is automatic).

Distress beacon detected

Confirm	The beacon has been heard for longer than 10 seconds
Request	Aircraft in the vicinity to monitor 121.5
Use form	Complete the Distress Beacon Signal Report Form for each aircraft report
Advise	JRCC Australia/JPR

Autonomous distress tracking (ADT) transmitter detected

Confirm	Immediately
Determine	If communications are established, any impairment to operating efficiency
Advise	JRCC Australia/JPR

Emergency declarations by data link aircraft within your FIR

Do NOT send a 'Demand Contract'

CPDLC 'PAN PAN' or 'MAYDAY'

Left click	On the ACID of the MAYDAY or PAN message
Acknowledge	By most efficient means (voice if able)
Send	(freetext) 'ROGER MAYDAY (or PAN)'
Change	The ADS-C reporting rate if required (automatic if emergency sent by ADS-C)
Implement	IFER Procedures
Deactivate	Automatic transfer DO NOT manually transfer connection

ADS-C emergency indication no 'PAN PAN' or 'MAYDAY'

Check	For inadvertent activation
Send message	By voice or CPDLC 'CONFIRM ADS-C EMERGENCY'
If inadvertent	Wait for cancellation at next periodic report, then set appropriate ADS-C reporting rate
If intentional	Go to IFER Checklist
If no response	<ul style="list-style-type: none"> • EMG mode still active • See Hijack on page 14

Emergency declarations by data link aircraft outside your FIR

Do NOT send a 'Demand Contract'
Do NOT increase the ADS-C reporting rate

CPDLC 'PAN PAN' or 'MAYDAY'

Left click	On the ACID of the MAYDAY (or PAN) message
Send	(freetext) 'ROGER MAYDAY (or PAN)'
Coordinate	With the adjoining unit and/or Supervisor to ensure they are aware of and accept responsibility for the emergency
Maintain	An active connection until better assistance can be provided by other means

ADS-C emergency indication no 'PAN PAN' or 'MAYDAY'

Coordinate	With the adjoining FIR to ensure they are aware of and accept responsibility for the emergency
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<h2>Smoke or Fumes</h2>	
Confirm	<ul style="list-style-type: none"> • Is smoke visible in the cockpit or cabin? • What colour is the smoke? (e.g. black, light grey) • Are fumes overpowering or impairing your ability to control the aircraft? • Are fumes endangering passengers? • Do the fumes have an electrical or fuel smell?
Obtain	<ul style="list-style-type: none"> • POB • Endurance • Dangerous cargo.
Consider	<ul style="list-style-type: none"> • Possible landing areas: <ul style="list-style-type: none"> • lighting • dimensions • NOTAM • availability of emergency services. • Weather • Terrain • Providing navigation assistance • Track clear of populous areas • Using other aircraft in the vicinity for: <ul style="list-style-type: none"> • possible intercept/sighting and/or escort • communications relay • aircraft handling advice • SAR, if required. • Obtaining aircraft type specialist.
Record	Last observed/known position, altitude, track and speed
Notify	JRCC Australia/JPR if SAR action is likely
May require IFER	<p>Hypoxia on page 33 (from smoke and fumes)</p> <p>Aerodrome emergency landing on page 29</p> <p>Forced landing or ditching and Landing – not forced on page 31</p>

<h2>Fuel shortage</h2>	
Obtain	<ul style="list-style-type: none"> • POB • Endurance • Dangerous cargo • In-flight conditions • Operational implications of the malfunction.
Record	Last observed/known position, altitude, track and speed
Consider	<ul style="list-style-type: none"> • If IMC, actions to achieve and maintain VMC • Possible landing areas: <ul style="list-style-type: none"> • local pilot knowledge • lighting • dimensions • NOTAM • availability of services. • Weather: <ul style="list-style-type: none"> • en route winds (head/tail) • VMC areas • destination conditions. • Terrain • Providing navigation assistance - track clear of populous areas. • Using other aircraft in the vicinity for: <ul style="list-style-type: none"> • possible intercept/sighting and/or escort • weather reports • communications relay. • Aircraft handling advice • SAR, if required • Obtain expert advice to optimise remaining fuel • Straight in approach requirement, particularly for fast military aircraft (vice initial and pitch).
May require IFER	<p>Aerodrome emergency landing on page 29</p> <p>Forced landing or ditching and Landing – not forced on page 31</p>
Notify	JRCC Australia/JPR if necessary

<h2>Fuel dumping</h2>	
Obtain	Expected duration of fuel dumping
Record	<ul style="list-style-type: none"> • Last observed/known position, altitude, track and speed • Area where the fuel was dumped • Weather conditions.
Reserve airspace	<ul style="list-style-type: none"> • Vapour zone dimensions - 1000 FT above, 2000 FT below, 5 NM behind and 1/2 NM on each side of the aircraft • Reserve vapour zone airspace from commencement until 5 minutes after completion • Do not permit fuel to be dumped in a circular or race track pattern • Where possible aircraft should maintain a minimum height of 6000 FT AGL • Make every effort to keep other aircraft clear of the vapour zone.
Hazard alert	The fuel dumping including the approximate location of the 'vapour zone' until 5 minutes after fuel dump completion
Consider	<ul style="list-style-type: none"> • Terrain • Track clear of populous areas • Providing navigation assistance • Possible landing areas • Destination conditions • Local pilot knowledge • Availability of services • En route winds (head/tail) • SAR, if required • Using other aircraft in the vicinity for: <ul style="list-style-type: none"> • weather reports • communications relay.
May require IFER	<p>Aerodrome emergency landing on page 29</p> <p>Forced landing or ditching and Landing – not forced on page 31</p>
Notify	JRCC Australia/if necessary (not required here if in critical actions)

Aircraft deviating into active Restricted or Military Operating Area

Continue to provide flight information and alerting services

When unauthorised entry into active Restricted or Military Operating Area has occurred or is imminent

Issue safety alert

SAFETY ALERT. RESTRICTED AREA (or MILITARY OPERATING AREA) ACTIVE. [SUGGEST] TURN LEFT/RIGHT IMMEDIATELY HEADING (three digits)

or

SAFETY ALERT. RESTRICTED AREA (or MILITARY OPERATING AREA) ACTIVE. [SUGGEST] CLIMB/DESCEND IMMEDIATELY TO (level)

When unauthorised deviation into active Restricted or Military Operating Area is unavoidable (*e.g. due weather*)

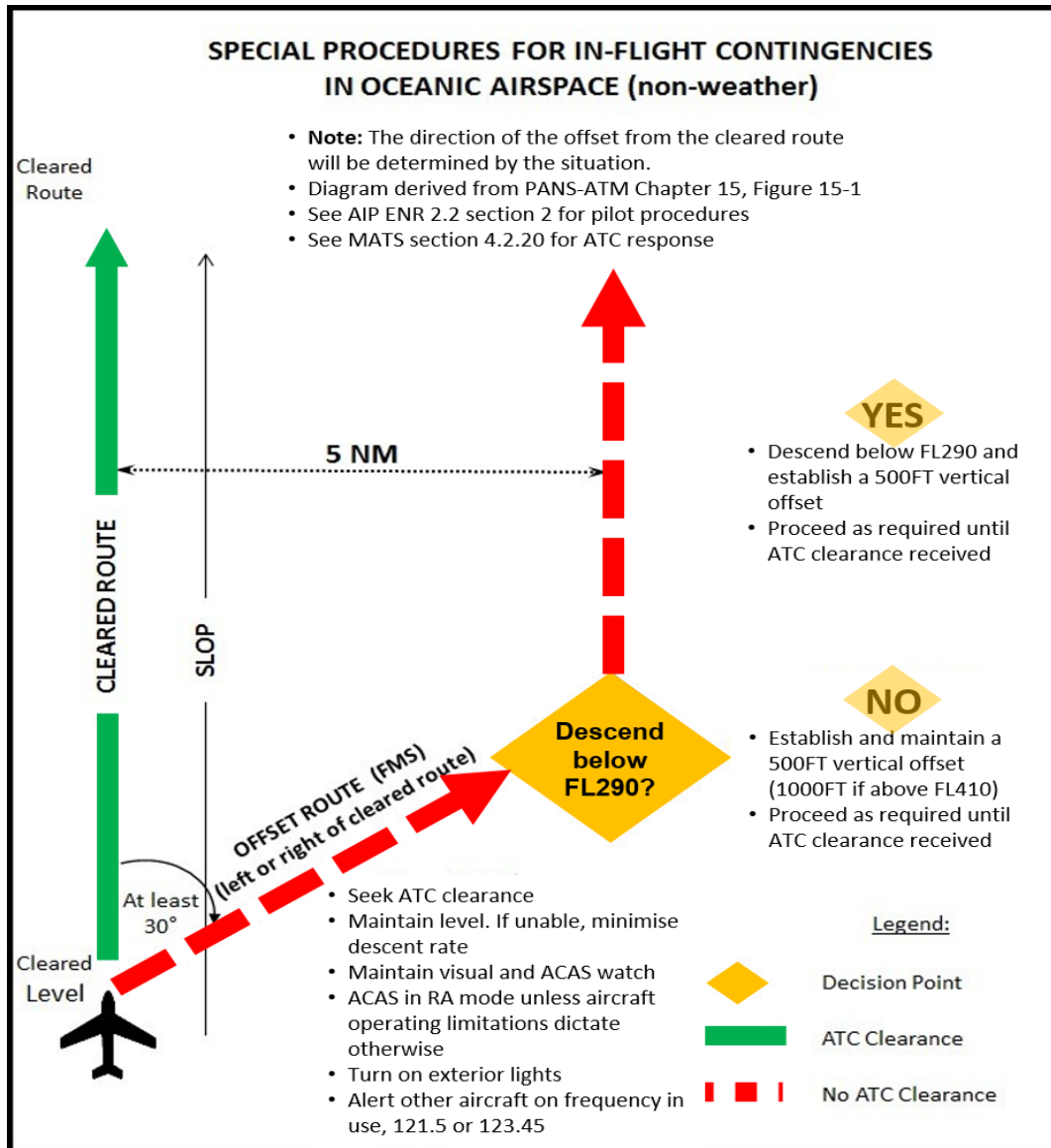
Issue safety alert

- Advise they are no longer operating under a clearance
- Terminate control service (*where applicable*)
- Advise they are proceeding at their own risk.

SAFETY ALERT. UNABLE TO ISSUE CLEARANCE. PROCEED AT YOUR OWN RISK. [CONTROL SERVICE TERMINATED] SQUAWK 7700.

- **Declare ALERFA**

Deviation from ATC clearance Aircraft deviating and ATC cannot issue the clearance due to conflicting traffic:	
Issue safety alert	<ul style="list-style-type: none"> • Advise the pilot that clearance for the deviation is not available • Provide traffic information to the pilot; and • Request the pilot's intentions. <p>Note: Under the provisions of the rules of the air a pilot may deviate from any clearance provided the circumstances render such departure absolutely necessary in the interests of safety.</p>



Instrument failure

Obtain	<ul style="list-style-type: none"> • POB • Endurance • Dangerous cargo • Operational implications of the malfunction.
Record	Last observed/known position, altitude, track and speed
Consider	<ul style="list-style-type: none"> • Providing weather information • Providing navigation assistance to establish VMC • Obtaining assistance from other pilots • Using diverted aircraft for advice or escort • Monitoring height and heading on the ATS surveillance system • Implementing no-compass vectoring.
Notify	JRCC Australia if SAR action is likely (not required here if in critical actions)

Directional guidance phraseologies

Circumstance	Phraseology
Notify pilot of intention to use directional indicator failure procedures	ATS SURVEILLANCE SERVICE WILL CONTINUE, MAKE ALL TURNS RATE ONE (or RATE HALF or (number) DEGREES PER SECOND), EXECUTE INSTRUCTIONS IMMEDIATELY UPON RECEIPT
When suspected by ATC	CONFIRM HEADING
If heading response appears at variance with the track of the ATS surveillance symbol	SUSPECT YOUR DIRECTIONAL INDICATOR HAS FAILED
Turn instructions	TURN LEFT (or RIGHT) NOW STOP TURN NOW
Reference AIP GEN 3.4 ATS Surveillance System Communication and Navigation	

Aircraft malfunction

Able to continue (with restrictions), aircraft proceeds to destination

Obtain	<ul style="list-style-type: none"> • POB • Endurance • Dangerous cargo • Operational implications of the malfunction.
Record	Last observed/known position, altitude, track and speed
Consider	<ul style="list-style-type: none"> • Using other aircraft for: <ul style="list-style-type: none"> • possible intercept/sighting and/or escort • weather reports • communications relay • aircraft handling advice • SAR, if required. • Obtaining aircraft type specialist • Straight in approach requirement, particularly for fast military aircraft (vice initial and pitch) • Requirement for long final.
May require IFR	Aerodrome emergency landing on page 29

Aircraft malfunction

Not able to continue

Obtain	<ul style="list-style-type: none"> • POB • Endurance • Dangerous cargo • Operational implications of the malfunction.
Record	Last observed/known position, altitude, track and speed
Advise	LSALT
Consider	<ul style="list-style-type: none"> • Possible landing areas: <ul style="list-style-type: none"> • lighting • dimensions • NOTAM • availability of emergency services. • Weather • Terrain • Providing navigation assistance • Track clear of populous areas • Using other aircraft in the vicinity for: <ul style="list-style-type: none"> • possible intercept/sighting and/or escort • weather reports • communications relay • aircraft handling advice • SAR, if required. • Obtaining aircraft type specialist.
Notify	JRCC Australia/JPR if SAR action is likely (not required here if in critical actions)
May require IFER	Hypoxia on page 33 (from smoke and fumes) Aerodrome emergency landing on page 29 Forced landing or ditching and Landing – not forced on page 31

Aircraft communications failure (1 of 3)

General actions

Check	YOUR OWN EQUIPMENT It is not always the aircraft at fault
Determine	Last known contact by radio and/or the ATS surveillance system if applicable
Attempt contact	<ul style="list-style-type: none"> • On alternative frequencies: <ul style="list-style-type: none"> • current, previous and next • company/squadron (Military - Area or Guard) • distress (121.5/243.0) • other possible (CTAF/Flightwatch) • voice modulated Navaid (e.g. NDB) • SELCAL/HF • CPDLC. • Message on ATIS.
Check	With operating company/squadron or other networks (Marine, RFDS): <ul style="list-style-type: none"> • Satellite phone, mobile phone or pager on board • Has the aircraft a recent history of radio failure?
Assess problem	Is aircraft receiver functioning?: <ul style="list-style-type: none"> • Instruct aircraft 'SQUAWK (or TRANSMIT ADS-B) IDENT' • Instruct aircraft to turn • Instruct aircraft to change mode or code • Non modulated reply from aircraft (microphone may be U/S) • Instruct pilot to 'rock wings' (tower by day) • Twice flashing landing or navigation lights (tower by night) • Military - triangular pattern: <ul style="list-style-type: none"> • right turns - receive only • left turns - no transmit or receive.
Receiver functioning	
Continue	To pass instructions/information as appropriate
Repeat	<ul style="list-style-type: none"> • Instructions to aircraft • Pilot acknowledgment by non-modulated replies (keying microphone) if partial transmission/carrier wave available. <p>See Speechless radar approach procedures (ERSA) on page 28</p>
If time, determine	Additional pilot requirements/other systems malfunctions

Aircraft communications failure (2 of 3)

Receiver not functioning

Assume	<ul style="list-style-type: none"> • Communication Failure Procedures (ERSA - EMERG) or other agreed procedure • Separate as appropriate.
Advise	<ul style="list-style-type: none"> • Other aircraft likely to be affected • Aircraft operator/squadron.
Consider	<ul style="list-style-type: none"> • Possibility of other more serious emergency situations • May result from Hypoxia on page 33 • Using other aircraft for possible intercept/sighting and/or escort • Using tower signal light.

Once communications ability determined

Assist	<ul style="list-style-type: none"> • Continue to pass instructions/information even if not acknowledged • Broadcast on selected frequencies at H (hour) +10, H+25, H+40 and H+55: <ul style="list-style-type: none"> • Control instructions to continue flight as planned • Alternatives available (e.g. return or divert to nearest aerodrome) • Appropriate navigation advice • Weather conditions ahead/nearby/destination/alternate • Minimum altitude to maintain surveillance coverage • Position advice • LSALT advice.
In surveillance	<ul style="list-style-type: none"> • Monitor flight progress to determine intentions (ERSA procedures or other agreed procedure) • If leaving coverage record last observed/known position, altitude, track and speed • Alert other units if aircraft likely to enter their coverage.
Outside surveillance	<ul style="list-style-type: none"> • Determine last known/reported position • Check flight plan for consistency with ESTs.
Calculate	<ul style="list-style-type: none"> • Last time of arrival and fuel expiry from flight notification and/or total remaining endurance advised • If no flight plan/notification filed obtain information from owner, company or squadron.
Reserve airspace (MATS 4.2)	<ul style="list-style-type: none"> • En route, at destination and alternate (ETA/EAT+ 30 min) • Consider pilot alternatives • Advise adjoining and destination units.

Aircraft communications failure (3 of 3)

No communications determined

Check	For aircraft arrival at destination aerodrome or nominated alternate
Notify	JRCC Australia if comms checks fail to locate aircraft
May require IFER	Aircraft malfunction on page 24 Aerodrome emergency landing on page 29

Speechless radar approach procedures (ERSA)

Situation	Transmission
1. Pilot request for Speechless Radar approach when microphone(s) are unserviceable (carrier wave only available)	Pilot transmits four separate and distinct unmodulated transmissions of one second duration
2. Pilot responds to subsequent control directions: <ol style="list-style-type: none"> i. affirmation or acknowledgement ii. negative iii. say again. 	<ol style="list-style-type: none"> i. One distinct transmission ii. Two separate and distinct transmissions iii. Three separate and distinct transmissions.
3. Pilot indication of a further and pertinent unserviceability or an emergency	Five separate and distinct transmissions
4. Pilot indication of abandoning the aircraft	A single continuous transmission as long as practicable. Where possible the transmitter key is to be locked on
5. Controller requires pilot to indicate when an instruction has been completed	WHEN (condition or instruction is completed) MAKE A TWO SECOND TRANSMISSION
Reference: ERSA	

Aerodrome emergency landing

(1 of 2)

Obtain	<ul style="list-style-type: none"> • Scale of service requested by pilot <ul style="list-style-type: none"> • If no ARFFS available advise the pilot and request what Services are required • 'Full Emergency' or 'Local Standby'. • ETA • POB • Dangerous cargo • Fuel on board • Company and/or operator if known.
When ATC on duty - notify	Destination tower for activation of the AEP
When ATC not on duty – notify	<ul style="list-style-type: none"> • State or Territory Police for activation of the AEP where appropriate • Aircraft operator, where possible • ARFFS where established.

IF ON APPROACH TO THE AERODROME and the pilot elects to continue past MDA or DH until visual on a ground based aid approach:

- emphasise that heading and/or altitude information beyond MDA or DH is advisory only and are used at the captain's discretion
- inform ARFFS when emergency aircraft is next to land.

Aerodrome emergency landing (2 of 2)

Consider	<ul style="list-style-type: none"> • Runways available (respect pilot's preference): <ul style="list-style-type: none"> • Dimensions • Wind (update surface wind to IFE aircraft when able) • Possibility of aircraft leaving runway • Suitability of approach path with regard to nature of emergency • Aerodrome lighting • Possibility of arrester system engagement (military aircraft) • Straight in approach requirement, particularly for fast military aircraft (vice initial and pitch). • Warning IFE aircraft in circuit area of high terrain areas (high cockpit workload) • Holding IFE aircraft (only if suitable) to facilitate traffic management • Requirement to divert other aircraft after emergency aircraft has landed • Possibility of hot brakes or burst tire • In case of fire (observed or reported) updating surface wind to aid in evacuation • Notifying the pilot of the availability of the national ARFFS emergency frequency 131.0 (where applicable) • Availability for operations after emergency aircraft has landed (runways blocked) • Subsequent runway clearance (tugs etc).
Advise	JRCC Australia/JPR if there is doubt the aircraft will reach the destination safely

Forced landing or ditching and Landing – not forced

Obtain (time permitting)	<ul style="list-style-type: none"> • POB • Dangerous cargo • Description/position of area in which landing is to be made • In-flight conditions • Survival gear carried.
Advise pilot	<ul style="list-style-type: none"> • Activate Distress Beacon (if possible) • Call on ground (nominate frequency or phone number).
Record	Last observed/known position, altitude, track and speed
Notify	<p>JRCC Australia/JPR and request Ditching Forecast (available from JRCC Australia).</p> <p>Note: Ditching reports are received via the AFTN.</p>
Consider	<ul style="list-style-type: none"> • Obtaining and advising known weather conditions for area • Providing information on possible landing sites • Suitable aircraft for: <ul style="list-style-type: none"> • intercept and escort • SAR assistance • communications relay.
If contact achieved on the ground	<ul style="list-style-type: none"> • Advise JRCC Australia/JPR • Ascertain: <ul style="list-style-type: none"> • injuries • damage • assistance required. • Arrange skeds.

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<h1>Hypoxia</h1>	
Expect	Pilot: <ul style="list-style-type: none"> • speech slowing or slurring • becoming increasingly relaxed or euphoric • reactions slowing • increasingly showing poor decision making processes.
Advise	<ul style="list-style-type: none"> • Check oxygen system and connections • Check pressurisation. When confirmed and checked - if no change or condition worsens, act immediately to descend the aircraft
Descend the aircraft	<ul style="list-style-type: none"> • Example transmission OXYGEN, OXYGEN, OXYGEN, DESCEND TO ONE ZERO THOUSAND FEET • REPEAT if necessary • Try to keep aircraft in surveillance coverage.
Record	Last observed/known position, altitude, track and speed
If comms lost	<ul style="list-style-type: none"> • Prepare for emergency or uncontrolled descent • Plot position if identified • Pass information to JRCC Australia/JPR • Report when aircraft commences descent on fuel starvation if on automatic pilot or on handling pilot losing control.
Obtain (from other source)	<ul style="list-style-type: none"> • POB • Endurance • Dangerous cargo.
Consider	<ul style="list-style-type: none"> • Possibility of emergency/uncontrolled descent • Possibility of continuous auto flight to fuel exhaustion • Suitable aircraft for: <ul style="list-style-type: none"> • intercept and escort • SAR assistance • communications relay • visual check of pilot condition if communications lost • advice of position and level of emergency aircraft.
May require IFER	Aircraft communications failure on page 26 Aerodrome emergency landing on page 29 Forced landing or ditching and Landing – not forced on page 31

Hung ordnance/unsafe weapons

Obtain	<ul style="list-style-type: none"> • POB • Dangerous cargo • Endurance.
Consider	<ul style="list-style-type: none"> • No traffic below • Avoid built up areas • Straight-in approach • Holding IFE aircraft (only if suitable) to facilitate traffic management • Requirement to divert other aircraft after emergency aircraft has landed.
Notify	JPR

Hydrazine – F16

Hydrazine is a highly toxic, carcinogenic liquid that provides temporary emergency power to an F-16 EPU

Obtain	Confirmation of Emergency Power Unit (EPU) activation
Advise	ARFF (if not military ARFF stress that hydrazine is a highly toxic/carcinogenic)
Relay	Pilot messages to ground services verbatim
Notify	<ul style="list-style-type: none"> • Adjacent units • Squadron • JPR.
Consider	<ul style="list-style-type: none"> • Aircraft limited to approx 10 minutes electrical and hydraulic/flight controls power • Straight-in approach • Requirement to divert other aircraft after emergency aircraft has landed.
May require IFER	Aerodrome emergency landing on page 29 Forced landing or ditching and Landing – not forced on page 31 Ejection on page 35

Ejection

Obtain (time permitting)	<ul style="list-style-type: none"> • POB • Heading and level as given by the pilot • If premeditated, the location of the ejection.
Advise	<ul style="list-style-type: none"> • Other aircraft - transmit warnings on appropriate frequencies
Record	<ul style="list-style-type: none"> • Position at ejection • Last observed/known position, altitude, track and speed of abandoned aircraft.
Separate	<ul style="list-style-type: none"> • Abandoned aircraft with other traffic • Aircrew in the air under canopy (descent rate approx 1200 fpm).
Consider	<ul style="list-style-type: none"> • Request for vectors to a suitable ejection area • Distress beacon transmissions from the ejection seat or module • Deployment of chaff after initiation of some egress systems • Possible constant transmission until the aircraft impacts • Hull will automatically squawk 7700.
Notify	JRCC Australia/JPR and request Ditching Forecast (available from JRCC Australia)

Pilot incapacitation – Emergency Autoland System (EAL) activation

Activation	<p>EAL activates in one of three ways:</p> <ul style="list-style-type: none"> • Erratic flying is detected and, after checking for pilot responsiveness, no input is received • Following an emergency descent with no pilot responsiveness • Manually.
Automated aircraft actions and broadcasts	<ul style="list-style-type: none"> • Squawks 7700 • On the last pilot selected frequency and Guard (121.5): <ul style="list-style-type: none"> • ‘MAYDAY, MAYDAY, MAYDAY, (<i>callsign</i>), EMERGENCY AUTOLAND ACTIVATED. STANDBY FOR MORE INFORMATION’ • After 25 seconds, intentions will be broadcast: <ul style="list-style-type: none"> • e.g. ‘(<i>callsign</i>), PILOT INCAPACITATION, 14 MILES SOUTHWEST OF YBSU, LANDING YBBN AERODROME. EMERGENCY AUTOLAND IN 13 MINUTES ON RUNWAY 01LEFT’ • Subsequent broadcasts on Guard (121.5): <ul style="list-style-type: none"> • Changes in destination (due weather or other factors) • After landing, every 90 seconds on CTAF and every 5 minutes on Guard: <ul style="list-style-type: none"> • ‘DISABLED AIRCRAFT ON RUNWAY (<i>number</i>) (<i>destination</i>) AIRPORT’
Advise	<ul style="list-style-type: none"> • Declare DETRESFA • Other aircraft on frequency of the EAL activation and intended destination • Adjacent/concerned units • Supervisor.
Record	Last observed/known position, altitude, track and speed
EAL system procedures	<ul style="list-style-type: none"> • Aircraft will manoeuvre to emergency aerodrome • Aircraft descends in the hold at the final approach fix for landing at emergency aerodrome • Broadcasts on appropriate ATC frequency or Common Traffic Advisory Frequency (CTAF) within 12 miles and passing 10,000 feet AGL of emergency airport
Obtain (from other sources)	<ul style="list-style-type: none"> • POB • Endurance • Dangerous cargo.
Other considerations	<ul style="list-style-type: none"> • May be manually activated by passenger, pilot or automatically by EAL algorithms; • Verbal announcements on upcoming manoeuvres automatically made to passengers • Video map displays route of flight and ensuing manoeuvres • Push-To-Talk button available for passenger/ATC communication.

Uncertain of position

(1 of 2)

Obtain	<ul style="list-style-type: none"> • Last known positive fix • Headings and times flown since that fix • True airspeeds and levels flown since that fix • Remaining total fuel endurance • Serviceable and useable navigation aids • In-flight conditions • For VFR - flight conditions affecting ability to proceed in any direction.
Advise	<ul style="list-style-type: none"> • Pilot to update information above when it changes • VFR aircraft to remain in VMC when following ATS guidance • LSALT and/or highest terrain where pilot may not stay visual.
Determine position - not in surveillance	<ul style="list-style-type: none"> • Take actions to enter surveillance coverage if practical • Ascertain pilot's ability to use Nav aids on aircraft and provide frequencies of appropriate Nav aids - obtain present heading and relative bearing of aid • Obtain pilot report of: <ul style="list-style-type: none"> • topographical features (e.g. towns, lakes, river orientation, roads, railways) • meteorological phenomena (e.g. thunderstorms). • Advise pilot to track to, then along a geographical feature, noting compass headings and any new features encountered, e.g. coastline, road/railway crossing, river/road • Advise pilot to circle a prominent feature or town to facilitate identification by ground observers (e.g. local police) • Ascertain if pilot has access to a Distress Beacon (do not activate without prior consultation with JRCC Australia) • If necessary, request JRCC Australia/JPR provide assistance • If available use direction finding equipment • Activate/deactivate aerodrome beacons, aerodrome or other lights and aircraft as aerial lighthouse (orbiting with landing lights on) and subsequent escort • Use of VHF/UHF range intelligence (VHF range NM = $1.2 \times \sqrt{\text{height in feet}}$; UHF range NM = $\sqrt{\text{height in feet}}$).

Uncertain of position

(2 of 2)

Determine position - surveillance	<ul style="list-style-type: none"> • SQUAWK (or TRANSMIT ADS-B) IDENT or SQUAWK 7700 or • Use heading/turn procedures for non-transponder aircraft • Provide position fix or vector as required • Record last known position, track, speed and altitude if surveillance lost.
When position determined	<ul style="list-style-type: none"> • Provide navigation assistance to: <ul style="list-style-type: none"> • next prominent feature on track • return to earlier position/departure point • land at nearest suitable aerodrome. • Provide heading/distance information using: <ul style="list-style-type: none"> • vectors and navaid tracking assistance • other pilot or company advice. • Provide aerodrome details if required - obtain information from ERSA and NOTAM or JRCC Australia • Insufficient fuel/light/VMC to proceed to nearest suitable aerodrome (suggest precautionary landing in daylight with power).
May require IFER	<p>Fuel shortage on page 19</p> <p>Forced landing or ditching and Landing – not forced on page 31</p> <p>VFR on top of cloud on page 40</p> <p>DAY VFR at night on page 42</p>
Notify	JRCC Australia/JPR if SAR action is likely

VFR in IMC

Instil confidence, and keep instructions simple and to a minimum, as the pilot may be emotionally distressed or inexperienced

Advise	<ul style="list-style-type: none"> • Keep wings level • Keep speed constant • Trust instruments • LSALT • Turn on pitot heat (and anti-icing) if available.
Obtain	<ul style="list-style-type: none"> • Time in IMC • Type of conditions encountered • Pilot instrument flight experience • Availability of autopilot and pilot competence in its use • POB • Last observed/known position, altitude, track and speed • Total remaining endurance.
Instruct pilot	<ul style="list-style-type: none"> • No abrupt manoeuvres • Shallow climbs/descents/turns • Turn first, establish straight and level then climb/descend • Suggest use of autopilot if equipped and competent.
Consider options	<ul style="list-style-type: none"> • Reciprocal track (return to last VMC area) • Climb above tops and proceed to known breaks in cloud • Descent below base (consider LSALT) • Other track to VMC areas or clear landing ground.
Consider	<ul style="list-style-type: none"> • Retaining experienced pilot for assistance if available • Clearing frequency • Pilot preferences • Obtaining reports of areas of known VMC from: <ul style="list-style-type: none"> • other aircraft • BoM • ground observers. • Match VMC reports with low terrain or sea.
Established in VMC	<ul style="list-style-type: none"> • Provide further assistance as required for: <ul style="list-style-type: none"> • navigation to destination or alternate • weather guidance. • Advise next ATS unit handling the aircraft.
May require IFER	<p>Uncertain of position on page 37</p> <p>VFR on top of cloud on page 40</p> <p>Forced landing or ditching and Landing – not forced on page 31</p>
Notify	JRCC Australia/JPR if SAR is likely

VFR on top of cloud

(1 of 2)

Instil confidence, and keep instructions simple and to a minimum, as the pilot may be emotionally distressed or inexperienced

Obtain	<ul style="list-style-type: none"> • Last observed/known position, altitude, track and speed • Last visual contact with the ground • Extent of cloud cover • Pilot experience • Method of navigation • Total remaining endurance.
Ascertain position	<ul style="list-style-type: none"> • By surveillance or pilot report • If unable, go to Uncertain of position on page 37
Consider	<ul style="list-style-type: none"> • Retaining experienced pilot for assistance if available • Clearing frequency • Pilot preferences • Obtaining reports of areas of known VMC from: <ul style="list-style-type: none"> • other aircraft • BoM • ground observers. • Match VMC reports with low terrain or sea • Use of other aircraft (prefer IFR) for: <ul style="list-style-type: none"> • diversion to area and escort • communications relay.
Establish ground (or water) sighting	Assist with selection of and navigation to a clear or partially clear area
Sighting achieved	<ul style="list-style-type: none"> • Provide further assistance as required for: <ul style="list-style-type: none"> • navigation to destination or alternate • weather guidance. • Advise next ATS unit handling the aircraft.

VFR on top of cloud

(2 of 2)

Instil confidence, and keep instructions simple and to a minimum, as the pilot may be emotionally distressed or inexperienced

<p>No sighting</p>	<ul style="list-style-type: none"> • If descent through cloud is unavoidable: <ul style="list-style-type: none"> • establish area of thinnest cloud for minimum IMC time • keep pilot informed of LSALT • obtain IFR pilot assistance for briefing prior to cloud entry. • Suggest to pilot: <ul style="list-style-type: none"> • use autopilot if equipped and competent • carry out practice descents in the clear on top of cloud • maintain a steady heading • keep wings level • keep speed constant • trust instruments • trim aircraft to establish a shallow and constant rate of descent • turn on pitot heat (and anti-icing) if available prior to entering cloud.
<p>May require IFR</p>	<p>Uncertain of position on page 37 VFR in IMC on page 39 Fuel shortage on page 19 Forced landing or ditching and Landing – not forced on page 31</p>
<p>Notify</p>	<p>JRCC Australia/JPR if SAR is likely</p>

DAY VFR at night

(1 of 2)

Instil confidence, and keep instructions simple and to a minimum, as the pilot may be emotionally distressed or inexperienced

Obtain	<ul style="list-style-type: none"> • Pilot's ability to perceive the horizon • Pilot experience for instrument/night flying • Availability of autopilot and pilot competence in its use • POB • Last observed/known position, altitude, track and speed • Total remaining endurance.
Advise	<ul style="list-style-type: none"> • Keep wings level • Keep speed constant • Maintain a steady heading • Trust instruments • LSALT.
Instruct pilot	<ul style="list-style-type: none"> • No abrupt manoeuvres • Shallow climbs/descents/turns • Turn first, establish straight and level, then climb/descend • Suggest use of autopilot if equipped and competent.
Ascertain position	<ul style="list-style-type: none"> • By surveillance or pilot report • If unable, go to Uncertain of position on page 37.
Options	<ul style="list-style-type: none"> • Proceed to planned destination or alternate • Provide details of suitable aerodromes.
Consider	<ul style="list-style-type: none"> • Provision of navigation assistance: <ul style="list-style-type: none"> • Position fix or vectoring as required • Navaid tracking assistance • LSALT • Visual features (lights/beacons/towns/topography) • Activate lighting (permanent/PAL/portable/emergency). • Retaining experienced pilot for assistance if available • Clearing frequency • Pilot preferences • Obtaining reports of areas of known VMC from: <ul style="list-style-type: none"> • other aircraft • BoM • ground observers. • Match VMC reports with low terrain or sea • Use of other aircraft (prefer IFR) for: <ul style="list-style-type: none"> • diversion to area and escort • communications relay.

DAY VFR at night

(2 of 2)

Instil confidence, and keep instructions simple and to a minimum, as the pilot may be emotionally distressed or inexperienced

May require IFER

[Uncertain of position](#) on page [37](#)

[VFR in IMC](#) on page [39](#)

[Fuel shortage](#) on page [19](#)

[Aerodrome emergency landing](#) on page [29](#)

[Forced landing or ditching and Landing – not forced](#) on page [31](#)

Notify

JRCC Australia/JPR if SAR is likely

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Unauthorised RPAS within controlled airspace

Hazard alert	<ul style="list-style-type: none"> • Directed transmissions to affected crewed aircraft, including ATIS • Broadcast on frequencies likely to be used by affected crewed aircraft.
Notify	<ul style="list-style-type: none"> • If endangering aviation safety <ul style="list-style-type: none"> • State Police; or • AFP where established at the aerodrome and the RPAS is over or in the immediate vicinity of the aerodrome • Make a general broadcast for any RPAS in the affected area to land immediately • Aerodrome operator or, at Defence or joint user aerodromes, Air Base Command Post (or equivalent) • ATMD/Military Supervisor • If an immediate concern for aviation safety, the NOMC (advise the NOMC if the police have been notified).
Obtain	<ul style="list-style-type: none"> • Time • Location • Number of RPAS involved • Altitude and speed of affected crewed aircraft • Proximity to affected crewed aircraft • Reporter's details.
Assess	<ul style="list-style-type: none"> • Is the RPAS <ul style="list-style-type: none"> • in the approach/departure path • In a critical area of SID/STAR or arrival/departure routes.
Consider	<ul style="list-style-type: none"> • Alternate tracking including amended clearances (SID, STAR, approach) • Pilot requests for minor lateral deviations, changes to profile, speed reductions, changes to rate of climb/descent etc. • Using alternate RWY • Suspension of required modes (e.g.; LTOP) • Holding or diverting crewed aircraft • Start clearances for departing aircraft • Facilitating coordination and communication between crewed aircraft and operating agencies • Multiple RPAS may be a deliberate disruption attempt. • Additional broadcasts notifying of escalation events.
Resolution	<ul style="list-style-type: none"> • Operations may resume (at pilot discretion) if there is reasonable assurance the unauthorised RPAS is no longer a threat to crewed aircraft. • Unless certain that the RPAS is no longer a threat: <ul style="list-style-type: none"> • continue managing risk to crewed aircraft for at least 30 minutes from the initial notification; and • broadcast information on the unauthorised RPAS for at least one hour.

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