PART 1 – GENERAL (GEN)

GEN 0.

GEN 0.1 PREFACE

1. NAME OF PUBLISHING AUTHORITY

Pursuant to Air Services Regulation 4.12, the Aeronautical Information Publication (AIP) Australia is published by the Aeronautical Information Service (AIS), Airservices Australia.

2. APPLICABLE ICAO DOCUMENTS

2.1 AIP Australia is prepared in accordance with the Standards and Recommended Practices (SARPS) of the following ICAO documents:

Facilitation – Annex 9
Aerodromes – Annex 14
Aeronautical Information Services – Annex 15
Aeronautical Information Services Manual (Doc 8126-AN/872)
Aeronautical Charts – Annex 4
Aeronautical Chart Manual (Doc 8697-AN/889/2)

3. INTEGRATED AIP AUSTRALIA – DOCUMENTS INVOLVED

3.1 The elements of the Integrated Aeronautical Information Package include:

a. Integrated AIP Australia and related amendment service;

b. AIP Supplements;

c. AIC;

d. NOTAM and pre-flight information bulletins (PIB); and

e. checklists and lists of valid NOTAM.

3.2 Integrated AIP Australia is provided through the medium of the following documents and charts:

– AIP Book

– En Route Supplement Australia (ERSA)

– Departures and Approach Procedures (East and West) - (DAP EAST & DAP WEST)

– AIP Supplement (SUP)

– NOTAM

- Aeronautical Information Circular (AIC)
- Terminal Area Chart (TAC)
- En Route Chart (High and Low) **–** (ERC-H & ERC-L)
- Planning Chart Australia (PCA)
- Visual Navigation Chart (VNC)
- Visual Terminal Chart (VTC)
- Designated Airspace Handbook **–** (DAH)

3.3 The primary document in the Integrated AIP Australia is the AIP Book which is supplemented by the other documents and charts.

4. LAY OUT

4.1 The AIP follows the requirements and layout recommended by the International Civil Aviation Organization (ICAO) and, in general, is structured to accord with ICAO Annex 15, Appendix 1 and Doc 8126-AN/872. However, to facilitate usage, the information has been laid out as described in the following paragraphs.

4.2 Long Term Reference Information

4.2.1 Long Term Reference Information is contained, generally, in the AIP Book and is addressed in three major parts - General (GEN), En Route (ENR), and Aerodromes (AD). Where operational or planning information is liable to change at short notice or is designed specifically for use in the air, such information is contained in the documents which are supplementary to the AIP Book. Where required, the AIP Book will refer the reader to the appropriate AIP documentation.

4.3 Short Term and Operational Reference Information

4.3.1 Short Term Reference Information, or information used principally for airborne operations, is contained in the documents which are supplementary to the AIP Book.

4.4 The AIP documents and charts identified at *para 3.2* are designed to stand alone to enable users to purchase material and the amendment service relevant to their operation. Users are responsible for ensuring that their respective publications are kept up to date.

4.5 The rules of the air and ATC procedures are, to the extent practicable, incorporated into the main text of the AIP Book in plain language. Where the subject matter of AIP is related to regulations and orders, the relevant Civil Aviation Regulations (CARs), Civil Aviation Orders (CAOs), Air Services Regulations (ASRs) and Air Navigation Regulations (ANRs) may be cited.

4.6 Throughout the AIP the term “should” implies that all users are encouraged to conform with the applicable procedure. The verbs “must” and “shall” are synonymous and mean that the applicable procedure is mandatory and supported by regulations or orders. The word “must” is preferred over “shall” and is used almost exclusively throughout the AIP Book.

5. LANGUAGE

5.1 AIP Australia is published only in the English language.

6. PROCUREMENT AND DISTRIBUTION

6.1 The AIP, its amendment service, maps, charts, CAOs, CARs and other Australian aviation publications are available from CanPrint Communications, AIP Shop and authorised distributors - details of which can be obtained from the CanPrint Communications, AIP Shop, Canberra.

7. ORDERING PUBLICATIONS AND AMENDMENT SERVICES

7.1 Publications and amendment services can be obtained through the following methods:

a. **Phone:** +61 2 6268 5500 (international orders only)

b. **Online:** www.aipshop.canprint.com.au

c. **Personal Purchase:** the location of reseller outlets in each state and territory can be obtained from the website identified above.

d. **Email:** info@aipshop.canprint.com.au

7.2 Credit Card Facilities

7.2.1 Visa, Mastercard and AMEX facilities are accepted by CanPrint Communications, AIP Shop for all purchases.

7.3 Subscriber Change of Address

7.3.1 All subscribers to Airservices Australia aeronautical documentation must advise any change of address for postal purposes to CanPrint Communications, AIP Shop, by any of the means identified at *para 7.1*.

Note: Mail returned "Address Unknown" suspends the address record of the subscriber, and no further mail will be forwarded until advice is received of an address change.

7.3.2 Under CASR 11.070, all licence/authorisation holders are also required to advise CASA in writing of any change of address for the issue of notices. Details can be provided by email, online (found on CASA's change of details website page) or to written address:

a. **Mail:** CLARC, CASA
GPO Box 2005
Canberra ACT 2601

b. **Email:** clarc@casa.gov.au

c. **Online:** https://www.casa.gov.au/licences-and-certification/standard-page/changing-your-details?WCMS%3ASTANDARD%3A%3Apc=PC_91496

d. **Phone:** 131 757
+61 2 6217 1111(international)

e. **Fax:** 1300 737 187

8. AMENDMENTS

8.1 Amendments to:

- Aeronautical Information Publication (AIP Book);
- Departure and Approach Procedures (DAP); and
- En Route Supplement Australia (ERSA);

with check lists of all current effective pages of the document, are normally issued quarterly and always align with an ICAO AIRAC effective date.

8.2 Amendments to:

- Designated Airspace Handbook (DAH); and
- Maps and Charts (other than WAC);

are normally issued twice a year around May and November.

8.3 If there are no amendments required at the established regular interval, then no amendment document is issued.

8.4 Significant changes are identified by a vertical black line (revision bar), and deletions have a "**D**" added to the vertical line. Amendments to a Table of Contents or the Index are not identified by a revision bar. New or revised information published in DAP charts will be advised above the chart margin.

8.5 Amendments to DAH and ERSA are issued as a separate complete booklet.

8.6 The originating authority of material to be issued as part of the AIP must ensure that it is thoroughly checked and coordinated with other services or organisations before it is submitted to AIS. This ensures that all necessary information has been included and is correct in detail before distribution.

9. RELEVANT DOCUMENTS AND CHARTS

9.1 To ensure compliance with *CAR 233.(1)(h)*, a pilot in command must have access during flight to appropriate documents and charts selected from the following:

a. **VFR**: ERC, WAC, VNC, VTC and ERSA for the route being flown.

b. **IFR**: ERC, IAL charts and ERSA for the route being flown, and also for the departure, destination and alternate airfields to be used. In addition, where visual navigation is required, the pilot in command must have access to appropriate WAC, VNC or VTC.

10. QUERIES ABOUT DOCUMENTATION

10.1 Queries on the technical content of publications, and/or operational matters, should be referred to CASA (Flying Operations Branch). The CASA Office telephone number is 131 757 (local call - Australia wide, except from mobile phone).

10.2 Matters of a purely editorial nature should be referred to:

Online: www.airservicesaustralia.com/aip/ccard

Email: docs.amend@airservicesaustralia.com

Mail:

Business Reply Post
PERMIT No 1986 – CIVIC SQUARE
Airservices Australia
Aeronautical Information Service
GPO Box 367
CANBERRA ACT 2601
AUSTRALIA
AFTN: YSHOYOYX

10.3 **Problems**

Non-delivery of documents or problems with amendment services should be referred direct to CanPrint Communications, AIP Shop:

Phone: 1300 306 630
(local call – Australia wide, except from mobile phone)
+61 2 6293 8381 (international customers only)

Email: info@aipshop.canprint.com.au

GEN 0.2 RECORD OF AMENDMENTS

No	Date of AMDT	Date Inserted	Inserted by (Init.)	No	Date of AMDT	Date Inserted	Inserted by (Init.)
89				112			
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GEN 0.3 RECORD OF AIP SUPPLEMENTS

1. Australian AIP Supplements are promulgated under an Airservices Head Office (H) identifier, and given a number which is sequential for the year of distribution. For example, the fifth AIP Supplement (SUP) issued in the year 2003 is identified as H5/03. SUPs which are required to be issued with the 28 days Aeronautical Information Regulation and Control (AIRAC) notice are identified further by “AIRAC” being printed above the identifying number.

2. A Record of Supplements is published as a “Summary” of all current SUP/AIC for each monthly AIRAC date and published on the Airservices website.

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GEN 0.4 CHECKLIST OF AIP PAGES
AMENDMENT LIST 97 - EFFECTIVE 08 NOV 2018

Pages annotated with the change bars are new pages for this edition.

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4.1 - 1 & 2	10 NOV 2016
4.2 - 1 & 2	10 NOV 2016
4.3 - 1 & 2	10 NOV 2016
4.4 - 1 & 2	10 NOV 2016
5.1 - 1 & 2	10 NOV 2016
5.2 - 1 & 2	10 NOV 2016
5.3 - 1 & 2	10 NOV 2016
5.4 - 1 & 2	16 AUG 2018
5.5 - 1 & 2	01 MAR 2018
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0.6 - 1 & 2	16 AUG 2018
1.1 - 1 & 2	01 MAR 2018
1.1 - 3 & 4	16 AUG 2018
1.1 - 5 & 6	16 AUG 2018
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1.1 - 17 & 18	16 AUG 2018
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1.1 - 43 & 44	16 AUG 2018
1.1 - 45 & 46	16 AUG 2018
1.1 - 47 & 48	16 AUG 2018
1.2 - 1 & 2	25 MAY 2017
1.3 - 1 & 2	10 NOV 2016
1.4 - 1 & 2	10 NOV 2016
2.1 - 1 & 2	10 NOV 2016
3.1 - 1 & 2	10 NOV 2016

GEN 0.5 LIST OF HAND AMENDMENTS

1. As a matter of principle, this document does not normally require handwritten amendment. Nevertheless, to alleviate printing costs, minor editorial changes are notified on this page, but will not be actioned as formal amendments until they can be accommodated with a significant change to the relevant section(s). **Inclusion of manuscript amendments is, therefore, at the AIP holder's discretion.**

2. Current minor amendments are: NIL

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GEN 0.6 TABLE OF CONTENTS

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GEN 1. NATIONAL REGULATIONS AND REQUIREMENTS

GEN 1.1 DESIGNATED AUTHORITIES

1. INTRODUCTION

1.1 This information does not replace, amend or change in any manner, the current regulation of the designated authorities which are of concern to international air travel.

2. DESIGNATED AUTHORITIES

2.1 The Department of Infrastructure, Regional Development and Cities (Department of Infrastructure) is the lead agency responsible for Australia's obligations under the provisions of *Annex 9 (Facilitation)*. The Aviation and Maritime Security Division (AMSD) within the Department of Home Affairs is lead agency responsible for Australia's obligations under the provisions of *Annex 17 (Safeguarding Against Acts of Unlawful Interference)* of the Chicago Convention. The Department of Infrastructure and AMSD are responsible for coordinating with the other Australian agencies (see below) that are charged with the development and implementation of policy on passenger and cargo processing at Australian airports.

2.2 All correspondence on policy matters relating to ICAO will be coordinated by the Aviation Industry Policy Branch, Department of Infrastructure; and aviation security matters relating to ICAO will be coordinated by the AMSD, Department of Home Affairs. The Department of Infrastructure is responsible for coordination of ICAO matters in consultation with other agencies.

2.3 The addresses of the designated authorities concerned with the entry, transit and departure of international air traffic are as follows:

a. **Facilitation and Aviation Policy:**

(i) General Manager
Aviation Industry Policy Branch
Aviation and Airports Division
Department of Infrastructure, Regional Development and Cities
GPO Box 594
CANBERRA ACT 2601 AUSTRALIA
Ph: 61 2 6274 7739
Fax: 61 2 6274 6749
Email: stephen.borthwick@infrastructure.gov.au

b. **Aviation and Maritime Security:**

(i) First Assistant Secretary
Aviation and Maritime Security Division
Department of Home Affairs
GPO Box 594
CANBERRA ACT 2601 AUSTRALIA
Ph: 61 2 6274 6520
Fax: 61 2 6274 6820
Email: sachi.wimmer@homeaffairs.gov.au

– Aviation and Maritime Security Division
Transport Security Coordination Team
Ph:1300 791 581 (Option 0)
Ph:61 2 6274 8187 (outside Australia)
Email: transport.security@homeaffairs.gov.au

– Aviation and Maritime Security Division
Guidance Centre
Ph:1300 791 581 (Option 1)
Email: guidancecentre@homeaffairs.gov.au

– Aviation and Maritime Security Division
National Regulatory Assessment
(re: for submitting Transport Security Plans)
GPO Box 1966
CANBERRA ACT 2601 AUSTRALIA
Email: national.coordinator@homeaffairs.gov.au

c. **Civil Aviation Safety Authority:**

(i) *Head Office:*
Civil Aviation Safety Authority
GPO Box 2005
CANBERRA ACT 2601 AUSTRALIA
Ph: 131 757 (within Australia)
61 2 6217 1449 (from overseas)
Web: https://www.casa.gov.au

(ii) *International Operations:*
International Operations
GPO Box 2005
CANBERRA ACT 2601 AUSTRALIA
Ph: 61 7 3144 7400
Fax: 61 7 3144 7599
Email: International_Ops@casa.gov.au
Web: https://www.casa.gov.au/standard-page/casr-part-129-foreign-air-transport-operators-certification-and-operating-requirements

d. **Air Traffic Services:**

Chief Executive Officer
Airservices Australia
Alan Woods Building
25 Constitution Ave
CANBERRA CITY ACT 2601, or
PO Box 367
CANBERRA ACT 2601
Ph: 61 2 6268 4111
Fax: 61 2 6268 5693

e. **Major International Airports:**

Chief Executive Officer
Australia Pacific Airports (Melbourne) Pty Ltd
ACN 076 999 114
Locked Bag 16
TULLAMARINE VIC 3043
Ph: 61 3 9297 1600
Fax: 61 3 9297 1886
Email: reception@melair.com.au

Chief Executive Officer and Managing Director
Brisbane Airport Corporation Limited
ACN 076 087 0650
PO Box 61
HAMILTON CENTRAL QLD 4007
Ph: 61 7 3406 3000
Email: info@bne.com.au
Web: www.bne.com.au

Chief Executive Officer
Perth Airport Pty Ltd
ACN 077 153 130
PO Box 6
CLOVERDALE WA 6985
Ph: 61 8 9478 8888
Fax: 61 8 9277 8889
Email: perthairport@perthairport.com.au
Web: www.perthairport.com.au

Managing Director
Adelaide Airport Limited
ACN 075 176 653
1 James Schofield Drive
ADELAIDE AIRPORT SA 5950
Ph: 61 8 8308 9211
Fax: 61 8 8308 9311
Email: airport@aal.com.au
Web: www.adelaideairport.com.au

Chief Executive Officer
Cairns Airport Pty Ltd
ACN 132 228 221
PO Box 57 Airport Administration Centre
CAIRNS AIRPORT QLD 4870
Ph: 61 7 4080 6703
Fax: 61 7 4080 6704

Chief Executive Officer
Northern Territory Airports Pty Ltd
ACN 081 258 139
PO Box 40996
CASUARINA NT 0811
Ph: 61 8 8920 1808
Fax: 61 8 8920 1800
Email: information.drw@ntairports.com.au
Web: www.ntairports.com.au

Managing Director
Sydney Airports Corporation Ltd
ACN 082 578 809
Locked Bag 5000
SYDNEY INTERNATIONAL TERMINAL
NSW 2020
Ph: 61 2 9667 9111
Fax: 61 2 9667 1592

f. **Department of Home Affairs**

Director
Traveller Policy Section
Department of Home Affairs
PO Box 25
BELCONNEN ACT 2616
Ph: 61 2 6198 7134
Email: travellerpolicy@homeaffairs.gov.au

g. **Agriculture and Water Resources Biosecurity**

Director – Travellers
Department of Agriculture and Water Resources
GPO Box 858
CANBERRA ACT 2601
Ph: 61 2 6272 3668

h. **Human Biosecurity**

Director - Border Health Section
Health Emergency Management Branch
Office of Health Protection
Department of Health
GPO Box 9848
CANBERRA ACT 2601
Ph: 1800 020 103
(after hours emergency number 61 2 6289 3030)

i. **Aircraft Accident Investigation**

Australian Transport Safety Bureau (ATSB)
PO Box 967
Civic Square
CANBERRA ACT 2608
Ph: 1800 011 034
61 2 6230 4408
Fax: 61 2 6274 6434

j. **Meteorology**

The Director
Bureau of Meteorology
700 Collins St
DOCKLANDS VIC 3001
or
GPO Box 1289
MELBOURNE VIC 3001
Ph: 61 3 9669 4000
Fax: 61 3 9669 4699

k. **Search and Rescue**

Australian Maritime Safety Authority (AMSA)
GPO Box 2181
Canberra ACT 2601

GEN 1.2 ENTRY, TRANSIT AND DEPARTURE OF AIRCRAFT

1. ENTRY, TRANSIT AND DEPARTURE OF INTERNATIONAL FLIGHTS

1.1 Preamble

1.1.1 CASA has responsibility for all operational and safety matters relating to civil aviation into, within, and from Australian territory. The Department of Infrastructure, Regional Development and Cities (Department of Infrastructure), specifically its Aviation and Airports Division has responsibility for the economic regulatory functions relating to civil aviation into, within, and from Australian territory. The AMSD within the Department of Home Affairs is responsible for aviation security regulatory functions relating to civil aviation into, within, and from Australian territory. Applications, when required, for non-scheduled aircraft operations must be submitted to CASA and the respective divisions within the Department of Infrastructure and the Department of Home Affairs.

1.1.2 All flights into, from, or over Australian territory, and landings in such territory must be carried out in accordance with the legislation of Australia regarding civil aviation.

1.1.3 In accordance with *Section 10* of the *Air Navigation Act 1920*, aircraft arriving in or departing from any part of Australian territory must land at and depart from airports designated by the Minister for that purpose.

1.1.4 The international airports designated under *Section 9* of the *Air Navigation Act 1920* for entry and departure is as shown in *GEN 1.2 Section 2.* (Designated International Airports - Australia) and *GEN 1.3 Section 9.* (Designated International Airports - Australian External Territories - Entry and Departure Requirements and Procedures).

1.1.5 Aircraft which are completely cleared by the Australian Border Force (ABF) at a designated international airport are not required to confine their future landings within Australian territory to airports proclaimed by the Department of Home Affairs for customs and immigration purposes. Nevertheless, such aircraft must depart from Australian territory from a designated international airport.

1.1.6 Operators of prescribed air services under Regulation 1.06 of the Aviation Transport Security Regulation 2005 flying to or from Australia must separately have an approved Transport Security Program (TSP). It is an offence under the *Aviation Transport Security Act 2004* to operate a prescribed air service without an approved TSP. A TSP may be in force for up to five years once approved. See *Section 1.11* for further information.

1.2 Scheduled International Commercial Services by Foreign Aircraft of Contracting States to the Chicago Convention

1.2.1 An international airline of a country other than Australia must not operate a scheduled international air service over or into Australian territory except in accordance with an International Airline Licence.

1.2.2 The requirement to hold an International Airline Licence does not apply to the following categories of scheduled international air services:

a. scheduled international air services that fly over Australian territory but do not land in Australian territory;

b. scheduled international air services that land in Australian territory but do not set down or take on passengers or cargo for reward or hire;

c. scheduled international air services operated in accordance with an agreement, between an international airline and the holder of an international airline licence, which the Secretary has approved in writing.

1.2.3 An International Airline Licence shall not be granted to an international airline of a country other than Australia unless that country and Australia are parties to the Air Transit Agreement, or to some other agreement or arrangement, whether bilateral or multi-lateral under which scheduled international air services of that other country may, subject to the agreement or arrangement, be operated over or into Australian territory.

1.2.4 Applicants for an International Airline Licence may obtain a copy of Guidance Notes for Applicants at: www.infrastructure.gov.au/aviation/international/ial/index.aspx.

1.2.5 All holders of International Airline Licences are required to notify the Secretary of the Department of Infrastructure in an approved form of any new or changed international (scheduled) air service. The requirements for lodging of timetables by international airlines are set out in *Air Navigation Regulation 2016, Section 29*.

1.2.6 Currently, a timetable application should contain the route to be operated by the airline both into and out of Australia, the origin, intermediate and destination points, the times of departure to and arrival from these points, the dates and times frequency of each service, aircraft type and capacity to be used on each service. It should also include codeshare details and, if leasing aircraft from another airline, details of which airline the aircraft are leased from.

An application for approval of a timetable must be lodged with the Secretary not less than 35 days before the date from which the airline proposes to operate the service in accordance with the timetable, or within such shorter period as the Secretary allows.

Should an airline wish to lodge an application in less than the 35 day period, it should provide its reasons for wanting to do so. For practical purposes, lodgement "with the Secretary" means lodgement with the General Manager of Aviation Industry Policy Aviation and Airports Division, Department of Infrastructure, at the address shown at *GEN 1.1 para 2.3a.*

1.2.7 In addition to an Australian International Airline Licence, an operator of a proposed scheduled service to Australia is required to hold an Australian Foreign Air Transport Air Operator's Certificate (FATAOC) issued by CASA.

1.2.8 Application forms for FATAOCs are available from CASA International Operations (see contact details in *GEN 1.1 para 2.3*c).

1.2.9 In addition to the requirements to obtain an International Airline Licence and FATAOC, all aircraft operators should note the separate requirement for transport security plan approval in *Section 1.11* and the aircraft noise certification requirements in *Section 1.15*.

1.3 Summary of Documents to be presented by Pilot in Command or Authorised Agent

Note: All required documents must be furnished in English, and originals and all copies must be completely legible. Names should be shown in block letters, and with regard to names of passengers, initials at least are to be inserted. Care must be taken to ensure that all documents are fully and accurately completed.

1.3.1 At First Airport of Call in Australia

Impending Arrival Report – Electronic, lodged in the ICS

The aircraft operator must report to the Department of Home Affairs the impending arrival of the aircraft. The Impending Arrival Report (IAR) must be lodged electronically in the Integrated Cargo System (ICS):

a. not more than 10 days before the estimated time of arrival of the aircraft and

   (i) not later than three (3) hours before the estimated time of arrival of the aircraft if the flight from the airport is likely to take not less than three (3) hours: or

   (ii) one (1) hour if the flight from the airport is likely to take less than three (3) hours.

The IAR can be lodged by document (Form B364) within the above time frames when an aircraft is not carrying cargo.

Actual Arrival Report

The aircraft operator must report to the Department of Home Affairs the particulars of the arrival of the aircraft and the time of arrival. Where an aircraft is carrying cargo, the Actual Arrival Report (AAR) must be lodged electronically in the ICS within three (3) hours of the arrival of the aircraft or before the certificate of clearance is issued, whichever occurs first.

The AAR can be lodged by document (Form B358) when the aircraft is not carrying cargo, providing the reporter satisfies an EOI and the form is signed in the manner specified on the form.

List of Stores (e.g. narcotic drugs, beer, wine, spirits and tobacco products) 1 copy

The aircraft operator must report to Department of Home Affairs via Form B367, Stores and Prohibited Goods Report (AIR), the particulars of the aircraft stores and of any prohibited goods contained in those stores at the time of arrival. The report of aircraft stores and prohibited goods must be made within three (3) hours of the arrival of the aircraft or before the certificate of clearance is issued, whichever happens first.

Cargo Report

The cargo report is used to report the particulars of all cargo (including mail, in-transit and transhipment cargo) on board an aircraft. The carrier is required to report to the Department of Home Affairs, the full detail of cargo including any cargo carried on behalf of another cargo reporter.

The cargo report must be lodged electronically in the ICS at least two (2) hours prior to the estimated time of arrival of the aircraft.

Articles in Possession – Aircrew 1 copy each

Signing of Documents: The copy of the General Declaration for the Biosecurity officer and the health section of this copy must be signed by the pilot in command. Other copies of this document may be signed by either the pilot in command or authorised agent. Each individual crew member must complete a copy of Articles in Possession Aircrew form. Either the pilot or the authorised agent may sign the list of stores. Documents, except those for presentation to the Biosecurity officer, must be signed in the presence of an ABF Officer.

1.3.2 **At Airports other than First Airport of Call in Australia**

At stops other than the first airport of call, the pilot in command or authorised agent will present for clearance purposes the copy of the General Declaration signed and stamped by the ABF Officer prior to departure from the previous stop.

If the aircraft is due to arrive at its first airport of call since its last departure airport outside Australia, the pilot or authorised agent must report to the Department of Home Affairs, in accordance with this section, particulars of all goods:

a. The pilot in command or the authorised agent has arranged to be carried on the aircraft on the flight: and

b. that are intended to be unloaded from the aircraft at an airport in Australia (whether the first airport or any subsequent airport on the same flight).

Impending Arrival Report

The aircraft operator must report the impending arrival of the aircraft to the Department of Home Affairs. Where an aircraft is carrying cargo, the IAR must be lodged electronically in the ICS not more than 10 days before the estimated time of arrival of the aircraft and not later than three (3) hours before the estimated time of arrival of the aircraft. Where the duration of the flight from the last overseas airport is likely to take less than three (3) hours, the IAR must be made at least one (1) hour before arrival. The IAR can be lodged by document (Form B364), when the aircraft is not carrying cargo.

Actual Arrival Report

The aircraft operator must report to the Department of Home Affairs the particulars of the arrival of the aircraft and the time of arrival. Where an aircraft is carrying cargo, the AAR must be lodged electronically in the ICS within three (3) hours of the arrival of the aircraft or before the certificate of clearance is issued, whichever occurs first. The AAR can be lodged by document (Form B358) when the aircraft is not carrying cargo, providing the reporter satisfies an EOI and the form is signed in the manner specified on the form.

List of Stores (e.g. narcotic drugs, beer, wine, spirits and tobacco products) 1 copy

The aircraft operator must report to the Department of Home Affairs via Form B367, Stores and Prohibited Goods Report (AIR), the particulars of the aircraft stores and of any prohibited goods contained in those stores at the time of arrival. The report of aircraft stores and prohibited goods must be made within three (3) hours of the arrival of the aircraft or before the certificate of clearance is issued, whichever happens first.

1.3.3 **At First Airport of Departure from Australia**

The aircraft operator must report to the Department of Home Affairs via Form B367, Stores and Prohibited Goods Report (AIR), the particulars of the aircraft stores and of any prohibited goods contained in those stores at the time of arrival. The report of aircraft stores and prohibited goods must be made within three (3) hours of the arrival of the aircraft or before the certificate of clearance is issued, whichever happens first.

General Declaration	**3 copies**
Export Permits	**(where required)**

Note: One copy of the General Declaration must be signed and one copy of each manifest initialled by the pilot in command or authorised agent.

Departure Report – The departure report is a prerequisite that must be satisfied before a certificate of clearance can be granted by the Department of Home Affairs. A departure report is a statement made by the pilot or owner of the aircraft, or an agent, to the Department of Home Affairs providing information concerning the proposed date and time of departure of the aircraft. Where an aircraft is carrying cargo the departure report must be lodged electronically in the ICS when the aircraft is carrying cargo.

Outwards Manifest (electronic, lodged in the ICS) – The pilot or owner of the aircraft must communicate electronically to the Department of Home Affairs, not later than three (3) days after the day of departure of the aircraft, an outwards manifest. The outwards manifest must specify all goods that were loaded on board the aircraft.

Certificate of Clearance – The pilot of an aircraft must not depart from any airport without receiving a Certificate of Clearance in respect to the aircraft from an ABF Officer.

1.4 **Non-Scheduled International Commercial Services by Foreign Aircraft of Contracting States to the Chicago Convention**

1.4.1 **Definition of Non-scheduled Services.** Non-scheduled service, in relation to an aircraft that possesses the nationality of a Contracting State, means a flight by that aircraft over or into Australian territory other than under the authority of an international airline licence.

1.4.2 Where an aircraft makes a commercial non-scheduled flight into or out of Australian territory, it will have prior permission from both the Department of Infrastructure and CASA. However, certain categories of non-scheduled flights have standing Department of Infrastructure approvals - see *para 1.6* Notwithstanding these provisions all operators should note the separate requirement for prescribed air services to hold an approved transport security plan further described in the Aviation Security section in *Section 1.11* and the Aircraft: Noise Operating Restriction requirements specified in *Section 1.15*.

1.4.3 Department of Infrastructure international freight and charter policy guidelines, and permission for flights, may be obtained from the Aviation and Airports Division at the address shown in *GEN 1.1 para 2.3a*, by fax at: 61 2 6274 6749 or at: infrastructure.gov.au/aviation/international/guidelines.aspx. When applying for permission for flights, applicants must advise Department of Infrastructure of permission for slot allocation from Airport Coordination Australia (see *ENR 1.9 para 2.3*).

1.4.4 An application form for CASA permission for non-scheduled flights can be obtained from the address in *GEN 1.1 para 2.3c.* Written requests containing the information listed at *para 1.4.5* will also be accepted.

1.4.5 The following information is required in an application for permission under *para 1.4.4*:

a. name and address of operator;

b. type of aircraft and registration mark;

c. purpose of flight and number of passengers and/or nature and weight of cargo being unloaded at the Australian airports involved;

d. copy of operator's Air Operator's Certificate or equivalent;

e. certificate of airworthiness for the aircraft;

f. certificate of registration for the aircraft;

g. for aircraft powered by turbine engines that have a maximum takeoff weight of more than 15,000KG, or are carrying 10 or more passengers, confirmation that the aircraft is equipped with a GPWS;

h. for aircraft powered by turbine engines that have a maximum takeoff weight of more than 5,700KG, or if permitted by its type certificate or foreign type certificate to have passenger seating of more than 19 seats, confirmation that the aircraft is fitted with an approved TCAS II or TCAS II Version 7.1;

i. date and expected time of arrival and departure from all airports concerned in Australian territory (times must be expressed in the sequence Month Day Hour Minute UTC; e.g. 11101624UTC [1624 on 10 November, UTC]; a mix of local date and UTC times must not be used);

j. the number of passengers that will be carried on board the aircraft;

k. for turbine powered aircraft, confirmation that the aircraft meets the requirements of *ICAO Annex 16, Volume 1, Chapter 3*;

l. for aircraft that may operate above FL290, confirmation that the aircraft is approved for operation in RVSM airspace; and

m. confirmation that the aircraft conforms with ADS-B equipment carriage as specified in CASA *Civil Aviation Orders (CAOs)*.

Note: Additional information may be required depending on the type of operation and airports that will be used while in Australian territory. Requests for additional information may be issued after an initial assessment of the application for a non-scheduled flight approval.

1.4.6 At the same time that permission is sought from Department of Infrastructure and CASA, an aircraft operator, through the designated representative, must obtain and agree to the

conditions of use (including aircraft charges) or similar policies as applied by each airport owner or operator. Airport Owners and Operators are listed in *GEN 1.1 para 2.3* and *ERSA FAC*.

1.4.7 Applications for permission should be accompanied by the prescribed fees. Details of application fees under Part 5, Division 3 of the *Air Services Act 1995* may be obtained from Airservices at the addresses shown at *GEN 1.1 para 2.3*.

1.5 Non-Scheduled International Commercial Services by Australian Aircraft

1.5.1 Department of Infrastructure permission must be sought as per the requirements of *Section 1.4*; however, see *Section 1.6* for standing approvals. Irrespective of standing approvals contained in *Section 1.6*, all aircraft operators should note the separate requirement for transport security plan approval in *Section 1.11* and the aircraft noise certification requirements in *Section 1.15*.

1.5.2 CASA permission is required under Section 26 of the *Civil Aviation Act*. Operators should apply to CASA, International Operations.

Note: Separate CASA permission is not required if the operator's AOC is specifically endorsed to authorise such international flights.

1.5.3 At the same time that permission is sought from Department of Infrastructure and CASA, an aircraft operator, through the designated representative, must obtain and agree to the conditions of use (including aircraft charges) or similar policies as applied by each aerodrome owner or operator. Aerodrome owners and operators are listed in *ERSA FAC*.

1.6 Non-Scheduled International Commercial Services by Australian Non-Contracting States and Contracting States which do not Require Prior Approval - Department of Infrastructure only

1.6.1 A delegate of the Secretary of the Department of Infrastructure pursuant to subsection 15A(3) of the *Air Navigation Act 1920* (the Act) has determined that permission is not required in respect of the following categories of non-scheduled international commercial flights:

a. programs of passenger charter flights by aircraft with a capacity of 10 or fewer seats;

b. five (5) or fewer passenger charter flights with aircraft with a capacity of between 10 and 40 seats;

c. two (2) or fewer passenger charter flights with aircraft with a capacity of between 40 and 80 seats;

d. single charter flights;

e. single-entity freight charter flights; and

f. own-use charter flights.

1.6.2 Operators of any flight included in one of the categories above are required under subsection 15A(7), within 14 days after the end of the flight, to give a written notice to the General Manager, Aviation Industry Policy, Aviation and Airports Division, Department of Infrastructure, at the address in *GEN 1.1 para 2.3a.*, setting out the following details in relation to the flight and the passengers, cargo and mail (any flight carrying cargo for the purpose of importation over the $1000 threshold, or exportation over $2000 must report the details to the Department of Home Affairs):

a. the name and address of the charterer;

b. the name and address of the charter operator;

c. the type and capacity of the aircraft;

d. whether the flight was a single charter flight or part of a program of charter flights;

e. if the aircraft carried cargo, the type of cargo;

f. the following particulars of the flight:

(i) the place where the flight began;

(ii) the place where the flight ended;

(iii) any intermediate stopping places, specifying at which places passengers, cargo or mail were taken on or discharged;

(iv) the dates of departure from, and arrival at, the places mentioned in the preceding subparagraphs;

g. whether the flight was a “single entity freight charter flight” as defined in *para 1.6.6*; and

h. whether the flight was an “own-use charter flight” as defined in *para 1.6.6.*

1.6.3 Operators may provide details of more than one flight in a single notification provided that the Department of Infrastructure receives notification of all flights within 14 days after the end of each individual flight. If Australian authorities find that charter flights coming within the above categories are being repeated in close proximity, operators may be required to submit applications for assessment of any further flights.

1.6.4 The following countries:

a. Bangladesh (cargo from Bangladesh is prohibited unless it has been subjected to security controls at approved last ports of call);

b. Egypt;

c. Syria;

d. Yemen;

e. Somalia; and

f. Turkey (cargo from Turkey is prohibited, only if it contains an electromechanical device that weighs over 1 kilogram);

are currently subject to a prohibition instrument made under Section 65B of the *Aviation Transport Security Act 2004*, which provides the power for the Minister to prohibit the entry of certain kinds of cargo into Australian territory.

1.6.5 All operators should note the separate requirement for transport security plan approval in *Section 1.11* and the aircraft noise certification requirements in *Section 1.15.*

1.6.6 The determination referred to in *para 1.6.1* defines the following terms:

"charter flight" means a flight for traffic purposes into or out of Australian territory not forming part of an approved scheduled international air service;

"own-use charter" means a flight where the entire capacity of the aircraft is chartered by a single organisation or individual to carry its own staff or passengers who are an affinity group (i.e. members of organisations established mainly for purposes other than travel) or to carry cargo it owns for its own use;

"single charter" means a one-off charter flight, being a charter flight which is not part of a program of charter flights operating over the same route;

"single-entity freight charter" means a freight charter flight or flights where the whole aircraft is chartered by a single organisation or individual and the consignment is homogeneous (e.g. computers, meat, livestock or horses) and does not include consignments consolidated by freight forwarders.

1.6.7 At the same time that permission is sought from Department of Infrastructure and CASA, an aircraft operator, through the designated representative, must obtain and agree to the conditions of use (including aircraft charges) or similar policies as applied by each aerodrome owner or operator. Aerodrome owners and operators are listed in *ERSA FAC*.

1.7 International Flights by Foreign Aircraft not Possessing Nationality of Contracting State to the Chicago Convention

1.7.1 For international flights over or into Australian territory where the carrier is registered in a State which is not a party to the Chicago Convention the operator must obtain prior permission through diplomatic channels. All such requests must be in writing.

1.8 Flights by Foreign State Aircraft

1.8.1 Aircraft Diplomatic Clearance Application

Diplomatic clearance is required for foreign state aircraft to enter and operate in Australian territory, including the airspace above Australian offshore islands. Applications for foreign state aircraft to conduct flying operations within Australian territory should be submitted at least five working days before the proposed date of entry into Australian airspace. At least two weeks' notice is required if military services are requested (such as parking at a Royal Australian Air Force base). A separate application should be submitted for each aircraft, or formation of aircraft. The Department of Foreign Affairs (DFAT) web pages provide aircraft diplomatic clearance application forms and instructions, at:

http://dfat.gov.au/about-us/foreign-embassies/protocol/Pages/diplomatic-clearances-aircraft-and-ships.aspx

1.8.2 Applications are submitted by completing the application form and emailing it to: foreignaircraft.requests@defence.gov.au. Diplomatic clearance applicants will be required to provide the following information:

a. Requesting Country;

b. Point of Contact details;

c. Purpose of the flight;

d. Aircraft Operator (if civil registered, the address and nationality);

e. Aircraft Type;

f. Aircraft Registration Mark;

g. Aircraft Callsign;

h. Itinerary (including previous and next destinations);

i. Flight Routes;

j. Aircraft Captain Details;

k. Crew and Passenger Numbers;

l. VIP Details (if applicable);

m. Weapons Details;

n. Dangerous Cargo Details;

o. Ground Handling Details (for aircraft landing at Defence Establishments); and

p. Ground Handling Agent (for aircraft landing at Civilian Airfields).

1.8.3 It is advised that application forms are saved. In the event of any changes to the flight details the saved request can be updated and should be resent to: foreignaircraft.requests@defence.gov.au as soon as possible.

1.8.4 Any questions relating to diplomatic clearances should be addressed to the Diplomatic Clearance Cell on +61 2 6128 4819 or foreignaircraft.requests@defence.gov.au.

1.8.5 **Compliance**

Foreign State aircraft operating under diplomatic clearance are required to comply with applicable aerodrome procedures and ATC directions.

Diplomatic clearance does not exempt the requesting government's responsibility to meet other Australian Government agency requirements such as customs, biosecurity and immigration or the requirement for permission to carry munitions or implements of war. It is the responsibility of the foreign government to ensure all necessary paperwork and/or clearances from Australian government agencies are arranged prior to arrival.

A regulation 136 permission from the Australian Civil Aviation Safety Authority (CASA) is also required. In certain circumstances, diplomatic clearance may only be issued subject to the aircraft, cargo and passengers undertaking additional checks and searches. Failure to comply with any conditions on a diplomatic clearance, or with other government agencies' procedures, could result in penalties and affect issuance of future diplomatic clearances.

1.8.6 **Foreign Military Aircraft Participating in Exercises within Australia**

Foreign State aircraft visiting Australia for a combined exercise are required to seek diplomatic clearance and CASA permission for their transit to and from their operating location. All exercise flights are covered under the exercise arrangements. However, any transits from their deployed location to another location outside the exercise schedule will require approval.

1.8.7 **Alternate Routes and In-flight Emergencies**

Approval will not be issued for alternate or diversion airfield requests inside Australia. Aircraft diverting in response to an in-flight emergency or poor weather do not require diplomatic approval and should select the nearest appropriate airfield. Notification of any emergency diversions should be sent to the Diplomatic Clearance Cell at the earliest opportunity thereafter landing.

1.9 **International Private Flights**

1.9.1 A private flight means a flight by an aircraft carrying passengers or cargo whose costs are met by the owner and/or operator of the aircraft.

1.9.2 *Section 14* of the *Air Navigation Act 1920* allows an aircraft that possesses the nationality of a Contracting State undertaking a private flight to enter or leave Australia or fly in transit across Australia without the requirement of obtaining prior permission. However, note the provisions of *para 1.15* in relation to aircraft noise certification.

1.9.3 No specific operational assessment is required for such flights, but pilots are advised of the following:

a. in addition to the requirements of *CAR 139 (Documents to be carried in Australian aircraft)*, a journey log book must be carried which details particulars of the aircraft, its crew and of each journey; and

b. the rules and regulations pertaining to the flight and manoeuvring of aircraft must comply with the following:

(i) Australian rules, where applicable;

(ii) ICAO rules, when operating over the high seas; and

(iii) foreign State rules, where applicable, while flying over a foreign State's territory.

1.9.4 When the doors of the aircraft are closed, the pilot in command must assume and exercise responsibility for the safety of the crew, the passengers and the cargo.

1.9.5 The pilot in command must assume and exercise responsibility for the operation and safety of the aircraft from the moment that the aeroplane is ready to move for the purpose of taking-off until the moment when it finally comes to rest at the end of the flight and the engines used as primary propulsion units are shut down.

1.9.6 If an emergency endangers the safety of the aircraft or persons onboard and requires action in violation of the law of a foreign State, the pilot in command must:

a. as soon as practicable, tell the foreign State authority responsible for that law; and

b. if required by the authority, give a written report of the violation to the authority; and

c. send a copy of the report to CASA.

1.9.7 The pilot in command must assume and exercise responsibility to tell the nearest appropriate State authority, by the quickest means possible, of any accident involving the aircraft that has resulted in:

a. death or serious injury to any person; or

b. substantial damage to the aircraft or any property.

1.9.8 The pilot in command may not operate at an aerodrome using lower operating minima than those established for the aerodrome by the responsible authority, without approval from the responsible authority. The pilot in command may not utilise operating minima lower than 200FT above ground level without approval from CASA.

1.9.9 Before a flight, the pilot in command must ensure that the aircraft is carrying the following:

a. an accessible first aid kit;

b. current and suitable charts for the route of the proposed flight and for all routes along that route to which it is reasonable to expect the flight may be diverted;

c. procedures for pilots in command of intercepted aircraft, as described in *Annex 2* to the *Chicago Convention*;

1.9.10 Before departure from Australian territory, the pilot in command must ensure that:

a. the certificate of airworthiness for the aircraft will remain valid while the aircraft is outside Australian territory; and

b. either:

(i) the maintenance release for the aircraft will not expire while the aircraft is outside Australian territory; or

(ii) before the maintenance release expires, an authorised person will issue a maintenance release; and

c. if the pilot in command is not the registered operator of the aircraft - arrangements are in place with the registered operator for the pilot in command to be notified about any urgent maintenance or operational requirements while the aircraft is outside Australian territory.

Note: Urgent maintenance or operational requirements include, for example, Airworthiness Directives.

1.10 Provision for Entry of Foreign Aircraft Engaged in Search and Rescue (SAR)

1.10.1 The following provisions relate to the entry into and the departure from Australian territory for foreign aircraft engaged in SAR operations.

1.10.2 **Entry Request.** Foreign aircraft may enter Australian territory for the purposes of search and rescue upon ATC notification only through the submission of a Flight Plan. As much advance notice as possible should be given to facilitate entry clearance procedures.

1.10.3 **Advice of Early Approval.** The Australian Joint Rescue Coordination Centre (JRCC) will assist, where practicable, the originator of the Flight Plan message in facilitating the proposed entry approval into Australian territory including, if the information is known to the JRCC, whether or not the proposed entry is approved, and will specify any conditions which must be complied with.

1.10.4 **Airports.** All foreign aircraft, whether state or civil, operating into Australian territory on SAR operations, should, as far as practicable, make entry into, and departure from, Australian territory at a designated international airport.

1.11 Aviation Security

1.11.1 The Aviation and Maritime Security Division within the Department of Home Affairs is Australia's transport security regulator for aviation transport, maritime transport and the offshore oil and gas industry. Its role is to make sure Australians and our national interests are secure through regulation that supports industry and the community as they carry out trade and travel activities.

Specifically this is done through: administering the *Aviation Transport Security Act 2004* and the *Maritime Transport and Offshore Facilities Security Act 2003;* education and collaboration; informed policy advice and design; compliance and monitoring; and domestic and international partnerships.

The AMSD maintains a Transport Security Coordination Team (TSCT). Aviation security incidents defined under *Aviation Transport Security Act 2004* must be reported to the TSCT by email at: transport.security@homeaffairs.gov.au or by telephone to 1300 791 581 (option 0) from within Australia or 61 2 6274 8187 from overseas.

1.11.2 The *Aviation Transport Security Act 2004 (Division 2 of Part 2)* **requires that all operators of a prescribed air service operating within, to, or from Australia are required to have an approved Transport Security Program** (TSP). A prescribed air service includes an air service with a certified maximum take--off weight greater than 5,700KG and is further defined in regulation 1.06 of the *Aviation Transport Security Regulations 2005*. **It is an offence under the *Aviation Transport Security Act 2004* to operate a prescribed air service without an approved TSP.**

1.11.3 International recognition of approved aviation security plans of other nations is not available. TSPs are required to comply with the *Aviation Transport Security Act 2004*. A TSP essentially contains security risk information about the relevant aviation industry segment as it applies to the full nature of the operations of the prescribed air service and articulates the security practices and measures applicable to ensure a safe, secure, sustainable aviation transport system.

Under the *Aviation Transport Security Act 2004*, Transport Security Plans (TSP) remain subject for up to a 60 day consideration period for approval; therefore, operators of prescribed air services are advised to submit a TSP as soon as practical in order that the intended commencement of air services are not unintentionally affected. Guidance for the production and lodgement of a TSP for assessment is available on the Department of Infrastructure website at: www.infrastructure.gov.au/transport/security

Enquiries determining whether a TSP is required are to include:

a. whether an application has been made or approved for "Flights by Foreign State Aircraft" – see *Section 1.8*.

b. if an application has not been made or approved then the following information is required:

   (i) the legal entity name of the aircraft operator;

   (ii) the name and address of the aircraft operator;

   (iii) the name and address of any engaged or intended ground handling agent;

   (iv) the type and capacity of the aircraft;

(v) whether the flight is a single charter or part of scheduled or unscheduled program of flights and the period in which it is intended to operate;

(vi) the nature of the aircraft operations (purpose of flight) including if the aircraft is carrying cargo, the type cargo;

(vii) the place/places where the flight/flights will originate; (both external to Australia and within Australia);

(viii) any intermediate stopping places specifying at which places passengers or cargo (including mail) were taken on board or discharged;

(ix) the intended date of commencement of the service/ flight; and

(x) details of any wet or dry lease arrangements.

For enquiries to TSP regulatory submission that is under development or clarification on regulatory requirements please contact the Guidance Centre within the AMSD, Department of Home Affairs at: guidancecentre@homeaffairs.gov.au or on 1300 791 581 (9am - 5pm AEST).

1.11.4 Responses to regulatory assessment that have been already lodged with the Department of Home Affairs occur during normal business hours. Lodgement of regulatory assessments including TSPs should be made by email to: national.coordinator@homeaffairs.gov.au.

1.11.5 In accordance with *Section 19* of the *Air Navigation Act 1920*, munitions of war or implements of war must not be carried by an aircraft in or over Australian territory, or by an Australian aircraft outside Australian territory, except with the permission in writing of the Minister for Infrastructure and Transport. Applications for transportation of munitions of war should be lodged with the Secretary through the Assistant Secretary, Transport Security Operations, Aviation and Maritime Security Division, Department of Home Affairs, GPO Box 594 Canberra ACT 2601 or national.coordinator@homeaffairs.gov.au.

1.12 Foreign Clearances - Australian Aircraft

1.12.1 Australian aircraft operators are responsible for obtaining foreign clearances when necessary for overflights of, or landings in, the territory of another State.

1.12.2 Foreign Clearance - Australian Aircraft should be referred to DIPA, Department of Defence dipa.hqac@defence.gov.au who will provide guidance on the process.

1.12.3 Pilots are advised that their flight plans will not be considered by some countries unless documentation of onward foreign clearance is produced.

1.13 **Aircraft on International Flights to Comply with Laws**

1.13.1 Section 16 of the *Air Navigation Act 1920* provides that the owner, operator, hirer and pilot in command of any aircraft (and any other pilot of the aircraft) granted a licence, permission or approval under this Act or the regulations which arrives in Australian territory from a place outside Australian territory or departs from Australian territory for a place outside Australian territory must comply with the provisions of all applicable laws of the Commonwealth or of a State or Territory. This includes laws relating to entry and departure or clearance of passengers, crew and/or cargo, immigration, passports, customs and biosecurity.

1.14 **Section 22 of the Civil Aviation Act 1988**

1.14.1 This section gives effect in Australian law to the provisions of *Article 3* of the *Chicago Convention*, which prohibits the use of force against civil aircraft and provides for the regulation of civil aircraft flying over the territory of foreign countries without authorisation or for any purpose that is inconsistent with the aims of the *Chicago Convention*.

1.14.2 A major requirement of this legislation is that aircraft under Australian jurisdiction shall not be flown over the territory of a foreign country without authorisation or for a purpose that is prejudicial to the security, public order or safety of air navigation in that country. If an aircraft is being flown in these circumstances, the pilot in command must comply with an order to land or any other instruction that is given by an authorised official of the foreign country.

1.14.3 The legislation provides for the pilot in command who is found guilty of an offence under *Section 22* to be subject to severe penalties such as imprisonment. Ancillary offenders (for example, the operator) may be prosecuted under the *Crimes Act*.

1.14.4 Operators should note that nothing in this legislation relieves obligations which any other law, including the law of a foreign country, might impose. An Australian aircraft which is flying with proper authorisation over the territory of a foreign country is required to obey a direction legally given by the aviation authorities of the country concerned, just as a foreign aircraft flying over Australian territory is required to obey a lawful direction which may be given by the relevant Australian authorities.

1.15 **Aircraft Noise Operating Restrictions**

1.15.1 Under the *Air Navigation (Aircraft Noise) Regulations 2018*, international and domestic aircraft operating in Australia are required to be certified as compliant with the relevant ICAO *Annex 16* noise standards. Subsonic jets must be certified as Chapter 3, Chapter 4 or Chapter 14. Aircraft with Chapter 2 noise certification are not permitted to operate.

1.15.2 Large, Marginally noise Compliant Chapter 3 (MCC3) jet aircraft are prohibited from operating at: Sydney, Melbourne, Brisbane, Perth, Adelaide, Hobart, Canberra, Darwin, Cairns, Gold Coast, Newcastle (Williamtown), Essendon and Avalon airports. For a full list of potentially affected aircraft types please contact the General Manager, Aviation Environment Branch (see *para 1.15.4*).

1.15.3 Operators of MCC3 aircraft who want to operate at these airports must apply to the Department of Infrastructure, for a (noise) permission to operate.

1.15.4 Aircraft owners and pilots requiring information about aircraft noise operating restrictions or the Air Navigation (Aircraft Noise) Regulations should contact:

General Manager
Aviation Environment Branch
Department of Infrastructure, Regional Development and Cities
GPO Box 594
CANBERRA ACT 2601 AUSTRALIA
Ph: 61 2 6274 7111
Fax: 61 2 6274 7804
Email: aircraftpermits@infrastructure.gov.au

IMPORTANT - International operators must also contact CASA to apply for a (safety) permission to operate in Australian Territory (see contact details in *GEN 1.1 para 2.3c.*).

1.16 **Australian Operational Documents Available to Pilots Licensed by Another State Proposing to Visit Australia**

1.16.1 Airservices Australia has available, on a payment basis, to pilots licensed by another State proposing to come to Australia, the following documents which relate to the proposed flight:

a. **IFR Flight Documents** Australian AIP Book; En Route, Planning and Terminal Charts; Departure and Approach Procedures and ERSA.

b. **VFR Flight Documents** Australian AIP Book; En Route, Planning and Visual Terminal Charts, and ERSA.

1.16.2 To secure appropriate documents, a pilot should refer to the online AIP Shop at www.aipshop.canprint.com.au. A login using a valid ARN is required to order AIP products. Checking of the stored mailing address, contact phone number and email address is recommended.

2. DESIGNATED INTERNATIONAL AIRPORTS - AUSTRALIA

Note: Operations by aircraft at all of the airports listed in the following section are limited to the pavement strength shown against the aerodrome in AIP ERSA. Prior application must be made to the airport operator for a pavement concession where this is necessary.

2.1 **Major International Airports**

2.1.1 "Major International Airport" means an airport of entry and departure for international air traffic where there is an ongoing border agency presence to conduct all formalities incident to Customs, Immigration and Biosecurity clearance.

Airport	Clearances Available
Adelaide	Customs, immigration and biosecurity.
Brisbane	Customs, immigration and biosecurity.
Cairns	Customs, immigration and biosecurity.
Darwin	Customs, immigration and biosecurity.
Melbourne	Customs, immigration and biosecurity.
Perth	Customs, immigration and biosecurity.

Airport	Clearances Available
Sydney	Customs, immigration and biosecurity.

Although not categorised as a major international airport, Gold Coast Airport has an ongoing border agency presence to conduct Customs, immigration and biosecurity clearances.

Note: Reasonable notification required for non-scheduled traffic.

2.2 **Restricted Use International Airports**

2.2.1 "Restricted Use International Airport" means an airport of entry and departure at which the formalities incident to Customs, immigration, and biosecurity and similar procedures are made available on a restricted basis, to flights with prior approval only. The airline or its agent/representatives may be responsible for covering additional expenses relating to the positioning of resources from another border agency base to a Restricted Use International Airport.

Airport	Clearances Available
Avalon	Customs, immigration and biosecurity clearances services are provided to coincide with approved flights only.
Brisbane West Wellcamp	Customs, immigration and biosecurity clearances services are provided to coincide with approved flights only.
Broome	Customs, immigration and biosecurity clearances services are provided to coincide with approved flights only.
Canberra	Customs, immigration and biosecurity clearances services are provided to coincide with approved flights only.
Coffs Harbour	Customs, immigration and biosecurity clearances services are provided to coincide with approved flights only. Coffs Harbour is not a proclaimed first port of entry and landing place for overseas aircraft and may only be nominated as an alternative for flights with prior Department of Agriculture and Water Resources approval.

Airport	Clearances Available
Gold Coast	Customs, immigration and biosecurity clearances services are provided to coincide with approved flights only.
Hobart	Customs, immigration and biosecurity clearances services are provided to coincide with approved flights only.
Learmonth	Customs, immigration and biosecurity clearances services are provided to coincide with approved flights only.
Lord Howe Island	Customs, immigration and biosecurity clearances services are provided to coincide with approved flights only. Department of Agriculture and Water Resources does not currently have any approved officers on Lord Howe Island that are trained to undertake international aircraft clearances.
Port Hedland	Customs, immigration and biosecurity clearances services are provided to coincide with approved flights only.
Sunshine Coast	Customs, immigration and biosecurity clearances services are provided to coincide with approved flights only.
Townsville	Customs, immigration and biosecurity clearances services are provided to coincide with approved flights only.
Williamtown/ Newcastle	Customs, immigration and biosecurity clearances services are provided to coincide with approved flights only.

2.3 **Alternate Airports to International Airports**

2.3.1 “Alternate Airport” means an airport specified in the flight plan to which a flight may proceed when it becomes inadvisable to land at the airport of intended landing (see also *GEN 1.3 Section 5.*). The Airline or its agent/representatives may be responsible for covering additional expenses relating to the positioning of resources from another border agency base to an Alternate Airport.

Airport	Clearances Available
Alice Springs	Serviced for international arrivals in the event of an emergency/stress. In such an instance, all passengers and crew must remain on board where safe to do so. Aircraft should then proceed to a major international airport for clearance.
Avalon	Serviced for international arrivals in the event of an emergency/stress. In such an instance, all passengers and crew must remain on board where safe to do so. Aircraft should then proceed to a major international airport for clearance.
Canberra	Customs, immigration and biosecurity clearances are available if reasonable notification of diversion is given (but see *GEN 1.3 para 6.4.1*).
Coffs Harbour	Serviced for international arrivals in the event of an emergency/stress. In such an instance, all passengers and crew must remain on board where safe to do so. Aircraft should then proceed to a major international airport for clearance.
Geraldton	Serviced for international arrivals in the event of an emergency/stress. In such an instance, all passengers and crew must remain on board where safe to do so. Aircraft should then proceed to a major international airport for clearance.
Gold Coast	Customs, immigration and biosecurity clearances are available outside of scheduled international flights if reasonable notification of diversion is given.
Kalgoorlie	Serviced for international arrivals in the event of an emergency/stress. In such an instance, all passengers and crew must remain on board where safe to do so. Aircraft should then proceed to a major international airport for clearance.

Airport	Clearances Available
Launceston	Serviced for international arrivals in the event of an emergency/stress. In such an instance, all passengers and crew must remain on board where safe to do so. Aircraft should then proceed to a major international airport for clearance.
Learmonth	Serviced for international arrivals in the event of an emergency/stress. In such an instance, all passengers and crew must remain on board where safe to do so. Aircraft should then proceed to a major international airport for clearance.
Port Hedland	Customs, biosecurity and immigration clearances are available if reasonable notification of diversion is given.
Rockhampton	Serviced for international arrivals in the event of an emergency/stress. In such an instance, all passengers and crew must remain on board where safe to do so. Aircraft should then proceed to a major international airport for clearance.
Tindal	Serviced for international arrivals in the event of an emergency/stress. In such an instance, all passengers and crew must remain on board where safe to do so. Aircraft should then proceed to a major international airport for clearance.
Townsville	Customs, immigration and biosecurity clearances are available outside of scheduled international flights if reasonable notification of diversion is given. Townsville may be nominated as an international alternate for wide bodied aircraft subject to the following conditions: a. Use of the military apron will be subject to the requirements of the RAAF. b. Taxiway “K” maybe used when the military apron is not available.

2.4 International Non-Scheduled Flight Airports

2.4.1 "International Non-Scheduled Flight Airport" means an airport at which approval may be granted, provided the prescribed prior notice is given, for international non-scheduled flights only. No other form of international operation is permitted:

Airport	Clearances Available
Horn Island	Customs, immigration and biosecurity clearances are available if reasonable prior notice is given.

2.5 External Territory International Airport

2.5.1 "External Territory International Airport" means an airport of entry and departure for international air traffic located upon an Australian External Territory, where all formalities incident to Immigration, Biosecurity and Territory Customs, and similar procedures are available. Australian external territory international airports are as follows:

Airport	Clearances Available
Christmas Island	Customs, immigration and biosecurity clearance services are provided to coincide with approved flights only.
Cocos (Keeling) Island	Customs, immigration and biosecurity clearance services are provided to coincide with approved flights only.
Norfolk Island	Customs, immigration and biosecurity clearance services are provided to coincide with approved flights only.

GEN 1.3 ENTRY, TRANSIT AND DEPARTURE OF PASSENGERS AND CREW

1. INTRODUCTION

1.1 The Australian requirements for entry and departure of aircraft engaged in international flights, and the standard procedure for clearance of these aircraft at Australian designated international airports, are advised for the information and guidance of operators conducting international flights to and from Australia.

1.2 The standard procedures are designed to facilitate the clearance of passengers through the two stages of examination, the Department of Home Affairs customs and immigration processing and the Department of Agriculture and Water Resources biosecurity processing.

1.3 **Department of Agriculture and Water Resources Biosecurity Requirements**

The *Biosecurity Act 2015* was enacted on 16 June 2016. The Department of Agriculture and Water Resources and its officers undertake functions and duties and exercising powers pursuant to the *Biosecurity Act 2015*.

Detailed information about the biosecurity requirements for overseas aircraft can be found in the "Department of Agriculture and Water Resources Guidelines for Airline and Aircraft Operators Arriving in Australia" document that can be found on the Department of Agriculture and Water Resources website at: www.agriculture.gov.au/biosecurity/avm/aircraft/guidelines-operators.

1.3.1 All aircraft are required to meet Australia's disinsection requirements. The commander of an overseas aircraft (or, if the commander is not the operator of the aircraft, the operator of the aircraft) will make arrangements for the disinsection of the aircraft in a manner, and within a time, approved by the Director of Human Biosecurity.

The following disinsection options are available to airline operators to meet Australia's cabin and hold disinsection requirements:

Method	Cabin Chemicals	Hold Chemicals
Residual	2% permethrin	2% permethrin
Pre-embarkation	Pre-flight - 2% permethrin	1 shot - 2% permethrin and 2% d-phenothrin
Pre-flight and Top of Descent	Pre-flight - 2% permethrin and Top of Descent - 2% d-phenothrin	1 shot - 2% permethrin and 2% d-phenothrin
On arrival	2% d-phenothrin	1 shot - 2% permethrin and 2% d-phenothrin

The Residual and Pre-embarkation methods can only be used when an Approved Arrangement with the Department of Agriculture and Water Resources or a Compliance Agreement with the Ministry for Primary Industries, New Zealand (MPI) has been administered.

The *'Schedule of aircraft disinsection procedures for flights into Australia and New Zealand'* has been prepared in cooperation between the Department of Agriculture and Water Resources and the MPI. Refer to the Department of Agriculture and Water Resources website for further information.

1.3.2 **Pre-arrival Reporting Requirements.** Prior to arrival at a first point of entry in Australia, the commander of an international aircraft (or, if the commander is not the operator of the aircraft, the operator of the international aircraft) will advise the Department of Agriculture and Water Resources of the following:

a. Details of any person on board the aircraft who has, or had signs or symptoms of a listed human disease during the flight;

b. Details of any person on board the aircraft who died during the flight;

c. If there are animals or plants (or both) in the cabin of the aircraft - that fact;

d. If any animal in the cabin of the aircraft died during the flight - that fact; and

e. If the aircraft is an incoming aircraft and the prescribed disinsection measures for the aircraft have not been taken, or will not have been taken, before the aircraft arrives at its first landing place in Australian territory - that fact;

1.3.3 The commander of an aircraft on a non-scheduled flight, or through an authorised ground handling agent, must report the following additional information without exception:

a. Information identifying the aircraft;

b. The intended first landing place of the aircraft in Australian territory;

c. The estimated day and time of arrival of the aircraft at the place referred to in paragraph b;

d. The name and contact details of:

(i) the operator of the aircraft; and

(ii) if the operator is not the owner of the aircraft - the owner of the aircraft

e. Details about any animals or plants in the cabin of the aircraft.

1.3.4 The pre-arrival report must be given:

a. at the earlier of:

(i) as close to the top of descent as is operationally practicable before the aircraft is estimated to arrive at its first landing place in Australian territory; and

(ii) 30 minutes before the aircraft is estimated to come to a standstill after arriving at its first landing place in Australian territory; or

b. at the time specified by a biosecurity official.

Note: The commander of an aircraft on a non-scheduled flight may provide the additional information to the Department of Agriculture and Water Resources prior to the departure of the aircraft from the last port before entering Australian territory.

1.3.5 The pre-arrival report must be made to biosecurity officers located at the intended first landing place (or at the department office responsible for biosecurity clearances at the intended first landing place) either orally or in writing (including electronically).

After this information is reported, if the Commander becomes aware the information is incomplete or incorrect they will provide additional information or correct the information as soon as practicable.

Any contaminants on the aircraft from dead or sick people must be cleaned or disinfected in accordance with post-event disinfection procedures for aircraft, as outlined in the World Health Organization 2009 *Guide to Hygiene and Sanitation in Aviation*, third edition.

1.3.6 Any of the following are considered possible signs or symptoms of a listed human disease:

a. fever or suspected fever

b. jaundice

c. a new rash

d. unusual bleeding

e. a new coughing illness, and

f. any illness that required prompt medical assistance

However, any traveller showing signs of serious illness and needing medical assistance must be brought to the attention of a biosecurity officer.

If there is any doubt whether an ill traveller needs to be reported, the commander should contact a biosecurity officer. Commanders do not need to report travellers whose illness is a result of:

a. drug or alcohol use;

b. an injury or a pre-existing physical condition, or

c. motion sickness.

Commanders are also required to report any changes to this status that occur after submitting the pre-arrival report.

The operator of the vessel or aircraft is responsible for requesting medical or ambulance services.

The operator of an aircraft or vessel is legally responsible for ensuring the Department of Agriculture and Water Resources is notified. Failure to report ill travellers or death on board an aircraft is an offence under the *Biosecurity Act 2015* and can lead to the application of additional reporting requirements, revoking positive pratique, fines or possible imprisonment.

1.3.7 Pratique is the granting of permission to disembark and unload baggage and cargo based on the absence of disease in the passengers and crew. Aircraft entering Australia operate under a system of (automatic) positive pratique. Under this system permission to disembark and unload cargo and baggage is automatically granted, unless any of the following applies:

a. the prescribed disinsection measures for the aircraft have not been undertaken;

b. the aircraft has reported an individual as having, or having had, signs or symptoms of a listed human disease, or an individual has died during the flight;

c. a human biosecurity official or a biosecurity official believes an individual on the flight is displaying signs or symptoms of a listed human disease, has been exposed to a listed human disease; or has died during the flight; or

d. a pre-arrival report consistent with *1.3.2* was not provided.

1.3.8 Any aircraft not entering under (automatic) positive pratique, will be met on arrival by a biosecurity officer. All passengers and crew must remain onboard until pratique is granted by this officer. When the biosecurity officer is satisfied that there are no further biosecurity issues, he/she will verbally grant pratique and advise that disembarkation and the unloading of baggage and other goods may commence. Regardless of whether an aircraft enters Australian territory on a scheduled or non-scheduled flight, a biosecurity officer will meet an aircraft on arrival if:

a. the aircraft is not the subject of an approved arrangement with the department or a compliance agreement with MPI for aircraft disinsection, or

b. the aircraft is the subject of an approved arrangement with the department or a compliance agreement with MPI for aircraft disinsection however the airline has not updated the Aircraft Disinsection Information (ADI) database with the residual or pre-embarkation disinsection details for the arriving aircraft, or

c. the waste service provider attending the aircraft has not entered into an approved arrangement with the department; or

d. the Department of Agriculture and Water Resources is notified of ill traveller/s and/or death on board.

1.3.9 All cabin, galley and hold biosecurity waste onboard the aircraft must be collected, transported, stored and/or treated by either a service provider that has entered into an approved arrangement with the department or a service provider under the department's supervision on a fee for service basis. Biosecurity waste may include refuse and sweepings from galley, accommodation, cabin and hold areas of the aircraft; any unconsumed and partly consumed foods including prepared meals; any non-washable items, other waste or materials that may have come in contact with biosecurity waste; animal or plant waste; or materials used to pack or stabilise imported goods.

1.3.10 The commander of an aircraft arriving in Australian territory must ensure the aircraft is free from biosecurity waste before the aircraft is moved further within Australian territory, unless prior approval has been given by the Department of Agriculture and Water Resources.

1.3.11 **Biosecurity In–flight Announcement.** Prior to arrival in Australia (at top of descent), commanders of all international aircraft must provide to all travelling passengers and crew and approved in-flight announcement in audio or video format which outlines Australia's biosecurity requirements. The audio or video announcement is available in a number of formats and languages on the Department of Agriculture and Water Resources website. If the audio message cannot be played, commanders must ensure that their crew make a verbal in-flight announcement prior to arrival in Australia. The delivery of the announcement is a legal requirement under Australian law. The approved announcement must not be edited.

1.3.12 All persons (passengers and crew) arriving in Australia must have the following documents ready for examination by a biosecurity officer and an ABF Officer when requested:

a. An Immigration Incoming Passenger Card (although this is an Immigration document, it may facilitate health clearances).

b. A valid International Certificate of Vaccination or Prophylaxis against yellow fever (if in the last six days a person has visited a yellow fever declared country for overnight or longer). A valid certificate is consistent with the requirements in Annex 6 of the *International Health Regulations (2005).*

Note: If the person does not have a valid certificate, entry into Australia will be permitted after assessment by a biosecurity officer.

1.3.13 For ill passengers that are in transit through Australia the requirements are the same as for those entering Australia. Passengers in transit are not permitted to leave the transit area other than for actual boarding of their outward flight. If the time between arrival and departure allows, and if it is determined to be advisable, the person may either be isolated in a biosecurity facility (i.e. an airport health room) or be allowed restricted access to airport facilities and wait areas as advised by Department of Agriculture and Water Resources biosecurity officers.

1.3.14 Passenger and crew will pass from the aircraft to the ABF Entry Control Point where the vaccination certificates will be assessed.

1.3.15 The following goods must not be imported into Australia unless the relevant import conditions have been met as outlined in the Department of Agriculture and Water Resources Biosecurity Import Conditions Database (BICON):

a. all animals (including, but not limited to, mammals, birds, reptiles, amphibians and insects) and animal products;

b. cultures of micro–organisms capable of causing human disease and goods of biological origin and other infectious agents;

c. foodstuffs of animal origin, including meat, poultry, sausages, eggs, cheese and milk;

d. plants and plant products (e.g. wooden articles, flowers, seeds, fruit and vegetables);

e. fungi;

f. human remains, fluids and tissues;

g. bioremedial agents and fertilizers.

Note: Any goods brought or imported into Australia not meeting import conditions may be treated, exported or forfeited to the Commonwealth for disposal.

1.3.16 Australia is free from many diseases, pests and weeds which cause serious damage in other parts of the world. The cooperation of all air crews and passengers is sought in preserving this.

1.3.17 The *Biosecurity (First Point of Entry) Determinations 2016* details the first points of entry into Australia through which animals, plants and other kinds of goods may enter Australia.

1.3.18 Although Australia has no vaccination requirements for departure, travellers will have to satisfy the requirements of countries to, or through which, they travel. Travellers should, therefore, consult the airline, a reputable travel medicine organisation, or the official representatives of the countries concerned regarding the necessity for vaccinations.

2. IMMIGRATION/EMIGRATION REQUIREMENTS

2.1 General

2.1.1 Information in this section is based on the *Migration Act 1958,* the *Migration Regulations 1994* and the *Customs Act 1901*. Since the information can change over time the Department of Home Affairs strongly recommends that anyone proposing to travel to Australia contact airlines, travel agents or Australian missions overseas or visit www.homeaffairs.gov.au to ensure travel documentation and visa requirements are met.

2.1.2 Airline operators should ensure that their staff are fully aware of Australia's immigration and customs requirements. The Travel Information Manual (TIM) and the online Timaticweb (www.timaticweb.com/) provides a regularly updated, ready–reference for information on Australia's requirements. The master, owner, agent, charterer and operator of a vessel on which a non–citizen is brought into Australia are guilty of an offence against *Section 229(1)* of the *Migration Act 1958* unless the non–citizen when entering Australia:

a. is in possession of evidence of a visa (see *para 2.5.2a*), that is in effect and that permits him/her to travel to Australia; or

b. is deemed to be a person having a prescribed status and holds a special purpose visa (see *para 2.5.2c*); or

c. is a transit passenger who meets certain criteria (see *para 2.5.2c(vii)*); or

d. is eligible for a special category visa (see *para 2.5.2d*); or

2.1.3 A person who is guilty of an offence against *Section 229(1)* of the *Migration Act* is liable, upon conviction, to a fine not exceeding AU$10,000 for each non-citizen who is brought to Australia. In lieu of prosecution, airlines may pay a penalty of AU$5,000.

2.2 **Advance Passenger Processing (APP) reporting of passengers and crew**

2.2.1 Airlines flying into Australia who provide a 'regular international passenger air service' are required to report all inbound passengers and crew, including all transit passengers, to Immigration though the electronic APP system. The information is collected at check–in through the APP system and transmitted to Australia for use by border agencies prior to the arrival of the aircraft. Airlines seeking detailed information concerning the legislative and system requirements can contact Immigration at: appwebsite@abf.gov.au.

2.3 **Advance Passenger Reporting for Passengers and Crew Under the Customs Act 1901.**

2.3.1 Airlines flying into Australia who do not provide a 'regular international passenger air service', as defined under the *Migration Act 1958* are required to report all inbound passengers and crew, including all transit passengers, to the ABF though form 2A and 2B for passengers and form 3 and 3B for crew.

2.4 **Inwards Clearance – Passports or Other Travel Document**

2.4.1 All persons seeking to enter Australia, whether for a visit, temporary or permanent residence, must identify themselves. In the case of non–citizens, they must hold or be eligible for a visa. Passports are the most common and preferred type of travel document for identification purposes. A valid passport is required for travel to Australia from all overseas destinations.

2.4.2 Some countries still issue family group passports which may cover, for example, a husband and/or wife and children of two or more siblings. For entry control purposes, Australia accepts dependants on such passports only when accompanied by the principal holder.

2.4.3 Passports are not required for holders of the following:

a. Certificates of Identity, Documents of Identity, or "Documents for Travel to Australia" or Australian Migration Status ImmiCards issued by Australian authorities.

b. Documents of Identity, issued by a country other than Australia. (Documents must have a photograph of the bearer and re–entry authority to the country of issue).

c. Laissez–passer (travelling on duty), issued by the United Nations.

d. Military identity documents and movement orders issued to members of:

   (i) armed forces that have a Status of Forces Agreement with Australia (France, Papua New Guinea, Republic of the Philippines, Turkey, Singapore, USA, Malaysia and New Zealand)

   (ii) Asia–Pacific armed forces (Brunei, Fiji, Malaysia, Thailand or Tonga); or

   (iii) Commonwealth forces (Antigua, Bahamas, Barbados, Belize, Canada, Grenada, Jamaica, Mauritius, New Zealand, Papua New Guinea, Saint Lucia, Saint Vincent and the Grenadines, Solomon Islands, St Christopher and Nevis, Tuvalu, and the United Kingdom of Great Britain and Northern Ireland).

e. Certificates for air crew members, travelling on duty as operational or positioning crew:

   (i) operational crew must carry a current identity document issued by the airline by which he/she is employed (“Airline ID card”) and a valid passport; and

   (ii) positioning crew not listed as crew members must carry a valid passport and a letter from their employer certifying air crew status and setting out the purpose of the persons’ travel to Australia and the arrangements for them to leave Australia.

f. Documents issued to stateless persons as follows:

   (i) Certificate of Identity, provided it holds proof to re–enter the country of residence; or

   (ii) Titre de Voyage issued to persons recognised as refugees under the 1951 Convention Relating to the Status of Refugees.

2.4.4 Passengers who are yet to present for immigration clearance and are travelling on domestic sectors of international flights within Australia must carry acceptable forms of photo–identification.

2.5 **Visa Requirements**

2.5.1 All non–citizens are required to have a visa for travel to Australia. The Australian Government strongly recommends that all passengers proposing to travel to Australia contact airlines, travel agents or Australian missions overseas to ensure travel document and visa requirements are met.

2.5.2 Carriers are required to ensure non–citizen passengers travelling to Australia hold, or are eligible to hold, a valid visa. Persons in possession of expired visas should not be carried to Australia. Visas for travel to Australia may be for either single or multiple journeys within the validity of the visa. Visas facilitate travel, but do not guarantee entry. Visitors who fail to satisfy border checks can be refused entry to Australia. Visa types are identified as follows:

a. There are two types of visas: temporary and permanent. The majority of visas granted will not be evidenced by a stick–in visa label as visa labels ceased to be issued from 1 September 2015. Existence of a visa should be verified by airlines at check–in via Advance Passenger Processing (APP) system.

b. Where capable, airlines may issue Electronic Travel Authorities (ETAs) for tourist or short term business travel to bearers of passports issued by the following countries:

Andorra	Greece	Malta	Sweden
Austria	Hong Kong	Monaco	Switzerland
Belgium	Iceland	Netherlands	Taiwan
Brunei	Ireland	Norway	United Kingdom (British Citizens and British Nationals Overseas)
Canada	Italy	Portugal	
Denmark	Japan	San Marino	
Finland	Liechtenstein	Singapore	
France	Luxembourg	South Korea	USA
Germany	Malaysia	Spain	Vatican City

Further information regarding these visas and the visa application process can be found at www.homeaffairs.gov.au - including authenticating Taiwanese passports.

c. **Special Purpose Visas (SPVs)** are a class of temporary visa taken to have been granted by operation of law to certain persons or classes of persons; e.g. military personnel travelling on official duty provided for under an agreement between Australia and a foreign country.

SPV holders are not required to complete an application form provided they belong to any of the following classes of persons (arrival by air only, further categories exist for passengers arriving by sea):

(i) members of the armed forces of France, Papua New Guinea, Republic of the Philippines, Singapore, Turkey, USA, Malaysia and New Zealand under the Status of Forces Agreement (SOFA) travelling on duty (movement orders issued from an official source of the relevant country) and holding military identity documents;

(ii) members of Asia Pacific armed forces (Brunei, Fiji, Malaysia, Thailand or Tonga) travelling on duty and holding military identity documents and movement orders;

(iii) members of Commonwealth armed forces travelling on duty (movement orders issued from an official source of the relevant country) and holding military identity documents (Antigua, Bahamas, Barbados, Belize, Canada, Grenada, Jamaica, Mauritius, New Zealand, Papua New Guinea, Saint Lucia, Saint Vincent and the Grenadines, Solomon Islands, St Christopher and Nevis, Tuvalu, and the United Kingdom of Great Britain and Northern Ireland);

(iv) members of the civilian component of SOFA provided they hold passports and certificates stating that the person is a member of the civilian component of the armed forces of the relevant country;

(v) dependants of SOFA, Asia Pacific and Commonwealth armed forces listed above provided they hold a passport and either movement orders or certificates stating they are a spouse or a dependant of a member of the armed forces, or the civilian component of the armed forces of the relevant country, and are accompanying or joining that member;

(vi) airline crew members travelling as passengers in the course of employment, who will be departing Australia as crew of an aircraft ("positioning crew"), provided they are in possession of a letter from the employer regarding aircrew status, purpose of travel and arrangements for departure from Australia within five (5) days ("Certificate of Status"). This SPV arrangement is not for air crew seeking to work specifically on domestic sectors or to perform other duties in Australia. An appropriate visa should be applied for in these cases;

(vii) Transit passengers (not applicable to stateless persons and refugees) who are direct transit passengers arriving and departing by aircraft are taken to hold a special purpose visa provided they:

– will be continuing their journey to a third country by the same or a connecting aircraft within eight (8) hours of arrival in Australia;

– do not leave the airport transit lounge except to continue their journey;

Note: If a person in this class seeks to leave the transit lounge, i.e. seek immigration clearance, the special purpose visa will cease.

– are in possession of confirmed onward reservations and hold correct documentation for entry to their destination; and

– be a citizen of the following countries:

Andorra	Greece	Netherlands	Slovakia
Argentina	Hungary	New Zealand	Slovenia
Austria	Iceland	Norway	Solomon Islands
Belgium	Indonesia	Oman	South Korea
Brunei	Ireland	Palau	Spain
Canada	Italy	Papua New Guinea	Sweden
Chile	Japan	Philippines	Switzerland
Croatia	Kiribati	Poland	Thailand
Cyprus	Latvia	Portugal	Tonga
Czech Republic	Liechtenstein	Qatar	Tuvalu
Denmark	Lithuania	Republic of Bulgaria	United Arab Emirates
Estonia	Luxembourg	Republic of South Africa	United Kingdom (including its colonies)
Federated States of Micronesia	Malaysia	Republic of Marshall Islands	United States of America
Fiji	Malta	Romania	Uruguay
Finland	Mexico	Samoa	Vanuatu
France	Monaco	San Marino	Vatican
Germany	Nauru	Singapore	

- Resident of Hong Kong holding Hong Kong Special Administrative Region (HKSAR) passports or British National Overseas (BNO) passports;
- Resident of Taiwan holding a passport issued by the Authorities of Taiwan (other than passports purported to be official or diplomatic passports);
- Official passport holders from India;
- Diplomatic passport holders, excluding holders of:
  - Arab Non-National Passports; and
  - excluding diplomatic passports from the following countries

Afghanistan	Iran	Madagascar	Sierra Leone
Algeria	Iraq	Morocco	Somalia
Angola	Jordan	Pakistan	Sudan
Bahrain	Kuwait	Republic of Yemen	Syria
Comoros	Lebanon	Russian Federation	Tunisia
Democratic People's Republic of Korea	Libya	Saudi Arabia	Zimbabwe
Egypt	Mauritania		

(viii) Members of the Royal family or guests of the Australian government and accompanying immediate family members;

(ix) Official guests of the Australian Government and accompanying members of their immediate family.

d. **Special Category Visa (SCV).** A New Zealand citizen, who holds and produces a valid New Zealand Passport to an officer or authorised system and answers the health and character questions either on the Incoming Passenger Card or via the SmartGate, may be eligible to be granted the Special Category Visa at the border.

2.5.3 **Merchant Seaman.** The visa regulations for merchant seamen if they arrive in Australia by air are the same as for holders of normal passports.

2.6 **Returning Non-citizen Permanent Residents of Australia**

2.6.1 Non–Australian citizens who are permanent residents of Australia wishing to travel overseas after their initial residence visa has expired must hold an authority to return to Australia in their national passport. This may take the form of a "Resident Return" visa. Permanent residents who hold an "Authority to Return" or "Return Endorsement", which are in the form of a wet stamp in their passport are not recorded electronically in Departmental systems. Airlines will need to confirm with the Department whether holders of these wet stamps are returning to Australia within three (3) years of their most recent departure. These wet stamps are also acceptable in expired or cancelled passports or other travel documents provided the holder also has a valid national passport.

2.7 **Incoming Passenger Cards**

2.7.1 Incoming Passenger cards are required to be completed by all passengers except for:

a. airline crew members who are on duty; and

b. direct transit passengers described in *sub-para 2.5.2c.(vii)*.

2.7.2 Supplies of Incoming Passenger Cards should be maintained on aircraft and issued to passengers in ample time for completion before arrival at the immigration clearance airport in Australia. If passengers cannot complete their own cards because of age or physical infirmity, the cards must be completed by the accompanying parent, guardian or attendant.

2.7.3 Incoming Passenger Cards are available in English and a number of foreign languages. All incoming passenger cards must be completed in the English language.

2.8 **Examination of Crew and Passengers**

2.8.1 Immigration examination of passengers is generally done at the point of final disembarkation in Australia, except when special arrangements to the contrary have been made.

2.8.2 For the purposes of examination, the following documents must be ready for presentation to the ABF Officer:

a. **Aircraft Crew**

(i) For operational flight crew, a valid passport and a certificate of status from their employer in the form of an airline ID card.

(ii) Positioning crew not listed as crew members must carry a valid passport and a letter from their employer certifying air crew status and setting out the purpose of the persons' travel to Australia and the date for them to leave Australia.

(iii) A completed Form B465 Crew Declaration, which can be accessed via: www.homeaffairs.gov.au/Forms/Documents/b465-crew-declaration.pdf

b. **Passengers**

(i) In the case of Australian citizens, valid Australian passports, or other valid documents of identity having the characteristics of passports, and Incoming Passenger Cards.

(ii) In the case of New Zealand citizens, valid New Zealand passports and Incoming Passenger Cards.

(iii) In the case of all other persons, valid national passports, or other acceptable documents listed in *para 2.5.2*, with visa as required for entry into Australia, and Incoming Passenger Cards.

2.9 **Outwards Clearance – Documentation**

2.9.1 **Advance Passenger Processing (APP) reporting of passengers and crew**. Airlines flying from Australia who provide a 'regular international passenger air service' are required to report all departing passengers and crew, including all transit passengers to Immigration through the electronic APP system. The information is collected at check-in through the APP system and transmitted to Australia for use by border agencies prior to the departure of the aircraft. Airlines seeking detailed information concerning the legislative and system requirements can contact Immigration at: appwebsite@abf.gov.au.

3. CUSTOMS AND BORDER PROTECTION REQUIREMENTS

3.1 **Inward Clearance – Documentation**

The pilot in command (or authorised agent) of an aircraft landing at a designated international airport which is the first airport of call in Australia shall furnish the following documents to the Department of Home Affairs:

Impending Arrival Report – Electronic, lodged in the ICS

The aircraft operator must report to the Department of Home Affairs the impending arrival of the aircraft. The Impending Arrival Report (IAR) must be lodged electronically in the Integrated Cargo System (ICS) not more than 10 days before the estimated time of arrival of the aircraft and not later than three (3) hours before the estimated time of arrival of the aircraft. Where the duration of the flight from the last overseas airport is likely to take less than three (3) hours, the IAR must be made at least one (1) hour before arrival. The IAR can be lodged by document (form B364), when the aircraft is not carrying cargo.

Actual Arrival Report – Electronic, lodged in the ICS

The aircraft operator must report to the Department of Home Affairs the particulars of the arrival of the aircraft and the time of arrival. The Actual Arrival Report (AAR) must be lodged electronically in the ICS within three (3) hours of the arrival of the aircraft or before the certificate of clearance is issued, whichever occurs first.

The AAR can be lodged by document (Form B358) when the aircraft is not carrying cargo, providing the reporter satisfies an EOI and the form is signed in the manner specified on the form.

Incoming Passenger Card

All aircraft passengers and crew arriving in Australia are required to complete an Incoming Passenger Card or Form B465 Crew Declaration for Customs, Immigration and Biosecurity purposes. Supplies of these forms should be maintained on the aircraft and issued to passengers in ample time for completion before arrival at the ABF Entry Control Point in Australia.

3.1.1 Airlines report aircraft and cargo data to the Department of Home Affairs in the ICS. This information, in addition to the Advance Passenger Processing data or Form 2, 2A and 3 for non ‘regular international passenger air services’ provides Department of Home Affairs with all the required information that was previously on the physical General Declaration. The ‘actual arrival report’ in ICS is made in place of a General Declaration. However, some countries still require General Declarations for arriving aircraft. ABF Officers will stamp the General Declaration on departure of the aircraft in these circumstances.

3.2 **Examination of Crew and Passengers**

3.2.1 Complete ABF examination of the baggage of passengers and crew members is normally made at the airport where the passengers and crew members finally disembark from the aircraft.

3.2.2 When the ABF Boarding Officer has received the documents set out above, and the Department of Agriculture and Water Resources biosecurity officer has authorised unloading to commence, baggage (including crew baggage) of all persons destined for that airport will be unloaded and brought into the baggage examination area (ABF Section) of the terminal building for examination. Crew baggage will be separated from passenger baggage. Cargo will be unloaded for immediate delivery to a licensed Department of Home Affairs operated depot.

3.2.3 ABF Officers may maintain surveillance over the unloading of all baggage and cargo and ensure that it is taken directly to the baggage examination area and depot respectively. An officer may also check goods owned by, or in possession of, the crew against the List of Stores and “Articles in Possession - Aircrew” (see *GEN 1.2 para 1.3.1*).

3.2.4 Passengers and crew, after disembarking, must proceed to the Entry Control Point for completion of Customs, Immigration, Biosecurity and Health formalities.

3.2.5 All persons entering Australia who are in possession of AUD$10,000 or more in Australian currency, or equivalent foreign currency, must complete a Cross-Border Movement-Physical Currency (CBM–PC) reporting form. Reporting forms for this purpose are available from air and sea ports or from the Australian Transaction Reports and Analysis Centre (AUSTRAC). There is no limit to the amount of currency that can be brought into Australia, but failure to declare the currency may result in seizure and prosecution.

Note: If an ABF Officer or police officer asks, you must report traveller’s cheques, money orders, cheques, or other bearer negotiable instruments of any amount.

3.2.6 After the examination of crew and passenger baggage has been completed and customs duty and tax (if any) paid, the persons concerned will be authorised to remove their baggage from the secondary examination area.

3.3 **Outward Clearance – Documentation**

3.3.1 The pilot in command (or authorised agent) of an aircraft departing from a designated international airport, which is the first airport of departure from Australia, shall furnish the following documents to the ABF Officer:

a. Departure Report (electronic, lodged in the ICS) – The departure report is a prerequisite that must be satisfied before a certificate of clearance can be granted by the Department of Home Affairs. A departure report is a statement made by the pilot or owner of the aircraft, or an agent, to the Department of Home Affairs providing information concerning the proposed date and time of departure of the aircraft from an Australian airport. The departure report must be lodged electronically in the ICS prior to the departure of the aircraft.

   Main Manifest (electronic, lodged in the ICS) – The pilot or owner of the aircraft must communicate electronically to the ABF not later than three (3) days after the day of departure of the aircraft, an outwards manifest. The outwards manifest must specify all goods that were loaded on board the aircraft.

b. Export Permits (when required), covering cargo and stores laden on board.

Note: The ABF Officer where necessary (see 3.1.1) will sign and stamp the second copy of the General Declaration and return it to the pilot in command or authorised agent. The Department of Home Affairs will issue a certificate of clearance to the pilot of the aircraft upon completion of all reporting formalities (actual arrival report, report of stores and prohibited goods and departure report). The certificate of clearance gives permission for the aircraft to depart the airport.

3.3.2 When aircraft landing in Australia are in transit, the pilot in command or authorised agent will present documents for inward clearance as set out in *para 3.1.1* of this section. The ABF Officer will, where necessary *(see 3.1.1)* sign and stamp the General Declaration presented on arrival in Australia and return it to the pilot in command. A certificate of clearance will be provided to the pilot upon completion of all reporting formalities and permits the aircraft to depart the airport.

3.4 **Currency**

3.4.1 There is no limit to the amount of currency (notes and coins) that may be brought into, or taken out of, Australia. However, if persons are carrying currency of AUD$10,000 or more (or the foreign equivalent) into or out of Australia, they must declare this fact to an ABF Officer. Cross-Border Movement-Physical Currency (CMB–PC) reporting forms are available on request.

Note: If an ABF Officer or police officer asks, you must report traveller's cheques, cheques, money orders, or other bearer negotiable instruments of any amount.

3.5 **Passenger Examination**

3.5.1 The baggage of outward passengers may be subject to Customs examination.

A currency report mentioned in *para 3.4.1* above, where applicable, must be presented to the ABF Officer.

3.6 **Passenger Movement Charge (PMC)**

3.6.1 Passengers departing Australia are required to, subject to exemptions, pay the Passenger Movement Charge whether ticketed or not. See *GEN 4.1 para 2.*

3.7 **Department of Home Affairs Publications**

3.7.1 Information for visitors can be found on the Department's website via www.homeaffairs.gov.au/Trav/Visi/Info.

4. TRANSIT PASSENGERS – CLEARANCE REQUIREMENTS AND PROCEDURES WITHIN AUSTRALIA

4.1 **Immigration Requirements**

4.1.1 Passengers who are in direct transit on through–flights will not be required to complete Incoming Passenger Cards. This concession applies irrespective of whether the passengers are transiting on the same aircraft or whether, at the Australian airport, a different aircraft is substituted for the remainder of the flight. Direct transit passengers will need to hold an appropriate visa unless they meet requirements in *para 2.5.2*, in which case they will be taken to hold a special purpose visa.

4.1.2 Passengers disembarking in Australia (i.e. leaving the transit area) from such a through–flight must present passports/travel documents, visas, Incoming Passenger Cards and airline tickets evidencing confirmed onward booking to a third country.

4.1.3 Operators should note that a “through–flight” in this context is as defined in *Chapter 1 – Definitions and Applicability*, of ICAO *Annex 9 (Facilitation)* to the Convention on International Civil Aviation, viz:

“**Through–Flight**. A particular operation of aircraft, identified by the operator by the use throughout of the same symbol from point of origin via any intermediate points to point of destination.”

4.1.4 The “through–flight” definition implies a single operator and does not prevent the use of more than one aircraft for a through–flight. The recording of dual flight numbers, when applicable, should satisfy, for local purposes, the requirements of the definition in so far as retention of “the same symbol” from point of origin to point of destination is concerned.

4.1.5 Where international passengers leave the transit area and transfer to another international flight at the same airport, Incoming Passenger Cards, passport/travel documents and visas (unless within the exempt categories see *para 2.5.2*) are required to be presented.

4.2 **Department of Home Affairs Requirements – Transit Passengers Proceeding on the Same Aircraft**

4.2.1 Such passengers are not required to make a customs declaration provided they do not pass through a customs control point.

4.2.2 Personal hand baggage is to be interpreted as covering only normal personal requisites needed by the passenger for the period of the stopover. Such baggage, however, is liable to inspection.

4.2.3 Passengers, having other articles, may be required, at the discretion of an ABF Officer, to make a customs declaration.

4.3 **Department of Home Affairs Requirements – Transit Passengers Proceeding on Another Aircraft**

4.3.1 Such passengers who are to proceed to another country or Australian checkpoint on another aircraft from the same airport are not required to complete a customs declaration provided they do not pass through an ABF control point.

4.3.2 Passengers, having other articles, may be required, at the discretion of an ABF Officer, to make a Customs declaration.

4.4 **Department of Home Affairs Requirements – Personal Hand Baggage**

4.4.1 Normal personal requisites needed by a transit passenger for a period of a stopover are liable to ABF inspection.

4.5 **Department of Home Affairs Requirements - Cancelled or Aborted Flights Departing Australia**

4.5.1 Following the decision to cancel or abort a flight an airline representative must advise an ABF officer.

4.6 **Department of Home Affairs Requirements - Coordinating Traveller/Crew Processing**

4.6.1 The ABF officer and airline representative should coordinate passenger/crew processing by separating the passenger and crew groups of:

a. international traveller/crew transiting Australia

b. international traveller/crew originating from port of departure

c. international traveller/crew originating from another port in Australia

d. domestic travellers

e. unlawful non-citizens, including removees

4.7 **Department of Home Affairs Requirements - Passenger and Crew Manifests**

4.7.1 The airline representative should also hand over the following manifests to an ABF officer:

a. a manifest of travellers and crew in transit who are joining the flight, having departed from other ports in Australia

b. a manifest of travellers in transit who have arrived on an international flight and are connecting with another international flight

c. a flight interruption manifest or manifest of travellers/crew who have been offloaded onto alternate international flights rather than not departing. This will assist in reconciling traveller movements post processing.

5. LANDINGS AT DESIGNATED ALTERNATE AIRPORTS OR ELSEWHERE THAN AT DESIGNATED INTERNATIONAL AIRPORTS WITHIN AUSTRALIA

5.1 General

5.1.1 Landings elsewhere than at major international, restricted use international, and international non–scheduled flight airports may be divided into two categories:

a. landings at designated alternate airports to international airports; and

b. landings elsewhere than at a designated alternate airport which are made as a result of an emergency.

5.1.2 Under the requirements of the *Customs Act 1901* and the *Migration Act 1958*, an aircraft engaged on an international flight which has landed elsewhere than at a designated international airport, is required to proceed direct to a designated international airport where Customs and Immigration clearances can be completed. Biosecurity clearance is normally undertaken at the airport of entry.

5.1.3 For charter aircraft and other flights arriving at alternate airports or non–international airports see *section 8.3*.

6. LANDINGS MADE AT DESIGNATED ALTERNATE AIRPORTS TO INTERNATIONAL AIRPORTS

6.1 Designated Alternate Airports to International Airports

6.1.1 The following is a list of the designated Australian alternate airports (see also *GEN 1.2 para 2.3*):

Alice Springs	Gold Coast	Port Hedland
Avalon	Kalgoorlie	Rockhampton
Canberra	Launceston	Tindal
Coffs Harbour	Learmonth	Townsville

6.1.2 When a landing is to be made by an international aircraft at any of the alternate airports listed above, the Network Coordination Centre in Airservices Australia will notify the ABF Strategic Border Command Centre (SBCC) in the Department of Home Affairs. SBCC will notify its relevant Regional Command Centre and the Department of Agriculture and Water Resources. Procedures effective for each of the designated alternate airports will be as follows:

6.2 **Alice Springs Airport**

6.2.1 **Biosecurity.** Biosecurity officers of the Department of Agriculture and Water Resources are not permanently stationed at Alice Springs and this airport is serviced for international arrivals under a request for service arrangement. The Airline or its agent/representatives may be responsible for covering additional expenses relating to the positioning of biosecurity resources.

Animals and plants may not be landed at this airport unless an application has been made under *section 146* of the *Biosecurity Act 2015.*

6.2.2 **Customs and immigration.** ABF Officers of the Department of Home Affairs are not stationed permanently at Alice Springs Airport. Where safe to do so, it is preferable that crew and passengers remain on board the aircraft so they do not have to undergo security clearance when the flight resumes to the original airport of destination. The pilot may disembark to perform the necessary safety inspections. An airline representative may board with the relevant documents.

The relevant District Office or a Local Area Command in the ABF will be established and be responsible for coordinating the border agency response. It will establish ongoing communication with the airport, airline, Department of Agriculture and Water Resources biosecurity officers and Federal or State police if required. This will allow an assessment to be made as to whether there is a need for a border agency presence or other if other action is required.

An officer of the Northern Territory police (ABF representative) will have the responsibility to exercise surveillance over the aircraft while it is at the airport.

6.2.3 For onward movement of the aircraft see *sub-para 5.1.2*.

6.3 **Avalon Airport**

6.3.1 **Biosecurity.** Biosecurity officers of the Department of Agriculture and Water Resources are not permanently stationed at Avalon and this airport is serviced for international arrivals under a request for service arrangement.

Animals and plants may not be landed at this airport unless an application has been made under section 146 of the *Biosecurity Act 2015*. Goods of other kinds may not be landed except for personal effects as accompanied baggage.

6.3.2 **Customs and immigration.** ABF Officers of the Department of Home Affairs are not stationed permanently at Avalon Airport. Where safe to do so, it is preferable that crew and passengers remain on board the aircraft so they do not have to undergo security clearance when the flight resumes to the original airport of destination. The pilot may disembark to perform the necessary safety inspections. An airline representative may board with the relevant documents.

The relevant District Office or a Local Area Command in the ABF will be established and be responsible for coordinating the border agency response. It will establish ongoing communication with the airport, airline, Department of Agriculture and Water Resources biosecurity officers and Federal or State police if required. This will allow an assessment to be made as to whether there is a need for a border agency presence or other if other action is required.

6.3.3 For onward movement of aircraft see *sub-para 5.1.2*.

6.4 **Canberra Airport**

6.4.1 **Biosecurity, customs and immigration.** Biosecurity officers of the Department of Agriculture and Water Resources and ABF Officers of the Department of Home Affairs are not stationed permanently at Canberra Airport. The ACT Operational Command of the ABF will be responsible for coordinating the border agency response. It will establish ongoing communication with the airport, airline, Department of Agriculture and Water Resources biosecurity officers and Federal or State police if required.

6.4.2 For onward movement of aircraft see *sub-para 5.1.2*.

6.5 **Coffs Harbour Airport**

6.5.1 **Biosecurity.** Biosecurity officers of the Department of Agriculture and Water Resources are not stationed permanently at Coffs Harbour Airport and this airport is serviced for international arrivals under a request for service arrangement.

6.5.2 **Customs and immigration.** ABF Officers of the Department of Home Affairs are not stationed permanently at Coffs Harbour Airport. Where safe to do so, it is preferable that crew and passengers remain on board the aircraft so they do not have to undergo security clearance when the flight resumes to the original airport of destination. The pilot may disembark to perform the necessary safety inspections. An airline representative may board with the relevant documents.

The relevant District Office or a Local Area Command in the ABF will be established and be responsible for coordinating the border agency response. It will establish ongoing communication with the airport, airline, Department of Agriculture and Water Resources biosecurity officers and Federal or State police if required. This will allow an assessment to be made as to whether there is a need for a border agency presence or other if other action is required.

6.5.3 For onward movement of the aircraft see *sub-para 5.1.2.*

6.6 **Gold Coast Airport**

6.6.1 **Biosecurity, customs and immigration.** Biosecurity officers of the Department of Agriculture and Water Resources and ABF Officers of the Department of Home Affairs are stationed at Gold Coast Airport and will be available to grant overnight or full clearances, as required, provided reasonable advance notice of the diversion is given by Airservices Australia.

6.6.2 For onward movement of aircraft see *sub-para 5.1.2.*

6.7 **Kalgoorlie Airport**

6.7.1 **Biosecurity.** Biosecurity officers of the Department of Agriculture and Water Resources are not stationed permanently at Kalgoorlie and this airport is serviced for international arrivals under a request for service arrangement.

6.7.2 **Customs and immigration.** ABF Officers of the Department of Home Affairs are not stationed permanently at Kalgoorlie Airport. Where safe to do so, it is preferable that crew and passengers remain on board the aircraft so they do not have to undergo security clearance when the flight resumes to the original airport of destination. The pilot may disembark to perform the necessary safety inspections. An airline representative may board with the relevant documents.

The relevant District Office or a Local Area Command in the ABF will be established and be responsible for coordinating the border agency response. It will establish ongoing communication with the airport, airline, Department of Agriculture and Water Resources biosecurity officers and Federal or State police if required. This will allow an assessment to be made as to whether there is a need for a border agency presence or other if other action is required.

An officer of the West Australian police (ABF representative) will have the responsibility to exercise surveillance over the aircraft while it is at the airport.

6.7.3 For onward movement of the aircraft see *sub-para 5.1.2.*

6.8 **Launceston Airport**

6.8.1 **Biosecurity.** Biosecurity officers of the Department of Agriculture and Water Resources are not stationed permanently at Launceston and this airport is serviced for international arrivals under a request for service arrangement.

6.8.2 **Customs and immigration.** ABF Officers of the Department of Home Affairs are not stationed permanently at Launceston Airport. Where safe to do so, it is preferable that crew and passengers remain on board the aircraft so they do not have to undergo security clearance when the flight resumes to the original airport of destination. The pilot may disembark to perform the necessary safety inspections. An airline representative may board with the relevant documents.

The relevant District Office or a Local Area Command in the ABF will be established and be responsible for coordinating the border agency response. It will establish ongoing communication with the airport, airline, Department of Agriculture and Water Resources biosecurity officers and Federal or State police if required. This will allow an assessment to be made as to whether there is a need for a border agency presence or other if other action is required.

6.8.3 For onward movement of the aircraft see *sub-para 5.1.2.*

6.9 **Learmonth Airport**

6.9.1 **Biosecurity.** Biosecurity officers of the Department of Agriculture and Water Resources are not stationed permanently at Learmonth and this airport is serviced for international arrivals under a request for service arrangement. The Airline or its agent/ representatives may be responsible for covering additional expenses relating to the positioning of biosecurity resources to Learmonth.

Animals and plants may not be landed at this airport unless an application has been made under *section 146* of the *Biosecurity Act 2015*.

6.9.2 **Customs and immigration.** ABF Officers of the Department of Home Affairs are not stationed permanently at Learmonth Airport. Where safe to do so, it is preferable that crew and passengers remain on board the aircraft so they do not have to undergo security clearance when the flight resumes to the original airport of destination. The pilot may disembark to perform the necessary safety inspections. An airline representative may board with the relevant documents.

The relevant District Office or a Local Area Command in the ABF will be established and be responsible for coordinating the border agency response. It will establish ongoing communication with the airport, airline, Department of Agriculture and Water Resources biosecurity officers and Federal or State police if required. This will allow an assessment to be made as to whether there is a need for a border agency presence or other if other action is required.

An officer of the West Australian police (ABF representative) will have the responsibility to exercise surveillance over the aircraft while it is at the airport.

6.9.3 For onward movement of the aircraft see *sub-para 5.1.2*.

6.10 **Port Hedland Airport**

6.10.1 **Biosecurity, customs and immigration.** Biosecurity officers of the Department of Agriculture and Water Resources and ABF Officers of the Department of Home Affairs are stationed at Port Hedland but not at Port Hedland Airport. Where safe to do so, it is preferable that crew and passengers remain on board the aircraft so they do not have to undergo security clearance when the flight resumes to the original airport of destination. The pilot may disembark to perform the necessary safety inspections. An airline representative may board with the relevant documents.

The Port Hedland District Office of the ABF will be responsible for coordinating the border agency response. It will establish ongoing communication with the airport, airline, Department of Agriculture and Water Resources biosecurity officers and Federal or State police if required. This will allow an assessment to be made as to whether there is a need for a border agency presence or other if other action is required.

6.10.2 For onward movement of the aircraft see *sub-para 5.1.2.*

6.11 **Rockhampton Airport**

6.11.1 **Biosecurity.** Biosecurity officers of the Department of Agriculture and Water Resources are not stationed permanently at Rockhampton and this airport is serviced for international arrivals under a request for service arrangement.

6.11.2 **Customs and immigration.** ABF Officers of the Department of Home Affairs are not stationed permanently at Rockhampton Airport. Where safe to do so, it is preferable that crew and passengers remain on board the aircraft so they do not have to undergo security clearance when the flight resumes to the original airport of destination. The pilot may disembark to perform the necessary safety inspections. An airline representative may board with the relevant documents.

The relevant District Office or a Local Area Command in the ABF will be established and be responsible for coordinating the border agency response. It will establish ongoing communication with the airport, airline, Department of Agriculture and Water Resources biosecurity officers and Federal or State police if required. This will allow an assessment to be made as to whether there is a need for a border agency presence or other if other action is required.

6.11.3 For the onward movement of the aircraft, see *sub-para 5.1.2*.

6.12 **Tindal Airport**

6.12.1 **Biosecurity.** Biosecurity officers of the Department of Agriculture and Water Resources are not stationed permanently at Tindal and this airport is serviced for international arrivals under a request for service arrangement. The Airline or its agent/ representatives may be responsible for covering additional expenses relating to the positioning of biosecurity resources to Tindal.

No plants, animals or goods of any kind may be landed unless an exemption has been granted prior to the flight under section 146 of the *Biosecurity Act 2015*.

6.12.2 **Customs and immigration.** ABF Officers of the Department of Home Affairs are not stationed permanently at Tindal Airport. Where safe to do so, it is preferable that crew and passengers remain on board the aircraft so they do not have to undergo security clearance when the flight resumes to the original airport of destination. The pilot may disembark to perform the necessary safety inspections. An airline representative/RAAF personnel may board with the relevant documents.

The relevant District Office or a Local Area Command in the ABF will be established and be responsible for coordinating the border agency response. It will establish ongoing communication with the airport, airline, Department of Agriculture and Water Resources biosecurity officers and Federal or State police if required. This will allow an assessment to be made as to whether there is a need for a border agency presence or other if other action is required.

6.12.3 For the onward movement of the aircraft, see *sub-para 5.1.2*.

6.13 **Townsville Airport**

6.13.1 **Biosecurity, customs and immigration.** Biosecurity officers of the Department of Agriculture and Water Resources and ABF Officers of the Department of Home Affairs are stationed at Townsville but not at Townsville Airport. Where safe to do so, it is preferable that crew and passengers remain on board the aircraft so they do not have to undergo security clearance when the flight resumes to the original airport of destination. The pilot may disembark to perform the necessary safety inspections. An airline representative may board with the relevant documents.

The Townsville District Office of the ABF will be responsible for coordinating the border agency response. It will establish ongoing communication with the airport, airline, Department of Agriculture and Water Resources biosecurity officers and Federal or State police if required. This will allow an assessment to be made as to whether there is a need for a border agency presence or other if other action is required.

6.13.2 For the onward movement of the aircraft, see *sub-para 5.1.2*.

7. LANDING MADE OTHER THAN AT DESIGNATED ALTERNATE AIRPORT

7.1 If a landing is made other than at a designated international or international alternate airport, the pilot in command or the next senior crew member available, shall report the landing as soon as practicable to the Network Coordination Centre (NCC) in Airservices Australia. This notification may be made through aeronautical channels or if this method of communication is not available, by other means.

The NCC will notify the ABF Strategic Border Command Centre (SBCC) in the Department of Home Affairs. SBCC will notify its relevant Regional Command Centre and the Department of Agriculture and Water Resources biosecurity officers. Procedures for such landings are as follows:

Where safe to do so, it is preferable that crew and passengers remain on board the aircraft so they do not have to undergo security clearance when the flight resumes to the original airport of destination. The pilot may disembark to perform the necessary safety inspections. The relevant District Office or a Local Area Command in the ABF will be established and be responsible for coordinating the border agency response. It will establish ongoing communication with the airport, airline, Department of Agriculture and Water Resources biosecurity officers and Federal or State police if required. This will allow an assessment to be made as to whether there is a need for a border agency presence or other if other action is required.

7.1.1 The pilot in command is responsible for ensuring the following:

a. If pratique has not been granted to the aircraft at the previous landing, contact between other persons on the one hand and the passengers and crew on the other, is avoided.

b. Cargo, stores, baggage and mail, if required to be removed from the aircraft for safety reasons, must be deposited in a nearby area and remain there pending completion of the necessary formalities. Mail must be disposed of as is required pursuant to *para 7.4.4 of ICAO Annex 9 (Fourteenth Edition)*.

c. Any foodstuffs of overseas origin, or any plant material, are not removed from the aircraft except where local food is unobtainable. All food refuse including peelings, cores, stones of fruit, etc, must be collected and returned to the galley refuse container, the contents of which should not be removed from the aircraft except for hygiene reasons, in which case they must be destroyed by burning or deep burial.

7.1.2 Notwithstanding the provisions set out above, the pilot in command, while awaiting the instructions of the District Office or Local Area Command, or if unable to get in touch with such authorities, may take such emergency measures as deemed necessary for the health and safety of the passengers and crew, including the securing of suitable accommodation and the avoiding or minimising of loss or destruction to the aircraft itself and its load.

8. CHARTER FLIGHTS – GUIDELINES FOR CLEARANCE

8.1 General

8.1.1 The Department of Home Affairs coordinates the activities of Government border agencies involved in passenger processing for charter flights through the National Passenger Processing Committee (NPPC). The Department of Home Affairs chairs the NPPC and has the prime responsibility for processing applications for these flights through several internal areas.

8.2 Arrival/Departure at International Airports

8.2.1 Charter flights will be treated as normal commercial flights when they arrive or depart from the following approved international airports:

Adelaide	Gold Coast
Brisbane	Melbourne
Cairns	Perth
Darwin	Sydney

8.3 Arrival/Departure at Non–International Airports, and Restricted Use International Airports

8.3.1 As there is no full–time border agency presence at non–international airports or at Restricted Use International Airports (other than Gold Coast), air operators are required to obtain prior approval from the NPPC for flights into and out of these airports. Air operators should comply with the following procedures to enable timely consideration of border agency approval and clearances:

a. **Submit Written Application.** Give at least 10 business day's notification to the following address prior to the arrival of the charter:

The Chairman
National Passenger Processing Committee
Department of Home Affairs
Ph: 61 2 6246 1210
Email: nppc@homeaffairs.gov.au

The application should include itinerary, aircraft type, and estimated number of passengers/crew.

b. **Provide an Advance Passenger Information (API).** If the charter operator does not hold an International Air License (IAL), deliver, email or fax, a listing of passengers and crew to the ABF office at the first port of call at least four working days prior to the arrival of the charter. This listing should include family and given names, date of birth, gender, nationality and passport numbers. If the charter operator holds an IAL the operator should provide passenger and crew data through the Advance Passenger Processing (APP) system at check-in. For further information on using APP contact the Department of Home Affairs. For departures, deliver, email or fax, similar API data to the Department of Home Affairs (ABF) office at the last port of call at least one working day prior to the departure of the charter.

c. **Remit Passenger Movement Charge (PMC).** Collect AUD$60 PMC from all liable passengers and remit to the Department of Home Affairs in accordance with the conditions contained within the PMC Arrangement. Payment should be made in Australian currency by electronic funds transfer to the Department of Home Affairs Passenger Movement Charge. Commonwealth Bank of Australia SWIFT: CTBAAU2S; BSB 062-987; Account Number 10020668 or by cheque mailed to Passenger Movement Charge Unit, Department of Home Affairs. GPO Box 2809, Melbourne VIC 3001 Australia.

d. **Pay Other Costs.** Pay any border agency clearance costs which may be applicable and which fall outside those covered by PMC. This will vary from charter to charter and will be dependent on airport location and arrival/departure time, e.g. officer travel, accommodation, overtime and potential airport infrastructure changes which may be necessary to provide a secure processing environment. Separate accounts will be submitted by the Department of Home Affairs after completion of the charter operation.

8.4 **Processing of the Application**

8.4.1 Following receipt of the application from the charter operator, the Department of Home Affairs will liaise with relevant border agencies and the Department of Infrastructure regarding approval to land, resource implications, and the adequacy of the airport terminal facilities for processing passengers from the charter flight.

8.4.2 As soon as practicable, but normally within five working days after receipt of the application, the Department of Home Affairs will formally notify the air operator of the NPPC decision and any conditions, as well as an estimation of the border agency costs.

8.4.3 The appropriate regional ABF office will then contact the charter operator to discuss processing arrangements.

9. DESIGNATED INTERNATIONAL AIRPORTS – AUSTRALIAN EXTERNAL TERRITORIES – ENTRY AND DEPARTURE REQUIREMENTS AND PROCEDURES

9.1 Department of Agriculture and Water Resources Biosecurity Requirements for External Territories:

9.2 The *Biosecurity Act 2015* extends to the external Territories of Christmas Island, Cocos (Keeling) Islands and Norfolk Island.

All aircraft (including aircraft from Australia) arriving at Christmas Island, Cocos (Keeling) Islands and Norfolk Island are required to meet the first point of entry, disinsection, pre-arrival reporting, mandatory passenger announcement and pratique requirements outlined in the *Biosecurity Act 2015* and subordinate legislation, including the *Biosecurity Regulations 2016* and the *Biosecurity (Human Health) Regulation 2016*.

Christmas Island, Cocos (Keeling) Islands and Norfolk Island each have their own goods determination which outlines the import conditions for goods that are to be brought or imported into these external Territories. These determinations can be found on the Federal Register of Legislative Instruments website:

Biosecurity (Prohibited and Conditionally Non-prohibited Goods – Norfolk Island) Determination 2016

Biosecurity (Conditionally Non-prohibited Goods – Christmas Island) Determination 2016

Biosecurity (Conditionally Non-prohibited Goods – Cocos (Keeling) Islands) Determination 2016

For further information, refer to *para 2.4* above.

9.2.1 **External Territory International Airports**

9.2.2 The following is a list of the designated Australian External Territory International Airports
(see also *GEN 1.2 sub-section 2.5):*

Christmas Island
Cocos (Keeling) Island
Norfolk Island

Note: Operations by aircraft at the above airports are limited to the pavement strengths shown against these airports in AIP ERSA. Prior application must be made for a pavement concession when this is necessary.

9.3 **Territory of Christmas Island**

Notes:

a. *At least 24 hours notice is required for all unscheduled flights into Christmas Island. Airport staff are on–call 24 hours, 7 days a week.*

b. *Landing charges are levied.*

c. *The aerodrome is licensed for night operations; however there are restrictions on types and sizes of aircraft (See ERSA).*

d. *Notice of intended flights should be faxed to the Airport Operations on 08 9164 8485 (International: +61 8 9164 8485), or be forwarded by email to christmas.airport@tollgroup.com.*

e. *If fuel is required at Christmas Island (Jet–A1 only available), this should be indicated in the flight notification. Payment is required in cash or by Air BP carnet. Local Air BP phone number is +61 4 1964 4277.*

9.3.1 **Summary of Documents to be Presented by Pilot or Authorised Agent**

a. **On Arrival:**

General Declaration (showing names of crew)	2 copies
Passenger Manifest	2 copies
Cargo Manifest	2 copies
Customs Clearance (from last airport)	2 copies

b. **On Departure:**

General Declaration (showing names of crew)	1 copy
Cargo Manifest	1 copy
Customs Clearance	1 copy

9.4 **Immigration Requirements – Christmas Island**

9.4.1 Normal Australian immigration procedures apply when entry is made from outside Australia. All non-citizens must hold visas prior to arrival at Christmas Island when entering from outside Australia.

9.4.2 No passports or visas are required when arriving on Christmas Island from the Australian mainland or Tasmania; however, some form of government–issued identification must be produced for clearance through Customs/Immigration; e.g. Medicare Card or Driver Licence.

9.5 **Customs Requirements – Christmas Island**

9.5.1 **Inwards.** Each passenger must declare all prohibited imports.

9.5.2 **Outwards.** No special requirements to be met.

9.6 **Passenger Movement Charge – Christmas Island**

9.6.1 **Inwards**. Passengers travelling to Christmas Island (from Australia) and depart Christmas Island for another country are required to, subject to valid exemptions, pay the Passenger Movement Charge whether ticketed or not. See *para 3.6.1.*

9.6.2 **Outwards.** Passengers departing from an Indian Ocean Territory other than mainland Australia are required to, subject to valid exemptions, pay the Passenger Movement Charge whether ticketed or not. See *para 3.6.1.*

9.7 **Territory of Cocos (Keeling) Island**

Notes:

a. *At least 24 hours notice is required for all flights arriving at Cocos (Keeling) Islands. Airport staff are on-call 24 hours.*

b. *Landing charges are levied.*

c. *The aerodrome is licensed for night operations; however, there may be restrictions on the type and size of aircraft.*

d. *Notice of intended flights can be given to the Airport Operations, phone 08 9162 6536, fax 08 9162 6610, or email cocos.airport@tollgroup.com.*

e. If fuel is required at Cocos (Keeling) Islands only JET A1 is available and the estimated quantity must be advised in advance. Fuel to be paid by Shell Carnet, World Fuel Services UVair card, Jetex FZE or VISA/Mastercard. The refuelling agent for Viva Energy Aviation can be contacted at: phone: +61 8 9162 6742, Fax: +61 8 9162 6682 or mobile: 0406 329 040. Email: shellcocos@bigpond.com steve.wedlake@vivaenergy.com.au

9.8 **Immigration Requirements – Cocos (Keeling) Island**

9.8.1 Normal Australian immigration procedures apply when entry is made from outside Australia. All non-citizens must hold visas prior to arrival at Cocos (Keeling) Island when entering from outside Australia.

9.8.2 No passports or visas are required when arriving on Cocos (Keeling) Island from the Australian mainland or Tasmania; however, some form of identification must be produced for clearance through Customs/Immigration in Perth (e.g. Medicare Card) unless intending to depart Cocos (Keeling) for a foreign country.

9.8.3 There are no statutory restrictions on visits to Cocos (Keeling). The only prerequisite to travel is that accommodation must be confirmed prior to departure.

9.9 **Customs Requirements – Cocos (Keeling) Island**

9.9.1 **Inwards.** Passengers must complete an Incoming Passenger Card for both Customs and Immigration purposes. The card includes a Customs declaration.

9.9.2 **Outwards.** Passengers departing Cocos (Keeling) Island for another country are required to pay the Passenger Movement Charge whether ticketed or not. See *para 3.6.1*.

9.10 **Passenger Movement Charge – Cocos (Keeling) Island**

9.10.1 **Inwards.** Passengers travelling to Cocos (Keeling) Island (from Australia) and who intend to depart from there for a country other than Australia are required to, subject to valid exemptions, pay the Passenger Movement Charge whether ticketed or not. See *para 3.6.1*.

9.10.2 **Outwards.** Passengers departing for other than mainland Australia are required to, subject to exemptions, pay the Passenger Movement Charge whether ticketed or not. See *para 3.6.1*.

9.11 **Territory of Norfolk Island**

Notes:

a. At least 24 hours notice is required for all flights arriving at Norfolk Island. Airport staff are on-call 24 hours.

b. Landing charges are levied

c. The aerodrome is licensed for night operations; however, there may be restrictions on the type and size of aircraft

d. Notice of intended flights can be given to the Airport Operations, phone +672 353 006. A fax can be sent to +672 323 201 and must be addressed to the correct area, ABF or Airport Operations.

9.12 **Summary of Documents to be Presented by Pilot or Authorised Agent**

a. **On Arrival**

General Declaration (showing names of crew)	2 copies
Passenger Manifest	2 copies
Cargo Manifest	2 copies
Customs Clearance (from last airport)	2 copies

b. **On Departure**

General Declaration (showing names of crew)	1 copy
Cargo Manifest	1 copy
Customs Clearance	1 copy

9.13 **Immigration Requirements - Norfolk Island**

9.13.1 Normal Australian immigration procedures apply when entry is made from outside Australia. All non-citizens must hold visas prior to arrival at Norfolk Island when entering from outside Australia.

9.13.2 No passports or visas are required when arriving on Norfolk Island from the Australian mainland or Tasmania; however, some form of government issued identification must be produced for clearance through Customs/Immigration, e.g. Medicare Card or Driver Licence.

9.13.3 Please note: All passengers and crew travelling from New Zealand must clear immigration when the aircraft arrives in mainland Australia (Sydney, Brisbane, Melbourne etc.) when travelling to Norfolk Island via the mainland.

9.13.4 Airlines flying from New Zealand should not provide boarding passes to a passenger all the way through to Norfolk Island if the flight first arrives in mainland Australia. Passengers should collect bags and check-in at a domestic airport to travel to Norfolk Island.

9.14 **Customs Requirements - Norfolk Island**

9.14.1 **Inwards.** Each passenger must declare all prohibited imports.

9.14.2 **Outwards.** No special requirements to be met.

9.15 **Passenger Movement Charge - Norfolk Island**

9.15.1 **Inwards.** Passengers travelling to Norfolk Island (from Australia) and depart Norfolk Island for another country are required to, subject to valid exemptions, pay the Passenger Movement Charge whether ticketed or not. See para *3.6.1.*

9.15.2 **Outwards.** Passengers departing from a Pacific Ocean Territory other than mainland Australia are required to, subject to valid exemptions, pay the Passenger Movement Charge whether ticketed or not. See para *3.6.1.*

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GEN 1.4 ENTRY, TRANSIT AND DEPARTURE OF CARGO

1. CUSTOMS REQUIREMENTS

1.1 The cargo report is used to report the particulars of all goods (including mail, in-transit and transhipment cargo) that a cargo reporter has arranged to be carried to Australia and that are intended to be offloaded in Australia. The cargo report is also used to report goods that a cargo reporter has arranged to be carried on an aircraft and that will be kept on board the aircraft.

The carrier (airline) is required, as the first cargo reporter, to report to the Department of Home Affairs the full detail of cargo for which they are directly responsible. They are also required to notify the Department of Home Affairs of any cargo carried on behalf of another cargo reporter.

1.2 The cargo report must be lodged electronically in the Integrated Cargo System (ICS) at least two (2) hours prior to the estimated time of arrival of the aircraft.

1.3 When an aircraft has arrived at an airport in Australia, the operator must report to the Department of Home Affairs, the particulars of the aircraft's stores and of any prohibited goods contained in those stores at the time of arrival. The report of aircraft stores and prohibited goods must be made within three (3) hours of the arrival of the aircraft or before the certificate of clearance is issued, whichever happens first.

1.4 Import declarations are used to clear goods with a value exceeding AUD$1,000 from ABF control. Import declarations are communicated to the Department of Home Affairs electronically via the Integrated Cargo System (ICS) or by lodgement of a completed import declaration form (B650) at an ABF counter.

1.5 A self-assessed clearance (SAC) declaration must be made for imported goods arriving by air cargo valued at or below AUD$1,000.

1.6 All air cargo consignments of diplomatic and consular goods require a cargo report and, if valued above AUD$1,000 an import declaration must be submitted to the Department of Home Affairs. All diplomatic and consular goods are exempt from duty and taxes and cost recovery charges provided the goods meet all the Department of Home Affairs and the Department of Agriculture and Water Resources Biosecurity legislative requirements including the Customs (Prohibited Imports) Regulations and the Department of Agriculture and Water Resources Biosecurity Regulations. The B615 form must be provided to the Department of Home Affairs for the release of privileged imports from ABF control. Diplomatic/Consular Mail/ Pouch/Bags do not require an import declaration.

1.7 All transhipment cargo must be reported on a cargo report, lodged electronically in the ICS at least two (2) hours prior to the estimated time of arrival of the aircraft. When a cargo report is submitted showing the cargo has a discharge port as an Australian port, but the destination port is not an Australian port, the ICS recognises that ultimately the cargo is destined for a place outside Australia. The ICS assigns the cargo report transhipment status and will automatically generate a Transhipment Number. A Transhipment Number is a valid Customs Authority Number (CAN) for the purposes of export and must be quoted in an export manifest.

1.8 **Departure Report.**

The departure report is a prerequisite that must be satisfied before a certificate of clearance can be granted by the Department of Home Affairs. A departure report is a statement made by the pilot or owner of the aircraft, or an agent, to the Department of Home Affairs providing information concerning the proposed date and time of departure of the aircraft. The departure report must be lodged electronically in the ICS.

1.9 **Outwards Manifest.**

The pilot or owner of the aircraft must communicate electronically, in the ICS, to the Department of Home Affairs, not later than three (3) days after the day of departure of the aircraft, an outwards manifest.

The outwards manifest must specify all goods that were loaded on board the aircraft.

1.10 Air cargo being exported from Australia must be reported to ABF by the pilot or owner of the aircraft in the form of an outward manifest. This is normally done in electronic format using the ICS, or by submitting a manual form to the ABF.

1.11 The exporter must lodge an export entry with ABF ICS and obtain a "clear" Export Declaration Number (EDN) before the cargo may be loaded for export. An EDN is required for the following:

a. goods requiring a permit (regardless of value);

b. goods on which a drawback is to be claimed;

c. customable and excisable goods on which duty/excise has not been paid; and

d. goods with a value greater than AUD$2,000, except exempt goods.

1.12 A Main Manifest Number (MMN) is supplied by ABF.

2. DEPARTMENT OF AGRICULTURE AND WATER RESOURCES BIOSECURITY REQUIREMENTS

2.1 The *Biosecurity Act 2015* was enacted on 16 June 2016. The Department of Agriculture and Water Resources and its officers undertake functions and duties and exercising powers pursuant to the *Biosecurity Act 2015*.

2.2 Imported air cargo of biosecurity interest (such as fruit and vegetables, live plants, seeds, animal, avian and aquatic species or commodities derived from these products) must be reported via the ABF ICS System.

2.3 Import Permits, sanitary certificates or related documents are required for imported cargo of biosecurity interest; as outlined in the Department of Agriculture and Water Resources Biosecurity Import Conditions Database (BICON).

2.4 Transport and packaging requirements for live animal, avian and aquatic species are specified in the International Air Transport Association – Live Animal Regulations.

2.5 An import declaration is required to be lodged for each imported consignment of biosecurity interest prior to release of cargo.

2.6 Importers should note that all biosecurity inspections, permits or entries carry a government charge.

3. DEPARTMENT OF HOME AFFAIRS, AVIATION AND MARITIME SECURITY DIVISION - INTERNATIONAL AIR CARGO SECURITY REQUIREMENTS

3.1 The *Aviation Transport Security Act 2004* (ATSA) was introduced to replace *Part 3* of the *Air Navigation Act 1920 (repealed)*. The ATSA and the *Aviation Transport Security Regulations 2005* (the Regulations) establish a regulatory framework to safeguard against unlawful interference with civil aviation and maintain and improve aviation security.

3.2 Supply chain security for air cargo is regulated under the ATSA and the Regulations, which require certain air cargo supply chain industry participants to hold and maintain approved security programs. Operating under the Regulated Air Cargo Agent (RACA) scheme, the Accredited Air Cargo Agent (AACA) scheme and the Known Consignor scheme, security programs set out the measures and procedures industry participants need to implement to meet their obligations under the ATSA and Regulations.

3.3 All international air cargo is required to be screened (examined) with technology or by physical examination. From July 1 2017, all United States bound air cargo must be examined at a piece level (meaning that each individual box, carton or other item in a shipment must be examined at a deconsolidated level). For destinations other than the United States, the cargo may be examined 'as presented' (i.e. at a consolidated level).

3.4 As an alternative to examination using technology or physical examination, an approved Known Consignor may originate cleared cargo, which means goods must be produced, packaged, stored, transported and handled in a manner that ensures their integrity and protects them from unlawful interference from their point of origin through to loading onto an aircraft.

3.5 In order for an item of cargo to be loaded onto an international aircraft, that cargo must be issued with a security declaration from a Known Consignor or RACA.

GEN 1.5 AIRCRAFT INSTRUMENTS, EQUIPMENT AND FLIGHT DOCUMENTS

1. RADIO COMMUNICATIONS SYSTEMS

1.1 Aircraft must be equipped with radio communications systems capable of continuous communication according to the flight classification and airspace category. The systems specified in the following table are the minimum required for the particular operation and except where otherwise indicated must be of a type approved by the CASA, properly installed in the aircraft and serviceable on the departure of the flight.

CLASS	AIRSPACE	COM RQMNTS	REMARKS
RPT	Classes A, C, D, E & G	VHF and HF or 2VHF	See *paras 1.2 to 1.4, 1.6 & 1.7.*
CHTR	Classes A, C, D, E & G	VHF HF	See *para 1.2.* When VHF does not allow continuous communication with ATS at all stages of flight. See *paras 1.3, 1.4, 1.6 & 1.7.*
IFR	Classes A, C, D, E & G	VHF HF	See *para 1.2*. When beyond VHF range of ATS units. See *paras 1.3 & 1.6*.
NGT VFR	Classes A, C, D, E & G	VHF	See *para 1.2*.
VFR	Classes A, C, D & E	VHF	See *para 1.2*.
VFR	Class G – 5,000FT and above	VHF	See *para 1.2* and *1.5*.

CLASS	AIRSPACE	COM RQMNTS	REMARKS
VFR	Class G – at those aero-dromes where the carriage and use of radio is required	VHF	See *paras 1.2 & 1.5*.
VFR	Class G – below 3,000FT AMSL or 1000FT AGL	VHF	In reduced VMC. See *paras 1.2 & 1.5*.
GLIDERS	Class G	VHF	Operations at aerodromes serviced by RPT. See *para 1.5*.

1.2 VHF communications systems must be capable of communication on all VHF frequencies required to meet the reporting and broadcast requirements of *ENR 1.1 para 6.1*.

1.3 HF communications systems must:

a. be capable of operation at those frequencies appropriate to the area of operation as specified in the *AIP ERSA*;

b. have a selectable frequency range that is sufficient to enable continuous communication with ATS units for the planned duration of the flight or while operating within the specified area, taking into account the expected radio propagation conditions during the period of operation; and

c. be capable of delivering a peak envelope power to the antenna transmission line of at least 100 watts and not greater than 400 watts under standard conditions.

1.4 At least one item of the required radio equipment must be capable of maintaining continuous communication with ATS at all stages of flight. The term “all stages of flight” includes ground operations at the aerodromes of departure and arrival, and cruising levels that could be required for any emergency and/or abnormal operation en route.

However, where continuous communication using VHF can be maintained for normal operations, but cannot be guaranteed in the event of emergency and/or abnormal operations en route, SATCOM telephone may be used instead of HF provided the Operator has applied to CASA in writing, and been given specific approval, documenting that all relevant maintenance, operational and logistic aspects have been considered and has or will be implemented, including that:

a. routes are selected so that the anticipated period beyond VHF coverage, in the event of emergency and/or abnormal operation, does not exceed 30 minutes;

b. appropriate pre-flight checks have been incorporated in the aircrew check list and forms part of the company's operating procedures;

c. the system is equipped with an external antenna and operated via a common VHF headset/microphone;

d. SATCOM telephone transmissions will be recorded by the Cockpit Voice Recorder;

e. the system is inter-operable with existing NAV systems;

f. power can be removed from the system;

g. defect reports will be issued and dispatched as for other COM systems; and

h. the system has been incorporated in the Minimum Equipment List.

Note: SATCOM telephone contact procedures are described in the AIP at GEN 3.4 paragraph 3.6.3. Additionally, to facilitate ATC initiated calls to aircraft during contingencies, the phone number of the aircraft may be included in Field 18 of the flight plan. Any pre-flight radio check of the SATCOM telephone should be made to the pilot's company to avoid congesting ATC lines.

1.5 An Australian Communications and Media Authority approved and licensed hand-held VHF radio may be used by pilots of:

a. VFR PVT and AWK aeroplanes with a MTOW not exceeding:

(1) in the case of an aeroplane other than a seaplane – 600KG;

(2) in the case of a seaplane – 650KG;

b. gliders; and

c. balloons

Additionally, approved hand-held radios may be used by pilots of these aircraft when operating in Class G. Pilots are responsible for ensuring that the equipment is able to be operated without adversely affecting the safety of the aircraft. The location of the antenna must be such that airframe shielding does not prevent two way communication with all aircraft operating on the CTAF. Where the radio is not connected to the aircraft primary power supply, there must be ready access to back-up power.

1.6 *Planning Chart Australia (AUS PCA)* shows the areas in which an aircraft, flying at the altitudes indicated, could be expected to maintain continuous VHF communications with an ATS unit.

1.7 RPT, CHTR and AWK aircraft are exempt from the requirement to carry HF radio for communication with ATS when:

a. radio contact can be maintained with an appropriately trained company representative able to communicate by telephone with ATS, and

b. the requirements of *ENR 1.1 para 10.1.1* are satisfied.

1.8 Private aircraft without radio may be admitted to CTRs for maintenance subject to the approval of the appropriate ATC unit. Pilots must comply with any conditions contained in the approval.

2. RADIO NAVIGATION SYSTEMS

2.1 Subject to *para 2.2*, the following table summarises the navigation aid requirements for aircraft operated under the IFR or at night under the VFR:

KIND OF OPERATION	SYSTEMS		CONDITIONS
	NO	TYPE	
RPT and CHTR	1	GNSS receiver in accordance with: (E)TSO-C129, (E)TSO-C145, (E)TSO-C146 or (E)TSO-C196a, or a later version	If GNSS equipment in accordance with (E)TSO-C129 is used and if an alternate aerodrome must be planned: a. navigation to the alternate aerodrome should be accomplished by use of ground-based navigation aids; and b. the alternate aerodrome should have a suitable approach that uses ground-based navigation aids, or the alternate aerodrome must be suitable for approach in VMC.
	and 1	ADF or VOR	
	or 2	GNSS receivers in accordance with: (E)TSO-C145, (E)TSO-C146 or (E)TSO-C196a, or a later version	
	or 1	Multi-sensor navigation system that includes GNSS and inertial integration	Must be approved by CASA as providing an alternate means of compliance to the requirements of *CAO 20.18 para 9D.9*

KIND OF OPERATION	SYSTEMS		CONDITIONS
	NO	TYPE	
AWK and PVT	1	GNSS receiver in accordance with: (E)TSO-C129, or a later version	If GNSS equipment in accordance with (E)TSO-C129 is used and if an alternate aerodrome must be planned: a. navigation to the alternate aerodrome should be accomplished by use of ground-based navigation aids; and b. the alternate aerodrome should have a suitable approach that uses ground-based navigation aids, or the alternate aerodrome must be suitable for approach in VMC.
	and 1	ADF or VOR	
	or 1	GNSS receiver in accordance with: TSO/ETSO-C145, TSO/ETSO-C146 or (E)TSO-C196a, or a later version	
	or 1	Multi-sensor navigation system that includes GNSS and inertial integration	Must be approved by CASA as providing an alternate means of compliance to the requirements of *CAO 20.18 para 9D.9*

KIND OF OPERATION	SYSTEMS		CONDITIONS
	NO	TYPE	
NGT VFR	1	ADF, VOR, or GNSS in accordance with: (E)TSO-C129, (E)TSO-C145, (E)TSO-C146 or (E)TSO-C196a, or a later version	
ILS and localiser	1	75MHz marker beacon receiver	Not required for CAT I operations when serviceable DME or GNSS is fitted and glideslope guidance and accuracy can be checked by reference to DME information provided on the appropriate instrument approach chart.

Note 1: Additional radio navigation equipment may be required to meet the navigation requirements for ENR 1.1 para 4.1 and the alternate requirements of ENR 1.1 para 11.7.3, depending on the navigation aids available and the weather conditions prevailing over the planned route and at the destination.

Note 2: GNSS receivers that comply with the radio navigation aid requirements for IFR or night VFR navigation specified in para 2.1 may be used instead of DME for instrument approaches for which DME is required subject to the following conditions:

a. the substitute DME reference position can be selected from the data base; and

b. the reference position used is annotated on the approach chart

2.2 The table below summarises navigation air requirements if, despite carrying navigation aids meeting the requirements of *CAO 20.18* (as summarised in *para 2.1*), an IFR aircraft conducts the route or terminal segments of a flight by reference to ground-based navigation aids:

KIND OF OPERATION	SYSTEMS		CONDITIONS
	NO	TYPE	
RPT and CHTR	2 and 1	ADF or VOR DME or GPS	At least one is a type that enables navigation using ground-based navigation aids available on the route.
	or 2	ADF or VOR	Applicable only to CHTR, 5,700KG or less MTOW, for operations in controlled airspace - at least one is a type that enables navigation using ground-based navigation aids available on the route.
	or 1	ADF or VOR	Applicable only to CHTR, 5,700KG or less MTOW, for operations in non-controlled airspace.
AWK and PVT	2 and 1	ADF or VOR DME or GPS	Applicable only to AWK, more than 5,700KG MTOW, for operations in controlled airspace - at least one is a type that enables navigation using the ground-based navigation aids available on the route.
	or 2	ADF or VOR	Applicable only to AWK, 5,700KG or less MTOW, or PVT for operations in controlled airspace - any combination which includes at least 1 ADF or VOR.
	or 1	ADF or VOR	Applicable only to AWK, 5,700KG or less MTOW, or PVT for operations in non-controlled airspace

Note 1: Para 2.2 does not relieve the aircraft from the requirement to carry navigation aids that meet the requirement of CAO 20.18 as summarised in para 2.1.

Note 2: Additional radio navigation equipment may be required to meet the navigation requirements for ENR 1.1 para 4.1 and the alternate requirements for ENR 1.1 para 11.7.3, depending on the navigation aids available and the weather conditions prevailing over the planned route and at the destination.

Note 3: Aircraft may continue to operate with unserviceable DME and GPS equipment in Class G airspace. In controlled airspace, where ATC uses surveillance as the primary means of separating aircraft, operation with unserviceable DME or GPS is permitted if the aircraft is fitted with a serviceable secondary surveillance radar (SSR) transponder or ADS-B OUT such as to enable the aircraft to be, and remain, identified. This does not relieve the aircraft from the requirement for ADF or VOR equipment.

Note 4: In this table, GPS means GNSS equipment certified to TSO-C129, TSO-C145, TSO-C146 or equivalent as determined by CASA.

2.3 **Rated Coverages**

The following ranges are quoted for planning purposes. Actual ranges obtained may sometimes be less than these due to facility and site variations (see *ERSA*). The localiser ranges are for those installations that have been nominated for position fixing at ranges beyond 25NM:

a. NDB (published in *ERSA*);

b. VOR and DME

Aircraft Altitude (FT)	Range (NM)
Below 5,000	60
5,000 to below 10,000	90
10,000 to below 15,000	120
15,000 to below 20,000	150
20,000 and above	180

c. localiser

Aircraft Altitude (FT)	Range (NM)
At 2,000 AGL within ±10° of course line	25
Below 5,000	30
5,000 and above	50

d. **GBAS course deviation limitation**

GLS course deviation information is not available outside 23NM from the GBAS site.

3. EMERGENCY LOCATOR TRANSMITTER (ELT)

3.1 International flights must be equipped with ELTs as follows:

a. When over water, in accordance with the relevant ICAO Standard and Recommended Practices (SARPS) which are:

(1) for International Commercial Air Transport, *paras 6.17.1 to 6.17.3 of ICAO Annex 6, Part 1, International Commercial Air Transport – Aeroplanes*;

(2) for International General Aviation, *paras 6.12.1 to 6.12.3 of ICAO Annex 6, Part II, International General Aviation – Aeroplanes*; and

(3) for Helicopters, *Section II, paras 4.7.1 to 4.7.3 of ICAO Annex 6, Part III International Operations – Helicopters.*

b. When over land, in accordance with the relevant ICAO Standard and Recommended Practices (SARPS) which are:

(1) for International Commercial Air Transport, *paras 6.17.4 to 6.17.6 of ICAO Annex 6, Part 1, International Commercial Air Transport – Aeroplanes*;

(2) for International General Aviation, *para 6.12.4 to 6.12.6 of ICAO Annex 6, Part 2, International General Aviation – Aeroplanes*; and

(3) for Helicopters, Section II, *para 4.7.4 to 4.7.6 of ICAO Annex 6, Part III International Operations – Helicopters*, as applicable.

For these purposes, the whole of Australia is a designated area.

3.2 Australian aircraft (except exempted aircraft) are required to be fitted with or to carry an ELT which meets the requirements of *CAR 252A*. Pilots should monitor 121.5MHz before engine start and after shutdown. Reception of an ELT transmission must be reported to ATS or the RCC immediately. Domestic flights are required to carry survival radio equipment in accordance with *CAO 20.11*.

4. AIRBORNE WEATHER RADAR

4.1 IFR RPT and CHTR aircraft which are required to be crewed by two or more pilots must be fitted with an approved airborne weather radar system. Unpressurised turbine engine aircraft with a maximum take-off weight of not greater than 5,700KG and unpressurised piston engine aircraft are exempt from this requirement.

4.2 Serviceability of Airborne Weather Radar

4.2.1 An aircraft which is required to be fitted with an airborne weather radar system must not depart if the radar is unserviceable and available forecasts indicate probability of thunderstorms or cloud formations associated with severe turbulence anywhere along the route to be flown, including the route to a planned alternate.

4.2.2 An aircraft which is required to be fitted with an airborne weather radar system which becomes unserviceable during a flight may continue that flight so long as the aircraft avoids penetration of any cloud formation likely to be associated with severe turbulence.

5. GROUND PROXIMITY WARNING SYSTEM (GPWS)

5.1 A turbine engine aeroplane that:

a. has a maximum take-off weight of more than 15,000KG, or is carrying 10 or more passengers; and

b. is engaged in regular public transport, or charter, operations;

must not be operated under the Instrument Flight Rules unless it is fitted with:

(1) an approved GPWS that has a predictive terrain hazard warning function; or

(2) if the aeroplane has a maximum take-off weight of 5,700KG or less, but is carrying 10 or more passengers - a TAWS-B+ system.

5.2 Subject to the provisions of an approved Minimum Equipment List (MEL) under *para 10 of CAO 20.18*, an aeroplane required to be fitted with a GPWS shall not depart with that equipment unserviceable from an aerodrome where facilities are available to repair or replace the GPWS and in no case shall an aeroplane be operated with its GPWS unserviceable for a period exceeding 24 hours from the time the equipment was determined to be unserviceable.

6. ATS SURVEILLANCE

6.1 Aircraft Requirements

6.1.1 Aircraft must be fitted with a serviceable Mode A and Mode C, or Mode S, SSR transponder for operations as follows:

a. All aircraft within classes A, B and C airspace, and any class of airspace at or above 10,000FT AMSL.

b. All aircraft, except aircraft operating to the VFR which are not fitted with an engine driven electrical system capable of continuously powering a transponder, within Class E airspace below 10,000FT AMSL.

6.1.2 For Mode S equipped aircraft, transmitted Aircraft Identification must exactly match the Aircraft Identification shown in Item 7 of the filed Flight Notification or, when no flight notification has been filed, the aircraft registration.

Note 1: Mode C and Mode S operation requires the provision of pressure altitude information to the transponder equipment.

Note 2: Procedures for operational use of SSR transponders and transponder codes are detailed at ENR 1.6 para 7.

Note 3: Currently, some aircraft (that are not capable of powering a transponder) may be operating without a transponder in Class E airspace and Class G airspace. There may also be occasions where aircraft without a transponder operate in Class A airspace, in which case they will be separated from other aircraft by ATC.

6.1.3 **ADS-B Equipment**

6.1.3.1 IFR aircraft must carry serviceable ADS-B transmitting equipment that complies with an approved equipment configuration.

Note: In some circumstances, authorisation may be available for aircraft engaged in private operations without ADS-B transmitting equipment. See Instrument CASA 114/16 (www.casa.gov.au/files/casa16114pdf) for conditions.

6.1.3.2 An aircraft, which is fitted for serviceable ADS-B transmitting equipment that complies with an approved equipment configuration, must operate the equipment continuously during the flight in all airspace at all altitudes unless the pilot is directed or approved otherwise by ATC.

6.1.3.3 An aircraft fitted with non-compliant ADS-B transmitting equipment must not fly in Australian-administered airspace unless the equipment is:

a. deactivated; or

b. set to transmit only a value of zero for the NUCp or NIC; or

c. operated under the provisions of *para 6.1.3.4.*

Note: It is considered equivalent to deactivation if NUCp or NIC is set to continually transmit only a value of zero.

6.1.3.4 An aircraft, fitted with non-compliant ADS-B transmitting equipment, may operate without the equipment deactivated under all of the following conditions:

a. the aircraft is undertaking an ADS-B test flight;

b. the flight is conducted in VMC; and

c. the operation is below FL290.

6.1.3.5 Aircraft with demonstrated non-complying ADS-B transmissions will be notified by ATC at the time of detection. The pilot in command will be requested to contact ATC on completion of the flight for additional information regarding the observed issue. ATC must be notified of fault correction within 24 hours or ADS-B services for that aircraft will be withdrawn. ADS-B services will be restored within 48 hours when advice is received of corrective action.

6.1.4 **Flight with unserviceable ADS-B equipment**

6.1.4.1 Where an IFR aircraft is ADS-B equipped but the equipment has become unserviceable before flight, the pilot in command or aircraft operator must contact Airservices Australia for prior approval of any flight. Any approval agreed by ATC for the flight will be subject to operational conditions.

Note: Airservices Australia contact numbers: Brisbane FIR: 07 3866 3224, Melbourne FIR: 03 9235 7420

6.1.4.2 Where ADS-B equipment becomes unserviceable in flight, Airservices Australia may approve an IFR flight to continue to destination or to a place where suitable repairs can be made. Approval of such flight is subject to traffic management considerations at the time.

6.1.4.3 Once an approval is obtained, clearance to operate in controlled airspace may be issued by ATC at the time of flight and is subject to traffic management considerations. Aircraft equipped with ADS-B will be afforded priority. For IFR flights, the pilot in command or aircraft operator should plan their fuel requirements on the basis that a clearance may not be available.

6.1.5 **State Aircraft**

6.1.5.1 State aircraft fitted with non-compliant ADS-B transmitting equipment should operate within the provisions of *para 6.1.3.3*.

6.1.5.2 Where state aircraft do not operate within the provisions of *para 6.1.3.3* the ADS-B equipment non-compliance must be detailed in the flight notification. Non-ADS-B equipped state aircraft have equal priority with ADS-B-equipped aircraft.

Note 1: The operation of non compliant ADS-B equipment can significantly affect and degrade ATS surveillance capability.

Note 2: State aircraft in flight that have not flight planned as above may request operation under the provisions of ENR 1.7 Section 3. Cruising Levels - "DUE OPERATIONAL REQUIREMENT".

6.2 **SSR Transponder Exemptions**

6.2.1 General exemptions against the requirement for carriage of SSR transponders are in force for aircraft certified without an engine-driven electrical system; e.g. balloons, gliders and antique aircraft.

6.2.2 Specific ATC exemptions against the requirement, for carriage of SSR transponders, for the portions of flights subject to a clearance, may be available subject to agreement with the relevant ATC unit as follows:

a. For operation of an aircraft with an operating transponder, but without operating automatic pressure altitude reporting equipment having a Mode C capability, the request may be made at any time.

b. For operation of an aircraft with an unserviceable transponder to the airport of ultimate destination, including any intermediate stops, or to proceed to a place where suitable repairs can be made or both, the request may be made at any time.

c. For operation of an aircraft that is not equipped with a transponder, the request must be made at least one (1) hour before the proposed operation.

7. AIRBORNE COLLISION AVOIDANCE SYSTEM (ACAS) / TRAFFIC ALERT AND COLLISION AVOIDANCE SYSTEM (TCAS)

7.1 Overview

7.1.1 Aircraft fitted with a serviceable ACAS/TCAS, and with a crew trained in its use, are permitted to operate that system while in Australian airspace.

7.1.2 Pilots of transponder-equipped aircraft should ensure their transponder is switched to ON/ALT (Mode C) at all times.

Note: TCAS will neither track or display:

a. *non-transponder-equipped aircraft;*

b. *aircraft with an inoperable transponder; or*

c. *aircraft operating a Mode A transponder.*

7.2 Use of ACAS/TCAS Indicators

7.2.1 **Traffic Advisory (TA).** In the event of a TA, the pilot should use all available information to prepare for appropriate action if an RA occurs including:

a. attempt to establish visual contact; and

b. change the flight path only if a collision risk is established visually.

Note: RA collision avoidance manoeuvres will not be provided to an aircraft with TA-only mode selected, e.g. during engine failure or operating in known close proximity to other traffic such as approaches to closely spaced parallel runways.

7.2.2 **Resolution Advisory (RA).** In the event of an RA, pilots must:

a. immediately conform to the RA indication, even if this conflicts with an ATC instruction, unless doing so would jeopardise the safety of the aircraft;

b. limit the alterations of the flight path to the minimum extent necessary to comply with the RA; and

c. notify ATC, as soon as permitted by workload, of an RA which requires a deviation from the current ATC instruction or clearance.

7.3 **Responsibility for Separation**

7.3.1 Once an aircraft manoeuvres in response to an RA, ATS is not responsible for providing separation between that aircraft and any other aircraft, airspace, terrain or obstruction.

7.3.2 When the conflict is resolved, pilots must:

a. promptly return to the terms of the latest ATC instruction or clearance and notify ATC of the manoeuvre; or

b. comply with an amended ATC clearance or instruction issued.

7.3.3 ATC responsibility for separation resumes when separation is re-established after:

a. the responding aircraft has returned to its assigned level;

b. the pilot advises ATC that the TCAS manoeuvre is complete; or

c. the responding aircraft has executed an alternate clearance.

7.4 The Australian Transport Safety Bureau (ATSB) requires that all TCAS Resolution Advisories are treated as Routine Reportable Matters (*ENR 1.14 sub-para 3.2.1, m* refers)

7.5 The ATSB reporting requirements apply to all TCAS-equipped aircraft operating in Australian-administered airspace. The requirements also apply to Australian registered aircraft operating outside Australian-administered airspace.

7.6 The above information is required for proactive systems analysis in relation to accident prevention.

7.7 **High Vertical Rate (HVR) Encounters**

7.7.1 A TCAS Resolution Advisory (RA) may result from having a high vertical rate when approaching an assigned altitude or flight level when another aircraft is maintaining, or approaching, an adjacent altitude or flight level.

To avoid RAs in these circumstances, the pilot of the climbing or descending aircraft should, where practicable, reduce the vertical rate to less than 1,500FPM when within the last 1,000FT of the assigned altitude or flight level, unless otherwise directed by ATC.

Note 1: Pilots are not required to modify vertical speed for every level-off. This is not necessary and would introduce a significant increase in pilot workload.

Note 2: Pilots may become aware of the presence of an adjacent aircraft by several means, including:

a. visual acquisition;

b. information provided by ATC; or

c. TCAS Traffic Advisory (TA).

8. AREA NAVIGATION SYSTEMS APPROVAL AND OPERATIONS

8.1 The requirements for carriage and use of area navigation systems are contained in *CASR Part 91U, Part 91U Manual of Standards, CAO 20.18* and *CAO 20.91*. Requirements, advice and information on area navigation, PBN and GNSS aspects can also be found on the CASA website at www.casa.gov.au/airspace/standard-page/cns-atm-navigation.

8.2 Operators of foreign registered aircraft holding an RNP-AR navigation authorisation from their National Aviation Authority must not navigate in accordance with RNP-AR procedures in Australia without specific CASA authorisation.

8.3 **Notification of failure or operations outside of tolerance**

8.3.1 Pilots using area navigation systems for navigation must notify ATC

a. about navigation equipment failure; or

b. of operations of the equipment outside the approved tolerances; or

c. for inertial systems, if the times between updates, or from departure, exceeding three (3) hours for single units or five (5) hours for multiple units for flights in controlled airspace other than OCA, and five (5) hours for a single unit or 12 hours for multiple units for flights in OCA.

Note: ATC may discontinue applying certain area navigation standards after receipt of the advice.

9. RVSM APPROVAL AND OPERATIONS

9.1 RVSM is a published ICAO standard, which allows the use of 1,000FT separation between RVSM-approved aircraft operating from FL290 to FL410 inclusive. In Australia, RVSM is applied in accordance with the ICAO standard. Operators and aircraft must be approved by the State of Registry. Guidance on the approvals process for Australian-registered aircraft is contained in *Civil Aviation Advisory Publication (CAAP) 181A-(0)*.

10. AOC TO BE CARRIED ON-BOARD

10.1 In accordance with *ICAO Annex 6 Parts I*, an aeroplane conducting an international commercial air transport operation shall carry a certified true copy of the AOC and a copy of the associated Operations Specifications relevant to the aeroplane type, issued in conjunction with the Certificate.

10.2 This provision for aeroplanes is outlined in *Annex 6, Part I, Chapter 6, para 6.1.2.*

10.3 The provision for helicopters is outlined in *Annex 6 Part III, Section II, Chapter 4, para 4.1.2*.

GEN 1.6 SUMMARY OF NATIONAL REGULATIONS AND INTERNATIONAL AGREEMENT/CONVENTIONS

1. GENERAL

The following list identifies key civil aviation legislation and air navigation regulations in force in Australia and its Territories.

2. LEGISLATION BY THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

a. **Air Navigation Act 1920.** Ratification of Chicago Convention and Protocols amending Articles 45, 48, 49 and 61 of Chicago Convention and Air Transit Agreement:
Control of Foreign Aircraft on Flights in Australia
International Airline Licences
Carriage of Munitions in Aircraft.

b. **Air Navigation Regulation 2016** (made under the Air Navigation Act).

c. **Air Services Act 1995.** An Act establishing Airservices Australia.

d. **Civil Aviation Act 1988.** An Act establishing the Civil Aviation Safety Authority with regulatory functions relating to the safety of civil aviation and related purposes, including:
Air Operators Certificates
Use of Defence Aerodromes
Interference with Navigation Aids.

e. **Air Services Regulations 1995** (made under the Airservices Act), being statutory Rules 1995 No 223 as amended.

Part 1 – Preliminary
Part 3 – Air Traffic Services
Part 4 – Other Services
Part 5 – Additional Functions of AA
Part 6 – Statutory Liens
Part 7 – Miscellaneous

f. **Aviation Transport Security Act 2004.** Establishes a regulatory framework to safeguard against unlawful interference with aviation.

g. **Aviation Transport Security Regulations 2005** (made under the Aviation Transport Security Act 2004).

h. **Civil Aviation Regulations.** Commonwealth of Australia's aviation regulations are contained in two instruments: the Civil Aviation Regulations 1988 (CAR 1988) and the Civil Aviation Safety Regulations 1998 (CASR 1998). In due course, the regulations contained in CAR 1988 will be replaced by CASR 1998. In the interim, both CAR 1988 and CASR 1998 apply.

CAR 1988

Part 1	Preliminary
Part 2	Administration and Organisation
Part 4	Airworthiness Requirements
Part 4A	Maintenance
Part 4B	Defect Reporting
Part 4C	Flight Manuals
Part 4D	Removal of Data Plates and Aircraft Registration Identification Plates
Part 5	Balloon Flight Crew Licencing
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CASR 1998

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Part 21	Certification and Airworthiness Requirements for Aircraft and Parts
Part 22	Airworthiness Standards for Sailplanes and Powered Sailplanes
Part 23	Airworthiness Standards for Aeroplanes in the Normal, Utility, Acrobatic or Commuter Category
Part 25	Airworthiness Standards for Aeroplanes in the Transport Category
Part 26	Airworthiness Standards for Aircraft in the Primary Category or Intermediate Category
Part 27	Airworthiness Standards for Rotorcraft in the Normal Category
Part 29	Airworthiness Standards for Rotorcraft in the Transport Category
Part 31	Airworthiness Standards for Manned Free Balloons
Part 32	Airworthiness Standards for Engines for Very Light Aeroplanes
Part 33	Airworthiness Standards for Aircraft Engines
Part 35	Airworthiness Standards for Aircraft Propellers
Part 39	Airworthiness Directives
Part 42	Continuing Airworthiness Requirement for Aircraft and Aeronautical Products
Part 45	Display of nationality marks, registration marks and aircraft registration identification plates
Part 47	Registration of Aircraft
Part 60	Synthetic Training Devices
Part 61	Flight Crew Licensing
Part 64	Authorisations for Non-Licensed Personnel
Part 65	Air Traffic Services Licensing
Part 66	Continuing Airworthiness
Part 67	Medical
Part 90	Additional Airworthiness Requirements
Part 91	General Operating and Flight Rules
Part 92	Consignment and Carriage of Dangerous Goods
Part 99	Drug and Alcohol Management Plans and Testing
Part 101	Unmanned Aircraft and Rockets
Part 103	Sport and Recreational Aviation Operations

Part 105 Sport and Recreational Parachuting Operations

Part 117 Representations and Surveys

Part 129 Foreign Air Transport Operators - certification and operating requirements

Part 132 Limited category aircraft

Part 137 Aerial Application Operations

Part 138 Aerial Work Operations

Part 139 Aerodromes

Part 141 Recreational, Private and Commercial Pilot Flight Training, other than Certain Integrated Training Courses

Part 142 Integrated and Multi-Crew Pilot Flight Training, Contracted Recurrent Training and Contracted Checking

Part 143 Air Traffic Services Training Providers

Part 145 Continuing Airworthiness - Part 145 Approved Maintenance Organisations

Part 147 Continuing Airworthiness - Maintenance Training Providers

Part 149 Recreational Aviation Administration Organisations

Part 171 Aeronautical Telecommunication Service and Radio Navigation Service Providers

Part 172 Air Traffic Service Providers

Part 173 Instrument Flight Procedure Design

Part 175 Aeronautical Information Management

Part 200 Exemptions

Part 201 Miscellaneous

Part 202 Transitional

i. **Damage by Aircraft Act 1999**
Facilitates the recovery of damages for certain injury, loss, damage or destruction caused by aircraft, or by people, animals or things that are dropped, or that fall, from aircraft that are in flight.

j. **Civil Aviation (Carriers' Liability) Act 1959**
Establish carriers' liability arrangements as they apply to the carriage of passengers, baggage and cargo. This includes giving effect to the provisions of the 1999 Montreal Convention and the Warsaw Convention as amended by relevant instruments. This Act also establishes carrier's liability for domestic carriage by air.

k. **Transport Safety Investigation Act 2003 (TSI Act)**
Provides guidance for the investigation of transport accidents and other matters affecting transport safety in aviation, marine and rail modes of transport.

3. OTHER RELEVANT LEGISLATION

Air Services Act 1995
Part 4, Division 4 and Part 5, Division 3

Air Navigation Act 1920
Sections 9, 10, 12, 13, 14, 15, 16, 17, 19

Airspace Act 2007

Australian Maritime Safety Authority Act 1990 Section 6(5)

Civil Aviation Act 1988
Sections 22, 23, 23A, 24, 25, 26, 27, 27A/AB/AC/AD/AE/AF, 28, 28A/BA/BB/BC/BD/BE/BF/BG/BH

Civil Aviation Regulation 135, 136, 139

Transport Safety Investigation Regulations 2003 (TSI Regulations)
Parts 1, 2 and 5

Convention on International Civil Aviation (Chicago Convention)

International Convention for the Safety of Life at Sea (SOLAS)

International Convention on Maritime Search and Rescue (SAR)

4. SECURITY OF GENERAL AVIATION OPERATIONS

4.1 Introduction

4.1.1 Since late 2001, the Australian Government has circulated warnings concerning the possibility of terrorist attacks against Australian civil aviation interests, including general aviation (AICs H41/01, H9/02, H8/04 and H3/06 refer and are replaced by this entry).

4.1.2 The general security environment in relation to General Aviation (GA) and Charter (CHTR) has not changed since AIC H9/02. Nevertheless, GA and CHTR industry personnel are urged to be particularly vigilant and alert to any activities in the industry which may arouse suspicions in regard to possible terrorist actions.

4.2 **Activities Which May Arouse Suspicion**

4.2.1 GA operators should be alert to the importance of reporting and/or resolving any event or activity occurring in their operating environment that appears to be unusual or suspicious.

4.2.2 Examples of suspicious behaviour can include but are not limited to:

a. unusual enquiries regarding flight training;
b. enquiries concerning aircraft configurations and capabilities;
c. loading and unloading of unusual or unauthorised cargo;
d. unusual enquiries regarding the use of, or training in, crop dusters or helicopters;
e. unusual activity relative to the use or acquisition of dangerous chemicals;
f. watching, observing, photographing, sketching, measuring and note taking;
g. examining or enquiring about security systems and guarding;
h. visiting airports and not conducting ‘normal’ airport business;
i. avoiding notice around critical airport infrastructure or assets;
j. being airside (or in other non public areas) without a verifiable excuse [be aware of seemingly convincing cover stories];
k. enquiring about airport associated work that does not exist;
l. entering or leaving the airport precinct in an unusual manner;
m. creating distractions at times critical to aircraft operations;
n. insisting on urgency in apparent benign conditions;
o. attempting to circumvent security measures or procedures;
p. attempting to conceal baggage or avoiding scrutiny of it;
q. using or carrying innocent items that could mask more sinister items; and
r. presenting suspect ID (it might be worn or photocopied/photographed).

4.2.3 Any unusual behaviour that cannot be satisfactorily explained should be reported to company security officers and/or police. Particular attention should be paid to details such as names and descriptions of suspicious persons, and vessel/vehicle identification markers.

4.3 **Actions and Contacts**

All members of the aviation community are reminded to continue to maintain and, if necessary, enhance their vigilance and security arrangements. Any suspicious circumstances or behaviour at an airport should be reported immediately to:

a. the National Security Hotline by phone on 1800 123 400; or

b. the local police; or,

persons may contact:

c. the Department of Home Affairs, Aviation and Maritime Security Division by telephone on 1300 791 581.

5. AUSTRALIAN SANCTIONS

5.1 Introduction

5.1.1 The purpose of this section is to inform all persons operating aircraft into Australia of Australian sanction laws.

5.1.2 Australian sanction laws implement United Nations Security Council (UNSC) sanctions regimes and Australian autonomous sanctions regimes.

5.1.3 Contravening an Australian sanction law is a serious criminal offence. Penalties for sanctions offences include up to 10 years prison and substantial fines.

5.1.4 All operators should check the sanctions measures which apply, including before bringing goods into Australia, taking goods out of Australia, and dealing with persons who are subject to targeted financial sanctions or whose entry into or transit through Australia is prohibited.

5.2 **Sanctions Regimes under Australian sanction laws**

5.2.1 The sanctions regimes currently implemented under Australian sanction laws are:

Central African Republic	Former Federal Republic of Yugoslavia	Libya	Syria
Counter-terrorism	Guinea-Bissau	Myanmar	The Taliban
Crimea and Sevastopol	Iran	Russia	Ukraine
Democratic People's Republic of Korea (North Korea)	Iraq	Somalia	Yemen
Democratic Republic of the Congo	ISIL (Da'esh) and Al-Qaida	South Sudan	Zimbabwe
Eritrea	Lebanon	Sudan	

Australia is in the process of implementing the recently established UNSC sanctions regime for Mali.

5.2.2 For an updated list of individuals and entities that may be subject to targeted financial sanctions and travel bans, which might include nationals and entities from countries other than the ones listed above, please consult the Consolidated List available at: http://dfat.gov.au/international-relations/security/sanctions/Pages/consolidated-list.aspx

5.3 **Further information**

5.3.1 The Department of Foreign Affairs and Trade (DFAT) website provides detailed information on the sanctions regimes and the specific restrictions applicable under each regime. The information can be found at: http://dfat.gov.au/international-relations/security/sanctions/sanctions-regimes/Pages/sanctions-regimes.aspx

5.3.2 The Minster for Foreign Affairs or the Minister's delegate may be able to grant a permit authorising an activity that would otherwise contravene an Australian sanction law. The Minister for Home Affairs may be able to grant a visa authorising travel that would otherwise contravene a travel ban. Further information can be found at: http://dfat.gov.au/international-relations/security/sanctions/sanctions-regimes/Pages/sanctions-regimes.aspx

6. AUSTRALIAN AIR CARGO PROHIBITIONS

6.1 Introduction

6.1.1 The purpose of this section is to inform all persons operating aircraft into Australia of Australian law regarding air cargo prohibitions.

6.1.2 The prohibitions are a preventive security measure, based on the Government's understanding of the threat and risk environment in certain countries. There is no information to suggest that there is any specific threat for flights to or from Australia.

6.1.3 The prohibitions apply equally to air cargo carried on passenger and freighter aircraft. The prohibitions only apply to air cargo. Cargo sent as sea, rail or land freight is not prohibited.

6.2 Air Cargo Prohibitions under Australian Law

6.2.1 Australia has in place air cargo prohibitions from identified high risk countries - Bangladesh, Yemen, Syria, Egypt, Somalia and Turkey.

6.2.2 Airlines are prevented from carrying any air cargo that has originated from, or transited through Syria, Yemen or Somalia.

6.2.3 Air cargo that has originated from, or transited through, Egypt is prohibited, except for items that are currently exempt from screening under Australian regulations such as diplomatic bags and smaller items of international mail.

6.2.4 Air cargo that has originated from, or transited through, Bangladesh is prohibited, unless it has undergone security examination at an approved last port of call before travelling to Australia or is otherwise exempt from examination under Australian regulations.

6.2.5 Air cargo that has originated from, or transited through, Turkey is prohibited, only if it contains an electromechanical device that weighs over 1 kilogram.

6.2.6 The prohibitions have been implemented through a legislative instrument made by the then Deputy Prime Minister and Minister for Infrastructure and Regional Development, under section 65B(2)(b) of the *Aviation Transport Security Act 2004.*

6.3 **Further Information**

6.3.1 For updates and further information on air cargo prohibitions please consult: www.infrastructure.gov.au/security/air-cargo/prohibition-intl.aspx

GEN 1.7 DIFFERENCES FROM ICAO STANDARDS, RECOMMENDED PRACTICES AND PROCEDURES

1. The differences that exist between Australian national aviation regulations and those specified by ICAO as Standards and Recommended Practices (SARPS) are identified in an AIP Supplement titled “DIFFERENCES FROM ICAO STANDARDS, RECOMMENDED PRACTICES AND PROCEDURES” posted on the Airservices Australia website at:

www.airservicesaustralia.com/publications/aip.asp
Please read and agree to the Copyright Notice, then click on the current “AIP Supplements and AICs” package.

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GEN 2. TABLES AND CODES

GEN 2.1 MEASURING SYSTEM, AIRCRAFT MARKINGS, HOLIDAYS

1. UNITS OF MEASUREMENT

1.1 Units of measurement to be used in airways operations and air-ground communications are as follows:

Measurement	Units
Distances used in navigation (generally in excess of 2NM)	nautical miles and tenths
Short distances	metres
Altitudes, elevations and heights	feet
Horizontal speed, including wind speed	knots
Vertical speed	feet per minute
Wind direction for runway operations	degrees magnetic
Wind direction except for runway operations	degrees true
Visibility, including runway visual range	kilometres or metres
Altimeter setting	hectopascals
Temperature	degrees celsius
Weight (Mass) Metric	tonnes or kilograms
Time	hours and minutes
**Miles must be read as meaning nautical miles unless otherwise stated. The word "nautical" may be omitted from air-ground communications.*	

1.1.1 An aircraft which is temporarily unable to use these units must so advise and request the ground station to transmit in units useable by the aircraft.

2. TIME SYSTEM

2.1 **Coordinated Universal Time (UTC)**

Is used for civil aviation.

2.2 **Date and time**

Is indicated in a combination of the date and time in a single six figure group. However, a 10 figure group comprising the year, month, date, hours and minutes is used for NOTAM and SUPs. This is reduced to an eight figure group (nil year) for SPFIB.

3. GEODETIC REFERENCE DATUM

3.1 All published geographical coordinates are expressed in term of the World Geodetic System – 1984 (WGS-84). Most coordinates have been surveyed; however, those coordinates that have been mathematically derived are indicated by an asterisk.

3.2 Coordinates published in AIP documents/charts and NOTAM are expressed in degrees, minutes and tenths of a minute with the cardinal point placed first; e.g. S32 46.3 E138 24.0. When more accurate coordinate information is required (e.g. the commissioning of a new navigation aid) the more detailed set of coordinates may be included in brackets. The Designated Airspace Handbook (DAH) departs from this convention in that coordinates are expressed in degrees, minutes and seconds, and, if required, tenths/hundredths of a second with the cardinal point last; e.g. 05 07 21.2S 065 25 22.6E.

4. PUBLIC HOLIDAYS

4.1 **National**

New Year's Day	1 January
Australia Day	26 January
Good Friday	Friday before Easter
Easter Monday	Monday after Easter Sunday
Anzac Day	25 April
Queen's Birthday	According to the published date for the relevant State/Territory
Christmas Day	25 December
Boxing Day	26 December

Note: When New Year's Day, Australia Day, Christmas Day and Boxing Day falls on a Saturday or Sunday, the next following working day is declared the public holiday. In this case, both the actual day and the following declared public holiday are considered to be public holidays.

4.2 Some services may be affected on public holidays. Operators should check NOTAM and/or contact the relevant aerodrome owner/operator.

4.2.1 Airspace specified as active or not active on public holidays refers only to National holidays as listed in *para 4.1*. Any other holidays affecting activation will be specified by NOTAM.

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GEN 2.2 DEFINITIONS AND ABBREVIATIONS

1. DEFINITIONS

Active LAHSO Runway: The runway used during LAHSO for arriving aircraft issued with a hold short instruction.

Airborne Collision Avoidance System (ACAS): An aircraft system based on secondary surveillance radar (SSR) transponder signals which operates independently of ground-based equipment to provide advice to the pilot on potential conflicting aircraft that are equipped with SSR transponders.

ADS-C Agreement: A reporting plan which establishes the conditions of ADS-C data reporting (i.e. data required by the air traffic services unit and frequency of ADS-C reports which have to be agreed to prior to the provision of air traffic services).

Aerodrome: A defined area of land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and movement of aircraft.

Aerodrome Beacon: An aeronautical beacon, used to indicate the location of an aerodrome from the air.

Aerodrome Control Service: ATC service for aerodrome traffic.

Aerodrome Control Tower: A unit established to provide ATC service to aerodrome traffic.

Aerodrome Elevation: The elevation of the highest point of the landing area.

Aerodrome Meteorological Minima (Ceiling and Visibility Minima): The minimum heights of cloud base (ceiling) and minimum values of visibility which are prescribed in pursuance of *CAR 257* for the purpose of determining the useability of an aerodrome either for takeoff or landing.

Aerodrome Proprietor: Any Owner, Licensee, Authority, Corporation, or any other body which has a legal responsibility for a particular aerodrome.

Aerodrome Reference Point (ARP): The designated geographical location of an aerodrome.

Aerodrome Traffic: All traffic on the manoeuvring area of an aerodrome and all aircraft flying in, entering, or leaving the traffic circuit.

Aerodrome Traffic Circuit: The specified path to be flown by aircraft flying in, entering, or leaving the traffic circuit.

Note: At a controlled aerodrome, an aircraft is in the traffic circuit when it is within the CTR and established on a leg of the circuit.

Aeronautical Beacon: An aeronautical ground light visible at all azimuths, either continuously or intermittently, to designate a particular point on the surface of the earth.

Aeronautical Information Circular (AIC): A notice containing information that does not qualify for the origination of a NOTAM, or for inclusion in the AIP, but which relates to flight safety, air navigation, technical, administrative or legislative matters.

Aeronautical Information Publication (AIP): A publication issued by or with the authority of a State and containing aeronautical information of a lasting character essential to air navigation.

AIP Supplement (SUP): Temporary changes to the information contained in the AIP which are published by means of special pages.

Aircraft Address: A unique combination of 24 bits available for assignment to an aircraft for the purpose of air-ground communications, navigation and surveillance. Expressed as a six character hexadecimal code.

Aircraft Classification Number (ACN): A number expressing the relative effect of an aircraft on a pavement for a specific standard sub-grade category.

Aircraft Identification: An identification of up to seven (7) alpha-numeric characters used to identify the aircraft in flight notifications and in Mode S transponders/ADS-B transmitters.

Note: The Aircraft Identification entered into the Mode S Transponder, or ADS-B Transmitter, must match the Aircraft Identification entered into Item 7 of the Flight Notification or, when no flight notification has been filed, the aircraft registration. Hyphens or symbols may not be used within the identification.

Aircraft Parking Position Taxilane: A portion of an apron designated as a taxiway and intended to provide access to aircraft parking positions only.

Air-Ground Communications: Two way communications between aircraft and stations on the surface of the earth.

Air-Report (AIREP): A report from an aircraft in flight prepared by the pilot during the course of a flight in conformity with the requirements for position, operational or meteorological reporting in the AIREP form.

Airspace Release: A defined volume of airspace normally under the jurisdiction of one controlling authority that is temporarily released, by common agreement, for exclusive use of another.

Airspace Speed Limitation: A speed limit specified for a particular class of airspace.

Air Taxiing: Movement of a helicopter/VTOL above the surface of an aerodrome, normally in ground effect and at a speed normally less than 20KT.

Air Traffic Control Clearance: Authorisation for aircraft to proceed under conditions specified by an ATC unit.
Note: For convenience, the term "Air Traffic Control Clearance" is normally abbreviated to "Clearance" when used in appropriate context.

Air Traffic Control Instructions: Directives issued by ATC for the purpose of requiring a pilot to take a specific action.

Air Traffic Control Service: A service provided for the purpose of:

a. preventing collisions:
   (1) between aircraft; and
   (2) on the manoeuvring area between aircraft and obstructions; and
b. expediting and maintaining an orderly flow of air traffic.

Air Traffic Control Speed Restriction: An ATC traffic management speed or an ATC-issued speed control instruction.

Air Traffic Service (ATS): A generic term meaning variously, flight information service, alerting service, air traffic advisory service, ATC service (area control service, approach control service, or aerodrome control service).

Air Transit: The airborne movement of a helicopter that is:

a. for the expeditious transit from one place within an aerodrome to another place within the aerodrome;
b. at or below 100FT above the surface; and
c. at speeds greater than those used in air taxiing.

Airways Clearance: A clearance, issued by ATC, to operate in controlled airspace along a designated track or route at a specified level to a specified point or flight planned destination.

Alerted See-and-Avoid: A procedure where flight crew, having been alerted to the existence and approximate location of other traffic in their immediate vicinity, seek to sight and avoid colliding with those known aircraft.

Alerting Post: An agency designated to serve as an intermediary between a person reporting an aircraft in distress and a rescue coordination centre.

Alerting Service: A service provided to notify appropriate organisations regarding aircraft in need of search and rescue aid, and to assist such organisations as required.

Alternate Aerodrome: An aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing.

Altimeter Setting: A pressure datum which when set on the sub-scale of a sensitive altimeter causes the altimeter to indicate vertical displacement from that datum. A pressure-type altimeter calibrated in accordance with Standard Atmosphere may be used to indicate altitude, height or flight levels, as follows:

a. when set to **QNH** or **Area QNH** it will indicate **altitude;**

b. when set to **Standard Pressure** (1013.2 HPA) it may be used to indicate **flight levels.**

Altimeter Setting Region: Airspace 10,000FT and below where the sub-scale of a pressure sensitive altimeter is set to QNH or Area QNH.

Altitude: The vertical distance of a level, a point or an object, considered as a point, measured from mean sea level.

Approach Control Service: ATC service for arriving or departing flights.

Approach Sequence: The order in which two or more aircraft are cleared to approach to land at the aerodrome.

Apron: A defined area on a land aerodrome, intended to accommodate aircraft for purposes of loading or unloading passengers, mail, cargo, fuelling, parking or maintenance.

Apron Service: A traffic regulatory and information service provided to aircraft using the apron area of an aerodrome.

Apron Taxiway: A portion of a taxiway system located on an apron and intended to provide a through taxi route across the apron.

Area Control Service: ATC service for controlled flights in control areas.

Area Navigation: A method of navigation which permits aircraft operation on any desired flight path within the coverage of ground or space-based navigation aids, or within the limits of the capability of self-contained aids, or a combination of these.

Area Navigation Route: An ATS route established for the use of aircraft capable of employing area navigation.

Area Navigation Systems: Navigation systems supporting area navigation.

Area QNH: A forecast altimeter setting which is representative of the QNH of any location within a particular area.

Area VHF: The appropriate FIA VHF channel for a location.

ATS Route: A specified route designed for channelling the flow of traffic as necessary for the provision of air traffic services.

ATS Surveillance Service: Term used to indicate an air traffic service provided directly by means of an ATS surveillance system.

ATS Surveillance System: A generic term meaning variously, ADS-B, PSR, SSR or any comparable ground-based system that enables the identification of aircraft.

Note: A comparable ground-based system is one that has been demonstrated, by comparative assessment or other methodology, to have a level of safety and performance equal to, or better than, monopulse SSR.

Automatic Dependent Surveillance Broadcast (ADS-B): A means by which aircraft, aerodrome vehicles and other objects can automatically transmit or receive data such as identification, position and additional data, as appropriate, in a broadcast mode via a data link.

Automatic Dependent Surveillance - Contract (ADS-C): A means by which the terms of an ADS-C agreement will be exchanged between the ground system and the aircraft, via a data link, specifying under what conditions ADS-C reports would be initiated, and what data would be contained in the reports.

Automatic En Route Information Service (AERIS): The provision of operational information en route by means of continuous and repetitive broadcasts.

Automatic Terminal Information Service (ATIS): The provision of current, routine information to arriving and departing aircraft by means of continuous and repetitive broadcasts during the hours when the unit responsible for the service is in operation.

Aviation Reference Number (ARN): A unique six-digit number used to identify a client who conducts business with CASA. When CASA receives an application for a new licence, certificate, or other service, an ARN is established and all subsequent transactions for the client are recorded against that ARN. In addition to being a client number, the ARN may also be the licence or certificate number. The ARN should be quoted in all correspondence with CASA or with CanPrint, AIP Shop.

Base Turn (Instrument Approach): A turn executed by the aircraft during the initial approach between the end of the outbound track and the beginning of the intermediate or final approach track. The tracks are not reciprocal.

Note: Base turns may be designated as being made either in level flight or while descending, according to the circumstances of each individual procedure.

Blanket Clearance: A pre-arranged clearance originated for specific activities or events and specified in a letter of agreement.

Blind Transmission: A transmission from one station to another station in circumstances where two way communication cannot be established, but where it is believed that the called station is able to receive the transmission.

Block Level: A section of airspace with specified upper and lower limits on a specific track, in which cleared aircraft are permitted to manoeuvre.

Break-out Procedure(s): Immediate evasive manoeuvres, which are performed on instruction by air traffic control.

Note: In the context of simultaneous parallel operations, break-out procedures are used to direct a threatened aircraft and a deviating aircraft away from each other.

Briefing: The act of giving in advance, specific pre-flight instructions or information to aircrew.

Broadcast: A transmission of information relating to air navigation for which an acknowledgement is not expected.

Ceiling: 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.

CENSAR: An automated centralised SARTIME database software package used by ATS to manage SARTIMEs.

Centre: A generic callsign which can include ATC, Advisory, Flight Information and Alerting services, depending on the classification of airspace in which the service is provided.

Certified Aerodrome: A place that is certified as an aerodrome under the Civil Aviation Safety Regulations.

Circling Approach: An extension of an instrument approach procedure which provides for visual circling of the aerodrome prior to landing.

Clearance Limit: The point to which an aircraft is granted an ATC clearance.

Clearance Expiry Time: A time specified by an ATC unit at which a clearance ceases to be valid.

Clearway: A defined rectangular area on the ground or water under the control of the appropriate authority, selected or prepared as a suitable area over which an aeroplane may make a portion of its initial climb to a specified height.

Collocated (Navigation) Aids: En route waypoints or navigation aids that are within 600M of each other.

Common Traffic Advisory Frequency (CTAF): A designated frequency on which pilots make positional broadcasts when operating in the vicinity of a non-controlled aerodrome.

Communicable Diseases: Communicable diseases include cholera, typhus (epidemic), smallpox, yellow fever, plague, and such other diseases as the contracting States shall, from time to time, decide to designate.

Company Operations Representative: The representative of an operating agency who is authorised to act in the capacity of liaison officer between ATC and the operating agency in respect of the control of an aircraft of that agency.

Continuous Descent Final Approach (CDFA): A technique, consistent with stabilised approach procedures, for flying the final approach segment of a non-precision instrument approach procedure as a continuous descent, without level-off, from an altitude/height at or above the final approach fix altitude/height to a point approximately 50FT above the landing runway threshold or the point where the flare manoeuvre should begin for the type of aircraft flown.

Control Area (CTA): A controlled airspace extending upwards from a specified limit above the earth.

Controlled Aerodrome: An aerodrome at which ATC service is provided to aerodrome traffic.

Controlled Airspace: Airspace of defined dimensions within which ATC service is provided in accordance with the airspace classification.

Controller: An air traffic controller, operating within an organisation approved under *CASR Part 172* and qualified in accordance with *CASR Part 65*.

Controller Pilot Data Link Communications (CPDLC): A means of communication between controller and pilot using data link for ATC communications.

Controlling Authority: With respect to airspace classifications, this is the Air Traffic Service provider for that area. With respect to PRD, this is the agency nominated to exercise the conditions of entry specified for the area.

Control Zone (CTR): A controlled airspace extending upwards from the surface of the earth to a specified upper limit.

CPDLC message: Information exchanged between an airborne system and its ground counterpart. A CPDLC message consists of a single message element or a combination of message elements conveyed in a single transmission by the initiator.

CPDLC Message Set: A list of standard message elements and free text message elements.

Cruise Climb: An aeroplane cruising technique resulting in a nett increase in altitude as the aeroplane weight decreases.

Cruising Level: A level maintained during a significant portion of a flight.

Danger Area: An airspace of defined dimensions within or over which activities of potential danger to aircraft flying over the area may exist.

Day: The period between the beginning of morning civil twilight (first light) and the end of evening civil twilight (last light).

Dead Reckoning (DR) Navigation: The estimating or determining of position by advancing an earlier known position by the application of direction, time and speed data.

Decision Altitude/Height (DA/H): A specified altitude or height in a 3D instrument approach operation at which a missed approach must be initiated if the required visual reference to continue the approach has not been established.

Note 1: DA is referenced to mean sea level and DH is referenced to the threshold elevation.

Note 2: The required visual reference means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path. In Category III operations with a decision height the required visual reference is that specified for the particular procedure and operation.

Defined Point After Takeoff (DPATO): The point within the takeoff and initial climb phase before which the helicopter's ability to continue the flight safely, with one engine inoperative, is not assured and a forced landing may be required.

Density Height: An atmospheric density expressed in terms of height which corresponds to that density in the Standard Atmosphere.

Dependent Parallel Approaches: Simultaneous approaches to parallel instrument runways where radar separation minima between aircraft on adjacent extended runway centre-lines are prescribed.

Distance Measuring Equipment (DME): Equipment which measures in nautical miles, the slant range of an aircraft from the selected DME ground station.

DME Distance: The slant range from the source of a DME signal to the receiving antenna.

Domestic Flight: A flight between two points within the Australian FIR.

East Coast SSR Coverage: The area of Australia east-coast secondary surveillance radar (SSR) coverage within approximately 200NM of a line Cairns - Brisbane - Sydney - Melbourne - Adelaide.

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

Emergency Fuel: The term used to describe a situation when the calculated usable fuel predicted to be available upon landing at the nearest aerodrome where a safe landing can be made is less than the fixed fuel reserve for the flight.

Note: The emergency fuel declaration is a distress message.

Emergency Phases:

a. Uncertainty Phase: A situation wherein uncertainty exists as to the safety of an aircraft and its occupants.

b. Alert Phase: A situation wherein apprehension exists as to the safety of an aircraft and its occupants.

c. Distress Phase: A situation wherein there is reasonable certainty that an aircraft and its occupants are threatened by grave and imminent danger or require immediate assistance.

Equivalent Single Isolated Wheel Load: The equivalent load that would be imposed on a pavement by a single wheel if any wheel group on an aircraft were replaced by a single wheel using the same tyre pressure.

Essential Radio Navigation Service. A radio navigation service whose disruption has a significant impact on operations in the affected airspace or aerodrome.

Estimate: The time at which it is estimated that an aircraft will be over a position reporting point or over the destination.

Estimated Elapsed Time (EET): The estimated time required to proceed from one significant point to another.

Estimated Off Block Time: The estimated time at which the aircraft will commence movement associated with departure.

Estimated Time of Arrival (ETA): For IFR flights, the time at which it is estimated that the aircraft will arrive over that designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced, or, if no navigation aid is associated with the aerodrome, the time at which the aircraft will arrive over the aerodrome. For VFR flights, the time at which it is estimated that the aircraft will arrive over the aerodrome.

Expected Approach Time (EAT): The time at which ATC expects that an arriving aircraft, following a delay, will leave the holding fix to complete its approach for a landing.

Note: The holding fix referred to in the EAT is that shown on the instrument approach chart from which the instrument approach is prescribed to commence.

Final Approach: That part of an instrument approach procedure which commences at the specified final approach fix or point, or where such a fix or point is not specified:

a. at the end of the last procedure turn, base turn or inbound turn of a racetrack procedure, if specified; or
b. at the point of interception of the last track specified in the approach procedure; and
c. ends at a point in the vicinity of an aerodrome from which a landing can be made, or a missed approach is initiated.

Final Approach Altitude: The specified altitude at which final approach is commenced.

Final Approach Course: Where the aircraft is established laterally on that part of a GLS approach procedure which commences at the specified initial approach fix and ends at the aerodrome, from which point a landing can be made, or a missed approach is initiated.

Final Approach Fix (FAF): A specified point on a non-precision instrument approach which identifies the commencement of the final segment.

Final Approach Point (FAP): A specified point on the glide path of a precision instrument approach which identifies the commencement of the final segment.

Note: The FAP is co-incident with the FAF of a localiser based non-precision approach.

Final Approach Segment: That segment of an instrument approach procedure in which alignment and descent for landing are accomplished.

Final Approach and Take off Area (FATO): A defined area over which the final phase of the approach manoeuvre to hover or landing is completed and from which the take off manoeuvre is commenced. Where the FATO is to be used by performance Class 1 helicopters, the defined area includes the rejected take off area available.

Final Leg: The path of an aircraft in a straight line immediately preceding the landing (alighting) of the aircraft.

Fix: A geographical position of an aircraft at a specific time determined by visual reference to the surface, or by navigational aids.

Flight File: A file stored on the NAIPS system which contains stored briefings, or a stored flight notification. Flight files are owned by pilots and/or operators, and updated at their request.

Flight Following: The provision of an ongoing Surveillance Information Service (SIS).

Flight Information: Information useful for the safe and efficient conduct of flight, including information on air traffic, meteorological conditions, aerodrome conditions and airways facilities.

Flight Information Area (FIA): An airspace of defined dimensions, excluding controlled airspace, within which flight information and SAR alerting services are provided by an ATS unit.

Note: FIAs may be sub-divided to permit the specified ATS unit to provide its services on a discrete frequency or family of frequencies within particular areas.

Flight Information Region (FIR): An airspace of defined dimensions within which flight information service and SAR alerting service are provided.

Flight Information Service (FIS): A service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights.

Flight Level (FL): A surface of constant atmospheric pressure which is related to a specific pressure datum, 1013.2HPA, and is separated from other such surfaces by specific pressure intervals.

Flight Procedure Authorisation (FPA): Authorisations which allow a pilot holding a Private IFR rating to use additional types of navigation aids as well as night flying, instrument approaches and instrument departures.

Flight Note: Details of the route and timing of a proposed flight provided by the pilot in command of an aircraft, which is other than notification submitted to Airservices Australia, and which is required to be left with a person who could be expected to notify appropriate authorities in the event that the flight becomes overdue.

Flight Notification (within Australian FIR): Specified information provided to ATS units, relative to the intended flight or portion of flight of an aircraft.

Flight Path Monitoring: The use of ATS surveillance systems for the purpose of providing aircraft with information and advice relative to significant deviations from nominal flight path including deviations from the terms of their ATC clearances.

Note: Some applications may require a specific technology e.g. radar, to support the function of flight path monitoring.

Flight Visibility: The visibility forward from the cockpit of an aircraft in flight.

Forecast: A statement of expected meteorological conditions for a specified period, and for a specified area or portion of airspace.

Formation: Two or more aircraft flown in close proximity to each other and operating as a single aircraft with regard to navigation, position reporting and control.

Note: Refer to CAR 163AA for conditions under which formation flight may be undertaken.

Free text message element: Part of a message that does not conform to any standard message element in the PANS-ATM (DOC 4444).

Full Emergency (in the context of Aerodrome Emergency Plans): A situation in which the response of all agencies involved in the Aerodrome Emergency Plan will be activated. A Full Emergency will be declared when an aircraft approaching the airport is known or suspected to be in such trouble that there is danger of an accident.

Glide Path (GP): A descent profile determined for vertical guidance during a final approach.

Global Navigation Satellite System (GNSS): A satellite-based radio navigation system that uses signals from orbiting satellites to determine precise position and time.

Global Positioning System (GPS): A GNSS constellation operated by the United States Government.

Gross Weight: The weight of the aircraft together with the weight of all persons and goods (including fuel) on board the aircraft at that time.

Ground Based Augmentation System (GBAS): An augmentation system in which the user receives augmentation information directly from a ground-based transmitter.

Ground Based Augmentation System (GBAS) Landing System (GLS): A system for approach and landing operations using a GBAS, as the primary navigational reference.

Ground Based Navigation Aid: Means NDB, VOR, DME.

Ground Taxiing: The movement of a helicopter under its own power and on its undercarriage wheels.

Ground Visibility: The visibility at an aerodrome, as reported by an accredited observer.

Hazardous Conditions: Meteorological conditions which may endanger aircraft or adversely affect their safe operation, particularly those phenomena associated with volcanic ash cloud and thunderstorms - icing, hail and turbulence.

Head of State: Heads of State or of Government, or other selected dignitaries on official visits to Australia (as provided by Department of Prime Minister and Cabinet Ceremonial and Hospitality Branch), or the personal transport of the Governor-General or the Prime Minister.

Heading (HDG): The direction in which the longitudinal axis of an aircraft is pointed, usually expressed in degrees from North (true, magnetic, compass or grid).

Height: The vertical distance of a level, a point or an object considered as a point measured from a specified datum.

Helicopter Access Corridor: A corridor wholly within controlled airspace designed for the exclusive use of helicopters in VMC. The extent and alignment of the corridor is related to and delineated by prominent geographical/topographical features.

Helicopter Landing Site (HLS): A place that is used as an aerodrome for the purposes of the landing and taking-off of helicopters.

Helicopter Lane: A lane, outside controlled airspace, designed for use by helicopters to facilitate traffic flow.

Helicopter Movement Area: The movement area for helicopters is that part of an aerodrome that can safely be used for the hovering, taxiing, takeoff and landing of helicopters and consists of the manoeuvring area and aprons, but excluding those areas reserved for unrestricted use by the general public.

Helicopter Reference Point (HRP): The designated location of a heliport or a landing location.

High Capacity Aircraft: An aircraft that is certified as having a maximum seating capacity exceeding 38 seats or a maximum payload exceeding 4,200KG.

Hold Short Line/Lights: A line marked across a runway, with associated lights, in accordance with the requirements of *AIP AD 1.1*, at which landing aircraft must stop when required during Land and Hold Short Operations (LAHSO).

Holding Bay: A defined area where aircraft can be held, or bypassed, to facilitate efficient surface movement of aircraft.

Holding Fix: A specified location identified by visual or other means in the vicinity of which the position of an aircraft in flight is maintained in accordance with ATC Instructions.

Holding Procedure: A predetermined manoeuvre which keeps an aircraft within a specified airspace whilst awaiting further clearance.

Hospital Aircraft: (see Medical Flight).

Hot Spot: A location on an aerodrome movement area with a history or potential risk of collision or runway incursion, and where heightened attention by pilots/drivers is necessary.

Identification: The situation which exists when the position indication of a particular aircraft is seen on a situation display and positively identified by ATC.

IFR Pick-up: A pilot procedure whereby a flight operating to the IFR in Class G airspace changes to VFR upon entering Class E airspace whilst awaiting an airways clearance.

Independent Parallel Approaches: Simultaneous approaches to parallel or near-parallel instrument runways where radar separation minima between aircraft on adjacent extended runway centre-lines are not prescribed. The two types of independent approaches are:

a. Independent Visual Approaches - during which a pilot is responsible for separation from the aircraft on the other approach; and
b. ILS PRM Approaches - during which separation between aircraft on adjacent ILS courses is maintained using PRM.

Independent Parallel Departures: Simultaneous departures in the same direction from parallel or near-parallel instrument runways.

Inertial Navigation/Reference System (INS/IRS): A self-contained navigation system that continually measures the accelerations acting upon the vehicle of which it is part. Suitably integrated, these forces provide velocity and thence position information.

Initial Approach Fix (IAF): The fix at the commencement of an instrument approach.

Initial Approach Segment: That segment of an instrument approach procedure between the initial approach fix and the intermediate approach fix or, where applicable, the final approach fix or point.

Initial Departure Fix (IDF): The terminal fix for the visual segment and the fix where the instrument phase of the PinS departure begins.

Instrument Approach Operations: An approach and landing using instruments for navigation guidance based on an instrument approach procedure. There are two methods for executing instrument approach operations:

a. a two-dimensional (2D) instrument approach operation, using lateral navigation guidance only; and

b. a three-dimensional (3D) instrument approach operation, using both lateral and vertical navigation guidance.

Note 1: Lateral and vertical navigation guidance refers to the guidance provided either by:

a. ground-based ratio navigation aids; or

b. computer-generated navigation data from ground-based, space-based, self-contained navigation aids or a combination of these.

Note 2: The classification of instrument approach operations is outlined in AIC H26/14.

Instrument Approach Procedure (IAP): A series of predetermined manoeuvres by reference to flight instruments with specified protection from obstacles from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en route obstacle clearance criteria apply. Instrument approach procedures are classified as follows:

a. Non-precision approach (NPA) procedure. An instrument approach procedure designed for 2D instrument approach operations Type A.

Note: Non-precision approach procedures may be flown using a Continuous Descent Final Approach technique (CDFA). CDFA with advisory. VNAV guidance calculated by on-board equipment are considered 3D instrument approach operations. CDFA with manual calculation of the required rate of descent are considered 2D instrument approach operations.

b. Approach Procedure with Vertical guidance (APV). A Performance Based Navigation (PBN) instrument approach procedure designed for 3D instrument approach operations Type A.

c. Precision Approach (PA) procedure. An instrument approach procedure based on navigation systems (ILS, MLS, GLS and SBAS CAT I) designed for 3D instrument approach operations Type A or B.

Note: Refer to AIC H26/14 for instrument approach operation types.

Instrument Landing System (ILS): A precision instrument approach system which normally consists of the following electronic components: VHF Localiser, UHF Glideslope, VHF Marker Beacons.

Instrument Runway: One of the following types of runways intended for the operation of aircraft using instrument approach procedures:

a. Non-precision approach runway. An instrument runway served by visual aids and a non-visual aid providing at least directional guidance adequate for a straight-in approach.

b. Precision approach runway, CAT I. An instrument runway served by a precision approach procedure and visual aids intended for operations with a decision height not lower than 60M (200FT) and either a visibility not less than 800M, or a RVR not less than 550M.

c. Precision approach runway, CAT II. An instrument runway served by ILS and visual aids intended for operations with a decision height lower than 60M (200FT), but not lower than 100FT, and a RVR not less than 300M.

d. Precision approach runway, CAT III. An instrument runway served by ILS to and along the surface of the runway and:

   (i) for CAT IIIA – intended for operations with a decision height lower than 30M (100FT), or no decision height, and a RVR not less than 175M;

   (ii) for CAT IIIB – intended for operations with a decision height lower than 15M (50FT), or no decision height, and a RVR less than 175M, but not less than 50M;

   (iii) for CAT IIIC – intended for operations with no decision height and no RVR limitations.

Integrated Aeronautical Information Package: A package which consists of the following elements: AIP, including amendment service; supplements to the AIP; NOTAM and Preflight Information Bulletins (PIBs); AIC; and checklists and summaries.

Integrity: That quality which relates to the trust which can be placed in the correctness of information supplied by a system. It includes the ability of a system to provide timely warnings to users when the system should not be used for navigation.

Intermediate Approach Segment: That segment of an instrument approach procedure between either the intermediate approach fix and the final approach fix or point, or between the end of the reversal, race track or dead reckoning track procedure and the final approach fix or point, as appropriate.

Intermediate Fix (IF): A fix on an RNAV (or RNP) approach that marks the end of an initial segment and the beginning of the intermediate segment.

In the Vicinity: An aircraft is in the vicinity of a non-controlled aerodrome if it is within a horizontal distance of 10 miles; and within a height above the aerodrome reference point that could result in conflict with operations at the aerodrome.

Land And Hold Short Operations (LAHSO): A procedure involving dependent operations conducted on two intersecting runways whereby aircraft land and depart on one runway while aircraft landing on the other runway hold short of the intersection.

Landing Area: That part of the movement area intended for the landing or takeoff of aircraft.

Land Rescue Unit: A land party equipped to undertake a search for an aircraft within the region of its responsibility.

Level: A generic term relating to the vertical position of an aircraft in flight and meaning variously, height, altitude or flight level.

Local Standby (in the context of Aerodrome Emergency Plans): A situation in which activation of only the airport-based agencies involved in the Aerodrome Emergency Plan is warranted. A Local Standby will be the normal response when an aircraft approaching an airport is known or is suspected to have developed some defect, but the trouble is not such as would normally involve any serious difficulty in effecting a safe landing.

Localiser (LOC): The component of an ILS which provides azimuth guidance to a runway. It may be used as part of an ILS or independently.

Logon address: A specified code used for data link logon to an ATS unit.

Low Jet Route (LJR): A route, or part of a route, at or below 5,000FT AGL used by MLJ aircraft for low level, high speed operations.

Low Visibility Operation: An operation involving:

a. an approach with minima less than precision approach category I; or

b. a takeoff with visibility below 550M.

Low Visibility Procedures: Procedures applied at an aerodrome for protecting aircraft operations during conditions of reduced visibility or low cloud.

Lowest Safe Altitude (LSALT): The lowest altitude which will provide safe terrain clearance at a given place.

Manoeuvring Area: That part of an aerodrome to be used for the takeoff, landing and taxiing of aircraft, excluding aprons.

Marker: An object displayed above ground level in order to indicate an obstacle or delineate a boundary.

Marker Beacon: A type of radio beacon, the emissions of which radiate in a vertical pattern.

Markings: A symbol or group of symbols displayed on the surface of the movement area in order to convey aeronautical information.

Maximum Takeoff Weight (MTOW): The maximum takeoff weight of an aircraft as specified in its Certificate of Airworthiness.

Medical Flight: A flight providing transport of medical patients, personnel, and/or equipment, prioritised as follows:

MEDEVAC: a life critical medical emergency evacuation e.g. An aircraft proceeding to pick up, or carrying, a severely ill patient, or one for whom life support measures are being provided.

HOSP: a medical flight declared by medical authorities e.g. An aircraft transporting or proceeding to pick up medical personnel and/or equipment urgently required for the treatment of a severely ill patient, or returning urgently required medical personnel and/or equipment at the termination of a MEDEVAC flight.

METBRIEF (Automated Meteorological Telephone Briefing): Self help system which delivers meteorological information on the telephone using a computer generated voice, in response to a tone generated telephone request.

Meteorological Information: Meteorological report, analysis, forecast, and any other statement relating to existing or expected meteorological conditions.

Meteorological Office (MO): An office designated to provide meteorological service for air navigation.

Meteorological Warning: A statement or meteorological report of the occurrence or expectation of a deterioration or improvement in meteorological conditions or of any meteorological phenomenon which may seriously affect the safe operation of aircraft.

Military Low Jet (MLJ): Military aircraft operating on LJR

Minimum Crossing Altitude (MCA): The minimum IFR altitude that aircraft may cross the IDF.

Minimum Descent Altitude/Height (MDA/H): A specified altitude or height in a 2D instrument approach operation or circling approach operation below which descent must not be made without the required visual reference.

Note 1: MDA is referenced to Mean Sea Level (MSL) and MDH is referenced to the aerodrome elevation or to the threshold elevation if that is more than 7FT below the aerodrome elevation. A minimum descent height for a circling approach is referenced to the aerodrome elevation.

Note 2: The required visual reference means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path. In the case of a circling approach the required visual reference is the runway environment.

Minimum Fuel: The term used to describe a situation when an aircraft's fuel supply has reached a state where having committed to land at a specific aerodrome, the pilot calculates that any change to the existing clearance to that aerodrome may result in landing with less than fixed fuel reserve for the flight.

Note: The minimum fuel state is not an emergency situation but an indication that an emergency situation is possible should any additional delay occur.

Minimum Sector Altitude (MSA): The lowest altitude which may be used which will provide a minimum clearance of 1,000FT above all objects located in an area contained within a sector of a circle of 25NM or 10NM radius centred on a significant point, the ARP, or the HRP.

Minimum Vector Altitude: The lowest altitude which a controller may assign to a pilot in accordance with the *Radar Terrain Clearance* chart.

Missed Approach Holding Fix (MAHF): A fix on an RNAV (or RNP) approach that marks the end of the missed approach segment and the point for the missed approach holding (where applicable).

Missed Approach Point (MAPt): That point in an instrument approach procedure at or before which the prescribed missed approach procedure must be initiated in order to ensure that the minimum obstacle clearance is not infringed.

Missed Approach Procedure: The procedure to be followed if the approach cannot be continued.

Missed Approach Turning Fix (MATF): A fix on an RNAV (or RNP) approach that marks a turning point during the missed approach segment.

Movement Area: That part of an aerodrome to be used for the takeoff, landing and taxiing of aircraft, consisting of the manoeuvring area and the apron(s).

MULTICOM: The frequency (126.7MHz) used for broadcasts while operating to or from a non-controlled aerodrome depicted on an aeronautical chart that does not have a discrete CTAF assigned.

NAIPS: The National Aeronautical Information Processing System, which provides briefings and flight notification functions.

Navigation Specification: A set of aircraft and flight crew requirements needed to support performance based navigation operations within a defined airspace. There are two kinds of navigation specifications:

RNP Specification: A navigation specification based on area navigation that includes the requirement for on board performance monitoring and alerting, designated by the prefix RNP, e.g. RNP4, RNP APCH.

RNAV Specification: A navigation specification based on area navigation that does not include the requirement for on board performance monitoring and alerting, designated by the prefix RNAV, e.g. RNAV 5, RNAV 1.

Note: The Performance-based Navigation Manual (Doc 9613), Volume II, contains detailed guidance on navigation specifications.

Night: The period between the end of evening civil twilight (last light) and the beginning of the following morning civil twilight (first light).

Night Vision Goggles (NVG): A self-contained binocular night vision enhancement device, usually helmet mounted or otherwise worn by a person, that can detect and amplify light in both the visual and near infra-red bands of the electromagnetic spectrum.

Non-Controlled Aerodrome: An aerodrome at which ATC is not operating.

Non-Directional Beacon (NDB): A special radio station, the emissions of which are intended to enable a mobile station to determine its radio bearing or direction with reference to that special radio station.

NOTAM: A notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

No-Transgression Zone (NTZ): A corridor of airspace of defined dimensions located centrally between the two extended runway centre-lines where controller intervention is required to manoeuvre aircraft when this airspace is penetrated by an aircraft conducting a simultaneous approach to a parallel instrument runway.

One Way Route: A route with limitations for use in one direction, depicted on *ERC-H*, *ERC-L* and/or *TAC* charts by an arrow in the direction that can be used without limitation (see *ERSA* for additional details).

Operator: A person, organisation or enterprise engaged in or offering to engage in aircraft operation.

Operations Manual: A manual provided by an operator for the use and guidance of its operations staff, containing instructions as to the conduct of flight operations, including the responsibilities of its operations staff (refer *CAR 215*).

Overshoot Shear: A wind shear occurrence which produces an INITIAL effect of overshooting the desired approach path and/or increasing airspeed.

Parking Area: A specially prepared or selected part of an aerodrome within which aircraft may be parked.

Passive LAHSO Runway: The runway used during LAHSO for arriving and departing aircraft that have the full length available.

Pavement Classification Number (PCN): A number expressing the bearing strength of a pavement for unrestricted operations.

Performance-Based Navigation (PBN). Area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace.

Note: Performance requirements are expressed in navigation specifications (RNAV specification, RNP specification) in terms of accuracy, integrity, continuity, availability and functionality needed for the proposed operation in the context of a particular airspace concept.

Performance Class 1 (PC1): PC1 is the class of helicopter performance such that in the event of failure of the critical power-unit the helicopter is able either to land within the rejected takeoff distance available, or to safely continue the flight to an appropriate landing area, depending on when the failure occurs.

Performance Class 2 (PC2): PC2 is the class of helicopter performance such that in the event of critical power-unit failure performance is available to enable the helicopter to safely continue the flight except when the failure occurs early during the takeoff manoeuvre or late in the landing manoeuvre, in which cases a forced landing may be required.

Permissible All-Up-Weight: The weight to which an aircraft is limited by virtue of the physical characteristics of an aerodrome.

Pilot in Command: The pilot designated by the operator, or in the case of general aviation, the owner, as being in command and charged with the safe conduct of a flight.

Precision Approach Procedure: An instrument approach procedure utilising lateral and vertical guidance provided by an ILS or GLS.

Precision Runway Monitor (PRM): A surveillance radar system with a minimum azimuth accuracy of 0.06°, an update period of 2.5 seconds or less and a high resolution display providing position prediction and deviation alert, used in providing ILS course monitoring during independent approaches to runways separated by less than 1,525M.

Pre-Departure Clearance (PDC): A means of delivering an unsolicited, text-based airways clearance to eligible aircraft via an ATC data link.

Preferred Runway: A runway nominated by ATC or listed in the AIP as the most suitable for the prevailing wind, surface conditions or noise sensitive areas in the proximity of the aerodrome.

Primary Means Navigation System: A navigation system that, for a given operation or phase of flight, must meet accuracy and integrity requirements, but need not meet full availability and continuity of service requirements. Safety is achieved by either limiting flights to specific time periods, or through appropriate procedural restrictions and operational requirements.

Private IFR: The Private IFR Rating (PIFR) authorises the holder to act as pilot in command of flights under the IFR by day in single pilot aircraft having a MTOW not greater than 5,700KG.

Procedural Service: Term used to indicate that information derived from an ATS surveillance system is not required for the provision of ATS.

Procedure Altitude/Height: A specified altitude/height flown at or above the minimum altitude/height, and established to accommodate a stabilised descent at a prescribed descent gradient/angle in the intermediate/final approach segment.

Prohibited Area: An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is prohibited. Designation is appropriate only for reasons of military necessity.

Published Speed: A speed restriction shown on a Standard Instrument Departure (SID), Standard Instrument Arrival (STAR), or other instrument flight procedure.

QNH Altimeter Setting: That pressure setting which, when placed on the pressure setting sub-scale of a sensitive altimeter of an aircraft located at the reference point of an aerodrome, will cause the altimeter to indicate the vertical displacement of the reference point above mean sea level.

Radio Altimeter (RA) Height. An indication of vertical distance between a point on the normal glidepath at DA and the terrain directly beneath this point.

Radio Navigation Service. A service providing guidance information or position data for the efficient and safe operation of aircraft supported by one or more radio navigation aids.

Rapid-Exit Taxiway: A taxiway connected to a runway at an acute angle and designed to allow landing aeroplanes to turn off at high relative speeds.

Receiver Autonomous Integrity Monitoring (RAIM): A system whereby an airborne GPS receiver/processor autonomously monitors the integrity of the navigation signals from GPS satellites.

Reduced Vertical Separation Minimum (RVSM): The vertical separation minimum of 1,000FT between FL 290 and FL 410 inclusive.

Reference Datum Height (RDH): The height of the measured ILS glide path at the threshold. It will provide a similar value to Threshold Crossing Height.

Registered Aerodrome: A place that is registered as an aerodrome under the Civil Aviation Safety Regulations.

Repetitive Flight Plan: A flight plan referring to a series of frequently recurring, regularly operated individual flights with identical basic features, submitted by an operator for retention and repetitive use by ATS units.

Reporting Point: A specified geographical location in relation to which the position of an aircraft can be reported.

Required Navigation Performance (RNP): A statement of the navigation performance necessary for operation within a defined airspace.

RNP Type: A containment value expressed as a distance in nautical miles from the intended position within which flights would be for at least 95 per cent of the total flying time.

Rescue Coordination Centre (RCC): A unit established for promoting efficient organisation of search and rescue service and for coordinating the conduct of search and rescue operations within a search and rescue region.

Resolution Advisory (RA): An indication given to the flight crew recommending a manoeuvre or a manoeuvre restriction to avoid collision.

Restricted Area: An airspace of defined dimensions above the land areas or territorial waters of a State, within which the flight of aircraft is restricted in accordance with certain specified conditions.

Note: This designation is used when necessary in the interests of public safety or the protection of the environment.

Route: A way to be taken in flying from a departure to a destination aerodrome, specified in terms of track and distance for each route segment.

Runway (RWY): A defined rectangular area on a land aerodrome prepared for the landing and takeoff of aircraft.

Runway-Holding Position: A designated position intended to protect a runway, an obstacle limitation surface, or an ILS critical/sensitive area at which taxiing aircraft and vehicles must stop and hold, unless otherwise authorised by the aerodrome control tower.

Note: In radiotelephony phraseologies, the expression "holding point" is used to designate the runway-holding position.

Runway Number: The runway identification associated with the runway direction end.

Runway Strip: The defined area, including the runway (and stopway if provided), intended both to reduce the risk of damage to aircraft inadvertently running off the runway and to protect aircraft flying over it during takeoff, landing or missed approach.

Runway Visibility (RV): The distance along a runway over which a person can see and recognise a visibility marker or runway lights.

Note: The term RUNWAY VISIBILITY is used by ATC or ground personnel to report visibility along a runway as determined by a ground observer.

Runway Visual Range (RVR): The range over which the pilot of an aircraft on the centre line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centre line. (*ICAO*)

Note: Within Australia, the term "RUNWAY VISUAL RANGE" or "RVR" is used exclusively in relation to RVR measured by an instrumented system.

SARTIME: The time nominated by a pilot for the initiation of SAR action if a report has not been received by the nominated unit.

SARWATCH: A generic term covering SAR alerting based either on full position reporting procedures, scheduled reporting times (SKEDS), or SARTIME.

Search and Rescue (SAR): The act of finding and returning to safety, aircraft and persons involved in an emergency phase.

Search and Rescue Region (SRR): The specified area within which search and rescue is coordinated by a particular Rescue Coordination Centre.

Segment Minimum Safe Altitude: The lowest altitude at which the minimum obstacle clearance is provided.

Segregated Parallel Operations: Simultaneous operations on parallel or near-parallel instrument runways in which one runway is used exclusively for approaches and the other runway is used exclusively for departures.

Self Contained Navigation Systems: Area navigation systems based on INS, IRS or GNSS.

Significant Point: A specified geographical location used in defining an ATS route or the flight path of an aircraft and for other navigation and ATS purposes.

Note: There are three categories of significant points: ground-based navigation aid, intersection and waypoint. In the context of this definition, intersection is a significant point expressed as radials, bearings and/or distances from ground-based navigation aids.

Significant Weather: Any weather phenomenon which might affect flight visibility or present a hazard to an aircraft.

Simultaneous Opposite Direction Parallel Runway Operations (SODPROPS): A condition whereby arriving aircraft will approach and land on one runway, concurrent with aircraft departures from the parallel runway using the opposite direction to that being used for approach and landing.

Situation Display: An electronic display depicting the position and movement of aircraft and other information as required.

Sole Means Navigation System: A navigation system that, for a given phase of flight, must allow the aircraft to meet all four navigation system performance requirements - accuracy, integrity, availability and continuity of service.

Special Air-Report (AIREP Special): An AIREP containing the report of special meteorological conditions, i.e. SIGMET phenomenon, or any other MET phenomenon which is likely to affect the safety or efficiency of other aircraft.

Special Authorisation Category I (SA CAT I) Operation: A precision approach CAT I operation with a DH lower than 200FT, but not lower than 150FT; and an RVR not less than 450M.

Special Authorisation Category II (SA CAT II) Operation: A precision approach operation to a runway where some or all of the elements of the precision approach CAT II lighting system are not available, with:

a. a DH lower than 200FT but not lower than 100FT; and

b. RVR of not less than 350M.

SSR Code: The number assigned to a particular multiple-pulse reply signal transmitted by a transponder in Mode A or Mode C.

Standard Instrument Arrival (STAR): A designated IFR arrival route linking a significant point, normally on an ATS route, with a point from which a published instrument approach procedure can be commenced.

Note: Australian Standard Instrument Arrival charts are also called Standard Arrival Route charts.

Standard Instrument Departure (SID): A designated IFR departure route linking the aerodrome or a specified runway of the aerodrome with a specified significant point, normally on a designated ATS route, at which the en route phase of a flight commences.

Standard Message Element: Part of a message defined in the PANS-ATM (DOC 4444) in terms of display format, intended use and attributes.

Standard Pressure: The pressure of 1013.2 Hectopascals which, if set upon the pressure sub-scale of a sensitive altimeter, will cause the latter to read zero when at mean sea level in a standard atmosphere.

Standard Pressure Region: Airspace above 10,000FT where the sub-scale of a pressure sensitive altimeter is set to 1013.2HPA.

State Aircraft: An aircraft of any part of the Defence Force (including any aircraft that is commanded by a member of that force in the course of his/her duties as such a member), and aircraft used in the military, customs, or police services of a foreign country.

Stop-and-Go Landing: A procedure whereby an aircraft lands, comes to a complete stop on the runway and then commences takeoff from that point.

Stopway: A defined rectangular area on the ground at the end of the takeoff run available prepared as a suitable area in which an aircraft can be stopped in the case of an abandoned takeoff.

Supplemental Means Navigation System: A navigation system that must be used in conjunction with a sole means navigation system.

Surveillance Information Service (SIS): An on-request service provided to assist pilots of VFR flights, within ATS surveillance system coverage in Class E and Class G airspace, to avoid other aircraft or to assist in navigation.

Tactical Air Navigation (TACAN): An ultra-high frequency navigation aid which provides a continuous indication of bearing and slant range, in nautical miles, to the selected ground station.

Taxiway (TWY): A defined path on a land aerodrome established for the taxiing of aircraft and intended to provide a link between one part of the aerodrome and another.

Terrain Clearance: The vertical displacement of an aircraft's flightpath from the terrain.

Threshold: The beginning of that portion of the runway usable for landing.

Threshold Crossing Height (TCH): The calculated height of the procedure nominal approach path at the threshold. For ILS or GLS, the TCH will be similar to the Reference Datum Height.

Total Estimated Elapsed Time: For IFR flights, the estimated time required from takeoff to arrive over that designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced, or if no navigation aid is associated with the destination aerodrome, to arrive over the destination aerodrome. For VFR flights the estimated time required from takeoff to arrive over the destination aerodrome.

Touch-and-Go Landing: A procedure whereby an aircraft lands and takes off without coming to a stop.

Track: The projection on the earth's surface of the path of an aircraft, the direction of which path at any point is usually expressed in degrees from North (true, magnetic or grid).

Traffic Advisory (TA): An indication given to the flight crew that a certain intruder is a potential threat.

Transition Altitude: The altitude at or below which the vertical position of an aircraft is controlled by reference to altitudes.

Transition Layer: The airspace between the transition altitude and the transition level.

Transition Level: The lowest flight level available for use above the transition altitude.

Transitional Surface: An inclined plane associated with the runway strip and the approach surfaces.

Transponder: A receiver/transmitter which will generate a reply signal upon proper interrogation; the interrogation and reply being on different frequencies.

Unalerted See-and-Avoid: A procedure where flight crew, who have no specific knowledge of other aircraft in their vicinity, rely solely on their ability to physically sight and avoid colliding with aircraft that may be in their vicinity.

Undershoot Shear: A wind shear occurrence which produces an INITIAL effect of undershooting the desired approach path and/or decreasing air speed.

UNICOM (Universal Communications): UNICOM is a non-ATS communications service provided to enhance the value of information normally available about a non-controlled aerodrome.

Unmanned Free Balloon: A non-power-driven, unmanned, lighter-than-air aircraft in free flight.

Note: Unmanned Free Balloons are classified as small, light, medium and heavy. For further details regarding these classifications and for approvals to operate Unmanned Free Balloons, refer to CASR Subpart 101.E

Unserviceable Area: A portion of the movement area not available for use by aircraft because of the physical condition of the surface, or because of any obstruction on the area.

Vectoring: Provision of navigational guidance to aircraft in the form of specific headings, based on the use of an ATS surveillance system.

VFR Climb and Descent: ATC authorisation for an IFR flight in VMC, in classes D and E airspace, to conduct a visual climb or descent.

VFR-on-Top: ATC authorisation for an IFR flight to operate in VMC, in Class E airspace at any appropriate VFR altitude or flight level.

VHF Omni-directional Radio Range (VOR): A VHF radio navigational aid which provides a continuous indication of bearing from the selected VOR ground station.

Visibility: Visibility for aeronautical purposes is the greater of:

a. the greatest distance at which a black object of suitable dimensions, situated near the ground, can be seen and recognised when observed against a bright background; or

b. the greatest distance at which lights in the vicinity of 1,000 candelas can be seen and identified against an unlit background.

Visibility Marker: A dark object of suitable dimensions for use as a reference in evaluating runway visibility.

Visual (ATC usage): Used by ATC to instruct a pilot to see and avoid obstacles while conducting flight below the MVA or MSA/LSALT.

Visual (Pilot usage): Used by a pilot to indicate acceptance of responsibility to see and avoid obstacles while operating below the MVA or MSA/LSALT.

Visual Approach Slope Indicator System (VASIS): A system of lights so arranged as to provide visual information to pilots on approach of their position in relation to the optimum approach slope for a particular runway.

$\mathbf{V_{s1g}}$ means the one-g stall speed at which the aeroplane can develop a lift force (normal to the flight path) equal to its weight.

Waypoint: A specified geographical location used to define an area navigation route or the flight path of an aircraft employing area navigation. Waypoints are identified as either:

a. **Fly-by Waypoint:** A waypoint which requires turn anticipation to allow tangential interception of the next segment of a route or procedure, or

b. **Flyover Waypoint:** A waypoint at which a turn is initiated in order to join the next segment of a route or procedure.

2. GENERAL AND METEOROLOGICAL ABBREVIATIONS

This list covers abbreviations which may be found throughout the AIP and on associated charts, or which are used in NOTAM, AIP Supplements (SUP) and in meteorological messages and documentation.

Abbreviations marked "+" may be used as spoken words in radio telephony. Abbreviations marked "#" may be spoken using the constituent letters rather than the phonetic alphabet.

Abbreviations marked "•" are not included in *ICAO Doc 8400* and must not be used in international NOTAM.

# 2D	Two-dimensional
# 3D	Three-dimensional
A/A	Air to Air
• AAR	Actual Arrival Report
• AAIS	Automatic Aerodrome Information Service
AAL	Above Aerodrome Level
ABM	Abeam
ABN	Aerodrome Beacon
ABV	Above...
AC	Altocumulus
+ ACARS	Aircraft Communication Addressing and Reporting System (pronounced "AY-CARS")
+ ACAS	Airborne Collision Avoidance System
# ACC	Area Control Centre
• ACD	Airways Clearance Delivery
ACFT	Aircraft
ACK	Acknowledge
ACN	Aircraft Classification Number
ACPT	Accept, Accepted
ACT	Active, Activated, Activity
AD	Aerodrome
ADDN	Addition, Additional
# ADF	Automatic Direction Finding Equipment
+ ADIZ	Air Defence Identification Zone
ADJ	Adjacent
# ADS-B	Automatic Dependent Surveillance-Broadcast
# ADS-C	Automatic Dependent Surveillance-Contract
ADZ	Advise
• AEP	Aerodrome Emergency Plan
•+ AERIS	Automatic En Route Information Service
AFIL	Flight notification: - filed in the air, or - indicating the position at which ATS services will first be required

	AFM	Yes, Affirm, Affirmative, That is correct
•+	AFRU	Aerodrome Frequency Response Unit
	AFT	After....
•	AFZ	Australian Fishing Zone(s)
	A/G	Air-to-Ground
	AGA	Aerodromes, Air Routes and Ground Aids
#	AGL	Above Ground Level
	AGN	Again
•	AH	After Hours
#	AIC	Aeronautical Information Circular
#	AIP	Aeronautical Information Publication
+	AIRAC	Aeronautical Information Regulation and Control
+	AIREP	Air-Report
+	AIRMET	Information concerning weather significant to aircraft operations at or below 10,000FT not contained in a valid GAF
#	AIS	Aeronautical Information Service
•#	ALA	Aircraft Landing Area
+	ALERFA	Alert Phase
	ALS	Approach Lighting System
	ALT	Altitude
	ALTN	Alternate, Alternating (light alternates in colour)
	ALTN	Alternate (aerodrome)
•	ALTRV	Altitude Reservation
	AMD	Amend, Amended
•	AMDAR	Aircraft Meteorological Data Relay
	AMDT	Amendment (AIP Amendment)
•	AMSA	Australian Maritime Safety Authority
#	AMSL	Above Mean Sea Level
•	AOC	Air Operator's Certificate
	AP	Airport
+	APAPI	Abbreviated Precision Approach Path Indicator (pronounced "AY-PAPI")
	APCH	Approach
	APN	Apron
	APP	Approach Control, Approach Control Office, Approach Control Service
	APR	April
	APRX	Approximate, Approximately
#	APU	Auxiliary Power Unit
	APV	Approach Procedure with Vertical guidance
•	AQZ	Area QNH Zone
•	ARN	Aviation Reference Number

	ARNG	Arrange
	ARP	Aerodrome Reference Point
	ARR	Arrive, Arrival
	AS	Altostratus
#	ASAP	As Soon as Possible
	ASDA	Accelerate-Stop Distance Available
	ASE	Altimetry System Error
•	A-SMGCS	Advanced Surface Movement Guidance and Control System
	ASPH	Asphalt
#	ATA	Actual Time of Arrival
#	ATC	Air Traffic Control (in general)
#	ATD	Actual Time of Departure
	ATFM	Air Traffic Flow Management
•	ATFMX	Exemption from ATFM measures by ATC
	ATM	Air Traffic Management
	ATP	At... (time or place)
+	ATIS	Automatic Terminal Information Service
#	ATS	Air Traffic Services
•	ATSAS	Automatic Thunderstorm Alert Service
	ATTN	Attention
+	AT-VASIS	Abbreviated “T” Visual Approach Slope Indicator System (pronounced “AY-TEE-VASIS”)
	ATZ	Aerodrome Traffic Zone
	AUG	August
	AUTH	Authorised, Authorisation
	AUTO	Automatic
	AUW	All Up Weight
	AUX	Auxiliary
•	AVM	Abrupt Vertical Manoeuvres (by the MIL)
	AVBL	Available
+•	AVFAX	Meteorological and NOTAM Facsimile Service
	AVG	Average
+	AVGAS	Aviation Gasoline
•+	AWIS	Aerodrome Weather Information Service
•	AWK	Aerial Work
•	AWR	Aerodrome Weather Report
•	AWS	Automatic Weather Station
	AWY	Airway
	AZM	Azimuth
	B	Blue
+	BARO-VNAV	(to be pronounced “BAA-RO-VEENAV”) Barometric Vertical Navigation
+	BASE	Cloud Base

	BCFG	Fog Patches
	BCN	Beacon (aeronautical ground light)
	BCST	Broadcast
•	BCTA	Base of CTA (used only on charts)
	BDRY	Boundary
	BECMG	Becoming
	BFR	Before
	BKN	Broken (cloud descriptor)
	BL...	Blowing (followed by DU=dust, SA=sand or SN=snow)
	BLDG	Building
	BLW	Below
•	BOF	Briefing Office
	BOMB	Bombing
	BR	Mist
	BRG	Bearing
	BRKG	Braking
	BS	Broadcasting Station (Commercial)
	BTN	Between
	C	Degrees Celsius (Centigrade)
	C	Centre (Runway)
•	CA/GRS	Certified Air/Ground Radio Service
•	CAO	Civil Aviation Order
•	CAR	Civil Aviation Regulation
•	CASA	Civil Aviation Safety Authority
+	CAT	Category
	CAT	Clear Air Turbulence
+	CAVOK	Visibility, cloud and present weather better than prescribed values or conditions (pronounced "KAV-OH-KAY")
#	CB	Cumulonimbus
	CC	Cirrocumulus
•	CCTS	Circuits
•	CDFA	Continuous Descent Final Approach technique
•	CEN	En Route and Area ATC Unit
	CFM	Confirm, I confirm
	CH	Channel
	CHEM	Chemical
•	CHTR	Charter
	CI	Cirrus
	CIV	Civil
	CK	Check
	CL	Centre Line
	CLA	Clear type of ice formation
	CLBR	Calibration
	CLD	Cloud
	CLG	Calling
•	CLIAS	Climbing Indicated Airspeed
	CLR	Clear, Cleared to..., Clearance
	CLSD	Closed, Close, Closing
	CM	Centimetre
	CMB	Climb to or Climbing to

	CMPL	Completion, Completed, or Complete
•	CMSD	Commissioned
	CNL	Cancel, Cancelled
	CNS	Communications, Navigation and Surveillance
	COBT	Calculated Off Blocks Time
	COM	Communications
	CONC	Concrete
	COND	Condition
	CONS	Continuous
	CONST	Construction, Constructed
	CONT	Continue(s), Continued
	COOR	Coordinate, Coordinated
	COORD	Coordinates
	COR	Correct, Corrected, Correction
•	COS	Conical Surface
	COT	At the Coast, Coastal
	COV	Cover, Covered, Covering
#	CPDLC	Controller-Pilot Data Link Communication
	CRZ	Cruise
	CS	Cirrostratus
	CS	Callsign
#	CTA	Control Area
•+	CTAF	Common Traffic Advisory Frequency
	CTC	Contact
	CTL	Control
	CTN	Caution
	CTOT	Calculated Take-off Time
	CTR	Control Zone
	CU	Cumulus
	CUF	Cumuliform
	CUST	Customs
	CWY	Clearway
#	**D...**	Danger Area (followed by identification)
	D	Downward (tendency in RVR during previous 10 minutes)
	DA	Decision Altitude
•	DAH	Designated Airspace Handbook
•	DAP	Departure and Approach Procedures
	DCKG	Docking
•	DCMSD	Decommissioned
#	DCPC	Direct Controller-Pilot Communications
	DCT	Direct (in relation to flight plan clearances and type of approach)
	DEC	December
	DEG	Degrees
	DEP	Depart, Departure, Departed, Departing, Departure Message
	DER	Departure End of Runway
	DEST	Destination
+	DETRESFA	Distress Phase
	DEV	Deviation, Deviating

#	DF	Direction Finder/ Finding
	DFDR	Digital Flight Data Recorder
	DH	Decision Height
	DIF	Diffuse
•	DISP	Displaced
	DIST	Distance
	DIV	Diversion, Divert, Diverting
•	DLE	Delay En route
	DLY	Daily
#	DME	Distance Measuring Equipment
	DNG	Danger, Dangerous
•	DOC	Documents
+	DOF	Date of Flight
	DOM	Domestic
	DP	Dew Point Temperature
	DPT	Depth
#	DR	Dead Reckoning
	DR...	Low drifting (followed by DU=dust,SA=sand or SN=snow)
	DRG	During
	DS	Duststorm
	DTG	Date-Time Group
	DTHR	Displaced Runway Threshold
	DTRT	Deteriorate, Deteriorating
	DU	Dust
	DUC	Dense Upper Cloud
	DUR	Duration
	DVOR	Doppler VOR
	DZ	Drizzle
	E	East, East Longitude
	EAT	Expected Approach Time
	EB	Eastbound
#	EET	Estimated Elapsed Time
	ELEV	Elevation
#	ELT	Emergency Locator Transmitter
	EM	Emission
	EMBD	Embedded in a Layer (to indicate cumulonimbus embedded in layers of other clouds)
	EMERG	Emergency
•	ENDCE	Endurance
	ENE	East North-East
	ENG	Engine
	ENR	En Route
	ENRC	En Route Chart *(followed by name/ title)*
	EOBT	Estimated off Block Time
•+	EPIRB	Electronic Position Indicating Radio Beacon (marine term)
	EQPT	Equipment
•#	ERC	En Route Chart
•+ #	ERSA	En Route Supplement Australia
	ESE	East South-East
	EST	Estimate *or* estimated *or* estimate (message type designator)

#	ETA	Estimated Time of Arrival, Estimating Arrival
#	ETD	Estimated Time of Departure or Estimating Departure
	ETO	Estimated Time Over significant point
	EV	Every
	EVS	Enhanced Vision System
	EXC	Except
	EXER	Exercises, Exercising, to exercise
	EXP	Expect, Expected, Expecting
	EXTD	Extend, Extending, Extended
	F	Fixed (chart symbol)
	FAC	Facility, Facilities
	FAF	Final Approach Fix
•	FANS 1/A	The term used to describe the initial future air navigations system
	FAP	Final Approach Point
	FAS	Final Approach Segment
	FATO	Final Approach and Take-off Area
+	FAX	Facsimile Transmission
	FBL	Light (used to indicate the intensity of WX phenomena, interference or static reports, e.g. FBL RA = light rain)
	FC	Funnel Cloud (tornado or water spout)
	FCST	Forecast
•	FDE	Fault Detection and Exclusion
	FDPS	Flight Data Processing System
	FEB	February
	FEW	Few (cloud descriptor)
•	FFR	Flood or Fire Relief; Fire Fighting
	FG	Fog
•#	FIA	Flight Information Area
#	FIR	Flight Information Region
#	FIS	Flight Information Service
	FL	Flight Level
	FLD	Field
	FLG	Flashing
	FLR	Flares
	FLT	Flight
	FLTCK	Flight Check For Calibration of Navaids
	FLUC	Fluctuating, Fluctuation, Fluctuated
	FLW	Follow(s), Following
	FLY	Fly, Flying
	FM	From
	FM...	From (followed by time weather change is forecast to begin)

•	FMC WPR	The term used to describe flight management computer waypoint position reporting
#	FMS	Flight Management System
	FMU	Flow Management Unit
•	FN	Fly Neighbourly Area
	FNA	Final Approach
•	FPA	Flight Procedure Authorisation
	FPL	Filed Flight Plan Message
	FPM	Feet per Minute
	FR	Fuel Remaining
	FREQ	Frequency
	FRI	Friday
	FRNG	Firing
	FRQ	Frequent
•#	FS	Flight Service (in general)
•	FSP	Fish Spotting
	FST	First
	FT	Feet
	FU	Smoke
•	FXD	Fixed
	FZ	Freezing
	FZDZ	Freezing Drizzle
	FZFG	Freezing Fog
•	FZLVL	Freezing Level (in AIRMET products)
	FZRA	Freezing Rain
	G	Green
	G	Variation from mean wind speed (gusts) (MET - used in METAR/SPECI and TAF code forms)
#	GA	General Aviation
+	GAF	Graphical Area Forecast
#	GBAS	Ground Based Augmentation System
	GEN	General
	GEO	Geographic, true
	GES	Ground Earth Station
•	GFY	Glider Flying
	GLD	Glider
+	GLONASS	Global Orbiting Navigation Satellite System (pronounced “GLO-NAS”)
#	GLS	GBAS Landing System
	GND	Ground
	GNDCK	Ground Check
#	GNSS	Global Navigation Satellite System
	GP	Glide Path
#	GPS	Global Positioning System
#	GPU	Ground Power Unit
#	GPWS	Ground Proximity Warning System
•	GPWT	Grid Point Wind and Temperature
	GR	Hail
•	GRAD	Minimum Required Climb Gradient
+	GRASS	Grass Landing Area

+	GRIB	Processed meteorological data in the form of grid point values expressed in binary form (meteorological code)
	GRVL	Gravel
	GS	Groundspeed
	GS	Small Hail and/or Snow Pellets
	H	High pressure area or the centre of high pressure (MET)
#	H24	Continuous day and night service
•	HH	Time of commencement of a meteorological report validity period
•	HAZMAT	Hazardous Material
	HBN	Hazard Beacon
	HDG	Heading
•	HDS	Hours of Daylight Saving
•	HEAD	Head of State
	HEL	Helicopter
#	HF	High Frequency (3,000 to 30,000 kHz)
	HGT	Height, Height Above
•+	HIAL	High Intensity Approach Lighting
•	HIOL	High Intensity Obstacle Lights
•	HIRL	High Intensity Runway Lighting
#	HJ	Sunrise to Sunset
	HLDG	Holding
	HLP	Heliport
	HLS	Helicopter Landing Site
#	HN	Sunset to Sunrise
	HO	Service available to meet operational requirements
	HOSP	Hospital Aircraft
	HPA	Hectopascal
	HR	Hours
	HRP	Heliport Reference Point
•	HS	Homestead
	HS	Service available during hours of scheduled operations
	HSL	Hold Short Lights
	HUD	Head-up display
	HUM	Humanitarian
	HVY	Heavy
	HVY	Heavy (used to indicate the intensity of WX phenomena, e.g. HVY RA = heavy rain)
	HX	No specific working hours
	HZ	Haze
	HZ	Hertz (cycle per second)
•	HZS	Horizontal Surface
	IAC	Instrument Approach Chart (*followed by name/title*)
	IAF	Initial Approach Fix
•#	IAL	Instrument Approach and Landing

	IAP	Instrument Approach Procedure
#	IAS	Indicated Airspeed
•	IAWP	Initial Approach Waypoint
+	ICAO	International Civil Aviation Organization
	ICE	Icing
	ID	Identifier, identify
+	IDENT	Identification
•+	IDEP	Instrument Departure (FPA)
	IF	Intermediate Fix or Intermediate Approach Fix
#	IFR	Instrument Flight Rules
#	ILS	Instrument Landing System
	IM	Inner Marker
#	IMC	Instrument Meteorological Conditions
	IMG	Immigration
	IMPR	Improve, Improving, Improvement
	INBD	Inbound
+	INCERFA	Uncertainty Phase
+	INFO	Information
+	INOP	Inoperative
#	INS	Inertial Navigation System
	INSTL	Install, Installed, Installation
	INSTR	Instrument
	INT	Intersection
•+	INTER	Intermittent (ie. lasting less than 30 minutes) Fluctuations from forecast prevailing conditions
	INTL	International
	INTRP	Interrupt, Interruption, Interrupted
	INTSF	Intensify, Intensifying
	INTST	Intensity
+	ISA	International Standard Atmosphere
	ISOL	Isolated
•	IVA	Independent Visual Approach
•	IWI	Illuminated Wind Indicator
	JAN	January
•	JF	Saturday, Sunday and PH
•	JO	Monday to Friday except PH
	JTST	Jet Stream
	JUL	July
	JUN	June
	KG	Kilograms
	kHz	Kilohertz
	KIAS	Knots Indicated Airspeed
	KM	Kilometres
	KMH	Kilometres per Hour
	kPa	Kilopascals
	KT	Knots
	KW	Kilowatts

	L	Left (runway identification)
	L	Litre
	L	Low pressure area or the centre of low pressure (MET)
•	LAHSO	Land and Hold Short Operations
+	LAT	Latitude
	LCA	Locally, Location, Located, Local
	LDA	Landing Distance Available
	LDG	Landing
	LEN	Length
	LGT	Light, Lighting
	LGTD	Lighted
	LIH	Light Intensity High
	LIL	Light Intensity Low
	LIM	Light Intensity Medium
•	LIOL	Low Intensity Obstacle Lights
•	LIRL	Low Intensity Runway Lights
•	LJR	Low Jet Route
•	LL	Lower Limits
•	LLN	Low Level Navigation (by the MIL)
•	LLO	Low Level Operations (by the MIL)
	LMT	Local mean time
+	LNAV	Lateral Navigation
	LOC	Localiser
•	LOE	Lane of Entry
+	LONG	Longitude
•	LSALT	Lowest Safe Altitude
	LTD	Limited
•	LUL	Lowest Usable Level
	LV	Light and Variable (relating to wind)
	LVL	Level
•	LVO	Low Visibility Operation(s)
#	LVP	Low Visibility Procedure(s)
	LYR	Layer, Layered
	M	Metres (preceded by figures)
	M	Mach number (followed by figures)
•	MAE	Men and Equipment
	MAG	Magnetic
	MAINT	Maintenance
•	MAN	Manual
	MAP	Aeronautical Maps and Charts
	MAPT	Missed Approach Point
	MAR	At Sea
	MAR	March
•+	MARSA	Military Assumes Responsibility for Separation of Military Aircraft
+	MAX	Maximum
	MBST	Microburst
	MDA	Minimum Descent Altitude
	MDH	Minimum Descent Height
#	MEA	Minimum En Route Altitude

+	MEDEVAC	Medical Evacuation Flight
+	MET	Meteorological, Meteorology
+	METAR	Aviation routine weather report (in aeronautical meteorological code)
	MET REPORT	Aviation routine weather report
	MF	Medium Frequency (300 to 3,000 kHz)
	MHz	Megahertz
•	MI	Shallow (MET)
	MIFG	Shallow Fog
	MIL	Military
	MIN	Minutes
•	MIOL	Medium Intensity Obstacle Lights
•	MIRL	Medium Intensity Runway Lights
•	MISC	Miscellaneous
•	MLJ	Military Low Jet
#	MLS	Microwave Landing System
	MM	Middle Marker
	MNM	Minimum
	MNT	Monitor, Monitoring, Monitored
	MNTN	Maintain, Maintained, Maintaining
•	MO	Meteorological Office
	MOD	Moderate (used to indicate the intensity of WX phenomena, interference or static reports, e.g. MOD RA = moderate rain).
	MON	Monday
+	MOPS	Minimum Operational Performance Standards
	MOV	Move, Moved, Moving, Movement
•	MOWP	Method of Working Plan
	MS	Minus
#	MSA	Minimum Sector Altitude
	MSG	Message
	MSL	Mean Sea Level
	MSSR	Monopulse Secondary Surveillance Radar
	MT	Mountain
•	MTOW	Maximum Take-off Weight
•	MTP	Maximum Tyre Pressure
	MTW	Mountain waves
•	MVA	Minimum Vector Altitude
	MWO	Meteorological Watch Office
	MX	Mixed type of ice formation (white and clear)
	N	No distant tendency (in RVR during previous 10 minutes)

	N	North, North Latitude
•	NAIPS	National Aeronautical Information Processing System
•	NAP	Noise Abatement Procedures
•	NAT	NAVAID Training
	NAV	Navigation
	NAVAID	Navigation Aid
	NB	Northbound
	NC	No Change
•	NCC	Network Coordination Centre
	NCD	No Cloud Detected (by ceilometer) [*used in automated* METAR/SPECI]
#	NDB	Non-Directional Radio Beacon
	NE	North-East
	NEG	Negative, No, permission not granted, or, that is not correct
	NGT	Night
+	NIL	None
	NM	Nautical Miles
	NML	Normal
	NN	No name, unnamed
	NNE	North North-East
	NNW	North North-West
	NOF	International NOTAM Office
	NONSTD	Non-Standard
+	NOSIG	No Significant Change
#	NOZ	Normal Operating Zone
+	NOTAM	Notice to Airmen (A notice containing information concerning the establishment, condition or change in facility, service, procedure or hazard which is essential to personnel concerned with flight operations)
	NOTAMC	Cancelling NOTAM
	NOTAMN	New NOTAM
	NOTAMR	Replacing NOTAM
	NOV	November
	NPA	Non-Precision Approach
	NR	Number
	NS	Nimbostratus
	NSC	Nil Significant Cloud
	NSW	Nil Significant Weather
•	NTA	No TAF Amendment
	NTL	National
#	NTZ	No Transgression Zone
•#	NVG	Night Vision Goggles
	NW	North-West
	NXT	Next
	OBS	Observe, Observed, Observation
	OBSC	Obscure, Obscured, Obscuring
	OBST	Obstacle
•	OBSTR	Obstruction

#	OCA	Oceanic Control Area,
	OCA	Obstacle Clearance Altitude
	OCC	Occulting (light)
	OCH	Obstacle Clearance Height
	OCNL	Occasional, Occasionally
	OCT	October
•#	OCTA	Outside Control Area
•#	OCTR	Outside Control Zone
	OFZ	Obstacle Free Zone
	OHD	Overhead
	OK	We agreed, *or*, It is correct
•	OLS	Obstacle Limitation Surface
	OM	Outer Marker
	OPA	Opaque. White type of ice formation
+	OPMET	Operational Meteorological (information)
	OPN	Open, Opening, Opened
	OPR	Operator, Operate, Operative, Operating, Operational
	OPS	Operations
	O/R	On Request
•	OT	Other Times
	OVC	Overcast
•	OW	Over Water
#	**P....**	Prohibited Area (followed by identification)
	PA	Precision Approach
•+	PAL	Pilot Activated Lighting
	PANS	Procedures for Air Navigation Services
+	PAPI	Precision Approach Path Indicator
	PARL	Parallel
	PAX	Passengers
	PBN	Performance-based navigation
	PCD	Proceed, Proceeding
	PCL	Pilot Controlled Lighting
	PCN	Pavement Classification Number
#	PDC	Pre-Departure Clearance
•	PEC	Pressure Error Correction
	PER	Performance
	PERM	Permanent
•	PH	Public Holiday
•	PFR	Preferred Route
	PIB	Pre-flight Information Bulletin
•	PILS	Practice ILS
•	PIFR	Private IFR (rating)
	PJE	Parachute Jumping Exercise
	PL	Ice Pellets
•	PLN	Flight Plan
	PN	Prior Notice Required
#	PNR	Point of No Return

	PO	Dust Devils
#	POB	Number of Persons on Board
	POSS	Possible
#	PPI	Plan Position Indicator
	PPR	Prior Permission Required
	PPSN	Present Position
•	PRD	Prohibited, Restricted and Danger Areas
	PRFG	Aerodrome Partially Covered by Fog (MET code)
	PRI	Primary
	PRKG	Parking
•	PRM	Precision Runway Monitoring
+	PROB	Probability
	PROC	Procedure
	PROV	Provisional
	PS	Plus
	PSG	Passing
	PSN	Position
	PSP	Pierced Steel Plank
#	PSR	Primary Surveillance Radar
•	PTBL	Portable
	PTN	Procedure Turn
•	PTT	Press to Talk
•	PVT	Private
	PWR	Power
#	**QNH**	Altimeter subscale setting to obtain elevation or altitude
	QUAD	Quadrant
	R	Red
	R	Right (runway identification)
	R	Runway (followed by figures in METAR/ SPECI)
	R...	Radial from VOR (followed by three figures)
	R....	Restricted Area (followed by number)
•	RA	Radio Altimeter
	RA	Rain
	RA	Resolution Advisory
•	RA	Restricted Area
•	RAD	Radius
+	RAIM	Receiver Autonomous Integrity Monitoring
•+	RAPIC	Radar Picture (MET)
+	RASC	Regional AIS System Centre
#	RCC	Rescue Coordination Centre
•	RCGL	Runway Circling Guidance Lights
	RCH	Reach, Reaching
	RCL	Runway Centre Line
	RCLL	Runway Centre Line Lights
	RDH	Reference Datum Height
	RDL	Radial
	RDO	Radio
	RE...	Recent (used to qualify weather phenomena, e.g. RERA = recent rain)

	REC	Receive, Receiver, Received
	REDL	Runway Edge Lights
	REF	Reference to..., Refer to...
	REG	Registration
	RENL	Runway End Lights
	REP	Report, Reported, Reporting, Reporting Point
	REQ	Request, Requested
	RERTE	Re Route
•	RES	Reserve Fuel
	RESA	Runway End Safety Area
•	RESTR	Restrictions
•	REV	Review
#	RF	Constant Radius Arc to Fix
•	RFC	Regional Forecasting Centre (MET)
	RFFS	Rescue and Fire Fighting Services
	RHC	Right Hand Circuit
	RIF	Reclearance in Flight
	RL	Report Leaving
	RLA	Relay to
	RLLS	Runway Lead-in Lighting System
	RMK	Remark
+	RNAV	Area Navigation (Navigation Specification prefix)
	RNP	Required Navigation Performance (Navigation Specification prefix)
+	ROBEX	Regional OPMET Bulletin Exchanges
	ROC	Rate of Climb
	ROD	Rate of Descent
#	RP	Remote Pilot
#	RPA	Remotely Piloted Aircraft
+	RPAS	Remotely Piloted Aircraft System
•	RPT	Regular Public Transport
	RPT	Repeat, I Repeat
	RQ	Require(d)
	RQMNTS	Requirements
	RSCD	Runway Surface Condition
	RSP	Responder Beacon
	RTE	Route
	RTF	Radio Telephone
	RTHL	Runway Threshold Light(s)
•	RTIL	Runway Threshold Identification Lights
	RTN	Return, Returned, Returning
	RTS	Return to Service
	RTZL	Runway Touchdown Zone Light(s)
#	RVR	Runway Visual Range
	RVSM	Reduced Vertical Separation Minimum
•	RWS	Runway Strip
	RWY	Runway
	S	South, South Latitude
	SA	Sand

#•	SA	Special Authorisation
	SALS	Simple Approach Lighting System
+	SAR	Search and Rescue
	SARPS	Standards and Recommended Practices (ICAO)
•+	SARTIME	Time search action required
	SAT	Saturday
+	SATCOM	Satellite Communication (used only when referring generally to both voice and data satellite communication or only data satellite communication)
+	SATVOICE	Satellite Voice Communication
	SB	Southbound
+	SBAS	Satellite-Based Augmentation System
	SC	Stratocumulus
	SCT	Scattered
	SDBY	Standby
	SE	South East
	SEA	Sea (used in connection with sea-surface temperature and state of the sea)
	SEC	Seconds
	SECT	Sector
+	SELCAL	Selective Calling System
	SEP	September
	SER	Service, Servicing, Served
	SEV	Severe (used e.g. to qualify icing and turbulence report)
	SFC	Surface
•	SFL	Sequenced Flashing Lights
	SG	Snow Grains
	SH...	Showers (followed by RA=rain, SN=snow, PL=ice pellets, GR=hail, GS=small hail and or snow pellets or combinations thereof, e.g. SHRASN = showers of rain and snow)
+	SID	Standard Instrument Departure
	SIGWX	Significant Weather
+	SIGMET	Information concerning en route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations
	SIMUL	Simultaneous, or Simultaneously
•+	SIS	Surveillance Information Service
+	SKED	Schedule, Scheduled
	SLP	Speed Limiting Point
	SLW	Slow
#	SMC	Surface Movement Control

•#	SMCV	Surface Movement Control Vehicles
	SMR	Surface Movement Radar
	SN	Snow
+	SNOWTAM	A special series NOTAM notifying the presence or removal of hazardous conditions due to snow, ice, slush or standing water associated with snow, slush and ice on the movement area
•	SOT	Start of TORA (take-off)
•	SP	Single Pilot
•	SPA	Sport Aviation
+	SPECI	Aviation Special Weather (in aeronautical meteorological code)
•	SPFIB	Specific Preflight Information Bulletin
+	SPOT	Spotwind
	SQ	Squall
	SQL	Squall Line
	SR	Sunrise
#	SRR	Search and Rescue Region
	SRY	Secondary
	SS	Sandstorm
	SS	Sunset
	SSB	Single Sideband
	SSE	South South-East
	SSR	Secondary Surveillance Radar
	SST	Supersonic Transport
	SSW	South South-West
	ST	Stratus
+	STAR	Standard Instrument Arrival
	STD	Standard
	STF	Stratiform
	STN	Station
	STNR	Stationary
•	STODA	Supplementary Take-off Distance
	STOL	Short Take-off and Landing
	STS	Status
	STWL	Stopway Light(s)
	SUBJ	Subject to
	SUN	Sunday
	SUP	Supplement (AIP Supplement)
	SUPPS	Regional Supplementary Procedures
	SVCBL	Serviceable
•	SVY	Survey Operations
	SW	South-West
•	SWS	Soft Wet Surface
	SWY	Stopway
	T	Bearing (true)
	T	Temperature
	TA	Traffic Advisory
	TA	Transition Altitude
•+	TAC	Terminal Area Chart
+	TACAN	UHF Tactical Air Navigation Aid
+	TAF	Aerodrome Forecast

#	TAS	True Airspeed
	TAX	Taxiing, Taxi
•	TBA	To be advised
	TC	Tropical Cyclone
+	TCAS	(tee-kas) Traffic Alert and Collision Avoidance System
	TCH	Threshold Crossing Height
•	TCTA	Trans-Continental Control Area
•	TCU	Terminal Control Unit
	TCU	Towering Cumulus
•	TDA	Temporary Danger Area
	TDO	Tornado
	TDZ	Touchdown Zone
	TECR	Technical Reason
	TEL	Telephone
+	TEMPO	Temporary, Temporarily
	TFC	Traffic
•	TFR	Terrain Following Radar (by the MIL)
	TGL	Touch & Go Landing
	THR	Threshold
	THRU	Through
	THU	Thursday
	TIBA	Traffic Information Broadcasts by Aircraft
+	TIL	Until
	TKOF	Take-off
	TL...	Till (followed by time by which weather change is forecast to end)
•	TLW	Time Limited WIP (work in progress)
#	TMA	Terminal Control Area
	TN	Indicator for Minimum Temperature (MET - used in TAF code form)
•	TNS	Transitional Surface
	TODA	Take-off Distance Available
	TOP	Cloud Top
+	TORA	Take-off Run Available
	TOX	Toxic
	TP	Turning Point
	TR	Track
•#	TRA	Temporary Restricted Area
	TRANS	Transmits, Transmitter
	TROP	Tropopause
	TS...	Thunderstorm (followed by RA=rain, SN=snow, PE=ice pellets, GR=hail, GS=small hail and/or snow pellets or combinations thereof, e.g. TSRASN = thunderstorm with rain and snow)
•	TSO	Technical Standard Order
+	TSUNAMI	Tsunami (used in aerodrome warnings)
•#	TTF	Trend Forecast
	TUE	Tuesday
	TURB	Turbulence

+	T-VASIS	"T" Visual Approach Slope Indicator System (pronounced "TEE-VASIS")
	TWR	Aerodrome Control Tower *or* Aerodrome Control
	TWY	Taxiway
	TX	Indicator for Maximum Temperature (MET - used in TAF code form)
	TXL	Taxilane
	TYP	Type of Aircraft
	TYPH	Typhoon
	U	Upward (tendency in RVR during previous 10 minutes)
	UA	Unmanned aircraft
	UAS	Unmanned aircraft system
	UFN	Until Further Notice
#	UHF	Ultra High Frequency (300 to 3,000 MHz)
•	UL	Upper Limits
	UNA	Unable
	UNL	Unlimited
	UNREL	Unreliable
	UP	Unknown Precipitation
	U/S	Unserviceable
#	UTC	Coordinated Universal Time
	V	Variation from mean wind speed (MET - used in METAR/ SPECI code forms)
	VA	Volcanic Ash
	VAAC	Volcanic Ash Advisory Centre
	VAR	Magnetic Variation
+	VASIS	Visual Approach Slope Indicator System
	VC	Vicinity of the aerodrome (followed by FG=fog, FC=funnel cloud, PO=dust/sand whirls, BLDU=blowing dust, BLSA=blowing sand or BLSN=blowing snow; e.g. VCFG=vicinity fog
	VCY	Vicinity
#	VFR	Visual Flight Rules
#	VHF	Very High Frequency (30 to 300 MHz)
•	VIA	By way of...
#	VIP	Very Important Person
	VIS	Visibility
#	VMC	Visual Meteorological Conditions
#	VNAV	Vertical Navigation
•	VNC	Visual Navigation Chart
+	VOLMET	Meteorological Information for Aircraft in Flight
#	VOR	VHF Omnidirectional Radio Range

	VRB	Variable
	VSA	by Visual reference to the ground
•	VTC	Visual Terminal Chart
	VTOL	Vertical Take-off and Landing
	W	West,West Longitude
	W	White
	WAC	World Aeronautical Chart - ICAO 1:1,000,000 (*followed by name/title*)
•	WAFS	World Area Forecast System
•	WATIR	Weather and Terminal Information Reciter
	WB	Westbound
	WDI	Wind Direction Indicator
	WDSPR	Widespread
	WED	Wednesday
	WEF	With Effect From, Effective From
	WGS-84	World Geodetic System - 1984
	WI	Within
	WID	Width
	WIE	With Immediate Effect, Effective Immediately
+	WILCO	Will Comply
	WIP	Work in Progress
	WKN	Weaken, Weakening
	WNW	West North-West
	WO	Without
	WPT	Waypoint
	WRNG	Warning
	WS	Wind Shear
	WSW	West South-West
	WT	Weight
	WTSPT	Water Spout
	WWW	World Wide Web
	WX	Weather
	WXR	Weather Radar
	X	Cross
	Y	Yellow
	YCZ	Yellow Caution Zone
	YR	Your/s
	Z	Coordinated Universal Time (in meteorological messages)

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GEN 2.3 CHART SYMBOLS

1. Symbols used for Australian aeronautical charts are identified on the legend of individual charts.

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GEN 2.4 LOCATION INDICATORS

1. CODE ALLOCATION

1.1 Australia follows international conventions in the allocation of codes. For locations where a landing area exists (fixed-wing or helicopter), a four-letter location indicator is assigned with the first letter being a “Y”. This is referred to as the “Y” code. Locations other than those given a “Y” code are identified by two, three, four or five letter codes, but to avoid confusion with location indicators, visual waypoint codes do not begin with the letter “Y”. The following table summarises code allocation:

Type	Code	Example
Certified or Registered Aerodrome Aircraft Landing Area Helicopter Landing Site	4 letters (first letter “Y”)	Renmark (YREN)
Navigation Aid	2 or 3 letters (2 letter codes no longer issued)	Caiguna VOR (CAG)
Visual Waypoint (as depicted on chart)	4 letters (first letter other than “Y”) (3 letter codes no longer issued)	Cranbourne (CRAN)
IFR Waypoint	5 letters (3 letter codes no longer issued)	DADOP

2. LIST OF CODES

2.1 Codes are listed in *ERSA GEN.*

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GEN 2.5 RADIO NAVIGATION AIDS

1. Australian radio navigation aids are identified in ERSA Facilities (FAC) section for each location under the heading NAVIGATION AIDS. Listings conform to the following sequence:
Aid Ident Frequency Lat/Long Remarks

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GEN 2.6 CONVERSION TABLES

1. Conversion tables are contained in *ERSA GEN.*

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GEN 2.7 FIRST LIGHT AND LAST LIGHT COMPUTATIONS

1. For all intents and purposes, 'first light' should be construed as the beginning of morning civil twilight, and 'last light' as the end of evening civil twilight.

2. To compute first light and last light using the graphs contained in this section:

   a. enter the top or bottom of the scale at the appropriate date;

   b. move vertically up or down to the curve for the latitude of the place concerned (interpolating for intermediate latitudes if necessary);

   c. move horizontally to the left or right and read local mean time on the vertical scale at the side;

   d. to convert to UTC, subtract (in E longitudes) from the LMT obtained, the time increment corresponding to the longitude of the place concerned in the "Conversion of Arc to Time" table.

   e. to convert to EST, add 10 hours to UTC;

   f. to convert to CST, add $9^1/_2$ hours to UTC;

   g. to convert to WST, add 8 hours to UTC.

Example: To determine last light at Echuca
(S36 09.0 E144 46.0) on 20th November.
Using the graph, enter at 20th November at the top of the page and follow downwards to latitude 36° (by interpolation), then horizontally to the left and read off LMT = 1919. To convert to UTC, enter the "Conversion of Arc to Time" table, at longitude 144° (9 hours 36 minutes). Add the increment corresponding to 46' in the right hand column
= 3' 04" + 0936 = 0939.
Subtract this from the LMT found: 1919 – 0939 = 0940 UTC.
To find EST add 10 hours to UTC = 1940 EST.

Users of these graphs should note that the parameters used in compiling the Time of First Light/Last Light Graphs do not include the nature of the terrain surrounding a location, or the presence of other than a cloudless sky and unlimited visibility at that location.

Consequently, the presence of cloud cover, poor visibility or high terrain to the west of an aerodrome will result in last light occurring at a time earlier than that extracted from the appropriate graph. Allowance should be made for these factors when planning a flight having an ETA near the time of last light.

3. NAIPS automatically computes first light and last light. This information can be provided through pilot access, as part of a telephone briefing, or from FLIGHTWATCH.

4. **Local Time**

Local time in Australia falls into three separate zones:
Eastern Standard Time (EST), which is UTC + 10 hours;
Central Standard Time (CST), UTC + 91/2 hours; and
Western Standard Time (WST), UTC + 8 hours.
These times apply as follows:

a. EST is used in the States of New South Wales (except the Broken Hill area), Queensland, Victoria, Tasmania and the Australian Capital Territory;

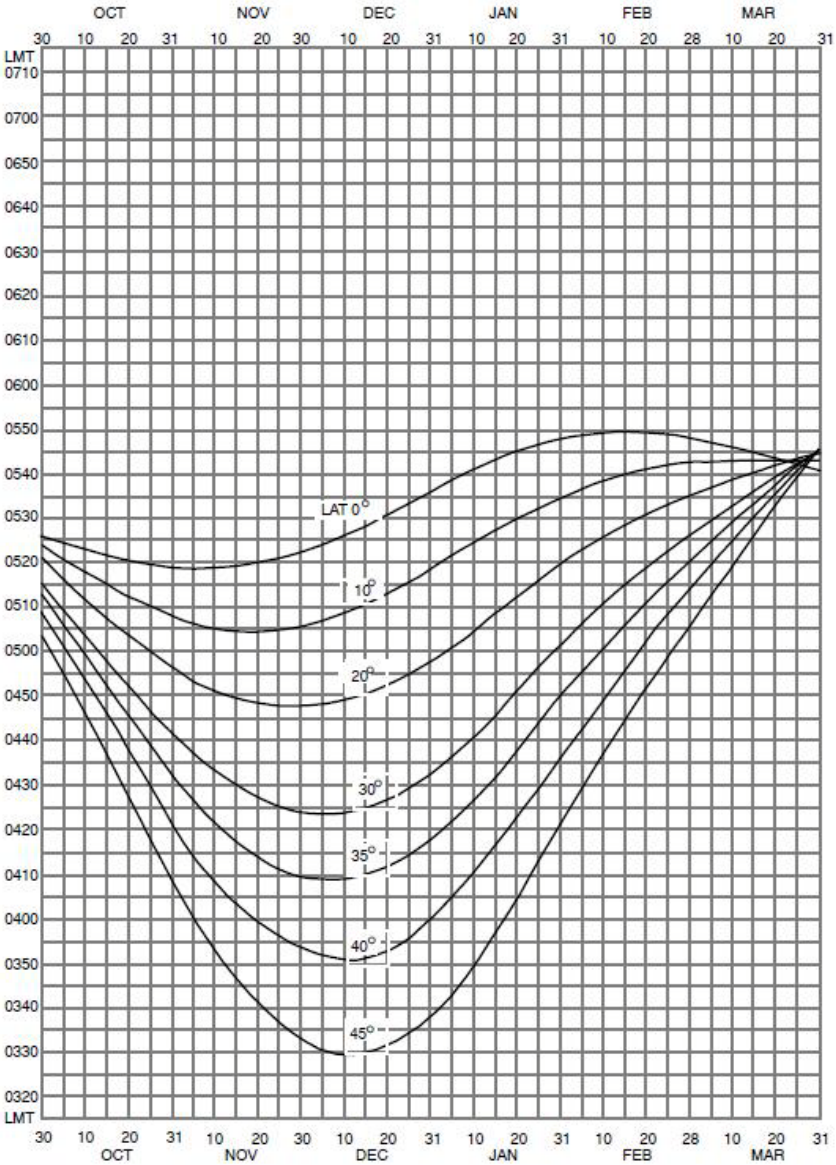
b. CST is used in the State of South Australia, the Northern Territory and the Broken Hill area; and

c. WST is used in the State of Western Australia.

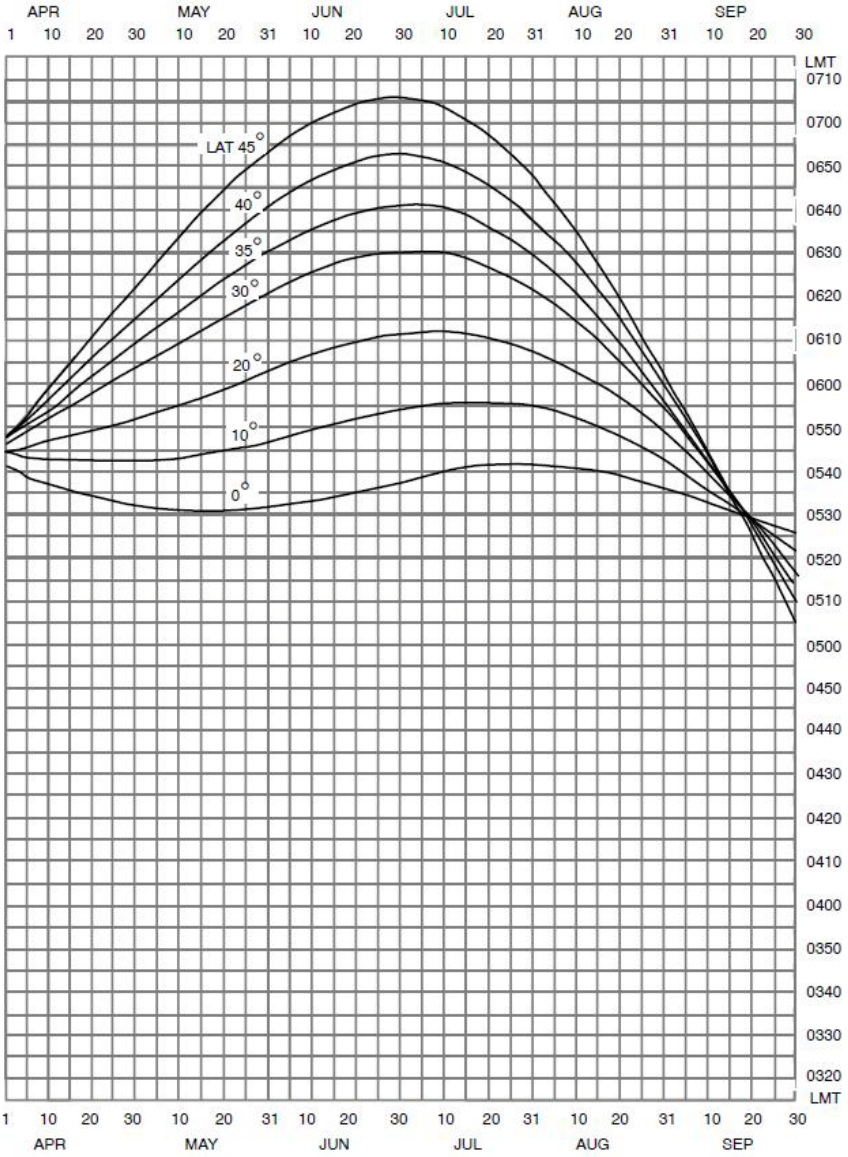
However, certain States introduce Daylight Saving Time each year between October of that year and April of the succeeding year, which adds an additional hour to the local time applicable in that State.

NOTAM or AIP Supplements will be issued detailing revised hours of operation for those aeronautical facilities affected by local time changes during periods of State Daylight Saving Time and which do not have such hours promulgated in AIP.

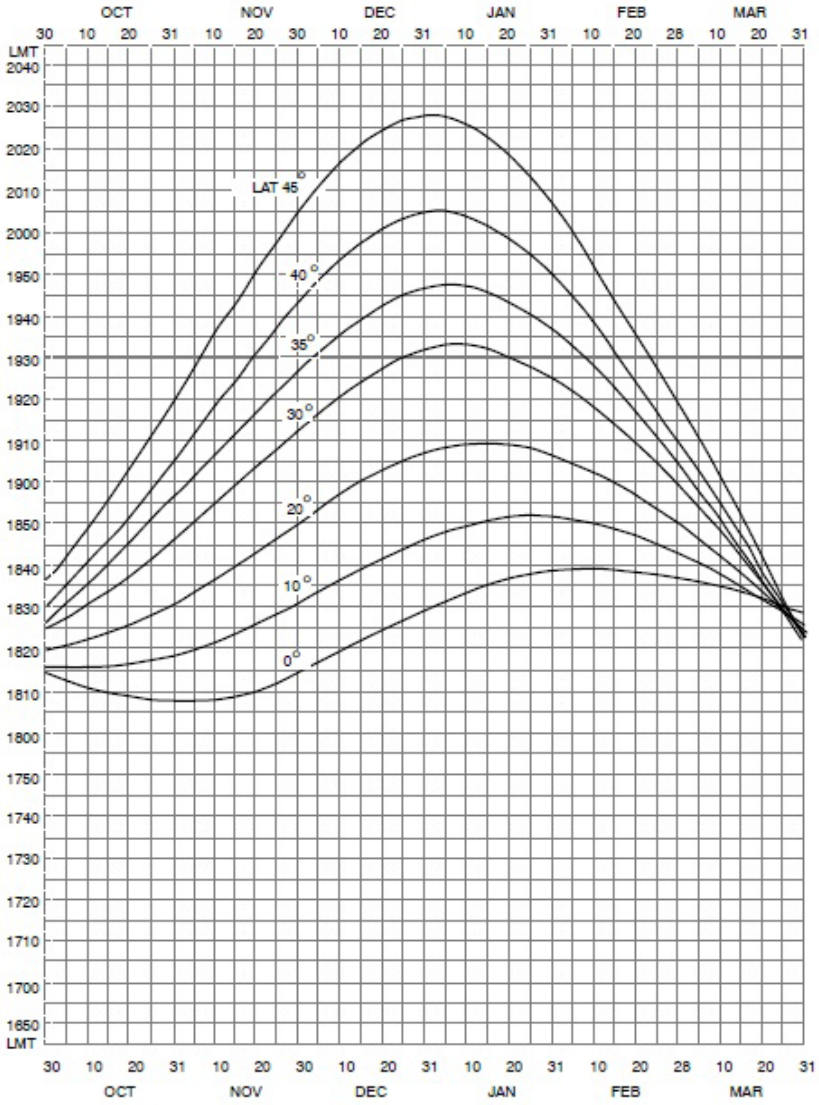
TIME OF FIRST LIGHT



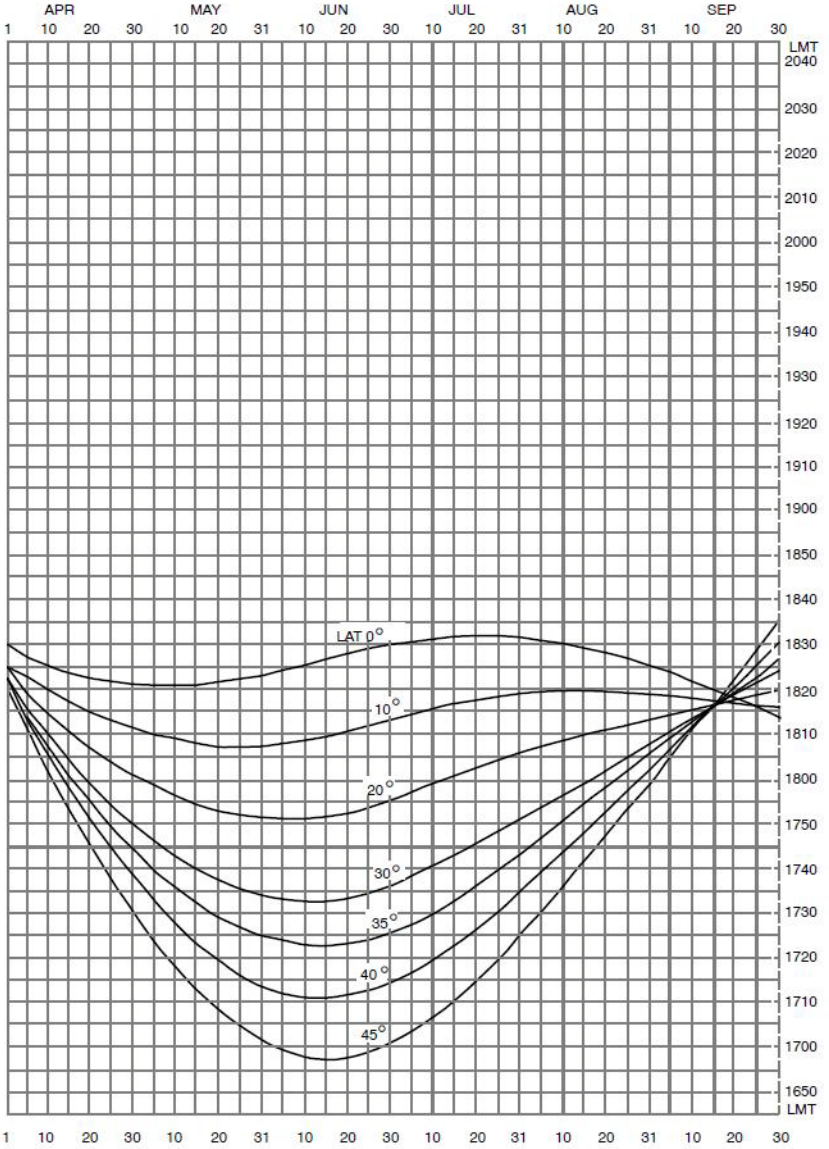
TIME OF FIRST LIGHT



TIME OF LAST LIGHT



TIME OF LAST LIGHT



CONVERSION OF ARC TO TIME

DEGREES						MINUTES					
Long Deg	Time Hours Min		Long Deg	Time Hours Min		Long Min	Time Min	Sec	Long Min	Time Min	Sec
110	7	20	140	9	20	0	0	00	30	2	00
111	7	24	141	9	24	1	0	04	31	2	04
112	7	28	142	9	28	2	0	08	32	2	08
113	7	32	143	9	32	3	0	12	33	2	12
114	7	36	144	9	36	4	0	16	34	2	16
115	7	40	145	9	40	5	0	20	35	2	20
116	7	44	146	9	44	6	0	24	36	2	24
117	7	48	147	9	48	7	0	28	37	2	28
118	7	52	148	9	52	8	0	32	38	2	32
119	7	56	149	9	56	9	0	36	39	2	36
120	8	00	150	10	00	10	0	40	40	2	40
121	8	04	151	10	04	11	0	44	41	2	44
122	8	08	152	10	08	12	0	48	42	2	48
123	8	12	153	10	12	13	0	52	43	2	52
124	8	16	154	10	16	14	0	56	44	2	56
125	8	20	155	10	20	15	1	00	45	3	00
126	8	24	156	10	24	16	1	04	46	3	04
127	8	28	157	10	28	17	1	08	47	3	08
128	8	32	158	10	32	18	1	12	48	3	12
129	8	36	159	10	36	19	1	16	49	3	16
130	8	40				20	1	20	50	3	20
131	8	44				21	1	24	51	3	24
132	8	48				22	1	28	52	3	28
133	8	52				23	1	32	53	3	32
134	8	56				24	1	36	54	3	36
135	9	00				25	1	40	55	3	40
136	9	04				26	1	44	56	3	44
137	9	08				27	1	48	57	3	48
138	9	12				28	1	52	58	3	52
139	9	16				29	1	56	59	3	56

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GEN 3. SERVICES

GEN 3.1 AERONAUTICAL INFORMATION SERVICES

1. AERONAUTICAL AUTHORITY

1.1 Responsibility for civil aviation in Australia and its Territories rests with two organisations: the Civil Aviation Safety Authority (CASA) and Airservices Australia (abbreviated: Airservices). CASA is responsible for safety regulation of all civil aviation in Australia, including the safety regulation of Airservices' provision of support services. Requests for advice on Australia's civil aviation support services including Air Traffic Services (ATS), Rescue and Fire Fighting (RFF) services, Aeronautical Information Service (AIS) and Search and Rescue (SAR) may be directed to:

Postal Address:	Business Reply Post PERMIT No 1986 - CIVIC SQUARE Airservices Australia Aeronautical Information Service GPO Box 367 CANBERRA ACT 2617 AUSTRALIA
Aeronautical/ Telegraphic Address:	YSHOYOYX
Email:	docs.amend@airservicesaustralia.com
Website:	www.airservicesaustralia.com/aip/ccards

2. AERONAUTICAL INFORMATION SERVICE

2.1 The Aeronautical Information Service (AIS) is established pursuant to *para 8.(1)* of the *Air Services Act 1995*. The AIS is responsible for the collection, collation and dissemination of aeronautical information and instructions relating to the safety, regularity and efficiency of air navigation within the areas covered.

An International NOTAM Office (NOF) is established at Canberra (YBBBYNYX) for the purpose of the international exchange of NOTAM.

2.2 **Area of Responsibility.**

The AIS is responsible for the collection and dissemination of aeronautical information for the entire territory of Australia and its associated airspace, and for the airspace over the high seas encompassed by the Brisbane and Melbourne FIRs.

3. PUBLISHED AERONAUTICAL INFORMATION

3.1 The Australian **Aeronautical Information Publication (AIP)** provides the primary source of information concerning rules of the air and procedures for the safe and efficient movement of aircraft in Australian airspace. The AIP should be read in conjunction with CASRs, CARs, CAOs and CAAPs which detail the statutory requirements.

3.2 **NOTAM**

3.2.1 **Area of Responsibility.** Airservices Australia's NOTAM Office is responsible for the issuing of NOTAM. Contact details are:

Airservices NOTAM Office
GPO BOX 367
CANBERRA ACT 2601
Phone: +61 2 6268 5063
Fax: +61 2 6268 5044
Email: nof@airservicesaustralia.com

3.2.2 NOTAM provide information that is of direct operational significance and which may immediately affect aircraft operations.

3.2.3 A NOTAM is issued in a format containing fields (Q) and (A) to (G) as follows:

Q. This field consists of eight sub fields separated by oblique strokes.

1. FIR in which the location listed in field A) is located.
2. NOTAM code. This is a coded version of the subject and status of the NOTAM preceded by the letter 'Q'
3. Traffic field. Signifies if a NOTAM affects IFR or VFR flights
4. Purpose field. Signifies if a NOTAM is for immediate attention and/or for briefings or concerning flight operations.

5. Scope field. Signifies if the NOTAM is an aerodrome, en route or warning NOTAM
6. Lower level of the activity in the NOTAM. If no level specified the default is 000.
7. Upper level of the activity in the NOTAM. If no level specified, the default is 999.
8. Coordinates. For location specific NOTAM, the latitude/ longitude of the location listed in field A) of the NOTAM is listed. If not a specific location, the field is left blank.

Example of Q field:
Q) YBBB/QMRAU/IV/BO/A/000/999/2723S15307E

Note: The list of codes used in the Q) field is available in ICAO Annex 15 and Doc-8126. Briefings obtained from NAIPS are decoded.

A. Location identification.

B. Time of commencement of information contained in Field E.
or
Time of publication where prior notification is required. In this case, Field E commences with “WEF...(date/time)...”.
This date/time will then reflect the actual commencement time of the NOTAM information.

C. Time of cessation of information. If timing is uncertain, the duration is indicated by using an estimated date-time group followed by EST. PERM is used in lieu of the date-time group when the information is permanent.

D. Times of periods of activity.

Note: When the days of the week are referenced in Item D of a NOTAM, the day refers to the local day with timings in UTC, i.e. SUN 2300-0300 refers to SAT 2300 UTC - SUN 0300 UTC.

E. Plain language text (for international NOTAM, ICAO codes are used).

F. Lower limit.

G. Upper limit.

In Australian Domestic distribution only, NOTAM series and their respective categories are

1. ‘B’ series for Domestic NOTAM - ATS category only
2. ‘C’ series for Domestic NOTAM - All other categories

For example NOTAM numbering is preceded by the letter “C” followed by the year; e.g.

C0689/08

For each location, a separate series of numbers is issued; thus the NOTAM is identified by both the location and the number, not by the number alone.

3.2.4 In the international environment, Australia issues NOTAM against a series of registers. These registers are by individual FIRs, multiple FIRs, or Australia General. The individual FIRs and multiple FIRs registers are further subdivided by NOTAM category. The series are as follows:

Brisbane FIR - PRD NOTAM category	D
Brisbane FIR - AD NOTAM category	J
Brisbane FIR - ATS NOTAM category	K
Brisbane FIR - all other NOTAM category	N
Melbourne FIR - PRD NOTAM category	E
Melbourne FIR - AD NOTAM category	H
Melbourne FIR - ATS NOTAM category	L
Melbourne FIR - all other NOTAM category	F
Australia General FIR	G

3.3 **AIP Supplement (SUP)**

3.3.1 **Area of Responsibility.** Airservices Australia’s AIS is responsible for publication and distribution of AIP SUP. Responsibility for content is shared. Refer to *AIS Services para 1.1.*

3.3.2 An AIP Supplement (SUP) is issued to supplement the information in the AIP when the information is of a temporary nature, requires advanced distribution, or is appropriate to the AIP, but would not be made available with sufficient rapidity by the issue of an amendment to the AIP.

3.3.3 SUPs which conform with the international schedule of effective dates for a minimum 28 days’ notice of effect have the word AIRAC included in the heading.

3.3.4 Most SUPs are addressed and disseminated to all AIP holders. The distribution can be widened depending on content, and is advised in the SUP under the heading DISTRIBUTION. SUPs that have relevance to only a small section of the industry will be distributed electronically via the Airservices Australia website. When a restricted distribution is required, notice to industry is via a “trigger” NOTAM.

3.3.5 A check list (summary) of current SUPs is issued monthly.

3.4 **Aeronautical Information Circular (AIC)**

3.4.1 **Area of Responsibility.** Airservices Australia's AIS is responsible for publication and distribution of AIC. Responsibility for content is shared. Refer to *AIS Services para 1.1.*

3.4.2 AICs are used to disseminate aeronautical information to aircrew. Usually, the information is of an administrative nature and not directly concerned with the present conduct of airborne operations, but may have implications for the future. AICs contain advice which does not qualify for promulgation in AIP or NOTAM. Some examples of information suitable for promulgation as an AIC are:

a. a long-term forecast of a major change in legislation, regulations, procedures or facilities;

b. information of a purely explanatory or advisory nature liable to affect flight safety; and

c. information or notification of an explanatory or advisory nature concerning technical, legislative or purely administrative matters.

3.4.3 Each AIC to be distributed in hard copy is addressed to all AIP holders and, if necessary, those persons or organisations affected, and this selective addressing is advised in the AIC under the heading DISTRIBUTION. AICs which address information applicable to a limited section of the aviation community may be disseminated by the Airservices Australia website only. When this occurs, notification is via a "trigger" NOTAM.

3.4.4 A checklist (summary) of current AICs is issued monthly.

4. AIRAC SYSTEM

4.1 In order to control and regulate the operationally significant changes requiring amendments to aeronautical charts, route listings, etc, such changes will generally be issued on predetermined dates according to the Aeronautical Information Regulation and Control (AIRAC) system. This type of information will normally be published as a planned AIP amendment or an AIRAC SUP. In circumstances in which AIRAC notification should be given, but a normal AIP amendment or an SUP cannot be produced due to a lack of time, a non-AIRAC SUP or NOTAM will be issued.

4.2 The table below indicates AIRAC effective dates for the coming years. AIRAC information will be issued so that the information will be received by the user not later than 28 days before the effective date. In some circumstances of major change, AIRAC notice of 56 days may be given.

4.3 Documents and charts issued in accordance with the AIRAC cycle become effective at 1600 hours UTC on the day prior to the nominated date unless otherwise notified; e.g. a document with an AIRAC date 26 June becomes effective 06251600UTC (i.e. during Australian Eastern Standard Time, becomes effective at 0200 hours local on 26 June).

4.4 At each AIRAC effective date, a Head Office 'trigger' NOTAM will be issued which identifies the elements of the AIP effective on that date and their respective 'with effect' dates. This 'trigger' NOTAM will remain in force for a period of 14 days.

AIRAC Effective Dates			
2018	**2019**	**2020**	**2021**
4 Jan	3 Jan	2 Jan	28 Jan
1 Feb	31 Jan	30 Jan	25 Feb
1 Mar	28 Feb	27 Feb	25 Mar
29 Mar	28 Mar	26 Mar	22 Apr
26 Apr	25 Apr	23 Apr	20 May
24 May	23 May	21 May	17 Jun
21 Jun	20 Jun	18 Jun	15 Jul
19 Jul	18 Jul	16 Jul	12 Aug
16 Aug	15 Aug	13 Aug	09 Sep
13 Sep	12 Sep	10 Sep	7 Oct
11 Oct	10 Oct	8 Oct	4 Nov
8 Nov	7 Nov	5 Nov	2 Dec
6 Dec	5 Dec	3 Dec	30 Dec
		31 Dec	

5. PREFLIGHT INFORMATION SERVICE

5.1 A preflight information service is provided from the Network Coordination Centre (NCC) Pilot Briefing Office, located in Canberra. This office provides a NOTAM, meteorological, and flight notification service. Contact details are:

Airservices Pilot Briefing Office
GPO BOX 367,
CANBERRA ACT 2601
Ph: +61 2 6268 5062
Fax: +61 2 6268 5033

5.2 A description of the preflight information service available in Australia is contained in *ERSA GEN*.

6. OBSTACLE AND TERRAIN DATASETS

6.1 Airservices may supply Australian obstacle data for the purposes of situational awareness, flight simulation, or aircraft performance planning calculations. This data cannot be used for air navigation purposes.

6.2 Access to the Airservices obstacle dataset is provided on application through Airservices online store: www.airservicesaustralia.com/services/electronic-data.

6.3 Terrain data is available from Geoscience Australia via the following online store: elevation.fsdf.org.au.

6.4 Obstacle data in the vicinity of aerodromes is collated and provided by the respective airport owner/operator and is published as ICAO Type A / B charts. Terrain data for precision approach runways is collected and published by the aerodrome owner/operator as Precision Approach Terrain Charts. The aerodromes where these obstacle and terrain charts are available, and the contact details for the aerodrome operator, are listed in *AIP ERSA*.

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GEN 3.2 AERONAUTICAL CHARTS

1. CHART SERIES

1.1 Charts Available

1.1.1 The following aeronautical charts are produced:

Planning Chart Australia (PCA)
World Aeronautical Chart (WAC)
Visual Terminal Chart (VTC)
Visual Navigation Chart (VNC)
En Route Chart - Low (ERC-L)
En Route Chart - High (ERC-H)
Terminal Area Chart (TAC)
Aerodrome (AD) chart
Apron chart
Standard Instrument Departure (SID) chart
Standard Instrument Arrival (also called Standard Arrival Route) (STAR) chart
DME and GPS Arrival chart
Instrument Approach and Landing (IAL) chart
Obstruction chart (Type A) (available from aerodrome operator).

1.2 Planning Chart Australia

1.2.1 PCA depicts the following information:

a. Briefing/Area QNH boundaries,
b. GAF boundaries,
c. WAC coverage and chart titles,
d. location names and abbreviations,
e. estimated FIS VHF coverage at 5,000FT and 10,000FT, and
f. HF network boundaries.

1.3 Visual Charts

1.3.1 WACs (scale of 1:1 000 000) are designed for preflight planning and pilotage. They are constructed on Lambert's conformal conic projection. Australian coverage is shown on the back of each chart.

1.3.2 VNCs (scale 1:500 000) are designed for operations under the VFR. They contain an aeronautical overlay of controlled airspace over a topographical base, and contain some radio communication and other navigational data appropriate for visual navigation. Map coverage is shown on the front of each map.

1.3.3 VTCs (scale of 1:250 000) are designed for visual operations near terminal areas. They contain some topographical detail and appropriate airspace, radio communication and navigation aid information. These charts are intended for use up to and including FL180.

Note: When planning visual navigation outside the coverage of VTCs, pilots will need to refer to the appropriate VNC (if available) or IFR chart ERC-L for depiction of controlled airspace and Prohibited, Restricted and Danger areas.

1.4 **IFR Charts**

1.4.1 ERCs-L, ERCs-H and TACs are presented at various scales and depict airspace, air routes and radio navigation facilities.

1.4.2 ERCs-L are intended for use primarily up to and including FL200.

1.4.3 ERCs-L show an outline of the areas covered by TACs and VTCs.
These areas impact on the ERC-L presentation as follows:

a. Within the areas covered by TACs, full details of air routes may not be shown due to lack of space.

b. Air route information within these areas will usually only include the route line and bearing. Where space permits, the route designator, distance and LSALT may also be shown.

c. Within the areas covered by TACs and VTCs, full details of airspace may not be shown. Information may only indicate lateral boundaries. Restricted and Danger area numbers and sport aviation symbols may not be shown.

For complete details of aeronautical data in these areas refer to the appropriate TACs or VTCs.

1.4.4 ERCs-H are intended to be used for operations above FL200.

1.4.5 All data represented on ERCs that lies outside the Australian FIR is compiled from a variety of state sources and is representative of the airspace and air route mosaic as it was understood at the time of compilation. Amendments will routinely occur to non-Australian FIR data outside of the publication cycle of the Australian AIP MAP products, and pilots should therefore check the AIP, AIP SUP and NOTAM of relevant adjoining states to ensure they are in receipt of the most up to date information for non-Australian FIRs.

1.4.6 TACs show details applicable to both high and low level operations in terminal areas.

1.4.7 Aerodrome charts, Apron charts, Noise Abatement Procedures, SID charts, STAR charts, DME and GPS Arrival charts, and IAL charts are published in DAP EAST and DAP WEST.

1.4.8 Obstruction charts (Type A), when required to be produced, are available from respective aerodrome owners/operators.

2. AIR ROUTE DETAILS, SPECIFICATIONS AND CHART DEPICTIONS

2.1 Air Routes

2.1.1 The following designators are used to identify ATS routes:

REGIONAL ROUTES - A, B, G & R

REGIONAL ROUTES (TASMAN) - L, M, N, P

DOMESTIC ROUTES - H (ONE WAY) & J (TWO WAY)

DOMESTIC ROUTES - V (ONE WAY) & W (TWO WAY) Predominantly Low Level

DOMESTIC ROUTES - Q (180° - 359°), Y (360° - 179°), T (TWO WAY) & Z (LOW LEVEL)

Note: Prefix U INDICATES ROUTE NEAR MAJOR TERMINAL.

2.1.2 A black arrowhead on a route designator box indicates that the route is to be used, within controlled airspace, only in the direction shown by the arrow.

2.1.3 Air routes are divided into route segments. Each route segment contains data for the magnetic track, distance, lowest safe altitude (LSALT) and reporting requirements.

2.2 **Lowest Safe Altitude**

2.2.1 The LSALT specified for a route segment is only valid for RNP 2 operations. For operations other than RNP 2 operations, operators and pilots must use a pilot calculated LSALT or grid LSALT.

The minimum LSALT published is 1,500FT due to lack of data concerning terrain near sea level. Techniques for calculating LSALT are detailed in *GEN 3.3 para* 4.

2.2.2 LSALT details for Area Navigation routes are shown in each grid square formed by the parallels and meridians. On the ERCs-H, the grid is at 4° intervals, and at 1° intervals on the ERCs-L and TACs. (See also *GEN 3.3 Para 4.*)

2.2.3 On IFR charts, some LSALTs on one-way air routes have an associated direction arrow. This arrow indicates that the LSALT is only applicable in the direction of the one-way route, and a LSALT has not been calculated for the opposite direction.

2.2.4 A LSALT without a direction arrow on any air route indicates that the LSALT is the same in both directions. However, one-way routes should only be flown, in controlled airspace, in the direction indicated by the route designator box.

2.2.5 On ERCs, the LSALT figure is always attached adjacent to the distance “bubble” of the route to which the LSALT applies. In areas of chart clutter, these LSALT figures may sometimes cross adjacent route tracks.

D

2.3 **Track Bearing Specifications**

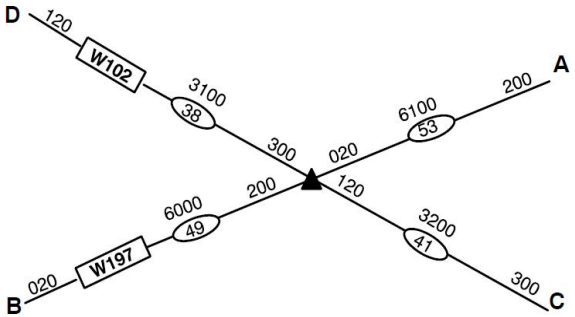
2.3.1 Each route segment is shown as the minor arc of a Great Circle passing through the end points. The track angles of the Great Circle segments are measured at the end points. Rhumb Line track angles can be determined by taking the track out and the track in to the next waypoint, and then averaging the Great Circle track angles.

2.4 **Reporting Points**

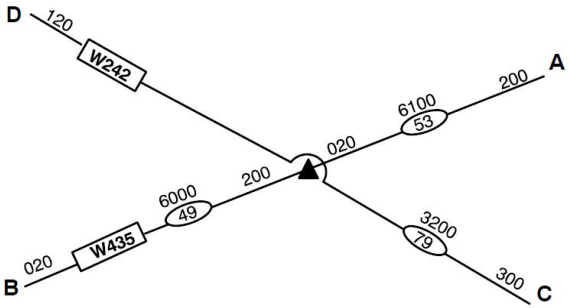
2.4.1 Reporting points are normally referenced to a radio-navigation aid, aerodrome, town or within 10NM of a town or a geographical feature. Where this is not possible, names have been invented.

2.4.2 The following examples and diagrams detail the reporting requirements that apply on crossing air routes that intersect at a reporting point:

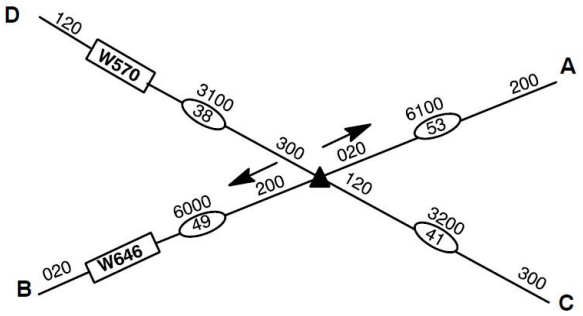
a. A report is required on both routes



b. A report is required only on W435. The route segment on W242 is a single segment between D&C and the compulsory position report does not apply.



c. A compulsory position report is required on W646, indicated by the arrows associated with the report symbol. A compulsory position report for aircraft with TAS less than 300KT and for other aircraft on request applies on W570.



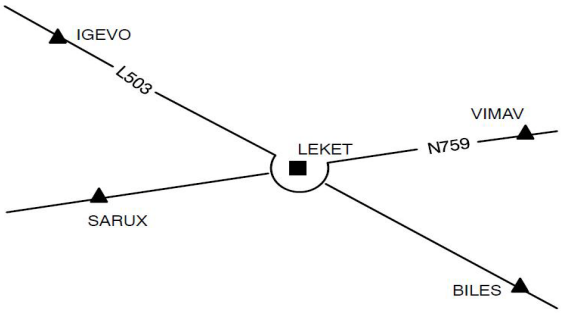
2.4.3 Where arrows are associated with a reporting point, then a solid triangle (compulsory report for ALL aircraft) applies in the direction indicated by the arrows, and an open triangle (compulsory report for aircraft with TAS less than 300KT and for other aircraft on request) applies on the crossing route. The same principle applies if the AIREP Section 3 report is required.

2.5 **Intersection Waypoint**

2.5.1 An intersection waypoint is included at the intersection of two air routes, but is not included in the description of either air route. Effectively, this waypoint is a “point in space”.

2.5.2 For a flight that will plan via one air route, the intersection waypoint is not displayed in the FMS route data. However, if the crossing route is to be flown from the intersection, the waypoint is included in the flight plan and appears in the FMS.

2.5.3 An intersection waypoint is displayed on en route charts as a Type 1 (solid square) waypoint and the tracks arc around that waypoint. The legend defines a Type 1 reporting point as “waypoint - no report required unless used as a turning point between two routes”. An example of an intersection waypoint is depicted on the following page.



2.5.4 As the intersection waypoint is not included on either air route, operators wishing to plan two routes will flight plan via:

a. the air route to the waypoint short of the intersection waypoint, then

b. direct to the intersection waypoint, then

c. direct to the first waypoint on the second air route, then

d. via the new air route.

2.5.5 An example of a flight plan entry based on the map at *para 2.5.3* is as follows:

L503 IGEVO DCT LEKET DCT VIMAV N759

3. AIRSPACE DEPICTIONS

3.1 Airspace categories and their lateral and vertical limits are indicated by labels, boundary lines and colour tints. The depictions used on the ERCs-L, ERCs-H and TACs are common across all these charts. Differing depictions have been utilised on the VTCs in order to complement the topographic base.

3.2 The depiction of airspace vertical limits where the lower limit is the surface of the earth is shown as “SFC”.

3.3 The vertical limits of airspaces are shown on all charts by indicating the airspace class and the lower limit, i.e.

C LL 7500 (blue label), D LL 3500 (blue label), and
E LL 8500 (brown label).

3.4 Where different classes of airspace are vertically stacked the labels will be shown in layers, e.g.

A LL FL180 (blue label)
E LL 8500 (brown label).

3.5 Airspace depictions used on the ERCs-H, ERCs-L and TACs are as follows:

a. Class A airspace

(1) The lateral limits of Class A airspace are depicted with blue lines.

(2) The lower limit of Class A airspace is shown with blue labels.

(3) The vertical limit of Class A airspace is shown with blue labels along the lateral boundary.

b. Class C airspace

(1) The lateral limits of Class C control area steps below Class A airspace are depicted with blue lines and a blue tint.

(2) The lower limit of Class C is shown with blue labels.

(3) The boundary between Class C and Class C OCA is shown by blue lines and labels.

c. Class D airspace

(1) The lateral limits Class D control area steps are depicted with blue lines and a blue tint.

(2) The lower limit of Class D is shown with blue labels.

d. Class E airspace

(1) The lateral limits of Class E are depicted with a brown line and a brown tint.

(2) The lower limit of Class E is shown with brown labels.

e. Class G airspace

(1) Class G airspace is all airspace not promulgated as Class A, C, D, or E.

(2) Class G airspace is not tinted or specifically labelled.

3.6 Airspace depictions used on the VTCs are as follows:

a. Blue lines indicate the lateral boundaries of classes A, C & D airspace.

b. The lower limits of classes A, C and D airspace are shown with blue labels.

c. A broken brown line indicates the lateral boundary of Class E airspace.

d. The lower limits of Class E are shown with brown labels.

e. Class G is designated as all airspace not already promulgated as Class A, C, D, or E. Class G has not been specifically labelled.

3.7 **Restricted and Danger Areas**

3.7.1 Restricted and Danger areas are depicted as follows:

a. On all charts, Restricted areas are shown with a magenta verge. RA conditional status is displayed in tables within the legend.

b. On the ERCs and TACs, Danger area boundaries are shown with a solid magenta line.

c. On the VTCs, Danger areas are shown with a solid magenta line with a magenta dot verge along the inside of its boundary.

d. On all charts where a Restricted and Danger area have a common lateral boundary, only the Restricted area verge is shown. The Danger area boundary is indicated by labels.

3.8 **Airspace Boundary Information**

3.8.1 Distances associated with airspace boundaries indicate the datum on which the airspace is based, and is shown as follows:

a. "NM" indicates a distance from the ARP.

b. "DME" or "TAC" indicates a distance based on that navigation aid.

c. Some control zones have boundaries based on a runway threshold; e.g. "7NM FM THR RWY 33" indicates a distance based on the threshold of Runway 33 at the associated aerodrome.

4. FREQUENCY INFORMATION

4.1 Flight Information Area (FIA) frequencies and associated boundaries are depicted in green.

4.2 ATC frequencies and associated boundaries for use in Class E airspace are depicted in brown.

4.3 The prefix to a frequency indicates the provider of the service.

4.4 Where a single area is divided vertically between different frequencies, the vertical limits applicable to each frequency will be indicated.

4.5 **Depiction of Common Traffic Advisory Frequency (CTAF)**

4.5.1 At non-controlled aerodromes where MULTICOM (126.7MHz) is not the CTAF, or non-controlled aerodromes that have an associated navaid, an entry "CTAF" followed by the designated frequency, is annotated in a box associated with the location. Radio carriage is required at all non-controlled aerodromes which are identified in the ERSA as being certified or registered or military. ERSA should always be consulted as part of the pre-flight planning process prior to operating at non-controlled aerodromes.

4.6 **Broadcast Areas**

4.6.1 Broadcast Areas are defined airspace volumes in Class G airspace for which a discrete frequency (CTAF) has been allocated. All operations within the area, including those at aerodromes (charted and uncharted) and landing sites, shall use this CTAF as the broadcast frequency. A note on charts states "for operations in this area SFC - <altitude> use CTAF <frequency>".

5. NAVIGATION AIDS

5.1 An asterisk next to a NAVAID indicates that it is subject to an operating limitation such as reduced range, bearing fluctuations, terrain shielding, etc. Details of the limitation will be listed in *ERSA FAC*.

5.2 An asterisk will not be shown to indicate that an aid is pilot monitored.

6. AERODROME OBSTRUCTION CHARTS

6.1 Aerodrome obstruction charts, as detailed in *ERSA FAC*, are available to aircraft operators operating in accordance with *CAO 20.7.1B* by contacting the appropriate aerodrome operator.

7. COPYRIGHT

7.1 All charts are subject to the copyright conditions detailed on each chart.

GEN 3.3 AIR TRAFFIC SERVICES

1. GENERAL

1.1 The objectives of the air traffic services are to:

a. prevent collisions between aircraft;

b. prevent collisions between aircraft on the manoeuvring area and obstructions on that area;

c. expedite and maintain an orderly flow of air traffic;

d. provide advice and information useful for the safe and efficient conduct of flights; and

e. notify appropriate organisations regarding aircraft in need of search and rescue aid, and assist such organisations as required.

1.2 The air traffic services shall comprise three services identified as follows.

1.2.1 The **air traffic control service**, to accomplish objectives *a, b and c. of para 1.1*, this service being divided in three parts as follows:

a. **Area Control Service**: the provision of ATC service for controlled flights, except for those parts of such flights described in *1.2.1 b* and *c*, in order to accomplish objectives a and c of *1.1*;

b. **Approach Control Service** the provision of ATC service for those parts of controlled flights associated with arrival or departure, in order to accomplish objectives *a and c of 1.1;*

c. **Aerodrome Control Service** the provision of ATC service for aerodrome traffic, except for those parts of flights described in *1.2.1 b*, in order to accomplish objectives *a, b and c of 1.1*

1.2.2 **The flight information service**, to accomplish objective d of *para 1.1.*

1.2.3 **The alerting service**, to accomplish objective e of *para 1.1*.

1.3 An ATC service will be provided:

a. to all IFR flights in classes A, B, C, D and E airspace;

b. to all VFR flights in classes B, C and D airspace;

c. to all special VFR flights; and

d. to all aerodrome traffic at controlled aerodromes.

Furthermore, when requested, and as far as is practicable, ATC will provide VFR flights in Class C airspace with a suggested course of action to avoid other VFR flights. Nothing in this provision changes the responsibility of the pilot in command to see and avoid other aircraft (*CAR 163A).*

1.4 In providing an ATC service, an ATC unit will issue clearances and information for the purposes of preventing collision between aircraft under its control and expediting and maintaining an orderly flow of traffic.

1.5 Clearances issued by ATC units will provide separation:

a. between all flights in classes A and B airspace;

b. between IFR flights in classes C, D and E airspace;

c. between IFR flights and VFR flights in Class C airspace;

d. between IFR flights and special VFR flights; and

e. between special VFR flights when so prescribed by the appropriate ATS authority;

except that, when requested by an aircraft, and if so prescribed by the appropriate ATS authority for the cases listed under b. above in classes D and E airspace, a flight may be cleared without separation being so provided in respect of a specific portion of the flight conducted in VMC.

1.6 Hours of operation, services provided, and identification of ATS units are published in *ERSA*.

1.7 In some circumstances, a number of services may operate under a common callsign and can be on a common or separate frequency:

a. DELIVERY: used by the Airways Clearance Delivery (ACD) service when established on a discrete frequency.

b. GROUND: used by Surface Movement Control and Apron Service (if provided by ATC) when established on a discrete frequency. At some locations, this service also provides the Airways Clearance Delivery service on the same frequency.

c. TOWER: the following services use this identification:

(i) Aerodrome Control.

(ii) Aerodrome/Approach Control when combined.

d. APPROACH: used by Approach Control (APP) service when established on a discrete frequency or by Departure Control (DEP) when on the same frequency.

e. DEPARTURES: used by Departure Control (DEP) service when established on a discrete frequency.

f. CENTRE: used for Area Control (ACC) service, SIS and FIS, excluding AFIS.

g. INFORMATION used when an AFIS is being provided on a discrete frequency.

2. FLIGHT INFORMATION SERVICE (FIS)

2.1 Pilot Responsibility

2.1.1 Pilots are responsible for obtaining information necessary to make operational decisions. To ensure that accurate information is obtained in adequate time, pilots must take into consideration that ATC initiated FIS is limited to aircraft within one hours' flight time of the condition or destination at time of receipt of the information by ATC. The only exception to this is SIGMET information, which shall cover a portion of the route up to two hours' flight time ahead of the aircraft.

2.2 Operational Information

2.2.1 Information about the operational aspects of the following subjects is normally available from ATS:

a. meteorological conditions;

b. air routes and aerodromes, other than ALAs;

c. navigation aids;

d. communications facilities;

e. ATS Procedures;

f. airspace status;

g. hazard alerts;

h. search and rescue services;

i. maps and charts; and

j. regulations concerning entry, transit and departure for international flights.

2.3 Preflight Information (*CAR 239*)

2.3.1 Before beginning a flight, the pilot in command must study all available information appropriate to the intended operation. This requirement includes all Head Office and FIR NOTAM applicable to the en route phase of flight and location specific NOTAM for aerodromes.

2.3.2 The Preflight Briefing Service is primarily an automated service. Pilots are encouraged to obtain preflight briefing, either via the self-help electronic systems or through the briefing offices. These services are listed in *ERSA GEN.*

2.3.3 For pilots who require an elaborative briefing, contact numbers for ATS and Bureau of Meteorology (BoM) staff are available from the briefing offices.

2.3.4 Pilots must obtain an appropriate preflight briefing before departure from those places where suitable facilities exist. Where suitable facilities are not available, a briefing may be obtained from FLIGHTWATCH as soon as practicable after the flight commences. The information requested should be confined to data considered essential for the safe conduct of the flight to the first point of intended landing where additional information can be obtained.

2.3.5 Preflight briefing will not normally be provided on ATC communications channels.

2.4 In-flight Information

2.4.1 The in-flight information services are structured to support the responsibility of pilots to obtain information in-flight on which to base operational decisions relating to the continuation or diversion of a flight. The service consists of three elements:

a. ATC Initiated FIS;

b. Automatic Broadcast Services; and

c. an On-Request Service.

2.5 ATC Initiated FIS

2.5.1 ATC initiated FIS will include the provision of pertinent operational information such as:

a. meteorological conditions and the existence of non-routine MET products;

b. changes to air routes;

c. changes to serviceability of navigation facilities, e.g. RAIM;

d. change to serviceability of communications facilities;

e. changes in conditions of aerodromes and associated facilities;

f. change to ATS procedures;

g. changes to airspace status; and

h. information on medium and heavy unmanned free balloons.

2.5.2 When providing FIS for non-towered aerodromes, ATC will disseminate selected SPECI that are considered significant to the safety of flight and are worse than forecast. ATC will not routinely provide advice of improvements to forecast or advised weather conditions.

2.5.3 ATC will not use directed transmissions to disseminate AIRMET but will broadcast their availability on appropriate ATS frequencies. To ensure adequate dissemination the broadcast will be repeated in the hour following the initial broadcast at H+15 and H+45.

2.5.4 A sudden change to a component of FIS, not described in a current MET product or NOTAM, having an immediate and detrimental effect on the safety of an aircraft will be communicated by ATC using the prefix “Hazard Alert”.

2.5.5 When a change is expected to be prolonged, ATC broadcasts prefixed “Hazard Alert” will be repeated at H+15 and H+45 in the hour following the initial transmissions. These broadcasts will normally cease after one hour or after an updated MET product or NOTAM is available for dissemination, whichever is earlier.

2.6 **Automatic Broadcast Services**

2.6.1 The automatic broadcast services consist of:

a. Automatic Terminal Information Service (ATIS),

b. Automatic En Route Information Service (AERIS),

c. Aerodrome Weather Information Service (AWIS), and

d. Meteorological Information for Aircraft in Flight (VOLMET).

2.7 **ATIS**

2.7.1 At aerodromes specified in *ERSA* the normal operational information required by aircraft prior to takeoff or landing is broadcast automatically and continuously either on a discrete frequency or on the voice channel of one or more radio navigation aids. The broadcast may be pre-recorded or computerised.

2.7.2 On first contact with ATC (e.g. GROUND, TOWER, APPROACH), notify receipt of the ATIS received using the alphabetical code word appended to the broadcast.

2.7.3 When control zones are deactivated, the ATIS may be used to broadcast operational information of an unchanging nature. This information may include the CTAF, PAL frequency, preferred runways and noise abatement procedures. It may also include the expected reopening time of the tower. Pilots are encouraged to monitor the ATIS outside the normal hours of the tower.

2.7.4 The following information is transmitted on the ATIS:

(aerodrome) TERMINAL INFORMATION (code letter ALPHA, BRAVO, etc, as assigned to each separately prepared transmission. “ZULU” is <u>not</u> used)

TIME (hh mm UTC) [Time of observations, if appropriate] Type of approach expectation; e.g. “EXPECT ILS APPROACH”, etc.

<u>One Runway in Use:</u>

RUNWAY (number), [DAMP] [WET] [WATER PATCHES] [FLOODED] (if applicable); or

<u>More Than One Runway in Use:</u>

RUNWAY/S (number/s) AND (number/s) FOR ARRIVALS, RUNWAY/S (number/s) AND (number/s) FOR DEPARTURES, [DAMP] [WET] [WATER PATCHES] [FLOODED] (if applicable)
Holding delay, if appropriate; e.g. “... MINUTES HOLDING MAY BE EXPECTED”, etc
(when being used) LAND AND HOLD SHORT OPERATIONS IN PROGRESS, LOW VISIBILITY PROCEDURES IN FORCE
CURFEW RUNWAY NOMINATION (when runway/s nominated due to Noise Abatement legislation and the crosswind and/or tailwind component is in excess of that specified in *ENR 1.1 para 2.3.5*)
WIND... /...

WIND DIRECTION quoted as either:

a. SINGLE MEAN DIRECTION

b. TWO VALUES representing variation in wind direction will be given whenever:

(i) the extremes in wind direction vary by 60° or more, or

(ii) the variation is considered to be operationally significant (e.g. the variation is less than 60°, but the variation from the mean results is either a tailwind and/or significant cross-wind component on a nominated runway)

Note: At Defence aerodromes the term DOWNWIND will be heard on the ATIS and TAILWIND in air ground RTF.

c. VARIABLE will be used when the reporting of a mean wind direction is not possible, such as:

(i) in light wind conditions (3KT or less) or

(ii) the wind is veering or backing by 180° or more (e.g. passage of thunderstorms, or localised wind effect).

WIND SPEED quoted as either:

a. CALM (less than 1KT, e.g. “WIND CALM”)

b. SINGLE MEAN VALUE whenever the extremes between minimum and maximum are 10KT or less (e.g. “WIND 250 DEGREES, 25 KNOTS”)

c. TWO VALUES REPRESENTING MINIMUM AND MAXIMUM VALUES whenever the extremes in wind vary by more than 10KT (e.g. “WIND 250 DEGREES MINIMUM 15 KNOTS, MAXIMUM 28 KNOTS”).

Note: When quoting a wind with variations in speed and direction, the above criteria may be varied in order to indicate the true cross-wind and/or tailwind.

Where threshold wind analysers are installed, and the wind at the threshold of a duty runway varies from that of the central wind analyser or the threshold wind on the other duty runway by the criteria specified for the revision of ATIS, threshold winds may be broadcast on the ATIS; e.g. THRESHOLD WIND RUNWAY (number)... /..., RUNWAY (number).../... VISIBILITY (distance is reported as appropriate):

a. >10KM – “GREATER THAN WUN ZERO KILOMETRES” or actual distance “... KILOMETRES”;

b. Greater than 5KM and up to and including 10KM – “... KILOMETRES”;

c. Up to and including 5,000M – “... METRES”; and

d. between 1,500M and 800M – RVR may be reported; 800M or less – RVR will be reported.

Multiple RVR observations are always representative of the touchdown zone, midpoint zone and the roll-out/ stop end zone, respectively.

PRESENT WEATHER (as applicable; e.g. showers in area)
or
CAVOK

CLOUD (below 5,000FT or below MSA, whichever is greater; cumulonimbus, if applicable; if the sky is obscured, vertical visibility when available).

TEMPERATURE

QNH

ACTUAL QNH NOT AVAILABLE AERODROME FORECAST QNH... (when the QNH is sourced from the Aerodrome Forecast (TAF) due to unavailability of actual QNH).

Any available information on significant meteorological phenomena in the approach, takeoff and climb-out. Including the presence of freezing fog.

Advice on hazard alert information including unauthorised laser illumination events and RPAS activity:

* ON FIRST CONTACT WITH (e.g. GROUND, TOWER, APPROACH) NOTIFY RECEIPT OF (code letter of the ATIS broadcast).

*This contact information may not be transmitted when recording space is limiting.

2.7.5 At locations where runway threshold wind analysers are installed, a tower controller must provide a departing aircraft with the wind at the upwind end of the runway if it varies from the ATIS broadcast by 10° or 5KT or more, and the variation is anticipated to continue for more than 15MIN. Such information shall be passed by use of the phrase, “WIND AT UPWIND END.../...”.

2.7.6 **Wind Shear**

When moderate, strong or severe wind shear has been reported on the approach or takeoff paths, or has been forecast, the information will be included on the ATIS in the following format, e.g.

a. WIND SHEAR WARNING - BOEING 737 [(wake turbulence category) CATEGORY AIRCRAFT (if military CATIS)] REPORTED MODERATE OVERSHOOT WIND SHEAR ON APPROACH RUNWAY 34 AT TIME 0920, (plus, if available, wind shear advice issued by MET, e.g. FORECAST WIND AT 300 FEET ABOVE GROUND LEVEL 360 DEGREES 45 KNOTS); or

b. WIND SHEAR WARNING - AIRBUS A320 [(wake turbulence category) CATEGORY AIRCRAFT (if military CATIS)] REPORTED STRONG WIND SHEAR LOST 20 KNOTS AIRSPEED BETWEEN 300 FEET AND 600 FEET ON DEPARTURE RUNWAY 19 AT TIME 0640; or

c. PROBABLE VERTICAL WIND SHEAR FROM 0415 TO 0430 - FORECAST WIND AT 200 FEET ABOVE GROUND LEVEL 110 DEGREES 50 KNOTS.

2.7.7 **Wind Shear Escape Manoeuvre**

2.7.7.1 Wind shear significantly affects the aircraft performance and hence it's potentially adverse effects on flight safety. Wind shear in close proximity to the ground i.e. 1,500FT and below is of considerable significance to aircraft during landing and takeoff. During climb out after takeoff and in the approach configuration, aircraft speed and height are near critical values therefore rendering the aircraft especially vulnerable to the adverse effects of wind shear. The response of aircraft to wind shear is extremely complex and depends on many factors including type of aircraft, the phase of flight, the scale of the wind shear relative to the size of the aircraft and the intensity and duration of the wind shear encountered. Pilots and controllers must be aware that their timely actions may prevent an impending wind shear encounter.

2.7.7.2 A Wind Shear Escape Manoeuvre is considered to constitute an emergency operation.

2.7.7.3 A Wind Shear Escape Manoeuvre should be carried out when wind shear is:

a. recognised by the flight crew;

b. detected by the on board system.

When wind shear is recognised or detected the recommended wind shear recovery procedure should be carried out. Flight crew adherence to wind shear recovery procedures will take precedence over ATC clearances, instructions and/or published procedures.

2.7.7.4 The flight crew will inform ATC, as soon as safely practicable when permitted by the flight crew workload, of a recognised, predicted or detected wind shear. Crews will also advise when "clear of wind shear" on completion of the Wind Shear Escape Manoeuvre. The manoeuvre will be conducted at any time the flight crew recognises or, the on-board warning system predicts or detects wind shear.

A wind shear escape manoeuvre may result in the aircraft being on other than a published or instructed missed approach, takeoff path and/or altitude.

2.7.7.5 ATC will issue instructions to the aircraft not experiencing the wind shear to attempt to preserve separation. A traffic alert will be provided to the aircraft conducting the Wind Shear Escape Manoeuvre and/or to other aircraft in the vicinity.

2.7.7.6 When a pilot reports "wind shear escape" ATC shall not attempt to modify the aircraft flight path until the pilot reports "clear of wind shear".

2.7.7.7 Once an aircraft departs from its ATC clearance, instruction or prescribed procedure while carrying out a Wind Shear Escape Manoeuvre, or a pilot reports "wind shear escape", ATC cease to be responsible for providing separation between that aircraft and any other aircraft affected as a direct consequence of the Wind Shear Escape Manoeuvre. ATC will resume responsibility for providing separation for that aircraft from all affected aircraft when:

a. ATC acknowledges a report from the crew of the aircraft carrying out the Wind Shear Escape Manoeuvre that the aircraft has resumed the current clearance, instruction or applicable procedure, or

b. ATC acknowledges a report from the crew that the aircraft is "clear of wind shear" and issues a further clearance or instruction which is acknowledged by that crew.

2.8 Aerodrome Flight Information Service (AFIS)

2.8.1 An AFIS is an aerodrome based radio information service, which may operate at non-controlled aerodromes. The service is an Air Traffic Service (ATS) operated during published hours and provides pilots with local traffic and operational information on the CTAF assigned to the particular aerodrome.

2.8.2 ERSA defines the local procedures provided by each AFIS.

2.8.3 All aircraft departing, arriving or transiting the broadcast area during AFIS HRS must make broadcasts prior to or as soon as possible after entering the broadcast area.

2.8.4 Aircraft making the normal inbound or taxiing broadcast receive a response from the AFIS operator, providing:

a. confirmation of the correct CTAF;

b. current, known, relevant traffic in the vicinity of the aerodrome and on the manoeuvring area of the aerodrome; and

Note 1: Aircraft should advise callsigns of any copied or issued traffic.

Note 2: Traffic information is provided as an advisory to assist pilots in arranging self-separation.

c. other operational information of a local nature, relevant to the safety of operations at the aerodrome.

2.8.5 Essential aerodrome information is provided by an Automatic Aerodrome Information Service (AAIS) broadcast on a discrete frequency (similar to ATIS) during AFIS HRS or on request to the AFIS operator.

2.8.6 During AFIS HRS:

a. IFR Departures:

(1) are not required to make a Taxi call to Centre;

(2) will be issued with an SSR transponder code if expected to enter radar coverage;

(3) may be issued with a Flow Management statement if the DEST is subject to ATFM procedures;

(4) may be issued with an amended route expectation on behalf of Centre;

(5) should make a DEP report to the AFIS; and

(6) will be directed to transfer to Centre.

b. IFR arrivals will be:

(1) provided a traffic statement by Centre prior to transfer;

(2) directed to contact the AFIS; and

(3) provided with further traffic by the AFIS operator as required.

2.8.7 The AFIS operator will initiate aerodrome emergency procedures automatically and at the request of the pilot in an emergency or, if in the opinion of the operator, a call-out is warranted.

2.8.8 The AFIS operator will automatically initiate and terminate SARWATCH responsibilities for IFR aircraft and assist VFR aircraft on request.

2.9 **AERIS**

2.9.1 The Automatic En Route Information Service continuously broadcasts METAR/SPECI and TTF (where available) from a network of VHF transmitters installed around Australia.

2.9.2 The information broadcast on the individual transmitters caters primarily for the needs of aircraft operating in control areas within VHF range of the facility.

2.9.3 The network frequencies and the operational information menus are contained in *ERSA GEN.*

2.10 **Aerodrome Weather Information Service (AWIS) and Weather and Terminal Information Reciter (WATIR)**

2.10.1 AWIS and WATIR provide actual weather conditions, via telephone and broadcast, from sites which use Bureau of Meteorology (BoM) AWS equipment, or other AWSs that have met BoM standards for acceptance into its network. AWIS provides information from the AWS. WATIR provides the AWS information with additional terminal information from the airport operator.

2.10.2 More detail on AWIS and WATIR is contained at *GEN 3.5 Section 7.4*.

2.11 **VOLMET**

2.11.1 VOLMET broadcasts, prefixed by the designator ‘VOLMET’ provide meteorological information for Australian major international aerodromes and Townsville.

2.11.2 Information on VOLMET is contained at *GEN 3.5 Section 7.3*.

2.12 **On-Request Service - ATC and FLIGHTWATCH**

2.12.1 An On-Request FIS is available to aircraft in all classes of airspace on ATC VHF or HF (Domestic and International) frequencies.

2.12.2 Pilots must prefix any request for FIS on ATC VHF frequencies with the callsign of the appropriate ATC unit and the generic callsign 'FLIGHTWATCH'. e.g. 'MELBOURNE CENTRE FLIGHTWATCH REQUEST ACTUAL WEATHER (location)'.

2.12.3 Due to workload considerations, ATC may re-direct pilot requests for FIS to an alternative VHF frequency or Flightwatch HF.

2.12.4 When operating on Domestic HF (callsign 'FLIGHTWATCH') and International HF (callsign 'BRISBANE'), pilots must include the frequency on which they are calling, e.g. '(FLIGHTWATCH or BRISBANE), ROMEO JULIET DELTA, SIX FIVE FOUR ONE, REQUEST ACTUAL WEATHER (location)'.

2.12.5 Information will be provided in an abbreviated form, paraphrased into brief statements of significance. The full text of messages will be provided on request.

2.13 **Weather Radar**

2.13.1 Weather radar data derived from BoM radar sites is displayed at various ATS positions and available to pilots on request, subject to ATS workload. ATS will only provide weather radar information to pilots within 75NM of the weather radar site and will prefix information with "MET RADAR DISPLAY INDICATES..."

2.13.2 Weather radar sites available to ATS are shown in *ERSA MET*. Weather radar images are not 'real time', but are the results of a ten minute update cycle.

2.14 **Traffic Information**

2.14.1 A traffic information service will be provided, where applicable, depending on higher priority duties of the controller or other limitations; e.g. surveillance limitations, volume of traffic, frequency congestion, or controller workload. Traffic information does not relieve pilots of their responsibility to see and avoid other aircraft.

Pilots are cautioned that there are many times when the controller is not able to give traffic information concerning all traffic in the aircraft's proximity; in other words, when a pilot requests or is receiving traffic information, he/she should not assume that all traffic will be issued.

2.14.2 Traffic information may be based on:

a. visual observation;

b. identified and non-identified aircraft targets on an ATC situation display; or

c. verbal reports from pilots or other facilities.

2.15 **Traffic Information in Controlled Airspace**

2.15.1 In controlled airspace, when a separation standard does not exist, ATC will provide traffic information to the aircraft concerned when, in the opinion of the Air Traffic Controller, the information is warranted by the proximity of the aircraft.

2.15.2 The traffic information provided will contain as much information as is known and is necessary to assist the pilot in identifying the other aircraft, e.g.

a. type;

b. altitude;

c. position, either by clock reference, bearing and distance, relation to a geographical point or reported position and estimate;

d. intentions or direction of flight.

2.15.3 ATC will provide relevant traffic information to aerodrome traffic to enable pilots, while complying with ATC instructions, to maintain separation from other aircraft.

2.15.4 At military aerodromes traffic conditions may preclude the transmission of a complete traffic information service to individual aircraft.

2.16 **Traffic Information in Class G Airspace**

2.16.1 In Class G airspace, a traffic information service is provided to IFR flights about other conflicting IFR and observed VFR flights. MLJ flights are considered to be IFR for traffic purposes regardless of flight planned category. Services provided may be based on ATS surveillance system data where coverage exists.

2.16.1.1 An IFR flight reporting taxiing or airborne at a non-controlled aerodrome will be advised of conflicting IFR traffic which is not on the CTAF.

2.16.1.2 An IFR flight inbound to a non-controlled aerodrome will be advised of conflicting IFR traffic. The ATS obligation to provide the pilot with traffic information ceases when the pilot reports changing to the CTAF.

2.16.1.3 Traffic information will continue to be provided about an IFR flight following cancellation of its SARWATCH, until expiry of the flights ETA. Traffic information may be provided to an IFR pilot who has cancelled SARWATCH where workload and communications permit.

2.16.2 In accordance with the preceding paragraphs, traffic information will be provided to IFR flights when:

a. requested;

b. notifying intention to change level;

c. reporting either taxiing or airborne or departure, whichever is first; or

d. the ATS officer becomes aware of conflicting traffic.

2.16.3 Pilots of IFR flights should advise ATS of the callsign(s) of relevant IFR traffic, previously intercepted, to avoid receiving the same traffic information from ATS.

2.16.4 Traffic information will be provided in accordance with the preceding paragraphs whenever there is a possibility of confliction between aircraft in the following situations:

a. aircraft that climb, descend or operate with less than 1,000FT vertical spacing and less than 15NM lateral or longitudinal spacing;

b. overtaking or opposite direction aircraft on the same or reciprocal tracks with less than 1,000FT vertical spacing and less than 10 minutes longitudinal spacing based on pilot estimates;

c. more than one aircraft arriving at, or departing from, the same aerodrome with less than 10 minutes between arrival and/or departure and falling within these guidelines.

2.16.5 When the traffic assessment is based entirely on the use of an ATS surveillance system, traffic information will be provided when, in the opinion of the controller, it is warranted by the proximity of the aircraft to each other.

2.16.6 Having regard to *sub-paras 2.16.4 a. and b.* above, traffic information will be based on aircraft having less than 2,000FT vertical spacing:

a. in areas where severe turbulence has been reported,

b. where aircraft are operating above FL290,

c. due to different altimetry rules, at some oceanic limits of Australian FIRs.

2.16.7 Traffic information will include relevant factors from the following:

a. the identification of the conflicting aircraft;
b. the aircraft type;
c. route of the aircraft;
d. the last position report received from the aircraft;
e. intentions of the pilot (if known), and, as required;
f. the aircraft's initial departure track and intended cruising level;
g. inbound track or direction, level and next estimate; and
h. any other data which may enhance the value of the information.

2.16.8 Pilots intercepting broadcasts from aircraft in their vicinity which are considered to be in potential conflict with their own aircraft must acknowledge intercept by transmitting own callsign and, as appropriate, aircraft type, position, actual level and intentions.

2.16.9 Traffic information in respect of military aircraft operating on LJRs may refer to the flight as 'low level military operations'.

2.16.10 When an aircraft is instructed by an ATS unit to standby for traffic, the pilot should continue to monitor the frequency until traffic information is received.

2.17 Surveillance Information Service (SIS) to VFR Flights in Class E and Class G Airspace

2.17.1 SIS is available, on request, to VFR flights in classes E and G airspace within ATS surveillance system coverage, subject to ATC workload. The SIS is available to improve situational awareness and assist pilots in avoiding collisions with other aircraft.

2.17.2 Pilots wishing to receive a SIS must be in direct VHF communications with ATC and equipped with a serviceable SSR transponder or ADS-B transmitter.

2.17.3 VFR pilots receiving a SIS will be provided with traffic information and, upon request, position or navigation information.

Note: All information is advisory in nature, and the pilot remains responsible for the safe operation of the aircraft. Terrain clearance, aircraft-to-aircraft separation, and obtaining clearances into controlled airspace remain pilot responsibilities.

2.17.4 Pilots of VFR flights receiving a SIS will be provided with information about ATS surveillance system observed traffic. However, due to the nature and type of ATS surveillance system coverage, not all aircraft will be detected, and not all aircraft are equipped with a SSR transponder or ADS-B transmitter. Consequently, traffic information provided by ATC may be incomplete. Pilots must comply with the see-and-avoid requirements of *CAR163A.*

2.17.5 ATC will provide an alerting service for flights receiving a SIS.

2.17.6 On initial contact with ATC, the pilot must advise the ATS surveillance service required and, if an ongoing service is requested, include the phrase “REQUEST FLIGHT FOLLOWING”.

2.17.7 When ATC respond to this request, the pilot must advise position, level, and intentions.

2.17.8 The SIS commences on ATC notification of identification, and ATC may also assign a specific transponder code prior to, or during, the provision of the SIS.

2.17.9 If ATC are unable to provide a SIS, the pilot will be advised “SURVEILLANCE SERVICE NOT AVAILABLE”. Requests for emergency assistance should be prefixed by “MAYDAY” (three times) or “PAN PAN” (three times), and will receive priority.

Note: Many factors, such as the limitations of radar and ADS-B, volume of traffic, ATC workload and frequency congestion may prevent ATC from providing a surveillance service. The reason for not providing or continuing to provide the service in a particular case is not subject to question, nor need it be communicated to the pilot.

2.17.10 If, following a request for a SIS, a request for flight following is not made and the requested information has been provided to the pilot, ATC will advise “IDENTIFICATION TERMINATED” to indicate that the surveillance service is terminated.

Note: When ATS surveillance services to VFR flights are terminated, pilots should monitor the ATS frequency appropriate to their area of operation.

2.17.11 If the pilot has requested flight following, the SIS will be provided on an ongoing basis, and generally limited to within the controller’s area of responsibility. However, the SIS may be terminated at any time by the controller, or by pilot advice.

2.17.12 Whilst receiving a SIS, the pilot must:

a. maintain a continuous listening watch with ATC and advise prior to leaving the frequency; and

b. advise ATC prior to any changes to track or level.

2.17.13 Approaching the boundary of the controller's area of responsibility, the pilot will generally be advised "IDENTIFICATION TERMINATED, FREQUENCY CHANGE APPROVED". If a continued service is requested, the pilot must advise "REQUEST HAND-OFF FOR FLIGHT FOLLOWING" and, subject to the approval of the adjacent ATC unit, the pilot will be instructed to change frequency for continuation of the SIS.

3. ALERTING SERVICE

3.1 An Alerting service will be provided:

a. for all aircraft provided with ATC service;

b. in so far as practicable, to all other aircraft having filed a flight plan or otherwise known to the air traffic services; and

c. to any aircraft known or believed to be the subject of unlawful interference.

4. CALCULATION OF LOWEST SAFE ALTITUDE

4.1 A pilot using Grid LSALT for obstacle clearance is responsible for determining the allowance for navigation error that should be applied, considering the limitations of the navigation aids or method of navigation being used for position fixing. This navigation error allowance must be applied to the proposed track. The highest Grid LSALT falling within the area covered by the determined navigation error must be used.

4.2 For routes and route segments not shown on AIP aeronautical charts, the lowest safe altitude must not be less than that calculated in accordance with *para 4.3* within an area defined in the following *paras 4.6, 4.7, 4.8 and 4.9.*

4.3 Unreported obstacles up to 360FT may exist in navigation tolerance areas. The LSALT must be calculated using the following method:

a. where the highest obstacle is more than 360FT above the height determined for terrain, the LSALT must be 1,000FT above the highest obstacle; or

b. where the highest obstacle is less than 360FT above the terrain, or there is no charted obstacle, the LSALT must be 1,360FT above the elevation determined for terrain; except that

c. where the elevation of the highest terrain or obstacle in the tolerance area is not above 500FT, the LSALT must not be less than 1,500FT.

4.4 An aircraft must not be flown under the IFR, lower than the published lowest safe altitude or the lowest safe altitude calculated in accordance with this section, except when being assigned levels in accordance with ATS surveillance service terrain clearance procedures or when being flown in accordance with a published DME arrival, instrument approach or holding procedure, or except when necessary during climb after departure from an aerodrome, or except during VMC by day *(CAR 178* refers).

4.5 If the navigation of the aircraft is inaccurate, or the aircraft is deliberately flown off-track, or where there is a failure of any radio navigation aid normally available, the area to be considered is a circle centred on the DR position, with a radius of 5NM plus 20% of the air distance flown from the last positive fix.

4.6 **For Routes Defined by Radio Navigation Aids or to be Navigated by DR**

The area to be considered must be within an area of 5NM surrounding and including an area defined by lines drawn from the departure point or en route radio aid, 10.3° each side of the nominal track (where track guidance is provided by a radio navigation aid), or 15° each side of the nominal track (where no track guidance is provided) to a limit of 50NM each side of track, thence paralleling track to abeam the destination and then converging by a semicircle of 50NM radius centred on the destination.

On shorter routes, where these lines are displaced by less than 50NM abeam the destination, they shall converge by a radius based on that lesser distance. Where the lines thus drawn come at any time within the coverage of an en route or destination radio aid the aircraft is equipped to use, they will converge by straight lines to that aid. The minimum angle of convergence which must be used in this case is 10.3° each side of track.

4.7 **For Routes Operated Under the RNP 2 Navigation Specification**

The area to be considered must be within an area of 5NM surrounding and including the departure point, the destination and each side of the nominal track.

4.8 **For Other Area Navigation Operations**

The area to be considered must be within an area of 5NM surrounding and including an area defined by lines drawn from the departure point not less than 15° each side of the nominal track to a maximum of:

a. 8NM for a flight under the RNP 4 navigation specification;
b. 7NM for flight under an RNAV navigation specification having a GNSS input; or
c. 30NM for flight under a non GNSS area navigation specification.

Thence paralleling track to abeam the destination and converging by a semicircle of the same radius centered on the destination.

4.9 **For Aircraft Flown at Night Under the VFR**

The area to be considered must be:

a. the area specified in *para 4.6, 4.8 or 4.10* for aircraft navigated by means of a radio navigation system; or
b. within a radius of 10NM from any point along the aircraft's nominal track.

However, the pilot of an aircraft who has positively determined by visual fix that a critical obstruction has been passed may nevertheless descend immediately to a lower altitude, provided that the required obstacle clearance above significant obstructions ahead of the aircraft is maintained.

4.10 An aircraft must not be flown at night under the VFR, lower than the published lowest safe altitude or the lowest safe altitude calculated in accordance with this section except:

a. during takeoff and climb in the vicinity of the departure aerodrome;

b. when the destination aerodrome is in sight and descent can be made within the prescribed circling area of 3NM radius of the destination; or

c. when being vectored.

5. SAFETY ALERTS AND AVOIDING ACTION

5.1 ATC will issue a Safety Alert to aircraft, in all classes of airspace, when they become aware that an aircraft is in a situation that is considered to place it in unsafe proximity to:

a. terrain;

b. obstruction;

c. active restricted or prohibited areas; or

d. other aircraft.

5.1.1 When providing an ATS surveillance service, ATC will issue advice to pilots regarding avoiding action as a priority, when they become aware that an aircraft is in a situation that is considered to place it at risk of collision with another aircraft.

5.1.2 ATC will prefix advice to turn or change level with “suggest” unless the alerts are for controlled flights with reference to other controlled flights.

Note 1: This is an emergency situation. Pilots may need to deviate from their clearance or planned route in order to avoid collision with another aircraft.

Note 2: Pilots are required to comply with any TCAS RA manoeuvre irrespective of ATC traffic advisories or instructions.

5.1.3 ATC may discontinue issuing Safety Alerts or advice regarding avoiding action when the pilot has advised action is being taken to resolve the situation or has reported the other aircraft in sight.

6. CONTINGENCY PROCEDURES - AIR TRAFFIC SERVICES TEMPORARILY NOT AVAILABLE

6.1 Introduction

6.1.1 When Air Traffic Services are temporarily not available in a given airspace, the procedures contained in the following paragraphs may be authorised. Operators/pilots are responsible for obtaining any required changes to their Air Operator’s Certificate (AOC) for operations in the classes and types of airspace addressed in the following paragraphs. Details of specific procedures will be promulgated by NOTAM.

6.1.2 Nothing in these procedures precludes the pilot from exercising responsibility for safe operations, including separation and collision avoidance with other aircraft in the air and on the ground.

6.2 **Airspace Classification**

6.2.1 Airspace subject to contingency will retain its ATS classification except that airspace associated with a tower whose hours of operation are non continuous will revert to the classification normally in place when the tower is closed.

6.3 **En route Service Not Available**

6.3.1 TIBA procedures will apply on published TIBA high and low frequencies, except that in Class G airspace other than over the high seas, published area VHF frequencies shall be used.

6.3.2 FIS and SAR alerting will be provided as remaining capability permits.

6.4 **Approach Control Service Not Available**

6.4.1 In Class C terminal airspace and control zones, TIBA procedures will apply utilising a nominated broadcast frequency. Additionally, mandatory broadcast procedures as specified in *para 6.7* shall be adopted.

6.4.2 In terminal airspace and the control zone associated with a Class D tower, ATS will be in accordance with procedures in force when the tower is closed under normal circumstance.

6.4.3 FIS and SAR alerting will be provided as remaining capability permits.

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6.5 **Aerodrome Control Service Not Available**

6.5.1 At continuous aerodromes, TIBA procedures will apply utilising a nominated broadcast frequency. Additionally, mandatory broadcast procedures as specified in *para 6.7* shall be adopted.

6.5.2 At non continuous aerodromes, ATS will be in accordance with procedures in force when the tower is closed under normal circumstances.

6.5.3 FIS and SAR alerting will be provided as remaining capability permits.

6.6 **Airspace Management**

6.6.1 Procedures consistent with *Attachment C to ICAO Annex 11* may be promulgated by NOTAM to assist with management of operations in contingency airspace. Procedures may include one or more of, but not be limited to:

a. Programmed takeoff and arrival times at locations where there is a likelihood of high traffic densities occurring;

b. additional mandatory broadcast requirements in terminal airspace;

c. nomination of preferred runways;

d. a requirement for all operations in Class C terminal areas to be under the IFR;

e. a requirement to operate TCAS and transponder where fitted; and

f. a requirement to display navigation lights.

6.7 **Mandatory Broadcast Procedures**

(ATC Temporarily Not Available)

6.7.1 When ATC is temporarily not available, mandatory broadcast procedures may be specified in addition to TIBA broadcasts and will be used by pilots to provide advisory traffic information to other aircraft and to arrange mutual segregation. Mandatory broadcast frequencies will be notified by NOTAM.

6.7.2 When arriving or departing from an aerodrome where mandatory broadcast procedures apply, pilots must monitor the appropriate mandatory broadcast frequency. Broadcasts must be made as follows:

Situation	Phrase
1. Broadcasts When a pilot broadcasts intentions.	**ALL STATIONS (location) (appropriate information)**
2. Taxi Taxiing at an aerodrome.	**(aircraft type) TAXIING (location) RUNWAY (number) FOR (destination, or departure quadrant or intention)**
3. About to Commence Takeoff	**LINING UP/ROLLING (runway number) TURNING (left/right) TRACKING (quadrant) CLIMBING TO (level)**
4. Departing	**DEPARTED (location) TRACKING (degrees magnetic) CLIMBING TO (level) FOR (destination)**
5. Inbound When inbound - before crossing the boundary of the area in which mandatory broadcasts apply.	**(Aircraft type) (position reported as either the radial, bearing or quadrant from the aerodrome) (level) (intentions)**
6. Joining the Circuit	**(Aircraft type) JOINING (position in circuit) RUNWAY (number)**

6.7.3 Pilot discretion should be used in making other than the prescribed calls to assist other traffic; e.g. executing a missed approach, or position in the circuit area, or leaving levels designated on TMA routes.

7. TRAFFIC INFORMATION BROADCAST BY AIRCRAFT (TIBA)

7.1 TIBA Procedures

7.1.1 TIBA procedures are intended to permit reports and relevant supplementary information of an advisory nature to be transmitted by pilots for the information of pilots of other aircraft in the vicinity.

7.2 Frequency

7.2.1 Aircraft must maintain a listening watch on the appropriate TIBA frequency. Where VHF is used for air-ground communications with ATS and an aircraft has two serviceable VHF sets, one must be tuned to the appropriate ATS frequency and the other to the TIBA frequency.

7.2.2 The appropriate TIBA frequencies are:

a. at or above FL200, 128.95MHz;

b. below FL200:

(1) In Class G airspace other than in oceanic areas, the relevant Area VHF;

(2) otherwise 126.35MHz.

7.3 **Listening Watch**

7.3.1 A listening watch must be maintained on the TIBA frequency 10 minutes before entering the designated airspace until leaving this airspace. For an aircraft taking off from an aerodrome located within 10 minutes flying time of that airspace, listening watch must start as soon as practicable after takeoff.

7.4 **Time of Broadcasts**

7.4.1 Broadcasts must be made:

a. 10 minutes before entering the designated airspace or, for an aircraft taking off from an aerodrome located with 10 minutes flying time of the airspace, as soon as practicable after takeoff;

b. 10 minutes prior to crossing a reporting point;

c. 10 minutes prior to crossing or joining an ATS contingency route;

d. at 20 minute intervals between distant reporting points;

e. 2 to 5 minutes, where possible, before a change in flight level;

f. at the time of a change in flight level; and

g. at any other time considered necessary by the pilot.

7.5 **Acknowledgement of Broadcasts**

7.5.1 Broadcasts should not be acknowledged unless a potential collision risk exists.

7.6 **Changes of Cruising Level**

7.6.1 Cruising level changes should not be made within the designated airspace, unless considered necessary by pilots to avoid traffic conflicts, for weather avoidance or for other valid operational reasons.

7.6.2 When changes to cruising level are unavoidable, all available aircraft lighting which would improve the visual detection of the aircraft must be displayed while changing levels.

7.6.3 When a change of level is anticipated or initiated, a change of level report must be made. When the new level is reached, a report advising that the aircraft is maintaining the new level must be made.

7.7 **Collision Avoidance**

7.7.1 If, on receipt of a traffic information broadcast from another aircraft, a pilot decides that immediate action is necessary to avoid an imminent collision risk to the aircraft, and this cannot be achieved in accordance with the right of way provisions or TCAS resolution, the pilot should:

a. unless an alternative manoeuvre appears more appropriate, immediately descend 1,000FT if above FL410, or 500FT if at or below FL410;

b. display all available aircraft lighting which would improve the visual detection of the aircraft;

c. as soon as possible, reply to the broadcast advising action being taken;

d. notify the action taken on the appropriate TIBA frequency; and

e. as soon as practicable, resume normal flight level, notifying the action on the appropriate TIBA frequency.

7.8 **Position Reporting**

7.8.1 Normal position reporting procedures should be continued at all times, regardless of any action taken to initiate or acknowledge a traffic information broadcast.

7.8.2 A position report must be made on the next CTA/Area VHF 15 minutes prior to leaving airspace in which TIBA procedures apply to obtain a clearance or re-establish SARWATCH on the appropriate ATS frequency.

8. CONTROL OF VEHICULAR AND PEDESTRIAN MOVEMENT ON AERODROMES

8.1 Drivers of vehicles which need to operate on the manoeuvring area must not seek permission to do so from ATC, unless the driver and vehicle holds the appropriate Driver Authority for Use Airside as issued by the airport operator and/or owner.

8.2 ATC has the authority to issue or to withhold for reasons of traffic, permission for vehicular or pedestrian movement on the manoeuvring area. When it is permitted, such movement will be rigidly controlled.

8.3 All persons, including drivers of vehicles, will be instructed to stop and hold position for radio clearances, or light signal clearances, from the tower before crossing any runway or taxiway, unless they are on a portion of the manoeuvring area marked off by lights, flags or other conventional warning signs. In radio advices to aircraft, ATC will identify as distinctly as possible, persons or vehicles on the manoeuvring area.

8.4 All persons, including drivers of vehicles, on the manoeuvring area must stop and hold at all lighted stop bars and may only proceed further when a clearance to enter or cross the runway has been received and the stop bar lights have been switched off. (See also *ENR 1.1 Section 2.4.3*.)

8.5 All persons, including drivers of vehicles, required to hold short of a runway, must hold at the appropriate holding point for that runway, or the runway strip edge.

8.6 All persons, including drivers of vehicles, in receipt of a clearance from ATC to enter a runway, must hold short of an intersecting runway except when an instruction “CROSS RUNWAY (number)” has been issued and the stop bar lights, where fitted, have been switched off. (See also *ENR 1.1 Section 2.4.3*.)

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GEN 3.4 COMMUNICATION SERVICES

1. INTRODUCTION

1.1 The following services are provided:

a. Radio Navigation,

b. Radio Communication, and

c. Special Broadcast.

1.2 Details of facilities and services appear in *ERSA, DAP* and aeronautical charts.

2. RADIO NAVIGATION SERVICE

2.1 General

The following types of radio aids to navigation operate within Australian FIRs:

a. MF Non-Directional Beacon (NDB);

b. VHF Omni-Directional Radio Range (VOR);

c. Distance Measuring Equipment (DME);

d. Instrument Landing System (ILS);

e. Primary Surveillance Radar (PSR);

f. Secondary Surveillance Radar (SSR);

g. Global Navigation Satellite System (GNSS) including Global Positioning System (GPS);

h. GBAS Landing System (GLS) - (Polarisation GBAS/H);

i. Tactical Air Navigation System (TACAN) (military locations);

j. Automatic Dependent Surveillance – Contract (ADS-C) (FANS-1/A); and

k. Automatic Dependent Surveillance – Broadcast (ADS-B) (1090MHz Extended Squitter).

2.2 Identification

2.2.1 Radio navigation aids serving the same location normally radiate the same identification codes. Further, at ILS/localiser installations, the normal identification is preceded by the letter “I”; and at private non-accredited NDBs, a four letter identifier is radiated, the first letter being “X”.

2.2.2 A GBAS station is identified by the relevant Aerodrome's 4 letter ICAO code where the GBAS is installed (e.g. YSSY). Approaches provided from the GBAS station are identified by the Reference Path ID field in the Final Approach Segment (FAS) data blocks. The Reference Path ID is unique to the approach to be used and published on the Approach Plate for the runway. Each Reference Path ID commences with a letter "G".

2.3 **Non-Directional Beacons**

2.3.1 Due to the frequency range available within Australia, a number of beacons share the same frequency. Where this occurs, the beacons are widely spaced geographically.

2.3.2 Some NDBs have been sited in mountainous country and reflections of the signal can cause bearing fluctuations which may occasionally exceed 10°. Since these fluctuations may tend to obscure the "over the top" indications, other aids should be used as a check. The rated coverage of these NDBs is generally reduced to no more than 30NM.

2.4 **VHF Omni-Directional Radio Range (VOR)**

2.4.1 These aids operate in the frequency band 112 – 118MHz. The track radials are designated by their magnetic bearing away from the station.

2.5 **Distance Measuring Equipment (DME)**

2.5.1 Australia uses the international 1000MHz system. The system uses the channels designated in *ICAO Annex 10* for operation with the VOR frequency selected for the same site. This "pairing" facilitates compatible airborne equipment to display both the DME and VOR information by the selection of only the VOR frequency.

2.5.2 When specific ICAO requirements are met, collocated DME and VOR are said to be "associated" and are shown in AIP documents as VOR/DME with the VOR frequency. In other cases, a bracket will be used to indicate collocation of navigation aids.

2.5.3 When a DME is not "associated" with the VOR at the same site, it is identified in NOTAM and AIP documents by its channel number and suffix with the VOR frequency in parenthesis - e.g. DME 111X (116.4).

2.6 **Tactical Air Navigation (TACAN)**

TACAN systems are installed at a number of military/joint-user aerodromes. The DME element of the TACAN can be obtained by using its "paired" VOR frequency.

Note: TACAN and VOR installations at joint-user airfields are never "associated".

TACAN is shown on AIP aeronautical charts by the channel number with the "paired" VOR frequency - e.g. TACAN88 (114.1).

2.7 **Public Broadcasting Stations**

Some broadcast stations are shown on visual navigation charts when they may be of value as supplementary aids to navigation. Broadcast station locations and frequencies are published in *ERSA.*

2.8 **Abnormal Operation of Radio Navigation Aids**

2.8.1 Users must notify ATS of any abnormal condition in the operation of any radio navigation facility.

2.8.2 **Aids not Available for Navigation**. Sometimes a facility that is not suitable for navigation has to be operated for test purposes. To provide a warning to pilots in such cases, in addition to NOTAM or verbal advice, the station identifier will either:

a. be suppressed; or

b. for ILS:

(1) if the localiser is out of service, the glide path will not be radiated and there will be no identifier; or

(2) if the glide path is out of service but radiating test signals, the localiser will not be radiated; or

(3) if the glide path is out of service and switched off, the localiser may be radiated together with the station identification; or

c. for GLS:

(1) when required for maintenance or on failure the system will be withdrawn from service; or

(2) if the audible Reference Path ID is corrupt or not received, the system will be withdrawn from service.

d. for newly installed NDBs or experimental facilities, the identifier XP will be used.

Note: When a disabled GLS approach is selected, the Reference Path ID may still be displayed on the Primary Flight Display and the audible IDENT heard. No deviation indications or steering commands will be displayed.

2.9 **Remote facilities**

Sometimes circumstances necessitate the introduction of a station identification before the aid is notified as being available for operational use. Whilst use of the aid in these circumstances does not present an operational hazard, navigation by use of the aid must not be planned until its availability is notified by NOTAM.

2.10 **Monitoring of Identifier**

If a station identification is not received or is corrupt, the aid should not be used as the primary means of navigation except when its serviceability in this condition is confirmed by NOTAM.

2.11 **Global Navigation Satellite System (GNSS)**

2.11.1 GNSS is a worldwide satellite navigation service comprising of one or more satellite constellations, including GPS, aircraft receivers and integrity monitoring, augmented as necessary to achieve specific navigational performance.

2.12 **Global Positioning System (GPS)**

2.12.1 GPS is a satellite-based radio navigation system, based on the World Geodetic System - 1984 (WGS-84) datum, which provides highly accurate position and velocity information.

2.12.2 Use of GPS for IFR operations is dependent on the US Department of Defence GPS Standard Positioning Service operating to its defined full operating capability. Use of this service to meet the requirements for a sole means navigation system must be in accordance with *GEN 1.5 Section 2.*

3. COMMUNICATIONS SERVICES

3.1 Radio Frequencies

3.1.1 **General.** Air ground communications in Australian FIRs are conducted by radiotelephony in the VHF, UHF and HF bands. Air-to-air communications are normally conducted in the VHF band. The requirements for carriage of radio communications systems are contained in *GEN 1.5 Section 1.* Frequencies are published in *ERSA*. VHF is the primary frequency band, with HF only being used when outside VHF coverage.

Selected VHF frequencies are published in *ERSA* and are depicted on AIP Aeronautical Navigation Charts. The estimated coverage is shown on *Planning Chart Australia (PCA).*

3.1.2 **UHF** is intended primarily for use with military aircraft. At some locations, re-transmit facilities, which permit UHF and VHF aircraft to copy VHF/UHF transmissions conducted with a common ATS unit, are installed.

3.1.3 **HF - Domestic Operations.** The National Aeronautical HF network appropriate to the area of operations is shown in MAP (Charts). In TCTAs and OCAs, the ground organisation may nominate the appropriate International Network to be used by aircraft. For those operations outside VHF coverage, where the maintenance of a continuous two way communications watch with an airways operations unit is mandatory, the carriage of suitable HF frequencies is required.

3.1.4 **HF - International Operations.** HF networks to be used in order of preference are:

a. the appropriate international network (SEA3, SP6, IN01); or

b. the national network shown in MAP (Charts).

3.1.5 **Interpilot Air-to-Air Communication.** In accordance with regional agreements, 123.45MHz is designated as the air-to-air VHF communications channel. Use of this channel will enable aircraft engaged in flights over remote and oceanic areas out of range of VHF ground stations and not in the vicinity of a non-controlled aerodrome depicted on a chart to exchange necessary operational information and to facilitate the resolution of operational problems.

3.1.6 **SELCAL** is available to appropriately equipped aircraft. Frequencies for this service are listed in *ERSA*.

3.2 **Certified Air/Ground Radio Service (CA/GRS)**

3.2.1 A Certified Air/Ground Radio Service is an aerodrome-based radio information service, which may operate at non-controlled aerodromes. The service is a safety enhancement facility which provides pilots with operational information relevant to the particular aerodrome. The service is operated by or for the aerodrome operator to published hours, on the CTAF assigned to the particular aerodrome. It is not an Airservices or RAAF-provided air traffic service.

3.2.2 The CA/GRS does not provide any separation service.

3.2.3 The callsign of the service is the aerodrome location followed by "Radio"; e.g. "Ayers Rock Radio". The radio operators of the service have been certified to meet a CASA standard of communication technique and aviation knowledge appropriate to the service being provided.

3.2.4 The CA/GRS is provided to all aircraft operating within the designated broadcast area for the specific location. Refer to *ERSA* for the location specific designated broadcast areas.

3.2.5 When a CA/GRS is operating, pilot procedures are unchanged from the standard non-controlled aerodrome operating and communication procedures. *ERSA* includes location specific information relating to procedures.

3.2.6 The operational information provided by a CA/GRS assists pilots in making informed operational decisions. Pilots retain authority and responsibility for the acceptance and use of the information provided.

3.2.7 Aircraft making the normal inbound or taxiing broadcast receive a responding broadcast from the CA/GRS operator, conveying the following information:

a. Confirmation of the correct CTAF.

b. Current, known, relevant traffic in the vicinity of the aerodrome and on the manoeuvring area of the aerodrome. Traffic information may include some or all of the following:

(1) the aircraft type, callsign, position and intention; or

(2) where circuit flying is in operation, general advice on the number of aircraft in the circuit, and position in the circuit if relevant.

Note: this information is provided as an advisory to pilots in VMC and to assist pilots in arranging self-separation in IMC.

c. Weather conditions and operational information for the aerodrome. The information which may be advised includes:

(1) runway favoured by wind or noise abatement,

(2) runway surface conditions,

(3) wind direction and speed,

(4) visibility and present weather,

(5) estimated cloud base,

(6) aerodrome surface temperature, and

(7) aerodrome QNH.

This information will be provided by means of an Automatic Aerodrome Information Service (AAIS) broadcast on a discrete frequency (similar to ATIS) during OPR HR of CA/GRS or on request to the CA/GRS operator. Pilots should monitor the published AAIS frequency before making the taxiing or inbound broadcast, and indicate that the AAIS information has been received when making the inbound or taxiing broadcast.

d. Other operational information of a local nature, relevant to the safety of operations at the aerodrome.

3.2.8 The CA/GRS will provide emergency services call-out if requested by the pilot in an emergency or, if in the opinion of the operator, a call-out is warranted.

3.2.9 The weather information provided by the service is derived from approved measuring equipment, which meets BoM aeronautical precision standards. QNH provided by a CA/GRS or AAIS may be used to reduce landing, circling and alternate minima in accordance with *ENR 1.5 para 5.3* (QNH Sources).

3.2.10 The CA/GRS operator may act as a representative of an air operator (where formal agreement with the operator has been established) for the purposes of holding SARWATCH.

3.3 UNICOM

3.3.1 UNICOM (Universal Communications) is a non-ATS communications service provided to enhance the value of information normally available about a non-controlled aerodrome.

3.3.2 The primary function of the frequency used for UNICOM services where the UNICOM is the CTAF is to provide pilots with the means to make standard positional broadcasts when operating in the vicinity of an aerodrome. Participation in UNICOM services must not inhibit the transmission of standard positional broadcasts.

3.3.3 Participation in UNICOM services relates to the exchange of information concerning:

a. fuel requirements;

b. estimated times of arrival and departure;

c. aerodrome information;

d. maintenance and servicing of aircraft including the ordering of parts and materials urgently required;

e. passenger requirements;

f. unscheduled landings to be made by aircraft;

g. general weather reports; and

h. basic information on traffic.

3.3.4 This information is available to all aircraft during the times that the UNICOM is operating.

3.3.5 Weather reports, other than simple factual statements about the weather, may not be provided by UNICOM operators unless they are properly authorised to make weather observations under *CAR 120*.

3.3.6 The UNICOM operator is solely responsible for the accuracy of any information passed to an aircraft, while the use of information obtained from a UNICOM is at the discretion of the pilot in command.

3.3.7 Stations providing a UNICOM service are required to be licensed by the Australian Communications and Media Authority (ACMA). Detailed information regarding the licensing and use of equipment may be obtained by contacting the ACA in the appropriate State or Territory capital city.

3.3.8 UNICOM operators must comply with the requirements of *CAR 83 (2)*.

3.4 Aerodrome Frequency Response Unit

3.4.1 To assist pilots' awareness of inadvertent selection of an incorrect VHF frequency when operating into non-controlled aerodromes, a device known as an Aerodrome Frequency Response Unit (AFRU) may be installed. An AFRU will provide an automatic response when pilots transmit on the CTAF for the aerodrome at which it is installed.

3.4.2 The features of the AFRU are as follows:

a. When the aerodrome traffic frequency has not been used for the past five (5) minutes, the next transmission over two (2) seconds long will cause a voice identification to be transmitted in response, e.g. "GOULBURN CTAF".

b. When the aerodrome traffic frequency has been used within the previous five (5) minutes, a 300 millisecond tone will be generated after each transmission over two (2) seconds long.

3.4.3 A series of three (3) microphone clicks within a period of five (5) seconds will also cause the AFRU to transmit a voice identification for the particular aerodrome.

3.4.4 In the event that the transmitter in the AFRU becomes jammed for a period of greater than one minute, the unit will automatically shut down.

3.4.5 The operation of the AFRU provides additional safety enhancements by confirming the operation of the aircraft's transmitter and receiver, the volume setting, and that the pilot has selected the correct frequency for use at that aerodrome.

3.5 **High Frequency Harmful Radio Interference**

3.5.1 Domestic aeromobile HF communications in Australia are sometimes subjected to periods of significant radio interference.

3.5.2 The harmful interference is generally broadcasting in a variety of foreign languages and is not aviation related. Airservices Australia may use recorded messages in a variety of languages and dialects to advise the "target" that they are transmitting on a frequency reserved for aviation communications, and that they should cease transmitting.

3.5.3 Recorded messages may broadcast for up to three minutes. During this time, the frequency will not be useable by the ATS centre controlling the broadcast, and aircraft wishing to communicate on HF may need to change to an alternative frequency, or wait until the broadcast is completed.

3.5.4 Minor delays in responding to VHF calls may also occur whilst HF broadcasts are taking place. Broadcasts are made on a "workload permitting" basis and ATS will terminate the broadcast if higher priority HF or VHF communications are required.

3.6 **Telephone Facilities**

3.6.1 Telephone services may be used as follows to contact Australian ATS units for urgent, non-routine or safety-related matters, or to report arrival:

a. **ATS unit telephone numbers.**
Direct dial or reverse charge to the ATS unit telephone numbers listed in ERSA. Airservices will bear the cost of operator-connected calls of an urgent operational nature.

b. **Satellite Voice Communication (SatVoice).**
Contact can be made by dialling the following full telephone numbers or abbreviated dialling codes:

Australian ATC Facility	Full Telephone Number	Abbreviated Dialling Code
Brisbane Centre	+61 7 3866 3868	450302
Melbourne Centre	+61 3 9338 4032	450303
Perth TCU	+61 8 9476 8545	450304
Sydney TCU	+61 2 9556 6742	450305

3.6.2 Telephone facilities may be used to contact the National Coordination Centre (NCC) for routine matter as detailed in AIP and ERSA.

3.7 **Recording Of Operational Communications**

3.7.1 All ATS units are equipped with automatic recording facilities which record all communications to and from each ATS unit, irrespective of the medium used.

3.8 **Aeronautical Fixed Telecommunication Network (AFTN)**

3.8.1 The AFTN is established primarily for ATS unit intercommunication. However, subject to certain provisos, the AFTN may be used to transmit messages concerning flight safety, flight regularity, reservation and general operating agency aspects. Details are available from ATS units.

3.8.2 A matrix of the Australian AFTN circuitry is contained at *APPENDIX 1*.

3.9 **Special Broadcast Services**

3.9.1 **ATIS** is a continuous transmission, on a discrete frequency or on the IDENT channel of a VOR or NDB, of the operational information. Details are in *GEN 3.3 Section 2.7* and frequencies in *ERSA*.

3.9.2 **AERIS** is a continuous transmission of operational information on a discrete frequency. AERIS is described in *GEN 3.3 Section 2.9* and in *ERSA GEN.*

3.9.3 **VOLMET** broadcasts contain selected meteorological information on discrete frequencies. Details are in *GEN 3.5 section 7.3* and frequencies in *ERSA*.

3.9.4 **AWIS** broadcasts actual weather conditions on navigation aids from AWS sites which use Bureau of Meteorology AWS equipment. Details are in *GEN 3.5 Section 7.4* and frequencies in *ERSA*.

3.10 **Aeronautical Codes**

3.10.1 Aeronautical codes, including location indicators for Australian aerodromes, are published in *ERSA* and on aeronautical charts.

4. RADIOTELEPHONY PROCEDURES

4.1 Introduction

4.1.1 The communication procedures, phraseologies and requirements contained in this section have been selected to harmonise with ICAO, and international practices where applicable. Additional phrases to supplement where ICAO is silent have been included.

4.1.2 Primary reference documents on radiotelephony are *ICAO Doc 4444, Doc 9432, and Annex 10*. ATS and pilots should refer to these documents to obtain additional information as necessary. Only procedures appropriate to Australia and commonly used phrases are contained in this section.

4.1.3 Use of standard phrases for radio telephony communication between aircraft and ground stations is essential to avoid misunderstanding the intent of messages and to reduce the time required for communication.

4.1.4 Where circumstances warrant, and no phraseology is available, clear and concise plain language should be used to indicate intentions.

4.1.5 Phraseologies contained in this section are generic and, although primarily reflecting a controlled airspace environment, pilots operating in Class G airspace should use these generic phrases unless specific Class G phrases are shown.

4.2 General

4.2.1 Symbols and Parentheses

Words in parentheses "()" indicate that specific information, such as a level, a place, or a time, etc, must be inserted to complete the phrase, or alternatively, that optional phrases may be used. Words in square parentheses "[]" indicate optional additional words or information that may be necessary in specific instances.

4.2.2 The following symbols indicate phraseologies which may differ from those used in an international aviation environment, but are necessitated by Australian requirements.

- • UNIQUE TO AUSTRALIA (ICAO SILENT)
- ▲ MILITARY SPECIFIC PHRASEOLOGIES

4.2.3 Phraseologies show the text of message components without callsigns. They are not intended to be exhaustive, and when circumstances differ, pilots, ATS and Air Defence personnel, and other ground personnel will be expected to use appropriate subsidiary phraseologies which should be clear, concise, and designed to avoid any possible confusion.

4.2.4 For convenience, the phraseologies are grouped according to types of air traffic service. However, users should be familiar with and use, as necessary, phraseologies from groups other than those referring specifically to the type of air traffic service being provided. All phraseologies must be used in conjunction with callsigns (aircraft, ground vehicle, ATC or other) as appropriate.

4.2.5 Phraseologies for the movement of vehicles, other than tow-tractors on the manoeuvring area, are not listed separately as the phraseology associated with the movement of aircraft is applicable. The exception is for taxi instructions, in which case the word “PROCEED” will be substituted for the word “TAXI” when ATC communicates with vehicles.

4.3 **Transmission Format**

4.3.1 When initiating a transmission to ATS, pilots will commence the transmission with the callsign of the unit being addressed followed by the aircraft callsign.

4.3.2 The ATS unit will respond using the station’s callsign followed by their callsign. In the absence of an instruction to “STAND BY”, this response by the ATS unit is an invitation for the aircraft calling to pass their message.

Note: The use of the words “GO AHEAD” is no longer considered appropriate due to the possibility of misconstruing “GO AHEAD” as an authorisation for an aircraft to proceed.

4.3.3 A read-back of an ATS message will be terminated with the aircraft’s callsign.

4.4 **Read-Back Requirements**

4.4.1 Pilots must transmit a correct read-back of ATC clearances, instructions and information which are transmitted by voice. For other than Item a, only key elements of the following clearances, instructions, or information must be read back ensuring sufficient detail is included to indicate compliance:

a. an ATC route clearance in its entirety, and any amendments;

Note: "Rest of clearance unchanged" is not required to be read back.

b. en route holding instructions;

c. any route and holding point specified in a taxi clearance;

d. any clearances, conditional clearances or instructions to hold short of, enter, land on, line-up on, wait, take-off from, cross, taxi or backtrack on, any runway or HLS;

e. any approach clearance;

f. assigned runway or HLS;

g. altimeter settings directed to specific aircraft, radio and radio navigation aid frequency instructions;

Note: An "expectation" of the runway to be used is not to be read back.

h. SSR codes, data link logon addresses;

i. level instructions (including 'VIA SID/STAR TO' when this is part of the instruction), direction of turn, heading and speed instructions.

4.4.2 The controller will listen to the read-back to ascertain that the clearance or instruction has been correctly acknowledged and will take immediate action to correct any discrepancies revealed by the read-back.

4.4.3 Reported level figures of an aircraft must be preceded by the words "FLIGHT LEVEL" when related to standard pressure and may be followed by the word "FEET" when related to QNH.

4.5 **Conditional Clearances**

4.5.1 In all cases, a conditional clearance will be given in the following order and consist of:

a. identification (callsign);

b. the condition (including position of the subject of the condition);

c. the clearance; and

d. brief reiteration of the condition, e.g.

ATS: "(aircraft callsign) BEHIND A340 ON SHORT FINAL, LINE UP [RUNWAY (number)] BEHIND".

Pilot: "BEHIND THE A340, LINING UP [RUNWAY (number)] (aircraft callsign)". (see *ENR 1.1 Section 2.2.23*)

4.6 **Route Terminology**

4.6.1 The phrase “FLIGHT PLANNED ROUTE” may be used to describe any route or portion thereof that is identical to that filed in the flight notification and sufficient routing details are given to definitely establish the aircraft on its route.

4.7 **Amended Route or Level**

4.7.1 When ATS provide an initial airways clearance that is not in accordance with the details currently held by ATC system, ATS will prefix the route and/or level details with the word “AMENDED”.

4.7.2 When an issued airways clearance needs to be changed ATS will prefix the new route and/or level details with the word “RECLEARED”. The level will be stated in all clearance changes regardless of whether a change to the cleared level is made or not.

4.7.3 The prefixes “AMENDED” and “RECLEARED” will not be used:

a. for SID or STAR clearances; or

b. during normal progressive climb/descent instructions

4.8 **Language**

4.8.1 English language must be used for all air-ground RTF communications within Australian FIRs unless use of an alternative language has been arranged with ATS prior to any specific flight.

4.9 **Phonetic Alphabet**

4.9.1 Radiotelephony pronunciation of the Phonetic Alphabet shall be as follows:

A ALFA	AL fah	**B** BRAVO	BRAH voh
C CHARLIE	CHAR lee	**D** DELTA	DELL tah
E ECHO	ECK ho	**F** FOXTROT	FOKS trot
G GOLF	GOLF	**H** HOTEL	hoh TELL
I INDIA	IN dee A	**J** JULIETT	JEW lee ETT
K KILO	KEY loh	**L** LIMA	LEE mah
M MIKE	MIKE	**N** NOVEMBER	no VEM ber
O OSCAR	OSS cah	**P** PAPA	pah PAH
Q QUEBEC	keh BECK	**R** ROMEO	ROW me oh
S SIERRA	see AIR rah	**T** TANGO	TANG go
U UNIFORM	YOU nee form	**V** VICTOR	VIK tah
W WHISKEY	WISS key	**X** X-RAY	ECKS ray
Y YANKEE	YANG key	**Z** ZULU	ZOO loo

4.10 Numerals

4.10.1 Radiotelephony pronunciation of numbers shall be in the phonetic form as follows:

0 ZE-RO	**5** FIFE	**Decimal**	DAY SEE MAL
1 WUN	**6** SIX	**Hundred**	HUN dred
2 TOO	**7** SEV en	**Thousand**	TOU SAND
3 TREE	**8** AIT		
4 FOW er	**9** NIN er		

4.11 Transmission of Numbers

4.11.1 All numbers used in the transmission of altitude, cloud height, visibility and Runway Visual Range (RVR) information, which contain whole hundreds and whole thousands, must be transmitted by pronouncing each digit in the number of hundreds or thousands followed by the word HUNDRED or THOUSAND as appropriate, e.g.

ALTITUDES	800	“EIGHT HUNDRED”
	1,500	“ONE THOUSAND FIVE HUNDRED”
	6,715	“SIX SEVEN ONE FIVE”
	10,000	“ONE ZERO THOUSAND”

CLOUD HEIGHT

2,200	“TWO THOUSAND TWO HUNDRED”
4,300	“FOUR THOUSAND THREE HUNDRED”

VISIBILITY

200	“TWO HUNDRED”
1,500	“ONE THOUSAND FIVE HUNDRED”
3,000	“THREE THOUSAND”

RUNWAY VISUAL RANGE

700	“SEVEN HUNDRED”.

4.11.2 All other numbers must be transmitted by pronouncing each digit separately, e.g.

FLIGHT LEVELS

FL 180	“FLIGHT LEVEL ONE EIGHT ZERO”
FL 200	“FLIGHT LEVEL TWO ZERO ZERO”

HEADINGS	150	“ONE FIVE ZERO”
	080	“ZERO EIGHT ZERO”
	300	“THREE ZERO ZERO”

WIND DIRECTION	020°	“ZERO TWO ZERO DEGREES”
	100°	“ONE ZERO ZERO DEGREES”
	210°	“TWO ONE ZERO DEGREES”

WIND SPEEDS

70KT	“SEVEN ZERO KNOTS”
18KT, gusting 30	“ONE EIGHT KNOTS GUSTING THREE ZERO”

MACH NUMBER

0.84	“DECIMAL EIGHT FOUR”

ALTIMETER SETTING

1000	“ONE ZERO ZERO ZERO”
1027	“ONE ZERO TWO SEVEN”
29.95	“TWO NINE DECIMAL NINE FIVE”

RUNWAY VISUAL RANGE

350	“THREE FIVE ZERO”.

Note: For the transmission of numbers in aircraft callsigns, refer to “FLIGHT NUMBER CALLSIGNS” at Section 4.16

4.12 Time

4.12.1 Australia uses Coordinated Universal Time (UTC) for all operations. The term "Zulu" is used when ATC procedures require a reference to UTC, e.g.

0920 UTC	"ZERO NINE TWO ZERO ZULU"
0115 UTC	"ZERO ONE ONE FIVE ZULU".

4.12.2 To Convert from Standard Time to Coordinated Universal Time:

Eastern Standard Time	Subtract 10 hours
Central Standard Time	Subtract 9.5 hours
Western Standard time	Subtract 8 hours.

Note: Daylight Saving is not applied universally across Australia and is not published in the AIP.

4.12.3 The 24-hour clock system is used in radiotelephone transmissions. The hour is indicated by the first two figures and the minutes by the last two figures, e.g.

0001	"ZERO ZERO ZERO ONE"
1920	"ONE NINE TWO ZERO".

4.12.4 Time may be stated in minutes only (two figures) in radiotelephone communications when no misunderstanding is likely to occur.

4.12.5 Current time in use at a station is stated to the nearest minute in order that pilots may use this information for time checks.

4.12.6 Control towers will state the time to the nearest half minute when issuing a taxi clearance to a departing aircraft, e.g.

0925:10	"TIME, TWO FIVE"
0932:20	"TIME, THREE TWO AND A HALF"
2145:50	"TIME, FOUR SIX".

4.13 Ground Station Callsigns

4.13.1 ATS Callsigns

4.13.2 ATS units are identified by the name of the location followed by the service available as follows:

CENTRE	En route area control, SIS and FIS.
APPROACH	Approach control where provided as a separate function.
DEPARTURES	Departure control where provided as a separate function.
FINAL/DIRECTOR	Surveillance control providing vectors onto final approach.
TOWER	Aerodrome control or aerodrome and approach control where these services are provided from an aerodrome control tower, e.g. Coffs Harbour.
GROUND	Surface movement control.
DELIVERY	Clearance delivery to departing aircraft.
FLIGHTWATCH	Flight Information Service.

4.13.3 The name of the location or the service may be omitted provided that satisfactory communication has been established.

4.14 **Aircraft Callsigns**

4.14.1 Improper use of callsigns can result in pilots executing a clearance intended for another aircraft. Callsigns should never be abbreviated on an initial contact or at any time when other aircraft callsigns have similar numbers/sounds or identical letters/numbers,
e.g. CHARLIE WHISKEY ZULU - WHISKEY CHARLIE ZULU.

4.14.2 Pilots must be certain that aircraft identification is complete and clearly identified before taking action on an ATC clearance. ATS will use full or abbreviated callsigns in accordance with section *4.20*. The pilot may only use an abbreviated callsign when initiated by ATS. When aware of similar/identical callsigns, ATS will take action to minimise errors by:

a. emphasising certain numbers/letters,

b. repeating the entire callsign, e.g. QANTAS451 QANTAS451, or

c. repeating the prefix, e.g. QANTAS451 QANTAS, or

d. asking pilots to use a different callsign, either temporarily or for the duration of the flight.

Pilots should use the phrase “VERIFY CLEARANCE FOR (complete callsign)” if doubt exists concerning proper identity.

4.14.3 Civil aircraft pilots may state the aircraft type, model or manufacturer’s name, followed by the digits/letters of the registration number, e.g.
Bonanza CHARLIE ALPHA ECHO
Cherokee ALPHA BRAVO CHARLIE.

4.15 **Flight Number Callsigns - Using Group Form**

4.15.1 Within Australian airspace, “group form” is the preferred means of transmitting callsign/flight number. Group form should also be used with military and other aircraft using a rootword callsign with numeric suffix.

4.15.2 Group form is the grouping of numbers into pairs, or where a number ending in “00” is spoken in hundreds *(refer para 4.16)*. For three digit numbers, the second and third numbers are grouped. Examples are as follows:

QLINK 122	QLINK ONE TWENTY TWO
QANTAS 1220	QANTAS TWELVE TWENTY
CAR 21	CAR TWENTY ONE
CLASSIC 12	CLASSIC TWELVE
VIRGIN 702	VIRGIN SEVEN ZERO TWO
BIRDOG 021	BIRDOG ZERO TWENTY ONE

4.15.3 Pilots and ATS should be aware that the preference to use “group form” does not invalidate any transmissions made in conventional formats. However, to retain the integrity in the communication between ATS and operators, the identification format used should be consistent.

4.15.4 A pilot not using “group form” in establishing communication, but subsequently addressed by ATS in this format, should adopt the use of “group form” for the remainder of the flight in Australian airspace.

4.15.5 There is no additional abbreviated form when using flight number callsigns. The airline designator and all digits of the callsign, including leading zeros, must be pronounced.

4.16 **Selection of Aircraft Identification Numbers and Suffixes**

4.16.1 When selecting an aircraft identification number or callsign suffix, operators should avoid using numbers that correlate with:

a. ending in “zero” or “five”, to avoid confusion with headings;

b. potential level utilisation (e.g. 3000, 500, 350 etc);

c. emergency codes (e.g. 7600, 7700 etc); and

d. numerical aircraft types (e.g. 767, 330 etc).

4.16.2 Flight numbers and callsign suffix numbers should be limited to 2 or 3 characters and take into account flight numbers already in use by the operator and other agencies in the intended control environment, operational area or nearby.

4.17 **Ground Vehicles**

4.17.1 Ground vehicles shall be identified by the type of vehicle; e.g. car, truck, tractor, tug, etc, or an ATS approved format, followed by the assigned vehicle number spoken in group form.

e.g.
TRUCK 12 “TRUCK TWELVE”
CAR 23 “CAR TWENTY THREE”.

4.18 **Interchange and Leased Aircraft**

4.18.1 Controllers issue traffic information based on familiarity with airline equipment and colour/markings. When an airline dispatches a flight using another company’s aircraft and the pilot does not advise the terminal ATC facility, the possible confusion in aircraft identification can compromise safety.

4.18.2 Pilots flying an “interchange” or “leased” aircraft, not bearing the normal colours/markings of the company operating the aircraft, should inform the terminal ATC facility (on first contact) of the name of the operating company and aircraft callsign, followed by the company name as displayed on the aircraft, and aircraft type,
e.g. VELOCITY THREE ELEVEN, AIR NEW ZEALAND INTERCHANGE (or LEASE), BOEING SEVEN FOUR SEVEN.

4.19 **Unmanned Aerial Vehicles**

4.19.1 Unmanned Aerial Vehicles (UAV) should select identification based on the aircraft manufacturer or model using a maximum of three syllables. Numbers may be added. UAV flight plan identification is detailed in *ENR 1.10 APPENDIX 2*

4.19.2 Communications on any frequency must use the prefix "UNMANNED" before the callsign. When the UAV operation is conducted in controlled airspace ATC may vary this requirement after initial contact.

4.20 **Callsigns - Full and Abbreviated Formats**

4.20.1 When establishing two way communications and for subsequent communications on any frequency, Australian registered aircraft must use one of the following callsigns:

a. for VH-registered aircraft, the last 3 characters of the registration marking (e.g. VH-TQK "TANGO QUEBEC KILO"); or

b. the approved telephony designator of the aircraft operating agency, followed by the last 3 characters of a VH registration marking (e.g. "QLINK TANGO QUEBEC KILO"); or

c. the approved telephony designator of the aircraft operating agency, followed by the flight identification (e.g. "VELOCITY EIGHT FIFTY SIX DELTA"); or

d. for recreation-category aircraft, the aircraft type followed by the last 4 characters of the aircraft's registration number (e.g. "JABIRU THIRTEEN FORTY SIX").

4.20.2 When establishing two way communications on any frequency, foreign registered aircraft must use one of the following callsigns:

a. the characters corresponding to the registration marking of the aircraft (e.g. N35826 "NOVEMBER THREE FIFTY EIGHT TWENTY SIX"); or

b. the approved telephony designator of the aircraft operating agency, followed by the last 4 characters of the registration marking of the aircraft (e.g. "UNITED FIFTY EIGHT TWENTY SIX"); or

c. the approved telephony designator of the aircraft operating agency, followed by the flight identification (e.g. "SPEEDBIRD FIFTY FIVE").

Note: The name of the aircraft manufacturer or aircraft model may be used as a radiotelephony prefix to the callsign type mentioned in sub-para 4.20.1a. and 4.20.2a.

4.20.3 For foreign registered aircraft, after establishing two way communications, ATS may initiate abbreviated callsigns for the type stated in *4.20.2a*. and *4.20.2b*. These callsigns may be abbreviated to:

a. the first character of the registration and at least the last 2 characters of the registration marking (e.g. N35826 "NOVEMBER EIGHT TWENTY SIX");

b. the telephony designator of the aircraft operating agency, followed by at least the last 2 characters of the registration marking (e.g. "UNITED TWENTY SIX").

Note: For flight planning, all callsigns are limited to 7 characters.

4.20.4 In addition to the requirements of *4.20.1* to *4.20.3*, the prefix "HELICOPTER" must be used by rotary wing aircraft when first establishing two way communications on any frequency (e.g. VH-WSO "HELICOPTER WHISKEY SIERRA OSCAR").

4.20.5 Civil formation flights of Australian registered aircraft may use the suffix "FORMATION" after one of the following callsigns:

a. the registration of the formation leader, e.g. "ALPHA BRAVO CHARLIE FORMATION", or

b. the approved telephony designator of the formation leader, with or without an alpha or numeric, e.g. "JETSPEED FORMATION" or "JETSPEED ONE FORMATION" or "JETSPEED BRAVO FORMATION".

4.21 **Registration of Radiotelephony Designators**

4.21.1 Operators wishing to use flight number callsigns must obtain approval from Airservices Australia. In the first instance, the operator should contact the appointment listed at *para 4.22* and provide:

a. three options for the telephony designator, including an indication of the operator's preferred option; and

b. three options for a two or three letter designator.

Note: Airservices Australia approves two letter designators and associated telephony only for use within the Australian FIR. Three letter designators and associated telephony are approved for international use both by Airservices Australia and ICAO, and are published within ICAO Doc 8585.

4.21.2 When requesting approval of telephony and two or three letter designators, operators should adhere to the following rules:

a. The telephony designator should resemble the name of the aircraft operating agency or its function, and be distinct and dissimilar from any other telephony designators in use (e.g. HORIZON).

b. The two or three letter designator should reflect correlation with the telephony designator (e.g. HZA).

c. In order to reduce the length of transmission, the telephony designator should be brief and comprising, if possible, one word of two or three syllables.

d. In order to reduce ATC screen clutter, approved two letter designators should be used for domestic operations.

4.21.3 Once requests have been processed, Airservices Australia will notify the operator in writing of the approval along with an effective date. Approvals will be subject to the operator agreeing to the use of group form.

Note: Effective dates usually align with the AIP Book amendment AIRAC date.

4.22 **Approvals Contact Information**

4.22.1 Information and an application to request approval to use a flight number callsign is available from Airservices Australia website: www.airservicesaustralia.com/services/flight-number-call-signs or may be obtained by contacting:
ATS Integrity
Office of the Chief Air Traffic Controller, Airservices Australia
GPO Box 367, CANBERRA ACT 2601
Email: ats.assurance@airservicesaustralia.com

4.23 **Callsigns - Special Task Operations**

4.23.1 Aircraft engaged in special task operations, and with the agreement of ATS, may use a call sign indicative of the nature of the task with a numerical suffix (if applicable)
(see *4.16*), e.g.

Type of Operation	Radio Telephony Designator (Callsign)	Flight Plan Designator
Ambulance	AMBULANCE	AM
Coordination of Firebombing Aircraft	BIRDOG	BDOG
Fire Bombing	BOMBER	BMBR
Federal Police	FEDPOL	FPL
Federal Police (Priority)	FEDPOL RED	FPLR
Night-time NVG firefighting operations	FIREAIR	FYRA
General Fire Support Tasks (light rotary)	FIREBIRD	FBIR
Remote Sensing Fire Operations	FIRESCAN	FSCN
Fire Intelligence Gathering	FIRESPOTTER	SPTR
General Fire Support Tasks (medium rotary)	HELITAK	HLTK
Lifesaver Operations	LIFESAVER	LIFE
Media Operations	MEDIA	MDIA
Validation of instrument procedures	NAVCHECK	NVCK
NSW Parks and Wildlife Service	PARKAIR	PKAR
Police	POLAIR	POL
Police (Priority)	POLAIR RED	POLR
Rescue Mission	RESCUE	RSCU
Aerial Survey	SURVEY	SVY

4.23.2 Callsign suffix numbers are allocated as follows:
NSW/ACT – commencing with 2 (e.g. 201, 214, 223);
VIC – commencing with 3; **QLD** – commencing with 4;
SA – commencing with 5; **WA** – commencing with 6;
TAS – commencing with 7; **NT** – commencing with 8;
Defence – commencing with 9.

Use of these numbers will ensure aircraft transiting state borders utilising the same callsign prefix do not duplicate an existing callsign suffix number or flight plan.

5. PHRASEOLOGIES

5.1 Standard Words and Phrases

5.1.1 The following words and phrases are to be used in radiotelephony communications, as appropriate, and have the meaning given:

Word/Phrase	Meaning
ACKNOWLEDGE	Let me know that you have received and understood this message.
AFFIRM	Yes.
APPROVED	Permission for proposed action granted.
BREAK	I hereby indicate the separation between portions of the message (to be used where there is no clear distinction between the text and other portions of the message).
BREAK BREAK	I hereby indicate separation between messages transmitted to different aircraft in a very busy environment.
CANCEL	Annul the previously transmitted clearance.
CHECK	Examine a system or procedure (no answer is normally expected).
CLEARED	Authorised to proceed under the conditions specified.
CONFIRM	I request verification of: (clearance, instruction, action, information).
CONTACT	Establish communication with...
CORRECT	True *or* Accurate.
CORRECTION	An error has been made in this transmission (or message indicated) the correct version is...
DISREGARD	Ignore.
HOW DO YOU READ	What is the readability of my transmission? The readability scale is:

Word/Phrase	Meaning
	1. Unreadable 2. Readable now and then 3. Readable but with difficulty 4. Readable 5. Perfectly readable.
I SAY AGAIN	I repeat for clarity or emphasis.
MAYDAY	My aircraft and its occupants are threatened by grave and imminent danger and/or I require immediate assistance.
MAINTAIN	Continue in accordance with the condition(s) specified or in its literal sense, e.g. “Maintain VFR”.
MONITOR	Listen out on (frequency).
NEGATIVE	No *or* Permission is not granted *or* That is not correct *or* Not capable.
OUT	This exchange of transmissions is ended and I expect no response from you (*not normally used in VHF or satellite communication*).
OVER	My transmission is ended and I expect a response from you (*not normally used in VHF or satellite communication*).
PAN PAN	I have an urgent message to transmit concerning the safety of my aircraft or other vehicle or of some person on board or within sight but I do not require immediate assistance.
READ BACK	Repeat all, or the specified part, of this message back to me exactly as received.
RECLEARED	A change has been made to your last clearance and this new clearance supersedes your previous clearance or part thereof.
REPORT	Pass me the following information.

Word/Phrase	Meaning
REQUEST	I should like to know or I wish to obtain.
ROGER	I have received all of your last transmission (*under NO circumstances to be used in reply to a question requiring READBACK or a direct answer in the affirmative or negative*).
SAY AGAIN	Repeat all or the following part of your last transmission
SPEAK SLOWER	Reduce your rate of speech.
STANDBY	Wait and I will call you.
UNABLE	I cannot comply with your request, instruction or clearance *(normally followed by a reason).*
VERIFY	Check and confirm with originator.
WILCO	I understand your message and will comply with it.
WORDS TWICE	a. as a request: Communication is difficult. Please send every word or group of words twice. b. as information: Since communication is difficult every word or group of words in this message will be sent twice.

5.2 Emergency

Circumstances	***Phraseologies*** ** Denotes pilot transmission*
1. Distress message	a.* MAYDAY [MAYDAY, MAYDAY] *followed as necessary by:* (i) *(station addressed)* (ii) *(aircraft identification)* (iii) *(nature of distress condition e.g. FUEL or EMERGENCY DESCENT)* (iv) *(intentions)* (v) *(position, level and heading)* (vi) *(any other useful information).*
2. Acknowledgement of distress message	
ATC acknowledgement of MAYDAY call	a. ROGER MAYDAY
ATC acknowledgement of MAYDAY on frequency transfer	b. MAYDAY [*(type of emergency)*] ACKNOWLEDGED
Imposition of radio silence	c. STOP TRANSMITTING. MAYDAY
ATC broadcast for emergency descent traffic	d. EMERGENCY DESCENT AT *(significant point or location)* ALL AIRCRAFT BELOW *(level)* WITHIN *(distance)* OF *(significant point or navigation aid)* [LEAVE IMMEDIATELY] [*(specific instructions as to direction, heading or track, etc)*]
Cancellation of distress condition	e.* CANCEL DISTRESS *(information)*
Termination of distress and radio silence	f. DISTRESS TRAFFIC ENDED

Circumstances	*Phraseologies* ** Denotes pilot transmission*
3. Urgency message	a*. PAN PAN [PAN PAN, PAN PAN] *followed as necessary by:* (i) *(station addressed)* (ii) *(aircraft identification)* (iii) *(nature of urgency condition e.g. MEDICAL PRIORITY REQUIRED or WEATHER DEVIATION REQUIRED)* (iv) *(intentions)* (v) *(position, level and heading)* (vi) *(any other useful information).*
ATC acknowledgement of PAN call	b. ROGER PAN
ATC acknowledgement of PAN on frequency transfer	c. PAN [*(type of emergency)*] ACKNOWLEDGED

5.3 Traffic Alert and Collision Avoidance System (TCAS), Safety Alerts and Avoiding Action and Wind Shear Escape

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Level Changes, Reports/ Rates	
a flight crew starts to deviate from any ATC clearance or instruction to comply with an ACAS resolution advisory (RA) (pilot and controller interchange)	a.* TCAS RA b. ROGER
after the response to an ACAS RA is completed and a return to the ATC clearance or instruction is Initiated (pilot and controller interchange)	c.* CLEAR OF CONFLICT RETURNING TO (*assigned clearance*) d. ROGER *(or alternative instructions*)

Circumstances		*Phraseologies* * Denotes pilot transmission
after the response to an ACAS RA is completed and the assigned ATC clearance or instruction has been resumed (Pilot and Controller interchange)	e.*	CLEAR OF CONFLICT (*assigned clearance*) RESUMED
	f.	ROGER (*or alternative instructions*)
after an ATC clearance or instruction contradictory to the ACAS RA is received, the flight crew will follow the RA and inform ATC directly (Pilot and Controller interchange)	g.*	UNABLE TO COMPLY, TCAS RA
	h.	ROGER *Note: Pilots are required to comply with any TCAS RA manoeuvre irrespective of ATC traffic advisories or instructions*
2. Safety Alert and Avoiding Action	a.	SAFETY ALERT, *followed as necessary by*:
low altitude warning	(i)	LOW ALTITUDE WARNING, CHECK YOUR ALTITUDE IMMEDIATELY, QNH IS (*number*) [(*units*)]. [THE MINIMUM SAFE ALTITUDE IS (*altitude*)].
terrain alert	(ii)	TERRAIN, CHECK YOUR ALTITUDE IMMEDIATELY (*suggested pilot action if possible*)
traffic alert	(iii)	TRAFFIC (*number*) MILES OPPOSITE DIRECTION/ CROSSING LEFT TO RIGHT/ RIGHT TO LEFT (*level information*).

Circumstances	***Phraseologies*** * Denotes pilot transmission
avoiding action	b. AVOIDING ACTION, *followed as necessary by:* (i) [SUGGEST] TURN LEFT/ RIGHT IMMEDIATELY HEADING (*three digits*) TRAFFIC ([LEFT/RIGHT] *number*) O'CLOCK (*distance*) MILES OPPOSITE DIRECTION/ CROSSING LEFT TO RIGHT/ RIGHT TO LEFT (*level information*). (ii) [SUGGEST] CLIMB/ DESCEND IMMEDIATELY TO (*level*) TRAFFIC [LEFT/ RIGHT] (*number*) O'CLOCK (*distance*) MILES OPPOSITE DIRECTION/ CROSSING LEFT TO RIGHT/ RIGHT TO LEFT (*level information*). *Note 1: Where clock codes are used to provide the relative bearing, the prefix left/right is optional.* *Note 2: In high density traffic scenarios it may be impractical for ATC to use the full phraseologies for safety alerts and avoiding action. ATC will provide information that conveys the immediacy of the situation and relevant instructions to allow pilots the best opportunity to avoid a collision.* *Note 3: Pilots are required to comply with any TCAS RA manoeuvre irrespective of ATC traffic advisories or instructions.*

Circumstances	*Phraseologies* * Denotes pilot transmission
3. Wind Shear Escape Manoeuvre	•a.* WIND SHEAR ESCAPE
ATC acknowledgement	b. ROGER [SAFETY ALERT] [TRAFFIC (*distance*) MILES (*relevant information*)]
Mutual traffic information	c. [SAFETY ALERT] TRAFFIC (*distance*) MILES (*relevant information*) EXPERIENCING WIND SHEAR
Wind Shear Escape Manoeuvre complete	d. * CLEAR OF WIND SHEAR RETURNING TO (*assigned clearance, instruction and/or procedure etc*)
ATC acknowledgement	e. ROGER [*alternative instructions*]
Wind shear prevents compliance with an ATC clearance or instruction	f. * UNABLE, WIND SHEAR ESCAPE

5.4 Status of Restricted Areas

Circumstances	*Phraseologies* * Denotes pilot transmission
When active:	a. RESTRICTED AREA (*number*) ACTIVE, *followed as necessary by*: (i) CLEARANCE REQUIRED (ii) AVAILABLE FOR TRANSIT (iii) AVAILABLE UNTIL TIME *(time)* (iv) CLEARANCE NOT AVAILABLE (v) *...(other qualification as appropriate)*

Circumstances	*Phraseologies* * Denotes pilot transmission
Released to civil ATC	b. RESTRICTED AREA (*number*) RELEASED TO (*civil* ATS *unit*), *followed as necessary by*: i) CLEARANCE NOT AVAILABLE ii) (*clearance*) iii) APPROVED TO OPERATE IN RESTRICTED AREA (*number*) [CLASS (*airspace category*) PROCEDURES APPLY]
Unauthorised deviation into active restricted area	c. HAZARDOUS ACTIVITIES ARE OCCURRING, UNABLE TO ISSUE CLEARANCE PROCEED AT YOUR OWN RISK, SQUAWK 7700

5.5 SARWATCH

5.5.1 SARTIME

Circumstances	*Phraseologies* * Denotes pilot transmission
1. SARTIME nomination	a.* SARTIME *details* b. STANDBY *or* (*callsign*) c.* SARTIME FOR DEPARTURE (*or* ARRIVAL) [*location*] (*time*)
2. SARTIME cancellation	a.* SARTIME *details* b. STANDBY *or* (*callsign*) c.* (*position*/*location*) CANCEL SARTIME
3. SARTIME amendment	a.* SARTIME *details* b. STANDBY *or* (*callsign*) c. *As required, including specific phrases nominated above if applicable*.

5.5.2 SARWATCH Other Than SARTIME

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Departure Reports to initiate a SARWATCH when communication on the ground is not available.	•a.* AIRBORNE (*location*)
2. Flight & Arrival Reports	•a.* (*position*) CANCEL SARWATCH [ADVISE (*unit*) *if appropriate*]
	•b. SARWATCH CANCELLED [WILCO (*unit*)]
form of acknowledgement to CANCEL SARWATCH	•c. [*location*] SARWATCH TERMINATED
when the ATS unit accepting the arrival report is other than the unit addressed	•d. ROGER (*identity of unit acknowledging*)

5.6 General Phrases

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Description of Levels (subsequently referred to as "(*level*)"	a. FLIGHT LEVEL (*number*) *or* b. (*number*) [FEET]
2. Level Instructions	a. CLIMB (*or* DESCEND) *followed as necessary by:*
when there is an expectation that the aircraft will maintain the level or to eliminate confusion, the instruction "AND MAINTAIN" shall be included	(i) TO (*level*) (ii) TO AND MAINTAIN (*level*) (iii) TO REACH (*level*) AT (*or* BY) (*time or significant point*) (iv) TO (*level*) REPORT LEAVING (*or* REACHING *or* PASSING *or* APPROACHING) (*level*) (v) AT (*number*) FEET PER MINUTE [MINIMUM (*or* MAXIMUM)]

Circumstances	*Phraseologies* * Denotes pilot transmission
when rate is required to be in accordance with "STANDARD RATE" specifications	(vi) AT STANDARD RATE
when advising expectation of a level restriction	b. EXPECT A RESTRICTION TO REACH (*level*) BY *(time or position) followed as necessary by (a)*
	c. STEP CLIMB (*or* DESCENT) (*aircraft identification*) ABOVE (*or* BENEATH) YOU
	d. REQUEST LEVEL CHANGE FROM (*name of unit*) AT (t*ime or significant point*)
	e. STOP CLIMB (*or* DESCENT) AT (*level*)
	f. CONTINUE CLIMB (*or* DESCENT) TO [AND MAINTAIN] (*level*)
	g. EXPEDITE CLIMB (*or* DESCENT) [UNTIL PASSING (*level*)]
	h. EXPECT CLIMB (*or* DESCENT) AT (*time or location*)
pilot requesting a change of level	i.* REQUEST CLIMB (*or* DESCENT) [AT (*time or location*)] [TO (*level*)]
to require action at a specific time or place	j. IMMEDIATELY
	k. AFTER PASSING (*significant point*)
	l. AT (*time or significant point*)
to require action when convenient	m. WHEN READY (*instruction*)
when a pilot is unable to comply with a clearance or instruction	n.* UNABLE TO COMPLY
when a descent clearance is issued in relation to the DME (or GNSS) steps	•o. DESCEND TO (*level*) NOT BELOW DME (*or* GNSS) STEPS

Circumstances	*Phraseologies* * Denotes pilot transmission
when a pilot is assigned and required to maintain separation with a sighted aircraft	•p. FOLLOW (*or* MAINTAIN OWN SEPARATION WITH [AND PASS BEHIND]) (*aircraft type or identification*) [*instructions or restriction*]
ATC requesting confirmation of equipment, capability or approval e.g. RVSM, ADS-B, PRM.	•q.* CONFIRM (*equipment, capability or approval*) APPROVED (*or* EQUIPPED)
Pilot report of equipment, capability or approval status	•r.* AFFIRM (*or* NEGATIVE) (*equipment, capability or approval*) *(reason if applicable)*
Pilot of IFR flight requests to climb/descend VFR	s.* REQUEST VFR CLIMB (*or* DESCENT) [TO (*level*)]
	t.* CLIMB (*or* DESCEND) VFR *to* (*level*)
IFR separation is available for part of the climb/descent	u. CLIMB (*or* DESCEND) [TO (*assigned level*)] *followed as necessary by*: (i) CLIMB (*or* DESCEND) VFR BETWEEN (*level*) AND (*level*)] (ii) CLIMB (*or* DESCEND) VFR BELOW (*or* ABOVE) (*level*)
3. NVG Operations	
Pilots who have flight planned for operations or request to operate not above published or pilot calculated LSALT with NVG and visual.	a.* REQUEST NOT ABOVE (*altitude*) [PILOT CALCULATED LOWEST SAFE] VISUAL b. CLIMB (*or* DESCEND) TO (or OPERATE NOT ABOVE) (*altitude*) [PILOT CALCULATED LOWEST SAFE] VISUAL
Pilots who have flight planned for operations or request to operate at a specific level which is at or below the published or pilot calculated LSALT	c.* REQUEST [NOT ABOVE] (*altitude*) NVG d. CLIMB (*or* DESCEND) TO (*or* OPERATE NOT ABOVE) (*altitude*) NVG

Circumstances		*Phraseologies* * Denotes pilot transmission	
	When climbing to regain LSALT/MSA other than in accordance with assigned airways clearance	e.*	CLIMBING TO (*level*), (*reason e.g.* NVG *failure or inadvertent* IMC)
4.	Maintenance of Specified Levels *Note: The term "MAINTAIN" must not to be used in lieu of "DESCEND" or "CLIMB" when instructing an aircraft to change level*	a.	MAINTAIN (*level*) [TO (*significant point*)] [*condition*]
5.	Use of Block Levels	•a.*	REQUEST BLOCK LEVEL (*level*) TO (*level*)
		•b.*	CLIMB (*or* DESCEND) TO AND MAINTAIN BLOCK (*level*) TO (*level*)
	established in the level range	•c.	MAINTAIN BLOCK (*level*) TO (*level*)
	cancelling block level clearance	•d.	CANCEL BLOCK CLEARANCE. CLIMB (*or* DESCEND) TO AND MAINTAIN (*level*)
6.	Specification of Cruising Levels	a.	CROSS (*significant point*) AT (*or* ABOVE, *or* BELOW) (*level*)
		b.	CROSS (*significant point*) AT (*time*) OR LATER (*or* BEFORE) AT (*level*)
	reply to cruise climb request	c.	CRUISE CLIMB NOT AVAILABLE [*reason*]
7.	Where an aircraft operation requires random climb and descent at and below (or at and above) a specified level.	•a.	OPERATE NOT ABOVE (*or* BELOW) (*level*)

Circumstances	*Phraseologies* * Denotes pilot transmission
8. Termination of Identification and Control Services or Control Services only	a. [IDENTIFICATION AND] CONTROL SERVICE TERMINATED *followed as necessary by:* i) [DUE (*reason*)] ii) (*instructions)* iii) FREQUENCY CHANGE APPROVED
9. When instructing an aircraft to turn 180° or more when tracking instructions follow	a. TURN LEFT (*or* RIGHT) - I SAY AGAIN - LEFT (*or* RIGHT) *[tracking instructions]*

5.7 Frequency Management

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Transfer of Control and/or Frequency Change *Note: An aircraft may be requested to "STAND BY" on a frequency when the intention is that the ATS unit will initiate communications, and to "MONITOR" a frequency when information is being broadcast thereon.*	a. CONTACT (*unit callsign*) (*frequency*) b.* (*frequency*) c. AT (*or* OVER) (*time or place*) CONTACT (*unit callsign*) (*frequency*) d. IF NO CONTACT (*instructions*) e.* REQUEST CHANGE TO (*frequency*) (*service*) f. FREQUENCY CHANGE APPROVED
pilot requesting to maintain radio silence for a specific time or event (e.g. fuel dump)	g.* REQUEST TO MAINTAIN RADIO SILENCE DUE *(reason)* [UNTIL *(time)*] h. MONITOR (*unit callsign*) (*frequency*) i.* MONITORING (*frequency*) j. REMAIN THIS FREQUENCY

Circumstances	*Phraseologies* * Denotes pilot transmission
nominating scheduled reporting times	k. REPORT *followed as necessary by:* (i) *(situation)* (ii) AT (iii) BY (iv) TIME *(time)*
	l. STAND BY FOR (*unit callsign*) (*frequency*)
an IFR pilot changing to the CTAF	•m.* CHANGING TO (*location*) CTAF (*frequency*)
a pilot contacting next frequency when on a heading	n.* HEADING (*as previously assigned*)
when a pilot/ATC broadcasts general information	o.* ALL STATIONS (*appropriate information*)
when a pilot broadcasts location specific general information	•p.* (*location*) TRAFFIC (*appropriate information*) (*location*)
notifying wake turbulence category to approach, departures, director, ground and tower	q.* SUPER (*or* HEAVY)
ATC acknowledgment	r. SUPER (*or* HEAVY)
2. Flights Contacting Approach Control	
not identified or procedural tower	•a.(i)* (*distance*) MILES (GNSS *or* DME) [FROM] (*aerodrome*) (ii) (*GNSS track*) TRACK ((*or* (VOR *radial*) RADIAL) *or (*STAR designator) *or* (*compass quadrant from aerodrome)*) (iii) MAINTAINING (*or* DESCENDING TO) (*level*) (iv) VISUAL *if visual approach can be made*

Circumstances	*Phraseologies* * Denotes pilot transmission
	(v) INFORMATION (ATIS *identification*)
3. Change of callsign	
to instruct an aircraft to change callsign	a. CHANGE YOUR CALLSIGN TO (*new callsign*) [UNTIL FURTHER ADVISED]
to advise an aircraft to revert to the callsign indicated in the flight notification to ATS	b. REVERT TO FLIGHT PLAN CALLSIGN (*callsign*) (AT (*significant point*))
4. After landing	a. CONTACT GROUND [*frequency*] b. WHEN VACATED CONTACT GROUND [*frequency*]
5. To request a station relay a clearance or information to a third party	FOR [RELAY TO] *(third party callsign) (clearance or information)*

5.8 **Traffic Information**

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Traffic Information	
pilot request for traffic information	a.* REQUEST TRAFFIC
to pass traffic information	•b. NO REPORTED (IFR) TRAFFIC
	c. [IFR] TRAFFIC (*relevant information*) [REPORT SIGHTING]
	d. [ADDITIONAL] [IFR] TRAFFIC (*direction*) BOUND (t*ype of aircraft*) (*level*) ESTIMATED (*or* OVER) (*significant point*) AT (*time*)
to acknowledge traffic information	e.* LOOKING
	f.* TRAFFIC IN SIGHT

Circumstances	*Phraseologies* * Denotes pilot transmission
	g.* NEGATIVE CONTACT (*reasons*)
interception of relevant traffic information transmitted by other aircraft or ATS facility	•h.* COPIED (*callsign of traffic intercepted*)
2. Advice of Military Aircraft Conducting Abrupt Vertical Manoeuvres	•a. ABRUPT VERTICAL MANOEUVRES AT (*position*) UP TO (*level*)
3. Advice of Military Low Jet Operations Known to be Taking Place	•a. MILITARY LOW JET OPERATIONS (*relevant information*)

5.9 **Meteorological Information**

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Meteorological Conditions *Note: Wind is always expressed by giving the mean direction and speed and any significant variations.*	a. [THRESHOLD] WIND (*number*) DEGREES (*number*) KNOTS b. WIND AT (*height/altitude/flight level*) (*number*) DEGREES (*number*) KNOTS c. WIND AT UP WIND END (*number*) DEGREES (*number*) KNOTS d. VISIBILITY (*distance*) (*direction*) e. RUNWAY VISUAL RANGE (RVR) *or* RUNWAY VISIBILITY (RV) [RUNWAY (*number*)] (*distance*) (*for* RV *assessments* – ASSESSED AT TIME (*minutes*))
During RVR/RV operations where an assessment is not available or not reported.	f. RUNWAY VISUAL RANGE (RVR) *or* RUNWAY VISIBILITY (RV) [RUNWAY (*number*)] NOT AVAILABLE (*or* NOT REPORTED).

Circumstances	*Phraseologies* * Denotes pilot transmission
Where multiple RVR/RV observations are made. *Note 1. Multiple RVR/RV observations are always representative of the touchdown zone, midpoint zone and the roll-out/stop end zone, respectively.* *Note 2. Where reports for three locations are given, the indication of these locations may be omitted, provided that the reports are passed in the order of touchdown zone, followed by the midpoint zone and ending with the roll-out/ stop end zone report.*	g. RUNWAY VISUAL RANGE (RVR) *or* RUNWAY VISIBILITY (RV) RUNWAY (*number*) (*first position*) (*distance*) (*units*), (*second position*) (*distance*) (*units*), (*third position*) (*distance*) (*units*) (*for* RV *assessments* – ASSESSED AT TIME (*minutes*))
When RVR/RV information on any one position is not available this information will be included in the appropriate sequence.	h. RUNWAY VISUAL RANGE (RVR) *or* RUNWAY VISIBILITY (RV) RUNWAY (*number*) (*first position*) (*distance*) (*units*), (*second position*) NOT AVAILABLE, (*third position*) (*distance*) (*units*) (*for* RV *assessments* – ASSESSED AT TIME (*minutes*)) i. PRESENT WEATHER (*details*) j. CLOUD (*amount,* [*type*] *and height of base*) (*or* SKY CLEAR) k. CAVOK l. TEMPERATURE [MINUS] (*number*) (*and/or* DEWPOINT [MINUS] (*number*)) m. QNH (*number*) (*units*) n. MODERATE (*or* SEVERE) ICING (*or* TURBULENCE) [IN CLOUD] (*area*) o. REPORT FLIGHT CONDITIONS

Circumstances	*Phraseologies* * Denotes pilot transmission
unless responding to a request for turbulence or icing information	•p.* IMC (*or* VMC)

5.10 **Reports and Information**

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Position Reporting *Note: Phrases for use in en route position and MET reports are listed in APPENDIX 2*	a. NEXT REPORT AT (*significant point*)
2. Additional Reports	a. REPORT PASSING (*significant point*)
to request a report at a specified place or distance	b. REPORT [GNSS] (*distance*) FROM (*name of DME station*) DME (*or reference point*) c. REPORT PASSING (*three digits*) RADIAL (*name of VOR*) VOR
to request a report of present position	d. REPORT DISTANCE FROM (*significant point*) e. REPORT DISTANCE FROM (*name of DME station*) DME
when descending a non-DME equipped aircraft to LSALT above CTA steps	•f. REPORT PASSING CONTROL AREA STEPS FOR FURTHER DESCENT
the pilot will give this only when satisfied that the CTA step has been passed, allowing for navigational tolerances.	•g.* INSIDE (*distance of a CTA step as shown on ERC*) MILES
3. Aerodrome Information	a. RUNWAY (*number*) (*condition*) b. LANDING SURFACE (*condition*) c. CAUTION (WORK IN PROGRESS) (OBSTRUCTION) (*position and any necessary advice*)

Circumstances	*Phraseologies* * Denotes pilot transmission
	d. BRAKING ACTION REPORTED BY (*aircraft type*) AT (*time*) GOOD (*or* MEDIUM, *or* POOR) e. RUNWAY (*or* TAXIWAY) WET [*or* DAMP, WATER PATCHES, FLOODED (*depth*)]
4. Information to Aircraft wake turbulence jet blast on apron or taxiway propeller-driven aircraft slipstream helicopter downwash	a. CAUTION (i) WAKE TURBULENCE (ii) JET BLAST (iii) SLIPSTREAM (iv) DOWNWASH
5. Pilot Initiated Waiver of Wake Turbulence Separation Standards	•a.* ACCEPT WAIVER
6. Notification by Pilot of Approved GPS Failing to Meet RAIM Requirements for Navigation	•a.* RAIM FAILURE
Notification by Pilot of Approved GPS Resuming Operation with RAIM	•b.* RAIM RESTORED
7. GNSS status	a. CONFIRM NAVIGATION GNSS

5.11 Clearances

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Clearances	
	a.* REQUEST CLEARANCE
If the route and/or level issued in the initial airways clearance is not in accordance with the flight plan	b. CLEARED TO c. CLEARED TO (*destination*) [AMENDED ROUTE] (*route clearance details*) [AMENDED LEVEL] *(level)*

Circumstances	*Phraseologies* * Denotes pilot transmission
If an airways clearance is amended en route	d. RECLEARED (*amended clearance details*) [REST OF CLEARANCE UNCHANGED] [(*level*)]
	e. RECLEARED (*amended route portion*) TO (*significant point of original route*) [REST OF CLEARANCE UNCHANGED] (level)
when the clearance is relayed by a third party; e.g. pilot/ FLIGHT WATCH (ATC excepted)	f. (*name of unit*) CLEARS (*aircraft identification*)
when clearance will be issued subject to a delay	g. REMAIN OUTSIDE CLASS (*airspace class*) (*or* RESTRICTED) [AND CLASS (*airspace class*)] AIRSPACE AND STANDBY
when clearance will be issued at a specified time or place	h. REMAIN OUTSIDE CLASS (*airspace class*) (*or* RESTRICTED) [AND CLASS (*airspace class*)] AIRSPACE, EXPECT CLEARANCE AT (*time*/*place*)
when a clearance will not be available	i. CLEARANCE NOT AVAILABLE, REMAIN OUTSIDE CLASS (*airspace class*) (*or* RESTRICTED) [AND CLASS (*airspace class*)] AIRSPACE
when requesting a deviation from cleared route	j.* REQUEST TO DEVIATE UP TO (*distance*) MILES LEFT (*or* RIGHT) OF ROUTE DUE (*reason*)
when requesting a deviation from cleared track	k.* REQUEST TO DEVIATE UP TO (*distance*) MILES LEFT (*or* RIGHT) OF TRACK DUE (*reason*)

Circumstances	*Phraseologies* * Denotes pilot transmission	
when a deviation from cleared route or track is requested	•l.	DEVIATE UP TO (*distance*) MILES LEFT (*or* RIGHT) OF ROUTE (*or* TRACK)
when clearance for deviation cannot be issued	m.	UNABLE, TRAFFIC (*direction*) BOUND (*type of aircraft*) (*level*) ESTIMATED (*or* OVER) (*significant point*) AT (*time*) CALLSIGN (*callsign*) ADVISE INTENTIONS
when a weather deviation has been completed and onwards clearance is requested	n.	*CLEAR OF WEATHER [REQUEST (*route clearance*)]
when a weather deviation has been completed and the aircraft has returned to its cleared route	o.	* BACK ON ROUTE (*or* TRACK)
when subsequent restrictions/ requirements are imposed in addition to previous restrictions to be complied with	•p.	FURTHER RESTRICTION
	q.	[RE] ENTER CONTROLLED AIRSPACE (*or* CONTROL ZONE) [VIA (*significant point or route*)] AT (*level*) [AT (*time)*]
	r.	LEAVE CONTROLLED AIRSPACE (*or* CONTROL ZONE) [VIA (*significant point or route*)] AT (*level*) (*or* CLIMBING*, or* DESCENDING)
	s.	LEAVE AND RE-ENTER CONTROLLED AIRSPACE AT (*level*) (*or* CLIMBING TO (*level*), *or* DESCENDING TO (*level*) *or* ON (*type of approach*))
	t.	JOIN (*specify*) AT (*significant point*) AT (*level*) [AT (*time*)]
2. Indication of Route and Clearance Limit	a.	FROM (*location*) TO (*location*)

Circumstances	*Phraseologies* * Denotes pilot transmission
	b. TO (*location*) *followed as necessary by*: (i) DIRECT (ii) VIA (*route and/or significant points*) (iii) FLIGHT PLANNED ROUTE (iv) VIA (*distance*) DME ARC (*direction*) OF (*name of DME station*)
	c. (*level or route*) NOT AVAILABLE DUE (*reason*) ALTERNATIVE[S] IS/ARE (*levels or routes*) ADVISE
issuing a specific clearance limit	•d. CLEARANCE LIMIT (*place/aid*)
when a pilot requests, or ATC issues a visual departure in lieu of a SID	•e. [*clearance details*] VISUAL DEPARTURE
3. When a Clearance has been Cancelled	•a. CANCEL CLEARANCE •b.* CANCEL CLEARANCE
4. Change of Flight Rules	
cancelling or suspending IFR (to be initiated only by the pilot)	•a.* CANCEL IFR, REQUEST (*intention*) •b. IFR CANCELLED OPERATE VFR (*instruction or clearance*)
resuming IFR	•c. REQUEST IFR CLEARANCE [AT (*time or place*)] (IFR *level*)
5. Requesting Clearance	
when notification of flight details has not been submitted to ATS	•a.* FLIGHT DETAILS [INBOUND *or* FOR (DEPARTURE *or* TRANSIT)]
flight details to be passed after ATS response	•b.* (*Aircraft type*) (*position*) (*route in controlled airspace and next estimate*) (*preferred level*)
if clearance cannot be issued immediately upon request)	•c. EXPECT CLEARANCE AT (*time or place*)

Circumstances		*Phraseologies* * Denotes pilot transmission	
	if giving warning of clearance requirement	•d.*	EXPECT CLEARANCE REQUEST (*aircraft type*) VFR (*if appropriate*) FOR (*destination*) VIA (*point outside controlled airspace at which clearance will be requested*) ESTIMATE (*estimate at destination*) AT (*altitude proposed for entry to controlled airspace*)
	when requesting IFR Pick-up	•e.*	REQUEST IFR PICK-UP
6.	Pilot of IFR flight requests to climb to VFR-on-top	a.*	REQUEST VFR-ON-TOP
		b.	CLIMB TO [(*level*)] AND REPORT REACHING VFR-ON-TOP, TOPS REPORTED (*level*), *or* NO TOPS REPORTS
	Pilot of an IFR flight is established VFR-on-top	c.*	VFR-ON-TOP
		d.	MAINTAIN VFR ON TOP
	Where vertical restrictions apply	e.	MAINTAIN VFR-ON-TOP AT OR BELOW/ABOVE/BETWEEN (*level*(*s*))
	Pilot request to cancel VFR-on-top	f.*	REQUEST (IFR *level*)
	Note: Full IFR separation is applied when ATC re-clears the aircraft to maintain an IFR level	g.	MAINTAIN (IFR *level*)
7.	VFR Departure:		
	Pilot of IFR flight requests VFR departure	•a.	*REQUEST VFR DEPARTURE
		•b.	VFR DEPARTURE APPROVED
	Pilot of IFR flight approved to depart VFR wishing to revert to IFR	•c.	*REQUEST IFR CLEARANCE [AT (*time or place*)] (IFR *level*)
	Note: The pilot is responsible for separation until IFR separation can be applied by ATC		

Circumstances	***Phraseologies*** * Denotes pilot transmission
Pilot of IFR flight having departed VFR, on first contact with ATC entering Class G airspace *Note: Pilots wishing to continue VFR should CANCEL IFR. See sub-para 4. above.*	•d. *RESUMING IFR
8. Parachute Operations: Clearance for parachutists to exit the aircraft and transit Restricted Area(s) or Classes A, C or D airspace	a. CLEAR TO DROP

5.12 **SID**

Circumstances	***Phraseologies*** *Denotes pilot transmission
1. Issuing a SID	a. CLEARED (*SID designator)* DEPARTURE (*level instruction)*
2. Clearance to climb on a SID a. comply with published level restrictions b. follow the lateral profile of the SID c. comply with published speed restrictions and ATC-issued speed control instructions	a. CLIMB VIA SID TO (*level)*
3. During a SID climb: a. published level restrictions are cancelled b. follow the lateral profile of the SID c. comply with published speed restrictions and ATC-issued speed control instructions	a. [CLIMB VIA SID TO *(level)*], CANCEL LEVEL RESTRICTION(S)

Circumstances	***Phraseologies*** *Denotes pilot transmission
4. During a SID climb: a. published level restrictions at the specified point(s) are cancelled b. follow the lateral profile of the SID c. comply with published speed restrictions and ATC-issued speed control instructions	a. [CLIMB VIA SID TO *(level)*], CANCEL LEVEL RESTRICTION(S) AT *(point(s))*
5. During a SID climb: a. comply with published level restrictions b. follow the lateral profile of the SID c. published speed restrictions and ATC-issued speed control instructions are cancelled	a. [CLIMB VIA SID TO *(level)*], CANCEL SPEED RESTRICTION(S)
6. During a SID climb: a. comply with published level restrictions b. follow the lateral profile of the SID c. published speed restriction are cancelled at the specific point(s) d. comply with ATC-issued speed control instructions	a. [CLIMB VIA SID TO *(level)*], CANCEL SPEED RESTRICTION(S) AT *(point(s))*
7. During a SID climb: a. published level restrictions are cancelled b. follow the lateral profile of the SID c. published speed restrictions and ATC-issued speed control instructions are cancelled *Note: the phrase 'CLIMB UNRESTRICTED TO...' is not used*	a. [CLIMB TO *(level)*], CANCEL LEVEL AND SPEED RESTRICTIONS

Circumstances	*Phraseologies* *Denotes pilot transmission
8. Clearance to proceed direct during a SID: a. track direct to the specified waypoint and then follow the lateral profile of the SID b. published level and speed restrictions for bypassed waypoints are cancelled c. comply with published speed and level restrictions at and after the specified waypoint *Note: direct tracking on a SID does not require a rejoin instruction*	a. CLEARED DIRECT *(waypoint)*
9. Initiation of vectoring during SID	a. TURN LEFT (*or* RIGHT) HEADING (*three digits)* [(*reason)*], *(level instruction)*, [EXPECT TO REJOIN SID] [AT (*waypoint)*]
Clearance to proceed direct to a waypoint that is not on a SID	b. CLEARED DIRECT *(waypoint) (level instruction)*
10. Rejoining a SID	a. REJOIN SID *(or (SID designator))* [AT *(waypoint)*] *[(transition restrictions)]*
11. When a SID has been cancelled	a. CANCEL SID *(instructions)*

5.13 **STAR**

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Notification of STAR clearance availability (on first contact) when associated with a frequency transfer	a. EXPECT STAR CLEARANCE

Circumstances		*Phraseologies* * Denotes pilot transmission	
	Notification of STAR clearance availability when NOT associated with a frequency transfer	b.	STAR CLEARANCE AVAILABLE
2.	Issuing a STAR clearance	a.	CLEARED (STAR *designator*) ARRIVAL [(*name*) TRANSITION] [RUNWAY(*number*)] (*level instruction*)
3.	Descend to the cleared level: a. comply with published level restrictions b. follow the lateral profile of the STAR c. comply with published speed restrictions and ATC-issued speed control instructions	a.	DESCEND VIA STAR TO *(level)*
4.	During a STAR descent: a. published level restrictions are cancelled b. follow the lateral profile of the STAR c. comply with published speed restrictions and ATC-issued speed control instructions	a.	[DESCEND VIA STAR TO *(level)*], CANCEL LEVEL RESTRICTION(S)
5.	During a STAR descent: a. published level restrictions at the specified point(s) are cancelled b. follow the lateral profile of the STAR c. comply with published speed restrictions and ATC-issued speed control instructions	a.	[DESCEND VIA STAR TO *(level)*], CANCEL LEVEL RESTRICTION(S) AT *(point(s))*

Circumstances	***Phraseologies*** * Denotes pilot transmission
6. During a STAR descent: a. comply with published level restrictions b. follow the lateral profile of the STAR c. published speed restrictions and ATC-issued speed control instructions are cancelled	a. [DESCEND VIA STAR TO *(level)*], CANCEL SPEED RESTRICTION(S)
7. During a STAR descent: a. comply with published level restrictions b. follow the lateral profile of the STAR c. published speed restrictions are cancelled at the specific point(s) d. comply with ATC-issued speed control instructions	a. [DESCEND VIA STAR TO *(level)*], CANCEL SPEED RESTRICTION(S) AT *(point(s))*
8. During a STAR descent: a. published level restrictions are cancelled b. follow the lateral profile of the STAR c. published speed restrictions and ATC-issued speed control instructions are cancelled *Note: the phrase 'DESCEND UNRESTRICTED TO...' is not used*	a. DESCEND TO *(level),* CANCEL LEVEL AND SPEED RESTRICTIONS

Circumstances	***Phraseologies*** * Denotes pilot transmission
9. Clearance to proceed direct during a STAR: a. track direct to the specified waypoint and then follow the lateral profile of the STAR b. published level and speed restrictions for bypassed waypoints are cancelled c. comply with published speed and level restrictions at and after the specified waypoint *Note: direct tracking on a STAR does not require a rejoin instruction*	a. CLEARED DIRECT *(waypoint)*
10. Initiation of vectoring after STAR has been issued	a. TURN LEFT (*or* RIGHT) HEADING *(three digits)* [(*reason*)], *(level instruction)*, [EXPECT TO REJOIN STAR] [AT*(waypoint)*]
Clearance to proceed direct to a waypoint that is not on a STAR	b. CLEARED DIRECT *(waypoint) (level instruction)*
11. Rejoining a STAR	a. REJOIN STAR *(or (STAR designator))* [AT *(waypoint)*] [*(transition restrictions)*]
12. When a STAR clearance is cancelled	a. CANCEL STAR *(instructions)*

5.14 Approach and Area Control Services

Circumstances	***Phraseologies*** * Denotes pilot transmission
1. Departures Instructions	a. TRACK (*three digits*) DEGREES [MAGNETIC] TO (*or* FROM) (*significant point*) [UNTIL (*time*) (*or* REACHING) (*fix or significant point or level*)]

Circumstances	***Phraseologies*** * Denotes pilot transmission
2. Approach Instructions	•a. CLEARED DME (*or* GNSS, *or* GPS) ARRIVAL [SECTOR (*identifying letter of the sector*)]
	b.* REQUEST [STRAIGHT-IN] (*chart title*) APPROACH
	c. CLEARED [STRAIGHT-IN] (*chart title*) APPROACH [FOLLOWED BY CIRCLING TO RUNWAY (*number*)]
RNAV (GNSS) (or RNP APCH) approach via an IAWP or IF	d.* REQUEST (*chart title*) APPROACH VIA (*last two letters of the IAWP or IF designator*)
	•e. RECLEARED DIRECT *(last two letters of the IAWP or IF designator)* CLEARED (*chart title*) APPROACH
	f. COMMENCE APPROACH AT (*time*)
RNAV (RNP) (or RNP AR APCH) approach where an aircraft has been subject to vectoring or random tracking and is subsequently re-cleared direct to the IAF.	g. RECLEARED DIRECT (*IAF/ Latest Intercept Point designator*) *followed as necessary by:* (i)TRACK VIA (*chart title*) MAINTAIN (*or* DESCEND TO) (*level*) (ii) WHEN ESTABLISHED, CLEARED (*chart title)* APPROACH

Circumstances	*Phraseologies* * Denotes pilot transmission
GLS Approach *Note: The chart title for the procedure must be used. Except for circling approaches, the procedure suffix may be omitted when no possibility of confusion exists. The words (GNSS) or (RNP) do not need to be included in the RNAV approach request or clearance.*	h.* REQUEST GLS APPROACH RUNWAY (*runway identifier)*
3. Where a temporary level	
restriction is to be imposed. (Applicable to civil aircraft during practice approaches in VMC; or MIL aircraft NPA, or precision if clearance will allow descent in accordance with procedure)	•a. TRACK VIA (*chart title*) APPROACH NOT BELOW (*level*)
pilot to advise when able to conduct a visual approach	b. REPORT VISUAL
	c. REPORT RUNWAY [LIGHTS] IN SIGHT
	d. REPORT (*significant point*) [OUTBOUND *or* INBOUND]
visual approach (by day or night)	e. CLEARED VISUAL APPROACH [TRACKING VIA THE STAR]
visual approaches by night	•f. WHEN ESTABLISHED (*position*) CLEARED VISUAL APPROACH
when including a VFR climb/ descent instruction:	
– when VFR descent clearance applies for the entire approach	g. DESCEND VFR, CLEARED (*chart title*) APPROACH

Circumstances	*Phraseologies* * Denotes pilot transmission
– when VFR descent clearance applies for a portion of the approach	h. CLEARED (*chart title*) APPROACH DESCEND VFR ABOVE (or BETWEEN) (*level(s)*)
4. Holding Instructions	
visual	a. HOLD VISUAL [OVER] (position)
published holding procedure over a waypoint, facility or fix	b. HOLD AT (*waypoint, facility or fix*) (*level*) EXPECT APPROACH (*or* FURTHER CLEARANCE) AT (*time*)
when pilot requires an oral description of holding procedure based on a facility	c.* REQUEST HOLDING INSTRUCTIONS
	d. HOLD AT (*waypoint, facility or fix*) (*callsign and frequency, if necessary*) (*level*) INBOUND TRACK (*three digits*) DEGREES RIGHT (*or* LEFT) HAND PATTERN, OUTBOUND TIME (*number*) MINUTES (*additional instructions, if necessary*)
	e. HOLD ON THE (*three digits*) RADIAL OF THE (*name*) VOR/TACAN (*callsign and frequency, if necessary*) AT (*distance*) DME (*or* BETWEEN (*distance*) AND (*distance*) DME) (*level*) INBOUND TRACK (*three digits*) DEGREES RIGHT (*or* LEFT) HAND PATTERN (*additional instructions, if necessary*)
5. To advise ATC of Minimum Fuel status	a.* MINIMUM FUEL

Circumstances	*Phraseologies* * Denotes pilot transmission
ATC acknowledgment of Minimum Fuel status *Note: Advice of fuel status must be made to each subsequent ATC sector on frequency transfer and ATC will acknowledge the status.*	b. MINIMUM FUEL ACKNOWLEDGED [NO DELAY EXPECTED *or* EXPECT (*delay information*)]
D 6. Expected Approach Time	a. NO DELAY EXPECTED b. EXPECTED APPROACH TIME (*time*)

5.15 **Phraseologies to be used related to CPDLC**

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Operational Status failure of CPDLC	a. [ALL STATIONS] CPDLC FAILURE (*instructions*).
failure of a single CPDLC message	b. CPDLC MESSAGE FAILURE (*appropriate clearance, instruction, information or request*)
to correct CPDLC clearances, Instructions, information or requests	c. DISREGARD CPDLC (*message type*) MESSAGE, BREAK (*correct clearance, instruction, information or request*)
to instruct all stations or a specific flight to avoid sending CPDLC requests for a limited period of time	d. [ALL STATIONS] STOP SENDING CPDLC REQUESTS [UNTIL ADVISED] [(REASON)]
to instruct the flight crew to manually initiate a logon to the subsequent ATSU	e. DISCONNECT CPDLC THEN LOGON TO [*facility designation*]

Circumstances	*Phraseologies* * Denotes pilot transmission
to advise the flight crew prior to the commencement of CPDLC shutdown and instruct them to continue on voice	f. CPDLC WILL BE SHUT DOWN DISCONNECT CPDLC. CONTINUE ON VOICE
to resume normal use of CPDLC	g. [ALL STATIONS] RESUME NORMAL CPDLC OPERATIONS

5.16 **Vicinity of the Aerodrome**

5.16.1 **Visual Identification**

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Identification of Aircraft	a. SHOW LANDING LIGHT
2. Acknowledgment by Visual Means	a. ACKNOWLEDGE BY MOVING AILERONS (*or* RUDDER) b. ACKNOWLEDGE BY ROCKING WINGS c. ACKNOWLEDGE BY FLASHING LANDING LIGHTS

5.16.2 **Starting and Initial Clearance Issue**

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Starting Procedures	
to request permission to start engines	a.* *[aircraft location*] REQUEST START b.* [*aircraft location*] REQUEST START INFORMATION (ATIS *identification*)
ATC response	c. START APPROVED d. START AT (*time*) e. EXPECT START AT (*time*) f. EXPECT DEPARTURE (*time*) START AT OWN DISCRETION

Circumstances	*Phraseologies* * Denotes pilot transmission
2. When clearance delivery is in operation.	•a.* (*flight number, if any*) TO (*aerodrome of first intended landing*) REQUEST CLEARANCE
if runway other than runway nominated is required.	•b.* REQUIRE RUNWAY (*number*)

5.16.3 **Pushbacks**

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Pushback Procedures for Aircraft *Note: Where a pushback does not enter the manoeuvring area, ERSA will specify the frequency on which apron service is provided.*	a.* [*aircraft location*] REQUEST PUSHBACK b. PUSHBACK APPROVED [TAIL (*direction e.g. North or Right*)] c. PUSHBACK AT OWN DISCRETION [TAIL (*direction e.g. Left or West*)] d. EXPECT (*number*) MINUTES DELAY DUE (*reason*)
2. Towing Procedures ATC response	a. # REQUEST TOW [*company name*] (*aircraft type*) FROM (*location*) TO (*location*) b. TOW APPROVED VIA (*specific routing to be followed*) # *Denotes transmission from aircraft/ tow vehicle combination*
3. To Request Aerodrome Data for Departure when no ATIS broadcast is available	a.* REQUEST DEPARTURE INFORMATION b. RUNWAY (*number*), WIND (*direction and speed*), QNH (*detail*), TEMPERATURE (*detail*), [VISIBILITY FOR TAKE-OFF (*detail*) (*or* RVR) (*detail*)]

5.16.4 **Taxi Procedure**

Circumstances		***Phraseologies*** * Denotes pilot transmission
1. Taxi Procedures		
for departure at a controlled aerodrome	a.*	[*flight number*] [*aircraft type*] [*wake turbulence category if "Super or Heavy"*] [POB (*number*)] [DUAL (*or* SOLO)] INFORMATION (*ATIS identification*) [SQUAWK (*SSR code*)] [*aircraft location*] [*flight rules, if IFR*] [TO (*aerodrome of destination*)] REQUEST TAXI [*intentions*]
for departure at a non-controlled aerodrome	• b.*	(*aircraft type*) [POB (*number*)] [IFR (*if operating IFR*)] TAXIING (*location*) FOR (*destination or intentions*) RUNWAY (*number*)
military pilots on local sorties when ready to taxi (*include details of flight if not already notified*)	▲c.*	(*number of aircraft*) FOR (*area of operation*) POB (*number*) (DANGEROUS CARGO) INFORMATION (*ATIS identification*) REQUEST TAXI
	d.	TAXI TO (HOLDING POINT [*identifier*] *or intermediate point*) [RUNWAY (*number*)] [TIME (*minutes*)]
	e.*	(HOLDING POINT (*identifier*) *or intermediate point*), RUNWAY (*number*)
where detailed taxi instructions are required	f.*	[*aircraft type*] REQUEST DETAILED TAXI INSTRUCTIONS
	g.	TAXI VIA (*specific routing to be followed*) TO HOLDING POINT [*identifier*] [RUNWAY (*number*)] [TIME (*minutes*)]

Circumstances	*Phraseologies* * Denotes pilot transmission
	h.* HOLDING POINT (*identifier*), RUNWAY (*number*)
where aerodrome information is not available from an alternative source such as ATIS	i. TAXI TO HOLDING POINT [*identifier*] (*followed by aerodrome information as applicable*) [TIME (*minutes*)]
	j.* HOLDING POINT (*identifier*)
for arrival at a controlled aerodrome	k.* (*aircraft callsign*) [*parking area or bay number*]
	l. TAXI TO [TERMINAL *or other location; e.g.* GENERAL AVIATION AREA] [STAND (*number*)]
2. Intersection Departures when a pilot requests an intersection departure	• a.* REQUEST INTERSECTION DEPARTURE FROM (t*axiway identifier*)
	• b. TAXI TO HOLDING POINT (*taxiway identifier*) [RUNWAY (*number*)]
when a pilot is offered an intersection departure	• c. INTERSECTION DEPARTURE AVAILABLE FROM (*taxiway identifier*) (*distance*) REMAINING (*if this information is not readily available to the pilot*)
when a pilot accepts an intersection departure	• d. TAXI TO HOLDING POINT (*taxiway identifier*) [RUNWAY (*number*)]
3. Specific Routing	a. TAKE (*or* TURN) FIRST (*or* SECOND) LEFT (*or* RIGHT)
	b. TAXI VIA (*identification of taxiway*)
	c. TAXI VIA RUNWAY (*number*)

Circumstances	*Phraseologies* * Denotes pilot transmission
4. Manoeuvring on Aerodrome	a.* REQUEST BACKTRACK
	b. BACKTRACK APPROVED
	c. BACKTRACK RUNWAY (*number*)
general	d.* (*aircraft location*) REQUEST TAXI TO (*destination on aerodrome*)
	e. TAXI STRAIGHT AHEAD
	f. TAXI WITH CAUTION (*reason*)
	g. GIVE WAY TO (*description and position of other aircraft*)
	h.* GIVING WAY TO (traffic)
	i. TAXI INTO HOLDING BAY
	j. FOLLOW (*description of other aircraft or vehicle*)
	k. VACATE RUNWAY
Note: The pilot must, when requested, report RUNWAY VACATED" when the aircraft is well clear of the runway.	l.* RUNWAY VACATED
	m. EXPEDITE TAXI [*reason*]
	n.* EXPEDITING
5. ATFM Ground Delay Program Calculated Off Block Time (COBT) non-compliance - early request for taxi clearance	a. PUSH BACK (*or* TAXI) CLEARANCE NOT AVAILABLE DUE FLOW MANAGEMENT. EXPECT CLEARANCE AT TIME (COBT - 5 *minutes*)
Calculated Off Block Time (COBT) non-compliance - late request for taxi clearance	b. YOU ARE NON-COMPLIANT WITH FLOW MANAGEMENT. EXPECT AIRBORNE DELAY.

5.16.5 **Aerodrome Movements**

Circumstances	***Phraseologies*** * Denotes pilot transmission
1. Holding *Note: The procedure words ROGER and WILCO are insufficient acknowledgment of the instructions HOLD, HOLD POSITION and HOLD SHORT OF (position). In each case, the acknowledgment must be by the phraseology HOLDING or HOLDING SHORT, as appropriate.*	a. HOLD (*direction*) OF (*position, runway number, etc*) b. HOLD POSITION c. HOLD SHORT OF (*position*) d.* HOLDING e.* HOLDING SHORT
2. To Cross a Runway *Note: If the control tower is unable to see the crossing aircraft (e.g. night, low visibility, etc), the instruction should always be accompanied by a request to report when the aircraft has vacated and is clear of the runway.*	a.* [AT (*or* ON) (*location*)] REQUEST CROSS RUNWAY (*number*) b. AT (*or* ON) (*location*) CROSS RUNWAY (*number*) [REPORT VACATED] c.* AT (*or* ON) (*location*) CROSSING RUNWAY (number) d. EXPEDITE CROSSING RUNWAY (*number*) TRAFFIC (*aircraft type*) (*distance*) MILES FINAL
3. To Enter a Runway (not used in conjunction with clearance to line-up or enter the Operational Readiness Platform). *Note: If the control tower is unable to see the relevant aircraft (e.g. night, low visibility, etc), the instructions should always be accompanied by a request to report when the aircraft has vacated and is clear of the runway.*	a.* [AT (*or* ON) (*location*)] REQUEST ENTER RUNWAY (*number)* b. AT (*or* ON) (*location*) ENTER RUNWAY (*number*) [REPORT VACATED] c.* AT (*or* ON) (*location*) ENTER RUNWAY (*number*)

5.16.6 **Runway Operations**

Note: During multiple runway operations where the possibility of confusion exists, the runway number will be stated. The runway number may be stated if the caller wishes to emphasise the runway to be used. For parallel runway operations on discrete frequencies, at Class D aerodromes, the runway number may be omitted.

Circumstances	***Phraseologies*** * Denotes pilot transmission
1. Preparation for Take-off	a. REPORT WHEN READY [FOR DEPARTURE]
when reporting ready for operations wholly within Class D CTR or departure from Class D CTR not in receipt of airways clearance for operations	b.* READY [FOR CIRCUITS] [VIA (*published departure route, circuit leg for departure or first tracking point*)]
outside Class D airspace.	c. ARE YOU READY FOR IMMEDIATE DEPARTURE?
	d.* READY
2. Clearance to Enter Runway and Await Take-off	
when the pilot desires to enter the runway and assume take-off position for checks before departure	•a.* REQUEST LINE-UP [REQUIRE (*required number of seconds delay in lined-up position before departure*) SECONDS ON RUNWAY]
	b. LINE UP [RUNWAY (*number*)] [AND WAIT] [BE READY FOR IMMEDIATE DEPARTURE]
conditional clearances	c. (*condition*) LINE UP [(RUNWAY (*number*)] (*brief reiteration of condition*)
acknowledgment of a conditional clearance	d.* (*condition*) LINE UP [RUNWAY (*number*)] [AND WAIT]
3. Take-off Clearance	a. CLEARED FOR TAKE-OFF [REPORT AIRBORNE]

Circumstances	*Phraseologies* * Denotes pilot transmission
multiple runway operations, other than Class D aerodromes where aircraft are operating on parallel runways using discrete frequencies	b. RUNWAY (*number*) CLEARED FOR TAKE-OFF
when take-off clearance has not been complied with	c. TAKE OFF IMMEDIATELY OR VACATE RUNWAY
	d. TAKE OFF IMMEDIATELY OR HOLD SHORT OF THE RUNWAY
when LAHSO are in use	•e. (*aircraft type*) LANDING ON CROSSING RUNWAY WILL HOLD SHORT - RUNWAY (*number*) CLEARED FOR TAKE-OFF
when a radar SID has been issued	•f. ASSIGNED HEADING [LEFT (*or* RIGHT)] (*three digits*) [(*altitude restriction*)] [RUNWAY (*number*)] CLEARED FOR TAKE-OFF
	g.* HEADING (*or* LEFT *or* RIGHT) (*three digits)* [(*altitude restriction*)] [RUNWAY (*number*)] CLEARED FOR TAKE-OFF
when an IFR aircraft is cleared for a visual departure to a level at or above the MVA or MSA/ LSALT	•h. (*instructions*) [RUNWAY (*number*)] CLEARED FOR TAKE-OFF, [MAKE LEFT (*or* RIGHT) TURN]
	•i.* (*instructions*) [RUNWAY (*number*)] CLEARED FOR TAKE-OFF, [LEFT (*or* RIGHT) TURN]

Circumstances		*Phraseologies* * Denotes pilot transmission
when a VFR aircraft, or an IFR aircraft cleared for a visual departure is issued radar heading instructions	•j.	(*instructions*) MAINTAIN RUNWAY HEADING (*or* TURN LEFT (*or* RIGHT) HEADING (*three digits*)) VISUAL, [(*altitude restriction)*] [RUNWAY (*number*)] CLEARED FOR TAKE-OFF
	•k.*	(*instructions*) RUNWAY HEADING (*or* LEFT (*or* RIGHT) HEADING (*three digits*)) VISUAL, [(*altitude restriction)*] [RUNWAY (*number*)] CLEARED FOR TAKE-OFF
when an IFR aircraft cleared for a visual departure is assigned a level below the MVA or MSA/LSALT in the departure instructions.	•l.	(*instructions*) CLIMB TO (*level*) VISUAL, [RUNWAY (*number*)] CLEARED FOR TAKE-OFF
	•m.*	(*instructions*) (*level*) VISUAL, [RUNWAY (*number*)] CLEARED FOR TAKE-OFF
when the airways clearance issued to an IFR aircraft includes a visual departure and a level below the MVA or MSA/LSALT and no turn on departure required	•n.	[RUNWAY (*number*)] CLEARED FOR TAKE-OFF, VISUAL
4. Take-off Clearance Cancellation	a.	HOLD POSITION, CANCEL, I SAY AGAIN CANCEL TAKE-OFF (*reasons*)
	b.*	HOLDING
to stop a take-off in emergency conditions *Note: Used only when an aircraft is in imminent danger.*	c.	STOP IMMEDIATELY (*repeat aircraft callsign*) STOP IMMEDIATELY (*reason*)
	d.*	STOPPING RUNWAY (*number*)

Circumstances	*Phraseologies* * Denotes pilot transmission
5. Take-off or Landing Clearance Where aircraft arrestor systems are installed *Note: The tower controller will include the position of installed aircraft arresting system with all take-off and landing clearances, except to locally based aircraft when the system is in the normal operating position*	•a. (APPROACH *or* DEPARTURE) END CABLE (UP *or* DOWN) *or* BOTH CABLES [AND BARRIER] (UP *or* DOWN) *and/or* BARRIER (UP *or* DOWN)
Where aircraft arrestor systems are unserviceable	•b. BARRIER DOWN, OUT OF SERVICE •c. (APPROACH *or* DEPARTURE) END CABLE [BOTH CABLES] FAILED IN THE UP POSITION

5.16.7 **Helicopter Operations**

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Helicopter Operations air taxi or air transit for departure and arrival	a.* REQUEST AIR TAXI (*or* AIR TRANSIT *or* GROUND TAXI) FROM (*or* VIA) TO (*location or routing as appropriate*) b. AIR TAXI (*or* AIR TRANSIT *or* GROUND TAXI) TO (*or* VIA) (*location, parking position, stand, or routing as appropriate*) [CAUTION (*dust, loose debris, taxiing light aircraft, personnel, wake turbulence, etc*)]

Circumstances	*Phraseologies* * Denotes pilot transmission
	c. AIR TAXI (*or* AIR TRANSIT *or* GROUND TAXI) VIA (*direct, as requested, or specified route*) TO (*location, heliport, parking position, stand, operating or movement area, or runway*) AVOID (*aircraft or vehicles or personnel*)
2. Departure from: a) a RWY, or b) HLS visible to the tower and located on a manoeuvring area subject to ATC.	a. (*instructions as appropriate, position or runway*) CLEARED FOR TAKE-OFF
Departure other than above	b. (*instructions as appropriate*) [DEPARTURE APPROVED] REPORT AIRBORNE
3. Arrival to: a) a RWY, or b) HLS visible to the tower and located within a manoeuvring area subject to ATC.	a. (*instructions as appropriate, position or runway*) CLEARED TO LAND
Arrival other than above	b. CLEARED VISUAL APPROACH (*instructions as appropriate*), REPORT ON THE GROUND

5.16.8 **After Take-off**

Note: ALL "level" reports within ATS surveillance system coverage must be to the nearest 100FT.

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Tracking After Take-off	a.* REQUEST RIGHT (*or* LEFT) TURN [WHEN AIRBORNE] b. LEFT (*or* RIGHT) TURN APPROVED c. AFTER PASSING (*level*) (*instructions*)

Circumstances	*Phraseologies* * Denotes pilot transmission
when instructing an aircraft to turn 180° or more after take-off	d. MAKE LEFT (*or* RIGHT) - I SAY AGAIN - LEFT (*or* RIGHT) TURN
heading to be followed	e. CONTINUE ON (*magnetic direction of runway*) (*instructions*)
when a specific track is to be followed	f. TRACK (*magnetic direction of runway*) (*instructions*)
	g. CLIMB STRAIGHT AHEAD (*instructions*)
2. Airborne Report - where an ATS surveillance service is provided unrestricted turn to track (including SID) heading specified by ATC	•a.* PASSING (*level*) CLIMBING TO (*level*)
heading specified by ATC	•b.* TURNING LEFT (*or* RIGHT) (*three digits*) PASSING (*level)* CLIMBING TO (*level*) *or*
	•c.* MAINTAINING RUNWAY HEADING PASSING (*level*) CLIMBING TO (*level*)
confirmation of an assigned Radar SID heading when establishing contact with ATC and unable to execute turn immediately due procedural requirements	•d.* ASSIGNED HEADING LEFT (*or* RIGHT) (*three digits*) PASSING (*level*) CLIMBING TO (*level*)
when assigned heading approximates runway bearing	e.* HEADING (*three digits*) PASSING (*level*) CLIMBING TO (*level*)
3. Departure Report - when notifying departure report to a Class D control tower	•a.* TRACKING (*track being flown*) (FROM (*reference aid used to establish track) or VIA SID identifier*)) CLIMBING TO (*level*)

Circumstances	*Phraseologies* * Denotes pilot transmission
non-controlled aerodromes - non-surveillance	•b.* DEPARTED (*location*) (*time in minutes*) TRACKING [TO INTERCEPT] (*track*) CLIMBING TO (*intended level*) ESTIMATING (*first reporting point*) AT (*time*)
non-controlled aerodromes-surveillance when notifying departure and identification is expected with the departure report	•c.* (*location reference departure aerodrome*) PASSING (*current level*) CLIMBING TO (*intended level*) ESTIMATING (*first reporting point*) AT (*time*)

5.16.9 **Arrival at Aerodrome**

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Entering an Aerodrome Traffic Circuit	a.* [*aircraft type*] (*position*) (*level*) (*intentions*)
when ATIS information is available	b.* [*aircraft type*] (*position*) (*level*) INFORMATION (ATIS i*dentification*) (*intentions*)
	c. JOIN (*instruction*) RUNWAY (*number*) [(level)] [QNH (*detail*)] [TRAFFIC (*detail*)] [TRACK (*requirements*)]
	d. OVERFLY [(circuit direction) RUNWAY (*number*) [(level)] [QNH (*detail*)] [TRAFFIC (*detail)*] [TRACK (*requirements*)]
2. In the Circuit	a.* (*position in circuit, e.g.* DOWNWIND/ FINAL)
when advising or requesting a non-standard circuit	b.* (*position in circuit, e.g.* DOWNWIND/FINAL) [GLIDE APPROACH, FLAPLESS APPROACH])

Circumstances	*Phraseologies* * Denotes pilot transmission
	c. [NUMBER (*sequence number*)] FOLLOW (*aircraft type and position*) [*additional instructions if required*]
	d.* BASE (*or* CROSSWIND)
	e.* FINAL (*or* LONG FINAL)
nearing position at which approach must be aborted if not cleared to land	f.* SHORT FINAL
Abnormal Operations/Doubt Exists – (additional phrases)	
For a civil aircraft, when doubt exists as to whether the gear is fully extended, or when a general aviation aircraft with retractable undercarriage has experienced abnormal operations	g.* CHECK GEAR DOWN [AND LOCKED]
	h.* GEAR DOWN [AND LOCKED]
Military Pilots – (additional phrases)	
routine circuit reports must be made as and when arranged	▲ i.* LEFT (*or* RIGHT) INITIAL
to sequence for downwind	▲ j. PITCH LONG (*or* SHORT)
base call and wheel check (on reaching the base leg of a circuit, each aircraft, whether in stream landing or single, is to call tower and advise undercarriage down)	▲ k.* BASE GEAR GREEN (*or* THREE GREENS *or* THREE WHEELS)

Circumstances	*Phraseologies* * Denotes pilot transmission	
	▲ l.	(*instruction*) CHECK WHEELS
	▲ m.*	(*readback*) (*activate beeper*) *or*
	▲ n.*	(*readback*) GEAR GREEN (*or* THREE GREENS *or* THREE WHEELS)
ATC wheels check will include hook check for all hook cable operations	▲ o.	APPROACH/DEPARTURE END CABLE UP (*instruction*) CHECK WHEELS AND HOOK
	▲ p.*	(*readback*) HOOK DOWN (*activate beeper*)
3. Arriving at an Aerodrome – Military Formations Circuit Area	▲ a.*	(*formation callsign*), BASE THREE GREENS (*or* GEAR GREEN *or* THREE WHEELS)
	▲ b.	(*formation callsign*) (*instruction*) CHECK WHEELS
Lead aircraft undercarriage status report	▲ c.*	(*individual callsign*) (*activate beeper*) *or*
	▲ d.*	THREE GREENS (*or* GEAR GREEN *or* THREE WHEELS) (*individual callsign*)
Subsequent formation aircraft undercarriage status report	▲ e.*	(*individual callsign*), THREE GREENS (*or* GEAR GREEN *or* THREE WHEELS) (*activate beeper if fitted*)
	▲ f.	*(formation callsign)*
Pairs Landing	▲ g.*	(*formation callsign*), OUTER MARKER (*or* FINAL APPROACH FIX) SIX GREENS (*or* GEAR GREEN *or* SIX WHEELS)
	▲ h.	(*formation callsign*) CLEARED TO LAND, CHECK WHEELS
	▲ i.*	LAND (*individual callsign*) (*activate beeper if fitted*)
	▲ j.*	(*individual callsign*) (*activate beeper if fitted*)

Circumstances	*Phraseologies* * Denotes pilot transmission	
	▲ k.*	*(formation callsign)*
In-trail Landing	▲ l.*	(*formation callsign*) IN TRAIL, OUTER MARKER (*or* FINAL APPROACH FIX) THREE GREENS (*or* GEAR GREEN *or* THREE WHEELS)
	▲ m.*	(*formation callsign*) IN TRAIL CLEARED TO LAND, CHECK WHEELS
	▲ n.*	LAND (*callsign*) 1 (*activate beeper if fitted*)
	▲ o.*	(*callsign*) 2 OUTER MARKER (*or* FINAL APPROACH FIX) THREE GREENS (or GEAR GREEN *or* THREE WHEELS) (*activate beeper if fitted*)
	▲ p.*	(*callsign*) 3 OUTER MARKER (or FINAL APPROACH FIX) THREE GREENS (*or* GEAR GREEN *or* THREE WHEELS) (*activate beeper if fitted*)
	▲ q.	CALLSIGN
4. Speed Adjustments - <u>Military Aircraft</u> military ATC instruction	▲ a.	REDUCE TO CIRCUIT SPEED
	▲ b.	REDUCE TO APPROACH SPEED
	▲ c.	REDUCE TO MINIMUM SAFE SPEED

Circumstances	*Phraseologies* * Denotes pilot transmission
5. Approach Instructions *Note: The report "LONG FINAL" is made when aircraft turn on to final approach at a distance greater than 4NM from touchdown or when an aircraft on a straight-in approach is 8NM from touchdown. In both cases, a report "FINAL" is required at 4NM from touchdown.*	a. MAKE SHORT APPROACH b. MAKE LONG APPROACH (*or* EXTEND DOWNWIND) c. REPORT BASE (*or* FINAL *or* LONG FINAL) d. CONTINUE APPROACH
6. Landing	a. CLEARED TO LAND (*or* TOUCH AND GO) (*or* STOP AND GO)
multiple runway operations, other than Class D aerodromes where aircraft are operating on parallel runways using discrete frequencies.	b. RUNWAY (*number*) CLEARED TO LAND (*or* TOUCH AND GO) (*or* STOP AND GO)
where the aircraft cannot be sighted by ATC	•c. [RUNWAY (*number*)] NOT IN SIGHT - CLEARED TO LAND
pilot requesting option for touch and go, full stop, stop and go, or go around	•d.* (*position in circuit*) REQUEST THE OPTION
advising the pilot the option to touch and go, full stop, stop and go, or go around	•e. [RUNWAY (*number*)] CLEARED FOR THE OPTION
where ATC require the aircraft to make a full stop landing during the conduct of circuit operations	f. MAKE FULL STOP (*reason*) CLEARED TO LAND
when runway is occupied and ATC assessment is that the runway will not become available.	▲ g. AT THE MINIMA GO AROUND

Circumstances	*Phraseologies* * Denotes pilot transmission
Note: The tower controller will include the position of installed aircraft arresting system with all landing clearances, except to locally based aircraft when the system is in the normal operating position (for phraseology see para 5.16.6.5.	
7. When Landing Approved and LAHSO Are in Use	a. (*aircraft type*) DEPARTING (*or* LANDING) ON CROSSING RUNWAY, HOLD SHORT RUNWAY (*number*) CLEARED TO LAND RUNWAY (*number*)
required readback	•b.* HOLD SHORT RUNWAY (*number*) CLEARED TO LAND RUNWAY (*number*)
When the full length of the landing runway subsequently becomes available	c. FULL RUNWAY LENGTH NOW AVAILABLE *Note: The HOLD SHORT lights will remain illuminated even though the full length of the RWY is available*
Where an aircraft operating on a flight number callsign cannot participate in LAHSO	d. * NEGATIVE ACTIVE (*or* PASSIVE *or* ACTIVE AND PASSIVE) LAHSO
8. When a Pilot Advises That an “Autoland”, “Coupled” or Similar Approach is Being Made (note not applicable for GLS) and the ILS Critical Area is Not Protected.	•a. ILS CRITICAL AREA NOT PROTECTED
9. Delaying Aircraft	a. ORBIT RIGHT (*or* LEFT) [FROM PRESENT POSITION]

Circumstances	*Phraseologies* * Denotes pilot transmission
10. Pilot Request for Low Approach or Pass	
to make an approach along a runway descending to an agreed minimum level	a.* REQUEST LOW APPROACH (*reasons*) b. CLEARED LOW APPROACH [RUNWAY (*number*)] [(*altitude restriction*)] [(g*o around instructions*)]
to fly past the control tower or other observation point for the purpose of visual inspection by persons on the ground	•c.* REQUEST LOW PASS (r*easons*) •d. CLEARED LOW PASS [RUNWAY (*number*)] [(*altitude restriction*)] [(*go around instructions*)]
11. Missed Approach	
to discontinue an approach	a. GO AROUND [*additional information*] b.* GOING AROUND
multiple runway operations	c.* GOING AROUND RUNWAY (*number*)

5.17 ATS Surveillance Service Phraseologies

5.17.1 General Phrases

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Identification of Aircraft	a. REPORT HEADING [AND FLIGHT LEVEL (*or* ALTITUDE)] b. FOR IDENTIFICATION TURN LEFT (*or* RIGHT) HEADING (*three digits*) c. IDENTIFIED [*position*] d. NOT IDENTIFIED [*reason*], [RESUME (*or* CONTINUE) OWN NAVIGATION]

Circumstances	*Phraseologies* * Denotes pilot transmission
2. Termination of ATS Surveillance Service	a. IDENTIFICATION TERMINATED [DUE (*reason*)] [(*instructions*)] [FREQUENCY CHANGE APPROVED] b. WILL SHORTLY LOSE IDENTIFICATION (*appropriate instructions or information*) c. IDENTIFICATION LOST [*reasons*] (*instructions*)
3. ATS Surveillance System Position Information to request traffic, position, and/ or navigation information	•a.* REQUEST (i) ATS SURVEILLANCE ASSISTANCE (*reason*) (ii) POSITION [WITH REFERENCE TO (*aid or location*)] (iii) TRAFFIC (*or* POSITION *or* NAVIGATION) ADVISORY [BY SURVEILLANCE] (iv) FLIGHT FOLLOWING
to request an ongoing SIS	(v) (*specific ATC surveillance service*)
to terminate an ongoing SIS	b.* CANCEL FLIGHT FOLLOWING c. POSITION (*distance*) (*direction*) OF (*significant point*) (*or* OVER *or* ABEAM (*significant point*))
4. To request continuation of an SIS	a.* REQUEST HAND-OFF FOR FLIGHT FOLLOWING
Where ongoing service is not available	b. ATS SURVEILLANCE NOT AVAILABLE

Circumstances	*Phraseologies* * Denotes pilot transmission
5. ATS surveillance system ground equipment unserviceability	a. SURVEILLANCE SYSTEM OUT OF SERVICE/- DEGRADED (*appropriate information as necessary*)
6. To request the aircraft's SSR or ADS-B capability	a. ADVISE TRANSPONDER CAPABILITY b. ADVISE ADS-B CAPABILITY
7. To advise the aircraft's SSR or ADS-B capability	a.* TRANSPONDER (ALPHA, CHARLIE *or* SIERRA *as shown in the Flight Plan*) b.* ADS-B TRANSMITTER [TEN NINETY DATALINK] c.* ADS-B RECEIVER [TEN NINETY DATALINK] d.* NEGATIVE TRANSPONDER

5.17.2 **ATS Surveillance Service Communication and Navigation**

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Communications	a. [IF] RADIO CONTACT LOST (*instructions*) b. IF NO TRANSMISSIONS RECEIVED FOR (*number*) MINUTES (*or* SECONDS) (*instructions*) c. REPLY NOT RECEIVED (*instructions*)
if loss of communication is suspected	d. IF YOU READ [*manoeuvre instructions or* SQUAWK (*code or* IDENT)] e. (*manoeuvre or* SQUAWK) OBSERVED, POSITION (*position of aircraft*), WILL CONTINUE TO PASS INSTRUCTIONS

Circumstances	*Phraseologies* * Denotes pilot transmission
2. Aircraft Directional Indicator Failure	
notify pilot of intention to use directional indicator failure procedures	•a. 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	•b. CONFIRM HEADING
if heading response appears at variance with the track of the ATS Surveillance symbol	•c. SUSPECT YOUR DIRECTIONAL INDICATOR HAS FAILED
turn instructions	d. TURN LEFT (*or* RIGHT) NOW
	e. STOP TURN NOW

5.17.3 **ATS Surveillance System Manoeuvres**

Circumstances	*Phraseologies* * Denotes pilot transmission
1. General Manoeuvres	a. LEAVE (*significant point*) HEADING (*three digits*) [INBOUND] [AT (*time*)]
	b. CONTINUE HEADING (*three digits*)
	c. CONTINUE PRESENT HEADING
	d. FLY HEADING (*three digits*)
	e. TURN LEFT (*or* RIGHT) (*number*) DEGREES (*or* HEADING (*three digits*)) [*reason*]
	f. ORBIT LEFT (*or* RIGHT) [*reason*]

Circumstances	*Phraseologies* * Denotes pilot transmission
when an ACFT is assigned a level below the MVA or MSA/ LSALT	g. CLIMB (*or* DESCEND) TO (*level*) VISUAL
when an ACFT is issued a heading instruction below the MVA or MSA/LSALT *Note: Where both heading and altitude instructions are issued, VISUAL need only be appended to the second part of the instruction.*	h. TURN LEFT (*or* RIGHT) (*number*) DEGREES (*or* HEADING (*three digits*)) [CLIMB (*or* DESCEND) TO (*level*)] VISUAL
	i. STOP TURN HEADING (*three digits*)
when instructing an aircraft to turn 180° or more and in order to emphasize the direction of turn	j. TURN LEFT (*or* RIGHT) - I SAY AGAIN - LEFT (*or* RIGHT) HEADING (*three digits*) [*reason*]
when necessary to specify a reason for a manoeuvre, the following phraseologies should be used:	(i) DUE TRAFFIC (ii) FOR SPACING (iii) FOR DELAY (iv) FOR DOWNWIND (or BASE, *or* FINAL)
2. Aircraft Vectoring by ATS Surveillance Service	a.* REQUEST VECTORS [TO (*or* FROM) (*aid, location or reason*)] b. DO YOU WANT VECTORS?
3. To transfer responsibility to the pilot for navigation on termination of vectoring	a. RESUME OWN NAVIGATION (*position of aircraft*) (*specific instructions*)

5.17.4 Speed Control

Circumstances	***Phraseologies*** * Denotes pilot transmission
1. Speed *Note: All speed communications shall relate to* ***INDICATED AIRSPEED*** *unless otherwise stipulated. Where applicable, Mach Number may be nominated as the basis of a speed statement.*	a.* SPEED (*number*) KNOTS (*or Mach Number*)
	b. REPORT SPEED *or* ([CLIMB *or* CRUISE] MACH NUMBER)
	c. MAINTAIN (*number*) KNOTS (*or* MACH (*number*)) [OR GREATER (*or* LESS)] [UNTIL (*significant point*)]
	d. MAINTAIN PRESENT SPEED
	e. INCREASE (*or* REDUCE) SPEED TO (*or* BY) (*number*) KNOTS [OR GREATER (*or* LESS)]
	f. REDUCE TO MINIMUM APPROACH SPEED
	g. CROSS *(significant point)* [AT *(time)*] [OR LATER (*or* OR BEFORE)] [AT (*number*) KNOTS]
when an aircraft is required to reduce speed to the minimum possible in a clean configuration	•h. REDUCE TO MINIMUM CLEAN SPEED
when an aircraft is on a published procedure and the pilot must now comply with speed and/or level restrictions as published on the chart	•i. RESUME PUBLISHED SPEED *(or* LEVEL RESTRICTIONS *or* SPEED AND LEVEL RESTRICTIONS*)*

Circumstances	*Phraseologies* * Denotes pilot transmission
when ATC speed restrictions no longer apply and the aircraft is required to resume the normal profile speed. Comply with airspace speed limitations. (*Note: Not used with SID or STAR instructions).*	j. RESUME NORMAL SPEED
when aircraft speed is pilot's discretion. ATC speed restrictions are cancelled. Comply with airspace speed limitations. *(Note: Not used with SID or STAR instructions).*	k. NO ATC SPEED RESTRICTIONS
when aircraft speed is pilot's discretion. All airspace and ATC speed restrictions are cancelled. (*Note: Not used with SID or STAR instructions).* *Note: Airspace speed limitations are at ENR 1.4 para 4.*	l. NO SPEED RESTRICTIONS

5.17.5 **Traffic Information**

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Traffic Information	a. TRAFFIC (*number*) O'CLOCK (*distance*) (*direction of flight*) [*any other pertinent information*] (i) UNKNOWN (ii) SLOW MOVING (iii) FAST MOVING (iv) CLOSING (v) OPPOSITE (*or* SAME) DIRECTION (vi) OVERTAKING

Circumstances	*Phraseologies* * Denotes pilot transmission
	(vii) CROSSING LEFT TO RIGHT (*or* RIGHT TO LEFT)
aircraft type to be passed if known	(viii) (*type*)
	(ix) (*level*)
	(x) CLIMBING (*or* DESCENDING)
	b. CLEAR OF TRAFFIC [*appropriate instructions*]

5.17.6 Secondary Surveillance Radar (SSR) and ADS-B

Circumstances	*Phraseologies* * Denotes pilot transmission
1. To Instruct Setting of Transponder	a. SQUAWK (*code*) [AND IDENT *if required*]
(The word "code" is not used in transmissions.)	b.* [SQUAWK] (*code*) [AND IDENT *if instructed by* ATS]
	c. SQUAWK NORMAL
<u>to request</u>:	
reselection of the assigned mode and code	d. RECYCLE [(*mode*)] (*code*)
	e.* RECYCLING [(*mode*)] (*code*)
reselection of aircraft identification	f. RE-ENTER MODE S (*or* ADS-B) AIRCRAFT IDENTIFICATION
confirmation of Mode A Code selection	g. CONFIRM SQUAWK (*code*)
	h.* SQUAWKING (*code*)
operation of the IDENT feature	i. SQUAWK IDENT
	j. TRANSMIT ADS-B IDENT
temporary suspension of transponder operation	k. SQUAWK STANDBY [TRANSMIT ADS-B ONLY]
Note: ADS-B and SSR are linked in many aircraft and terminating one will terminate the other.	
emergency code selection	l. SQUAWK MAYDAY

Circumstances	***Phraseologies*** * Denotes pilot transmission
termination of SSR transponder or ADS-B	m. STOP SQUAWK [TRANSMIT ADS-B ONLY]
transmitter operation *Note: ADS-B and SSR are linked in many aircraft and terminating one will terminate the other.*	n. STOP ADS-B TRANSMISSION [SQUAWK (*code*) ONLY]
transmission of pressure altitude	o. SQUAWK CHARLIE p. TRANSMIT ADS-B ALTITUDE
pressure setting check and confirmation of level	q. CHECK ALTIMETER SETTING AND CONFIRM LEVEL
termination of pressure altitude transmission because of faulty operation *Note: ADS-B and SSR are linked in many aircraft and terminating one will terminate the other.*	r. STOP SQUAWK CHARLIE, WRONG INDICATION s. STOP ADS-B ALTITUDE TRANSMISSION [(WRONG INDICATION, *or reason*)]
altitude check	t. VERIFY LEVEL
confirmation of ADS-B operation	•u. ADS-B TRANSMISSIONS NOT RECEIVED, CONFIRM ADS-B OPERATIONAL
change to secondary transponder	•v. SELECT SECONDARY TRANSPONDER
2. Advice on Traffic Level Where the Pressure Altitude Derived Level Information Has Not Been Verified	•a. UNVERIFIED LEVEL (*level*)

5.17.7 General ADS-C Phraseologies

Circumstances	*Phraseologies* * Denotes pilot transmission
ADS-C DEGRADATION	ADS-C (*or* ADS-CONTRACT) OUT OF SERVICE (*appropriate information as necessary*).

5.17.8 Approach Radar Services

Circumstances	*Phraseologies* * Denotes pilot transmission
1. Vectoring for Approach *Note: The chart title for the procedure must be used. Except for circling approaches, the procedure suffix may be omitted when no possibility of confusion exists. The words (GNSS) or (RNP) do not need to be included in the RNAV approach request or clearance.*	a. VECTORING FOR (*chart title*) APPROACH b. VECTORING FOR VISUAL APPROACH RUNWAY (*number*) REPORT FIELD (*or* RUNWAY) IN SIGHT c. VECTORING FOR (*positioning in the circuit*) d. (*chart title*) APPROACH NOT AVAILABLE DUE (*reason*) (*alternative instructions*)
2. Vectoring for ILS/GLS, pilot-interpreted NAVAIDs and RNAV (GNSS) (or RNP APCH) approaches via the IF	a. POSITION (*number*) MILES FROM (*fix*), TURN LEFT (*or* RIGHT) HEADING (*three digits*) b. YOU WILL INTERCEPT (*radio aid or track*) (*distance*) FROM (*significant point or* TOUCHDOWN) c.* REQUEST (*distance*) FINAL
instructions and information	d. CLEARED FOR (*chart title*) APPROACH

Circumstances	*Phraseologies* * Denotes pilot transmission
	e. REPORT ESTABLISHED [ON ILS (LOCALISER) *or* (GLIDE PATH) *or* GLS (FINAL APPROACH COURSE) *or* RNAV (GNSS) (*chart title*) APPROACH] f. CLOSING FROM LEFT (*or* RIGHT) [REPORT ESTABLISHED] g. TURN LEFT (*or* RIGHT) HEADING (*three digits*) [TO INTERCEPT] *or* [REPORT ESTABLISHED] h. EXPECT VECTOR ACROSS (*intermediate segment* [GNSS], *localiser course/final approach course or aid*) (*reason)* i. THIS TURN WILL TAKE YOU THROUGH (*aid*) [*reason*] j. TAKING YOU THROUGH (*aid*) [*reason*] k. MAINTAIN (*level*) UNTIL GLIDE PATH INTERCEPTION l. REPORT ESTABLISHED ON GLIDE PATH m. INTERCEPT (*radio aid*) [REPORT ESTABLISHED]
3. Independent and Dependent Parallel Runway Approaches	a. CLEARED FOR (*chart title)* APPROACH b. YOU HAVE CROSSED THE LOCALISER/FINAL APPROACH COURSE, TURN LEFT (*or* RIGHT) IMMEDIATELY AND RETURN TO THE LOCALISER/FINAL APPROACH COURSE

Circumstances	*Phraseologies* * Denotes pilot transmission
	c. TURN LEFT (*or* RIGHT) HEADING *(three digits)* JOIN FINAL RUNWAY *(number)* FROM THAT HEADING CLEARED INDEPENDENT VISUAL APPROACH
When aircraft will operate within 1NM of traffic on the adjacent final approach	d. TRAFFIC (*aircraft type)* [RUNWAY LEFT (*or* RIGHT)] BEHIND (*or* AHEAD *or* ADJACENT)
Independent Parallel Runway Approaches in IMC when an aircraft is observed to be deviating towards the NTZ	e. RADAR INDICATES YOU ARE DEVIATING LEFT (*or* RIGHT) OF THE LOCALISER COURSE
When issuing break-out instructions to aircraft when an aircraft is observed penetrating, or in the PRM controller's judgement will penetrate, the NTZ	f. BREAK-OUT ALERT, (*callsign*) TURN LEFT (*or* RIGHT) IMMEDIATELY HEADING (*three digits*) CLIMB (*or* DESCEND) TO (*level*)
4. Position	a. (*distance*) FROM TOUCHDOWN

5.17.9 **Pilot Actions for Speechless Radar Approach**

Circumstances	*Phraseologies* ** Denotes pilot transmission*
1. Pilot Request for Speechless Radar Approach When Microphone/s Unserviceable	▲a.* *Pilot transmits four* (4) *separate and distinct unmodulated transmissions of one second duration*
2. Pilot Response to Subsequent Control Questions:	
(i) affirmative or acknowledgment	▲b.* *(i) one distinct transmission*

Circumstances	*Phraseologies* ** Denotes pilot transmission*
(ii) negative	▲c.* *(ii) two separate and distinct transmissions*
(iii) say again	▲d.* *(iii) three separate and distinct transmissions*
3. Pilot Indication of a Further and Pertinent Unserviceability or an Emergency	▲a.* *Five* (5) *separate continuous transmissions*
4. Pilot Indication of Abandoning the Aircraft	▲a.* *A single continuous transmission as long as practicable*
5. Controller Requires Pilot to Indicate When an Instruction Has Been Completed	▲a. WHEN (*condition or instruction is completed*) MAKE A TWO SECOND TRANSMISSION

6. ATS DATA LINK SERVICES

6.1 General

6.1.1 FANS 1/A data link services (CPDLC and ADS-C) are available within airspace controlled by Australian ATC within the Melbourne (YMMM), Brisbane (YBBB), Honiara (AGGG) and Nauru (ANAU) FIRs.

6.1.2 Pre-Departure Clearances (PDC) utilising FANS 1/A data link are not available within Australian administered airspace. (See *ENR 1.1 para 2.2.25*).

6.1.3 The data link procedures described herein are in accordance with international procedures. For more information concerning other data link procedures, refer to Chapter 5 of the *ICAO Global Operational Data Link (GOLD) Manual (Doc 10037).*

6.1.4 FMC Waypoint Position Reporting (FMC WPR) is available within Oceanic airspace east of Australia for operators whose AOC supports the conversion of ACARS position reports into a suitable format (ARP) and the forwarding of these messages to ATC.

Operators wishing to participate in FMC WPR should submit such a request to Airservices Australia.

6.2 **Pilot Responsibilities**

6.2.1 Participating flight crews must be trained in the use of data link equipment to a level approved by the State of Registry of the operator, and the aircraft must meet all State of Registry ATC data link requirements.

6.2.2 A logon request must be received from the aircraft before any data link connections can be initiated by the ground system. The initial logon request must be initiated by the flight crew in accordance with company and ATS procedures.

6.2.3 When using CPDLC for communications and/or ADS-C or FMC WPR for position reporting, flight crews must advise ATC when any fault occurs (e.g. loss of SATCOM) that may result in the degraded performance or non-availability of CPDLC, ADS-C and/or FMC WPR.

6.2.4 To ensure reliable Automatic Dependant Surveillance-Contract (ADS-C) is available, flight crews must ensure that the ADS-C application remains ARMED. Flight crews must also ensure that the ADS-C emergency mode has not been selected inadvertently.

6.2.5 CPDLC “latency timer” functionality is not available in Australian airspace. If the aircraft is equipped with CPDLC latency timer functionality, flight crews must ensure that this functionality is either disabled or set to maximum value prior to entering the YBBB, AGGG, ANAU or YMMM FIRs.

6.3 **Controller Pilot Data Link Communication (CPDLC)**

6.3.1 In controlled airspace beyond the range of VHF voice, CPDLC is the primary means of communications between ATC and flight crews operating FANS 1/A equipped aircraft. HF voice will be used as the backup communications medium. In Class G airspace HF is the primary means of communication, although controllers may initiate the use of CPDLC. The controller communicating by CPDLC holds responsibility for SAR and communications alerting.

6.3.2 In Australian continental airspace, VHF voice is normally the primary medium for communication. Within East Coast SSR Coverage flight crews should not initiate CPDLC messaging except:

a. when transmitting position reports in accordance with *para 6.5.1* or

b. when authorised by the controller; or

c. in an emergency

6.3.3 Outside East Coast SSR coverage, ATC and pilots may use CPDLC to augment VHF communications.

6.3.4 Where CPDLC is to be used as the primary means of communications, flight crews will be instructed to transfer to CPDLC using the phraseology:
"TRANSFERTO(MELBOURNE/BRISBANE)CENTREONDATA LINK. MONITOR [frequency]."

6.3.5 CPDLC messages must be constructed using standard message elements, free text message elements or a combination of both. Standard message elements are contained in *PANS-ATM (DOC 4444), Appendix 5* and I*CAO Doc 10037 - Global Operational Data Link (GOLD) Manual*.

6.3.6 When CPDLC is being used and the intent of the message is included in the CPDLC message set contained in *PANS-ATM (Doc 4444), Appendix 5* or *ICAO Doc 10037 - Global Operational Data Link (GOLD) Manual*, the associated standard message elements must be used.

6.3.7 The use of free text message elements should be kept to a minimum. When the CPDLC message set contained in the *PANS-ATM (Doc 4444)* or *ICAO Doc 10037 - Global Operational Data Link (GOLD) Manual* does not provide for specific circumstances, the free text message elements may be used. These free text message elements should be sorted for selection within the aircraft system or ground system to facilitate their use.

6.3.8 To ensure the correct synchronisation of messages, dialogues initiated by voice must, wherever possible, be closed by voice. Dialogues initiated by CPDLC must be closed by CPDLC.

6.3.9 To avoid ambiguity, a CPDLC downlink message should not contain more than one clearance request.

6.3.10 If a CPDLC downlink message contains multiple clearance requests and not all of the requested clearances are available, the controller will respond with the uplink message UNABLE. The controller may subsequently uplink a separate CPDLC message containing any requested clearances that are available.

6.3.11 If any ambiguity exists as to the intent of a CPDLC message, clarification should be sought by voice.

6.3.12 A clearance issued by CPDLC requires only the appropriate CPDLC response, not a read-back as would be required if the clearance had been delivered by voice.

6.3.13 The downlink response WILCO indicates that the flight crew has accepted the full terms of the entire uplink message including any clearance or instruction.

6.3.14 The downlink response UNABLE indicates that the flight crew is unable to accept the uplinked clearance or instruction. The flight crew must continue to operate in accordance with the most recently accepted clearance and/or instructions.

6.3.15 The use of the uplink STANDBY message element provides advice that the downlink request is being assessed and a short-term delay of less than 10 minutes can be expected until a response will be sent. The original message remains open.

6.3.16 The use of the uplink REQUEST DEFERRED message element provides advice that the downlink request is being assessed and a longer-term delay of greater than 10 minutes can be expected until a response will be sent. The original message remains open.

6.4 **Logon Procedures**

6.4.1 Before entering an airspace where data link applications are used by the ATS unit, data link communications shall be initiated between the aircraft and the ATS unit in order to register the aircraft and, when necessary, allow the start of a data link application. This shall be initiated by the aircraft, either automatically or by the pilot, or by the ATS unit on address forwarding.

Note: Provisions concerning the data link initiation capability (DLIC) are contained in Annex 10, Volume II, Chapter 8.

6.4.2 Brisbane ATC provides data link services in the Honiara and Nauru FIRs. The logon addresses for the appropriate FIRs are:
Brisbane YBBB
Honiara YBBB
Nauru YBBB
Melbourne YMMM.

6.4.3 To avoid automatic rejection of the logon request:

a. the aircraft identification and the aircraft registration contained in the logon request must be identical to the aircraft details filed in the flight plan, and

b. aircraft departing from airports either within Australia (YBBB or YMMM FIR) or the AGGG and ANAU FIRs should not logon earlier than 45 minutes prior to the flight planned EOBT, and

c. aircraft inbound to the YBBB, YMMM, AGGG or ANAU FIRs should not logon:

(i) prior to departure; or

(ii) earlier than 45 minutes prior to the FIR boundary estimate

6.4.4 Aircraft departing from airports either within Australia (YBBB or YMMM FIR) or the AGGG and ANAU FIRs, requesting data link services, should logon as described below:

a. On the ground using the logon address for the FIR that the departure airport is located within; or

b. Airborne at any time after passing 10,000FT, using the logon address for the FIR in which the aircraft is currently operating, with the following exceptions:

(i) Aircraft approaching an FIR boundary should logon to the next ATS unit, rather than the current ATS unit; and

(ii) Airborne aircraft departing Sydney/Bankstown/ Richmond should logon in accordance with the following table:

Airborne aircraft departing Sydney/Bankstown/Richmond	
Departure track	**Logon address**
Airborne aircraft departing on tracks south of SY- OPTIC through west to SY-RI-MDG.	YMMM
Airborne aircraft departing on tracks from SY-RI- MDG through east to SY-OPTIC (inclusive).	YBBB

Note: The above table applies to logons from airborne aircraft only. Flight crews who logon whilst on the ground at Sydney/ Bankstown/Richmond must logon to YMMM.

6.4.5 When instructed to logon by voice, the flight crew must read back the logon address.

6.4.6 Unless otherwise instructed, aircraft remaining wholly within East Coast SSR Coverage are not required to logon for data link services.

6.4.7 Flight crews of operators participating in PDC at Australian airports must not initiate a logon until after the PDC has been received.

6.4.8 Aircraft requesting data link services on entering the AGGG, ANAU, YBBB or YMMM FIRs from a non-data link FIR should logon to the ATS appropriate unit between 15 and 45 minutes prior to crossing the FIR boundary. CPDLC and ADS-C connections will be established automatically by the ATS unit concerned.

6.4.9 For aircraft entering the AGGG, ANAU, YBBB or YMMM FIRs from a data link FIR, the CPDLC connection will be either transferred automatically by the Address Forwarding process, or the transferring ATS unit will instruct the flight crew to logon manually at an appropriate time/distance prior to the FIR boundary.

6.4.10 Aircraft transiting between the YBBB and YMMM FIRs will be automatically Address Forwarded to the appropriate ATS unit. Aircraft departing Australian airspace (or the AGGG and ANAU FIRs) and directly entering an adjoining data link FIR can expect to be Address Forwarded to the appropriate ATS unit prior to the FIR boundary.

6.5 **Position Reporting Requirements**

6.5.1 A CPDLC downlink is required to enable the controlling ATS unit to ensure that it is CPDLC data authority for the aircraft. To facilitate this, flight crews must send a single CPDLC position report either:

a. whenever a new CPDLC Connection is established; or

b. on entering the YMMM, YBBB, AGGG or ANAU FIR from another ATS unit; or

c. crossing the YMMM/YBBB FIR boundary, except that aircraft inbound to land at Sydney/Bankstown/Richmond from the north or east are not required to downlink a CPDLC position report at the FIR boundary 45NM from SY.

6.5.2 Following this initial CPDLC position report, additional CPDLC or voice position reports are not required unless specifically requested by ATC. A CPDLC position report is not required when an aircraft is transferred from voice to CPDLC providing a report was downlinked earlier in accordance with *para 6.5.1*.

6.5.3 For non-identified aircraft, ADS-C reporting fulfils position reporting requirements. In the event of ADS-C failure, the pilot will be instructed to resume position reporting by either voice or CPDLC as appropriate.

6.6 **CPDLC Level Reporting Following Change of Level**

6.6.1 For non-identified aircraft, ADS-C reports fulfil level reporting requirements for a flight. Where ATC requires a CPDLC report, following or during a change of level, an appropriate instruction, will be uplinked; e.g. “CLIMB TO AND MAINTAIN 370. REPORT LEVEL 370” or “REPORT LEAVING 350”

6.6.2 Upon receipt of this CPDLC uplink, flight crews must ensure that the correct downlink report is sent.

6.6.3 If no instruction to make a CPDLC report is received, the flight crew has no requirement to report either maintaining the assigned level, or leaving the previously assigned level.

6.7 **Reporting Back on Route by CPDLC**

6.7.1 If an aircraft is subject to a weather deviation and has been instructed to report back on route, the CPDLC BACK ON ROUTE message must not be downlinked until either:

- The aircraft has rejoined its previously cleared route; or
- The aircraft has requested and has been cleared direct to a subsequent waypoint and is proceeding directly to that waypoint

6.7.2 If an aircraft is off track, but proceeding directly to a subsequent waypoint, the BACK ON ROUTE message must not be downlinked until after the aircraft has sequenced that waypoint.

Note: Downlinking BACK ON ROUTE before the aircraft is actually established on the cleared route may result in ATC applying incorrect separation tolerances to the aircraft.

6.8 **Block Level Clearances**

6.8.1 Subject to traffic, ATC may issue block level clearances to facilitate operations in adverse weather or to allow flight crews to optimise fuel burn for an aircraft.

6.8.2 A block level clearance is cancelled or amended by the issuing of a new vertical clearance.

6.8.3 To request a cancellation of a block clearance when it is no longer required, flight crews should downlink a CPDLC request for the preferred level in order to enable ATC to issue the new vertical clearance.

6.9 **Revision of Estimates Using CPDLC**

6.9.1 Under normal circumstances, an aircraft position reporting via ADS-C is not required to advise ATC of any revised waypoint estimates. Exceptions are:

a. revisions of greater than two (2) minutes to a previous flight crew advised estimate (i.e. by voice or CPDLC); or

b. following a flight crew-initiated action (e.g. speed change) resulting in an amended estimate of greater than two (2) minutes.

6.9.2 If required, flight crews shall advise a revised estimate by one of the following methods:

a. by voice report; or

b. a CPDLC position report containing the revised estimate; or

c. the CPDLC free text message element, “REVISED ETA [position][time]”

6.10 **CPDLC Message Restrictions**

6.10.1 Controllers will not issue uplink instructions relating to cruise climbs, or the message element “CRUISE (altitude)”. Additionally controllers will not issue uplink instructions containing the “AT PILOT DISCRETION” message element.

6.11 **CPDLC CONTACT and MONITOR messages**

6.11.1 The format of the [frequency] variable in the CPDLC “CONTACT” and “MONITOR” message elements permits the inclusion of only a single frequency. Due to this limitation, only the primary frequency will be notified to flight crews. The secondary frequency - uplinked as a free text - will be available on request.

6.11.2 The format of the [unit name] variable in the CPDLC "CONTACT" and "MONITOR" message elements does not support ATS unit types such as "RADIO", or "HF". Due to this limitation, "CENTRE" will be used (i.e. "CONTACT BRISBANE CENTRE 13261", rather than "CONTACT BRISBANE HF 13261").

6.12 **CPDLC route clearances**

6.12.1 On occasions, controllers may issue amended route clearances by CPDLC in order to optimise an aircraft's route, or to separate with either traffic or restricted airspace. Operators must ensure that flight crews are familiar with the functionality associated with the display and loading of CPDLC route clearances.

6.13 **CPDLC Failure**

6.13.1 Flight crews becoming aware of a CPDLC connection failure when CPDLC is being used as the primary means of communication must immediately re-establish primary communications on the appropriate voice frequency.

6.13.2 In the event of either a programmed or unexpected CPDLC shutdown, ATC will advise all data link connected aircraft to re-establish primary communications by voice. The return of the system to an operational state may require a new logon from affected aircraft. Voice will continue to be used as the primary means of communication until CPDLC connections are re-established and ATC has authorised a return to data link communications.

6.14 **Notification Of Emergency**

6.14.1 Depending on the nature of the emergency condition experienced, flight crews should notify ATC of the circumstances by the most efficient means (voice, CPDLC or ADS-C).

6.14.2 If a CPDLC MAYDAY or PAN message is received by the ATS unit, ATC will respond with the free text uplink message ROGER MAYDAY (or ROGER PAN). ATC will not expect a ROGER response to the uplink until being notified that the emergency situation has been cancelled or stabilised to the extent that messages are able to continue being exchanged (if CPDLC is considered to be the best communications medium for the situation).

6.14.3 ATC may respond via CPDLC to a report indicating unlawful interference with the uplink message ROGER 7500.

6.14.4 If an ADS-C report containing emergency mode is received by the ground system without voice or CPDLC confirmation of an emergency situation, ATC will check for inadvertent activation of emergency mode by voice or CPDLC using the phraseology "CONFIRM ADS-C EMERGENCY".

a. If the emergency mode has been inadvertently activated, the flight crew must respond by voice or CPDLC using the phraseology "ADS-C RESET" and cancel the ADS-C emergency mode.

b. ATC will assume an emergency situation exists if there is no confirmation that the activation of emergency mode was inadvertent and ADS-C emergency reports are still being received.

6.14.5 When an emergency situation no longer exists, the flight crew should cancel the ADS-C emergency mode (if activated).

6.15 **CPDLC Message Set**

6.15.1 Standard message elements are listed in *ICAO Doc 10037 - Global Operational data Link (GOLD) Manual.*

6.15.2 The following table contains CPDLC free text message elements used in Australia.

Uplinks - Free text message elements

MESSAGE ELEMENT	MESSAGE INTENT	RESPONSE
REPORT DISTANCE (to/from) (position)	Instruction to report the present distance to or from the specified position.	NE
CONFIRM POSITION	Instruction to report the present position.	NE
CONFIRM ALTITUDE	Instruction to report the present level.	NE
CONFIRM TIME OVER REPORTED WAYPOINT	Instruction to confirm the previously reported time over the last reported waypoint.	NE
CONFIRM REPORTED WAYPOINT	Instruction to confirm the identity of the previously reported waypoint.	NE
CONFIRM NEXT WAYPOINT	Instruction to confirm the identity of the next waypoint.	NE
CONFIRM NEXT WAYPOINT ETA	Instruction to confirm the previously reported estimated time at the next waypoint.	NE
CONFIRM HEADING	Instruction to report the present heading.	NE
IDENTIFICATION TERMINATED	ATS advisory that the radar and/or ADS-B service is terminated.	R
CONFIRM ADS-C ARMED	Instruction for the flight crew to check that the ADS-C function is armed.	R
ADVISE PREFERRED LEVEL TO CROSS [position]	Instruction to advise the preferred flight level at the specified position for the flight.	R
REPORT ETA [position]	Instruction to report the estimated time of arrival at the specified position.	R

MESSAGE ELEMENT	MESSAGE INTENT	RESPONSE
ADS-C INDICATES OFF ROUTE. ADVISE INTENTIONS	Instruction to notify of receipt of any ADS-C report indicating a deviation from cleared route and to request the flight crew to advise of intentions.	R
ADS-C INDICATES ROUTE NON-CONFORMANCE. ADVISE INTENTIONS	Instruction to notify of receipt of any ADS-C report indicating a future deviation from cleared route and to request the flight crew to advise of intentions.	R
ADS-C ESTIMATES APPEAR INACCURATE. CHECK FMS	Instruction to notify of receipt of any ADS-C report that appears to contain inaccurate time estimates and to request the flight crew to check FMS.	R
CHECK AND RESPOND TO OPEN CPDLC MESSAGES	Instruction to check the status of CPDLC messages and to respond to unanswered uplink messages.	R
EXPECT SELCAL CHECK HF [frequency]	Notification that a SELCAL check on the specified HF frequency should be expected.	R
EXPECT CPDLC TRANSFER AT [time]	Notification that the CPDLC transfer process will not be completed at the FIR boundary and will be delayed until the specified time. If the CPDLC transfer is not completed by the specified time, the flight crew should manually disconnect and logon to the next centre.	R
EXPECT NEXT CENTRE [facility designation]. CONTACT WITH [facility designation] NOT REQUIRED	Notification that a CPDLC connection is not required by the next FIR (e.g. due to short transition time of the next FIR) and CPDLC connection will be transferred to the subsequent FIR.	R

MESSAGE ELEMENT	MESSAGE INTENT	RESPONSE
REQUEST RECEIVED RESPONSE WILL BE VIA VOICE	Notification that the CPDLC downlink request was received by the controller and that any further communication about the request will be via voice.	R
ADS-C INDICATES LEVEL DEVIATION. ADVISE INTENTIONS	Instruction to notify of receipt of any ADS-C report indication a deviation from cleared level and to request the flight crew to advise of intentions.	R
REACH [level] BY [time]	Instruction that a change of level is to continue, but at a rate such that the specified level is reached at or before the specified time.	R
REACH [level] BY [position]	Instruction that a change of level is to continue, but at a rate such that the specified level is reached at or before the specified position.	R
LEAVE CONTROL AREA DESCENDING	Instruction to leave controlled airspace on descent.	R
CRUISE CLIMB PROCEDURE NOT AVAILABLE IN AUSTRALIAN ADMINISTERED AIRSPACE	Response to a request for a cruise climb. This procedure in not available.	R
IDENTIFIED	ATS advisory that the aircraft has been identified on radar and/or ADS-B.	R
REACH [level] BY [distance] NM [before/after] [position]	Instruction that a change of level is to continue, but at a rate such that the specified level is reached at or before the specified distance before or after the specified position.	R

MESSAGE ELEMENT	MESSAGE INTENT	RESPONSE
MELBOURNE [or BRISBANE] CENTRE AT REDUCED SYSTEM CAPACITY. DISCONNECT CPDLC	Notification that the specified ATS Unit is operating at reduced capacity.	R
RE-ENTER ADS-B IDENTIFICATION [flight identification]	Instruction to check and to re-enter the correct ADS-C flight identification for the flight.	R
ADS-C REPORTS NOT RECEIVED. REQUEST CPDLC POSITION REPORTS	Notification that ADS-C reports are not being received from a flight and that the flight crew is to report position using CPDLC position reports.	R
DO NOT DISCONNECT CPDLC. LOGON TO [unit name]	Instruction to logon to the specified ATS Unit without disconnecting CPDLC.	R
DISCONNECT CPDLC	Instruction to disconnect CPDLC.	R

APPENDIX 1

AUSTRALIAN AFTN CIRCUITRY
NATIONAL COMMUNICATIONS CENTRE CANBERRA - *YSCBYFYX*

ATS UNITS IN AUSTRALIA

Adelaide	(YPAD)
Albury	(YMAY)
Alice Springs	(YBAS)
Archerfield	(YBAF)
Avalon	(YMAV)
Bankstown	(YSBK)
Brisbane FIR	(YBBB)
Brisbane	(YBBN)
Broome	(YBRM)
Cairns	(YBCS)
Camden	(YSCN)
Canberra *COMC/BOF/NOF	(YSCB)
Christmas Island =	(YPXM)
Coffs Harbour	(YCFS)
Darwin *	(YPDN)
Essendon	(YMEN)
Gold Coast	(YBCG)
Hamilton Island	(YBHM)
Head Office	(YSHO)
Hobart	(YMHB)
Jandakot	(YPJT)
Karratha	(YPKA)
Launceston	(YMLT)
Mackay	(YBMK)
Melbourne FIR	(YMMM)
Melbourne	(YMML)
Moorabbin	(YMMB)
Parafield	(YPPF)
Perth	(YPPH)
Port Hedland	(YPPD)
Rockhampton	(YBRK)
Sunshine Coast	(YBSU)
Sydney	(YSSY)
Tamworth	(YSTW)
Townsville *	(YBTL)
Woomera	(YPWR)

EXTERNAL ORGANISATIONS

Australian Maritime Safety Authority (AMSA)	(YSMO)
Joint Rescue Coordination Centre (JRCC)	(YSARYCYX)
Australian Transport Safety Bureau (ATSB)=	(see Note 2)
Civil Aviation Safety Authority (CASA)	(YSCA)
Customs	(YSCBCUST)
Darwin District Airport Inspector	(YPDNYDYX)
Bureau of Meteorology (MET)	(YMMC)
Airline Company Network (SITA)	(WSSSSITX)

LEGEND

* Military/civil use
= Fax connection

INTERNATIONAL CENTRES

Fiji - Nadi	(NFFF)
Indonesia - Jakarta	(WIII)
Johannesburg	(FAJS)
Nauru Is - Nauru	(ANAU)
New Guinea - Port Moresby	(AYPY)
New Zealand - Christchurch	(NZCH)
Singapore Is - Singapore	(WSSS)
Solomon Islands - Honiara	(AGGH)
USA - Salt Lake City	(KSLC)
Vanuatu - Port Vila	(NVVV)

MILITARY UNITS

Amberley	(YAMB)
East Sale	(YMES)
Edinburgh	(YPED)
Nowra	(YSNW)
Oakey	(YBOK)
Pearce	(YPEA)
RAAF AIS	(YMMX)
Richmond	(YSRI)
Tindal *	(YPTN)
Williamtown *	(YWLM)

AIRLINE COMPANIES

Japan Airlines	(YBCSJALX)
Qantas Airlines	(YSSYQFAO)
United Airlines	(YSSYUALO)
Virgin Australia	(YBBBVOZX)

Note 1: There are many supplementary inter-unit AFTN circuits available which are not indicated.

Note 2: Messages for the ATSB should be directed by Fax to 61-2-6274 6434.

APPENDIX 2

FULL POSITION REPORT - FORMAT			
NR	Item	Transmit – Voice	Notes
0	Prefix	**AIREP SPECIAL**	When giving MET information, prefix the report **AIREP SPECIAL**. AIREP SPECIAL is used whenever SPECIAL conditions are reported even though included in a routine report. When Section 3 is not included, the prefix **POSITION** may be used
SECTION 1: POSITION - All Reports			
1	Aircraft Identification	**[callsign]**	Aircraft identification as in flight plan or as amended by ATC
2	Position	**POSITION [latitude, longitude]** or **OVER [place]** or **ABEAM [place]** or **[place, bearing, distance]**	"**POSITION**" only when LAT and LONG used. If immediately over the place named, report "**OVER [place]**". For domestic flights only "**OVER**" may be omitted. In controlled airspace report also the distance and direction abeam, e.g. "**NINE MILES ABEAM [place] TO THE NORTH**" or "**[place] THREE SIX ZERO ZERO ONE FIVE.**"
3	Time	**AT [minutes]** or **[hours and minutes]**	When giving MET information report in hours and minutes UTC. Otherwise, report in minutes past the hour at the position.

4	Flight Level or Altitude	**FLIGHT LEVEL [number]** or **[altitude] FEET** (adding, if necessary) **CLIMBING/ DESCENDING TO FLIGHT LEVEL [number]** or **[altitude] FEET**	When not at assigned level, position report shall include present level, and level to which climbing or descending. For domestic flights, **"FEET"** may be omitted from altitude reports.
5	Next Position and Time Over	**NEXT POSITION [place] AT [minutes]** or **[hours and minutes]**	For domestic flights, **"NEXT POSITION"** may be omitted.
6	Ensuing Significant Point	**FOLLOWING POINT [position]**	To be included when requested by ATC and, at other times, when the pilot considers it necessary to confirm to ATS the route being followed.
SECTION 2: OPERATIONAL - When requested by the operator or designated representative, or when considered necessary by the pilot in command.			
7	Estimated Time of Arrival	**ESTIMATING ARRIVAL [place] AT [hours and minutes]**	
8	Endurance	**ENDURANCE [number] HOURS [number] MINUTES**	
SECTION 3: METEOROLOGICAL - When designated, on request, or when special conditions encountered			

Items 9 and 10 are required in each report. **Items 11 and 12** are required only if the phenomena are encountered within 10 minutes prior to the time at the position in Item 2. Supplementary information exemplified under Item 11 is required if, in the opinion of the pilot in command, it is of aeronautical interest or if a special request for any particular information has been made by MET or ATC.

9	Air Temperature	**TEMPERATURE PLUS [number]** or **TEMPERATURE MINUS [number]**	Corrected for instrument error and airspeed. Report only stabilised temperatures in whole degrees C.
10	Spot Wind or Mean Wind and Position thereof	**WIND [number] DEGREES [number] KNOTS** (**MEAN**, if applicable) or **WIND LIGHT AND VARIABLE** (**MEAN** , if applicable) and, (if position other than at Item 2) **POSITION [numbers]** (latitude and longitude).	Whenever practicable report spot wind, otherwise MEAN wind between fixes and position of mid-point of sector over which wind was calculated. Position is given in LAT and LONG to nearest whole degree, adding N or S, E or W, as appropriate.
11	Turbulence	**TURBULENCE MODERATE (IN CLOUD)** or **TURBULENCE SEVERE (IN CLOUD)**	Requires prefix **"AIREP SPECIAL"** and immediate report when the degree of turbulence is severe. Include **"IN CLOUD"** if applicable. Moderate/ Severe for specifications see * Note below.
12	Aircraft Icing	**ICING MODERATE** or **ICING SEVERE**	Requires prefix **"AIREP SPECIAL"** and immediate report when the degree of icing is severe.Moderate-heading or level change desirable. Severe - immediate heading or level change essential.

13	Supplementary Information (a) Present Weather	**RAIN** or **SNOW** or **FREEZING RAIN** or **FUNNEL CLOUD** (waterspouts or tornado) or **THUNDERSTORM** or **FRONT**	
	(b) Clouds	**CLOUD SCATTERED** or **BROKEN** or **CONTINUOUS** or **CUMULONIMBUS** and	Report type of cloud only if cumulonimbus.
		BASE FLIGHT LEVEL/ ALTITUDE and/or **TOP FLIGHT LEVEL/ALTITUDE**	Include levels only if they can be determined accurately.
	(c) Moderate turbulence or moderate icing observed prior to the last 10 minutes	**TURBULENCE MODERATE** and, (if required) **IN CLOUD** and/or **ICING MODERATE** and **AT [position]**	
	(d) Weather radar echoes	**[description] AT [true bearing and distance, changes and/or gaps]**	Operationally significant echo or echo line, location, intensifying or weakening, gaps.

	(e) Differences between observed and forecast weather	**OBSERVED [description] FORE-CAST [description] AT [position]**	Operationally significant differences only. Position in whole degrees only if different from that at Item 2.

*Note **Item 11** - The following specifications apply:

Moderate Turbulence. There may be moderate changes in aircraft attitude and/or altitude, but the aircraft remains under positive control at all times - usually, small variations in air speed - changes in accelerometer readings of 0.5g to 1.0g at the aircraft's centre of gravity - difficulty in walking - occupants feel a strain against seat belts - loose objects move about.

Severe Turbulence. Abrupt changes in aircraft attitude and/or altitude - aircraft may be out of control for short periods - usually, large variations in air speed - changes in accelerometer readings greater than 1.0g at the aircraft's centre of gravity - occupants are forced violently against seat belts - loose objects are tossed about.

GEN 3.5 METEOROLOGICAL SERVICES

1. METEOROLOGICAL AUTHORITY

1.1 Meteorological services for civil aviation in Australia and its territories are provided by the Australian Bureau of Meteorology (BoM).

Postal Address:

Director of Meteorology
GPO Box 1289
MELBOURNE
VICTORIA Australia 3001

Telegraph Address: METAUST MELBOURNE
Telex Address: AA 30664
Ph: 03 9669 4000
Fax: 03 9669 4699

1.2 **Area of Responsibility**

The area of responsibility of the Australian BoM covers the Australian FIRs and Australian external territories in other FIRs. Meteorological watch for an area or a route is carried out by officers of the BoM by surveillance of all reports for an area or route, with the object of amendment of forecasts and/or the issue of SIGMET and AIRMET advices. Meteorological watch service is provided to the pilot in command through ATS units.

2. METEOROLOGICAL SERVICES

2.1 Meteorological services are provided by officers of the BoM within the types of meteorological offices listed below:

a. **Aviation Weather Centre (AWC)**. AWC is located within the Bureau National Operations Centre (BNOC) at Melbourne and originates forecasts and warnings for operations above A100 on domestic air routes and for international operations within the Australian region.

b. **Regional Forecasting Centre (RFC)**. RFCs are located at State Capital cities. For aviation requirements, RFCs originate and obtain warnings, forecasts and other relevant information for flights with which they are concerned and maintain a meteorological watch over the aerodromes for which they are responsible.

c. **Defence Weather Service Office (DWSO)**. DWSOs provide forecasts and warnings for at least the local aerodrome. They also supply and display meteorological information and provide briefing and documentation for military aircrew.

d. **Meteorological Watch Office (MWO)**. MWOs are located within all RFCs. They maintain watch over meteorological conditions affecting flight operations in assigned areas and prepare and disseminate SIGMET information relating to these areas.

e. **Meteorological Office (MO)**. MOs provide a range of observing and forecasting functions. In particular, local aviation forecasting services are offered at Cairns and Canberra. The primary role of other Meteorological offices is the taking, recording and transmission of surface and upper air observations. They do not provide meteorological briefing services to pilots, but may assist, if required, in explaining the meaning of terms used in forecasts. With prior notice, some of these offices may be able to assist in arranging to have documentation available.

f. **Airport Meteorological Unit (AMU)**. Currently, the only AMU in Australia is located at Sydney Airport. Its main function is to provide meteorological services for Sydney Airport and support for air traffic services, and users of Sydney Airport. It provides a telephone briefing service only.

g. **Meteorological Support for the Network Coordination Centre (NCC)**. This unit is located within Airservices' NCC to provide meteorological support to the centre.

2.2 Meteorological information is available by telephone and electronic briefing systems from the Network Coordination Centre (NCC) Pilot Briefing Office, located in Canberra. Contact details are:

Airservices Pilot Briefing Office
GPO Box 367
CANBERRA ACT 2601

Ph: +61 2 6268 5062
Fax: +61 2 6268 5033

2.3 METAR, SPECI, TTF and TAF will generally be encoded using the international weather code listed at *Section 13.* When these messages are passed to pilots verbally, limited plain language will be used. See *Section 12.* for other details relating to the decoding of aerodrome weather forecasts.

2.4 **ATS Meteorological Information Service**

The ATS meteorological information service is contained within the Flight Information Service (FIS) described in *GEN 3.3 Section 2.*

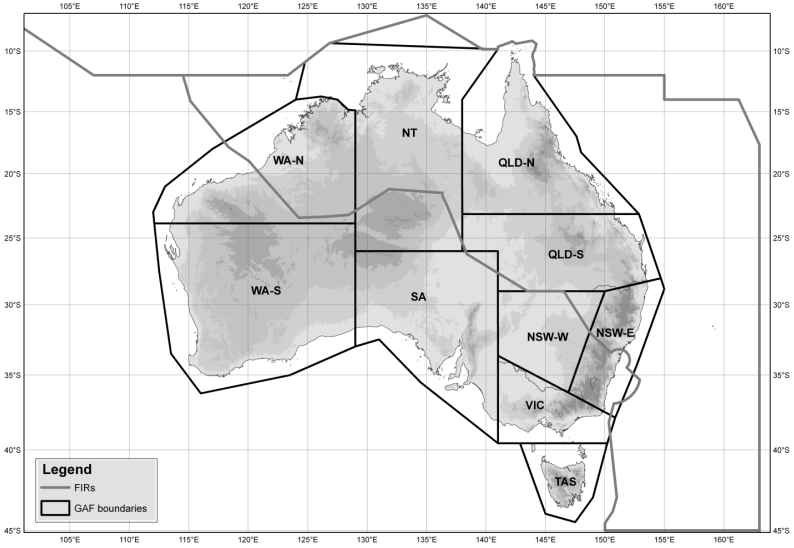
3. AVIATION FORECASTS

3.1 **Interpretation and Use of Forecasts**

The specific value of any of the meteorological elements given in a forecast shall be understood to vary due to the limitations of forecasting techniques and limitations caused by the definition of some of the elements. The recipient shall understand that any specific element in a forecast will be the probably value which the element is likely to assume during the period of the forecast. Similarly, when the time of occurrence or change of an element is given in a forecast, this time shall be understood to be the probably time which is likely during the period of the forecast.

3.2 **Graphical Area Forecasts (GAF) for Operations Surface to 10,000FT**

3.2.1 These domestic forecasts are issued for aircraft operations at or below 10,000FT. They comprise of an image and supporting text detailing the meteorological conditions. More details are provided in Section 18. GAFs are prepared and issued for the 10 areas as detailed on AUS PCA and shown on the following page, at times covering periods set out in *para 18.2*, using abbreviations detailed in *para 18.3*.



Forecasts for critical locations are included in some GAFs. These are Bowral (BWL - NSW-E), Mt Victoria (MVI - NSW-E), Murrurundi (MUI - NSW-E) and Kilmore Gap (KMG - VIC). Aerodrome Weather Reports (AWRs), i.e. METAR/SPECI and AWIS, are only available for MUI and KMG. However, AWRs from Moss Vale (MSV) and Mount Boyce (MTB) typically provide representative observations for BWL and MVI respectively.

A Flight Forecast (text based forecasts) may be issued for any part of a flight for which a routine GAF is not prepared.

3.2.2 These forecasts are available from the ATS automated briefing systems and briefing offices listed in *ERSA GEN*.

3.3 **Forecasts for Operations Above 10,000FT**

3.3.1 These forecasts are issued in chart form for aircraft operations above 10,000FT. They are issued for the area and at times covering the periods set out in *Section 19.* and utilise symbols and abbreviations to depict significant meteorological conditions, and grid-point winds and temperatures as detailed in *para 21.*

3.3.2 They are available from the ATS automated briefing systems NAIPS-AVFAX or charts, ATS briefing offices by telephone or facsimile, and MET offices.

3.3.3 The following upper-air charts and data are issued:

a. significant weather (SIGWX) charts (refer *section 20.*)

b. grid point forecasts (refer *section 21.*)

c. route sector winds and temperatures (refer *section 22.*)

d. wind and temperature charts (refer *section 24.2*).

3.4 **Aerodrome Forecasts**

3.4.1 Aerodrome forecasts (TAF) are a statement of meteorological conditions expected for a specified period in the airspace within a radius of 5NM of the ARP.

3.4.2 The TAF service is typically provided in accordance with the aerodrome's TAF category, the category being determined by the aerodrome type (refer to *para 3.4.3*).

3.4.3 Category description and routine TAF service are as follows:

Category	Aerodrome Type	Routine TAF Service
A	**International.**	Issued 6 hourly, valid for 24 or 30 hours. Commencement times 00, 06, 12 and 18 UTC.
B	**Large:** Passengers > 150 000 or Movements > 75,000	Issued 6 hourly, valid for 12 or 18 hours. Commencement times 00, 06, 12 and 18 UTC.
C	**Medium:** Passengers > 50,000 or Movements > 10,000	Issued 6 hourly, typically valid for 12 hours. Commencement times are 02, 08, 14 and/or 20 UTC, except in Western Australia where commencement times are 04, 10, 16 and/or 22 UTC.
D	**Small:** Aerodromes meeting passenger and movement thresholds, or other operational criteria.	Issued 6 or 12 hourly, valid for up to 12 hours. Commencement times are typically 20 and/or 02 UTC, except in Western Australia where commencement times are typically 22 and/or 04 UTC.

Note 1: Commencement times for C and D TAFs will be one hour earlier in States using Daylight Saving.

Note 2: TAF will be provided upon request for other locations in support of SAR and emergency flights.

Note 3: The content of TAF, and locations for which TAF are issued and their categories, are given in section 15. and 16.

3.5 **Airport Weather Briefings (AWB)**

3.5.1 Airport Weather Briefings (AWB) are provided for Brisbane (YBBN), Melbourne (YMML), Adelaide (YPAD), Perth (YPPH) and Sydney (YSSY) aerodromes only. The AWB is provided to expand on the information provided in the TAF. Once issued, it is not amended or updated.

3.5.2 AWBs are issued as follows. For YSSY, the AWB is issued after each routine TAF issuance, i.e. they are issued four times per day. For the other locations, the AWBs are issued only after issuance of the 18Z and 06Z TAFs, i.e. they are issued twice a day.

3.5.3 The Thunderstorm Potential section gives the probability of thunderstorms occurring within the Terminal Area of major airports. The Outlook section gives a brief description of the weather for the following two or three days based on the Public Weather forecasts. The Other Possibilities section of the AWB includes comments on possibilities, other than thunderstorms, that may occur during the validity of the TAF.

This will particularly include low probabilities of fog. It can include conditions that have a less than 30% chance of occurring, or if there is uncertainty as to the timing of the event.

3.6 **Trend Forecast (TTF)**

3.6.1 TTFs are prepared for the following locations:

Adelaide, Amberley, Brisbane, Darwin, Cairns, Canberra, East Sale, Melbourne, Nowra, Oakey, Pearce, Perth, Sydney, Tindal, Townsville and Williamtown.

Note: The provision of TTF at some aerodromes is limited to routine flights only. METAR/SPECI is normally available outside these hours.

3.6.2 TTF is defined as an aerodrome weather report (METAR/SPECI) to which a statement of trend is appended. The TTF relates to weather conditions expected to affect the aerodrome of origin for the validity period of the forecast. The validity period is normally three hours, commencing at the time of observation. However, where the TTF service is not a 24 hour service, the validity period will be less than three hours during the last three hours of service. The end time of this shortened validity period will be indicated in the remarks section, e.g. USE TAF FOR ARRIVAL AFTER 0800Z.

3.6.3 The TTF supersedes the TAF for its validity period and is the current forecast for pilots of aircraft whose arrival time falls within the validity period. It should be noted that PROB is not used in TTF (but is included in TAF). For aerodromes where the TTF service is not a 24 hour service, the TAF will become the valid forecast from the time indicated in the remarks section of the TTF, e.g. USE TAF FOR ARRIVAL AFTER 0800Z. For pilots whose arrival time falls outside the TTF validity period, the TAF is the current forecast.

3.6.4 Where applicable, TTF replaces TAF and present weather in VOLMET broadcasts.

3.7 **Forecast Abbreviations and Terms**

3.7.1 In reports, forecasts and Graphical Area Forecasts, the amount of cloud will be indicated by the following abbreviations:

SKC	= SKY CLEAR
FEW	= 1 TO 2 OKTAS
SCT	= 3 TO 4 OKTAS
BKN	= 5 TO 7 OKTAS
OVC	= 8 OKTAS
NSC and CAVOK	= NIL SIGNIFICANT CLOUD

3.7.2 The only cloud types that are included in aeronautical code format are towering cumulus (TCU) and cumulonimbus (CB). Forecasts such as GAFs will also include cloud types other than CB and TCU when appropriate.

3.7.3 In the case of CB and TCU cloud, the amount will be indicated in “non-aerodrome” type forecasts as follows:

ISOL	– ISOLATED	– for individual CB and/or TCU over an area with a maximum spatial coverage of up to 50%
OCNL	– OCCASIONAL	– for well-separated CBs and/or TCUs over an area with spatial coverage of 50-75%
FRQ	– FREQUENT	– for CBs and/or TCUs with little or no separation over an area with spatial coverage greater than 75%

3.7.4 **>10KM** is used in the visibility section of GAFs to indicate a visibility greater than or equal to 10KM over the entire area. When weather elements are forecast to reduce the visibility below 10KM, the weather and associated visibilities are given. Note that the visibility remains greater than or equal to 10KM in parts of the area unaffected by those elements.

3.7.5 **TEMPO and INTER** indicate significant variations, from the previously given mean conditions, of a temporary or intermittent nature, expected during the period which is given in the TAF format ddhh/ddhh, e.g. 0108/0114 (from 08 until 14 UTC on the 1st), or the TTF format hhmm/hhmm, e.g. 0630/0900 (from 0630 until 0900 hours UTC).

TEMPO is used when variations from the forecast mean conditions are expected to last for periods of 30 minutes or more but less than 60 minutes in each instance, and which in the aggregate are not expected to cover more than half the given period, i.e: the variations take place sufficiently infrequently such that the mean conditions remain those of the preceding part of the forecast.

INTER is used when variations from the forecast mean conditions are expected to last for periods less than 30 minutes in each instance and which, in the aggregate, are not expected to cover more than half the given period, i.e: the variations take place throughout the period sufficiently infrequently such that the mean conditions remain those of the preceding part of the forecast.

3.7.6 The change groups FM (from) and BECMG (becoming) are used to specify significant changes (both deteriorations and improvements) from the preceding information that are more lasting in nature. FM is used when rapid changes are expected at the specified time, and is given in the TAF format FMddhhmm, e.g. FM301000 (from 1000 UTC on the 30th), or the TTF format FMhhmm, e.g. FM1815 (from 1815 UTC). BECMG is given only in TAF and is used when the changes are expected to develop at a regular or irregular rate during the specified time period, and is given in the format BECMG ddhh/ddhh, e.g. BECMG 3010/3011 (between 10 and 11 UTC on the 30th). In both cases, the new conditions will continue until the end of the validity period of the TAF/TTF, or until replaced by another FM or BECMG.

3.7.7 **PROB%** is used in TAF to indicate an expected 30 or 40% probability of occurrence. PROB is not used in TTF.

3.8 **Cloud Height Datum**

3.8.1 In aerodrome and trend forecasts, cloud heights are given above aerodrome elevations. In other forecasts, heights are expressed:

a. as a flight level; or

b. with reference to mean sea level.

3.9 **Forecast Amendments**

3.9.1 Amendments to forecasts are issued as necessary when changes are expected during the period of validity of a given forecast.

3.10 **Wind Shear Warning Service**

3.10.1 Aircraft reports of wind shear encountered during climb and descent are the primary means of detecting wind shear. The MET forecasting office provides advice, when possible, on the likely duration of the event and forecast low level winds.

3.10.2 Where wind shear has been observed and reported, or when from a consideration of the meteorological situation it is assessed as a risk, then a WIND SHEAR WARNING is issued. Wind Shear Warnings for an event will specify a validity period, and sequence numbers will be assigned to each warning associated with an event. A Wind Shear Warning will be cancelled when wind shear is no longer expected. This service is provided at Cairns, Brisbane, Sydney, Melbourne, Adelaide, Darwin, Perth, Hobart and some Defence locations.

3.10.3 When wind shear is forecast or reported by pilots at an intensity greater than “light”, this information, together with a forecast low level wind, will be included on the ATIS at any of the above aerodromes.

4. METEOROLOGICAL REPORTS

4.1 Aerodrome Weather Reports

Are reports of observations of meteorological conditions at an aerodrome. The reports are generated by electronic recording devices called Automatic Weather Stations (AWS) and may have manual input by approved observers. Manual input of visibility, weather and cloud is for an area within a radius of approximately 5NM of the ARP.

4.1.1 Owing to the variability of meteorological elements in space and time, to limitations of observing techniques and to limitations caused by the definitions of some of the elements, the specific value of any of the elements given in a report shall be understood by the recipient to be the best approximation to the actual conditions at the time of observation.

4.2 Routine Reports (METAR)

Are issued at fixed times, hourly or half hourly, and are made available at preflight briefing or on request to aircraft in flight (METAR/SPECI composition is detailed in *para 12.*).

4.3 Special Reports (SPECI)

Aerodrome weather reports are issued whenever weather conditions fluctuate about or are below specified criteria.

4.3.1 At staffed stations, SPECI reports are issued when either of the following conditions are present:

a. when there is BKN or OVC cloud covering the celestial dome below an aerodrome’s highest alternate minimum cloud base or 1,500FT, whichever is higher; or

b. when the visibility is below an aerodrome’s highest alternate minimum visibility or 5,000M, whichever is greater.

At non-staffed stations with cloud and visibility sensors, SPECI for cloud and visibility based on output from these sensors may also be issued.

4.3.2 SPECI may also be issued under the following conditions:

a. wind:

(1) when mean direction changes by 30° or more, the mean speed before or after the change being 20KT or more; or

(2) when the mean speed changes by 10KT or more, the mean speed before or after the change being 30KT or more; or

(3) when gusts vary by 10KT or more from a mean speed of 15KT or more; or

(4) when a gust exceeds the last reported gust by 10KT or more.

b. other conditions:

(1) when any of the following begins, ends or changes in intensity - thunderstorm, moderate or heavy precipitation, freezing precipitation, duststorm, sandstorm, funnel cloud (tornado or waterspout), low drifting or blowing dust, sand or snow, freezing fog;

(2) at the incidence of any other phenomena likely to be significant to the operation of an aircraft;

(3) when the QNH altimeter setting changes by 2HPA or more;

(4) when the temperature changes by 5°C or more.

4.4 **Takeoff and Landing Reports**

Are provided at aerodromes where a control tower is established. This service may also be provided by a CA/GRS or UNICOM, details of which can be obtained in *ERSA*.

4.4.1 Takeoff and landing reports are included on ATIS, where available, or passed to aircraft reporting taxiing or inbound. Takeoff and landing reports contain, as available, the following:

a. wind velocity, with direction in degrees magnetic;

b. altimeter setting;

c. air temperature (if appropriate to the type of aircraft);

d. low cloud, if significant;

e. visibility, if significant - in metres up to and including 5,000M, above this value in KM. A visibility greater than 10KM is given as “VISIBILITY GREATER THAN 10KM”;

f. additional items, i.e. extent of cloud below the main ceiling, disposition and intensity of rain, reported turbulence area, presence of freezing fog, etc;

g. CAVOK - when the following conditions are observed to occur simultaneously:

(1) visibility of 10KM or more;

(2) Nil significant cloud, i.e: no cloud below 5,000 FT or below the highest 25NM minimum sector altitude, whichever is greater, and no cumulonimbus or towering cumulus at any height; and

(3) Nil significant weather, i.e: none of the weathers listed at *section 13.*
When the term CAVOK is used, the elements d, e and f will not be advised.

4.4.2 The meteorological information provided by Air Traffic Controllers may be obtained by observation of the whole horizon or only the area that will contain the probable flight path of an aircraft. Reports based on AWS data will be limited to wind direction and velocity, QNH and temperature, except when a qualified observer at the aerodrome provides visually observed information.

4.5 **Approved Observers**

4.5.1 “Approved Observers” are officers of the BoM, Air Traffic Controllers, and other persons on the ground approved for the purpose by the BoM and/or the CASA.

4.5.2 For the purpose of observing visibility for takeoff and landing at an aerodrome, the pilot in command shall be deemed an approved observer for that flight.

4.6 **Observing Point**

4.6.1 The location of the observing point for the aerodrome weather reports is such that the meteorological conditions observed within visual range, or interpreted from instruments at that point, are representative of conditions at the aerodrome.

4.7 **Aircraft Weather Reports**

4.7.1 The pilot in command of an aircraft is required to observe and report en route meteorological conditions as prescribed in *para 6.1.4* and, for aircraft equipped with AMDAR, *Section 11.3.* For this purpose, he/she is deemed an approved observer.

4.7.2 In addition to requirements for special AIREP reports concerning MET conditions likely to affect the safety of other aircraft, pilots in command of flights, in areas where ground meteorological reports are scanty, are encouraged to report observations of MET conditions which they consider will assist in the provision of meteorological services.

5. METEOROLOGICAL ADVICES

5.1 **SIGMET**

5.1.1 SIGMET is a concise description of the occurrence or expected occurrence, in an area over which area meteorological watch is maintained, of specified phenomena which may affect the safety of aircraft operations. They are issued for the following phenomena:

Phenomenon	Code Used
Obscured thunderstorms	OBSC TS
Embedded thunderstorms	EMBD TS
Frequent thunderstorms	FRQ TS
Squall line thunderstorms	SQL TS
Obscured thunderstorms with hail	OBSC TSGR
Embedded thunderstorms with hail	EMBD TSGR
Frequent thunderstorms with hail	FRQ TSGR
Squall line thunderstorms with hail	SQL TSGR
Tropical Cyclone	TC
Severe turbulence	SEV TURB
Severe icing	SEV ICE
Severe icing due to freezing rain	SEV ICE (FZRA)
Severe mountain wave	SEV MTW
Heavy duststorm	HVY DS
Heavy sandstorm	HVY SS

Phenomenon	Code Used
Volcanic ash	VA
Radioactive cloud	RDOACT CLD

5.1.2 SIGMET for thunderstorms are only issued when the thunderstorms are:

a) obscured (OBSC) by haze or smoke and cannot be readily seen;

b) embedded (EMBD) within cloud layers and cannot be readily recognised. The area affected would be of the order of at least 3,000^{2}NM over areas that currently receive a GAF and at least 7,200^{2}NM over remaining areas;

c) frequent (FRQ) with little or no separation between adjacent storms and covering more than 75% of the area affected. The area affected would be of the order of at least 3,000^{2}NM over areas that currently receive a GAF and at least 7,200^{2}NM over remaining areas; or

d) squall line (SQL) thunderstorms, i.e: thunderstorms along a line of about 100NM or more in length with little or no separation between clouds.

5.1.3 SIGMETs for thunderstorms do not include reference to cumulonimbus clouds or associated icing and turbulence as their presence is implied.

5.1.4 SIGMETs for tropical cyclones include reference to the height of cumulonimbus tops but no reference is made to thunderstorms and associated icing and turbulence as their presence is implied.

5.1.5 SIGMETs for mountain waves are issued when accompanying downdrafts of 600FT/MIN or more are estimated.

5.1.6 SIGMET for turbulence refers to low-level turbulence associated with strong surface winds, to rotor streaming or to turbulence near jet streams.

5.1.7 Pilots in command of aircraft encountering any of the above phenomena for which a SIGMET has not been issued must report details of the phenomenon in an AIREP SPECIAL.

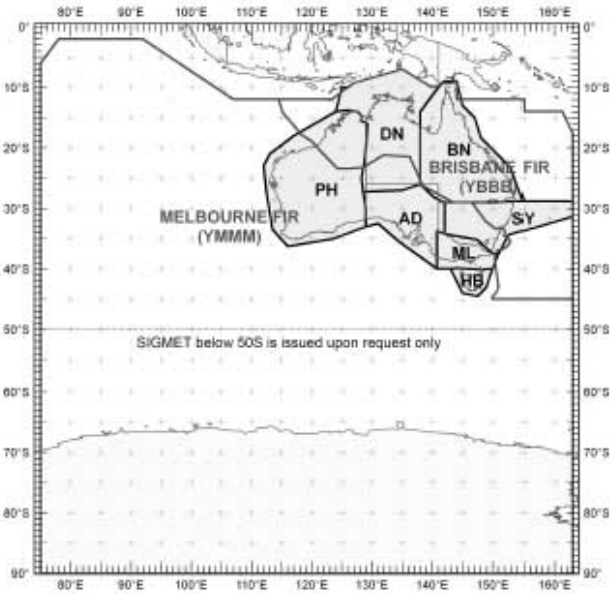
5.1.8 SIGMETs are issued by MET forecasters and disseminated by ATS as an element of ATC initiated FIS to aircraft operating on routes or in areas likely to be affected. This information will normally relate the phenomenon reported to designated reporting points, and where possible will indicate the area in which the phenomenon exists.

5.1.9 SIGMET for volcanic ash cloud and tropical cyclones is issued for the whole of Melbourne and Brisbane FIRs (YMMM and YBBB).

5.1.10 SIGMET for turbulence or icing above 10,000FT are issued for the whole of YBBB, and for YMMM to 50°S, extending throughout YMMM south of 50°S upon request (See diagram below for Australia FIRs).

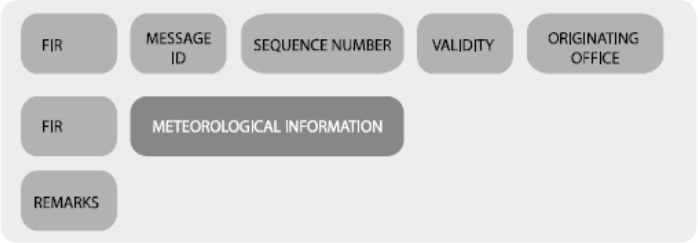
5.1.11 SIGMET for thunderstorms are issues for the whole of YBBB, and YMMM to 50°S.

5.1.12 SIGMET for phenomena at and below 10,000FT (other than thunderstorms, tropical cyclones and volcanic ash) are issued for the shaded area shown below and the remainder (including south of 50°S) upon request.



5.2 SIGMET Format

5.2.1 The format for SIGMET is shown below:



5.2.2 FIR gives the abbreviation of the Flight Information Region (YMMM or YBBB) for which the SIGMET is issued.

5.2.3 The message identifier is SIGMET.

5.2.4 The three character sequence number (e.g. A01) consists of:

a. A single alpha character that will be assigned to the SIGMET event (e.g. severe icing). This character will be used for any subsequent SIGMETs issued for that event within the FIR. There can be two Australian SIGMETs current with the same alpha character simultaneously, one for each FIR (refer examples at *5.2.13*).

b. A two digit number, being a sequential count of the number of SIGMETs issued for the event within the FIR.

5.2.5 The validity period is given in the format DDHHMM/DDHHMM where DD is the day of the month and HHMM is the time in hours and minutes UTC. The period of validity should not be more than six hours for VA and TC SIGMET, and not more than four hours for other phenomena.

5.2.6 The originating office gives the ICAO location indicator for the BoM off issuing the SIGMET, i.e. one of the following:

YPRM	Adelaide
YPRF	Perth
YBRF	Brisbane
YSRF	Sydney
YPDM	Darwin
YMRF	Melbourne

YMHF	Hobart
YMMC	Aviation Weather Centre Melbourne

5.2.7 FIR gives the code and full name of the Flight Information Region for which the SIGMET is issued.

5.2.8 The meteorological information provides the following:

a) type of phenomenon

b) phenomenon observed or forecast

c) location, both horizontal and vertical extent

d) movement or expected movement

e) expected change in intensity

f) forecast position at the end of the validity period or at the OBS + 6HR position (only for VA).

Note 1: the polygon given is the geographic position of the phenomenon at the beginning of the validity period.

Note 2: the first point of a polygon may not be repeated when describing the horizontal extent of an event.

Note 3: the vertical extent of an event will be given in feet AMSL for levels at and below 10,000 feet (e.g. 9,000FT); and in flight levels for levels above 10,000 feet (e.g. FL110).

Note 4: when an event straddles the boundary of the FIRs a SIGMET for each FIR will be issued, and the horizontal extent of the event given in each SIGMET will be the same.

5.2.9 If during the validity period of a SIGMET, the phenomenon is no longer occurring or is no longer expected, the SIGMET is cancelled by issuing a SIGMET with the abbreviation CNL, followed by the sequence number and validity of the SIGMET being cancelled, in lieu of meteorological information. Cancellation SIGMET can be issued for a commencement time in the future.

5.2.10 The Remarks (RMK) line includes the following information:

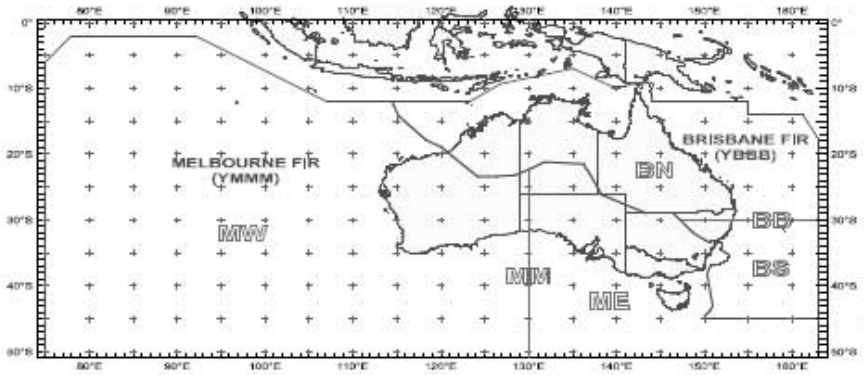
a) a two letter **location designator** to provide a quick reference on the general location of the phenomenon

b) **reference** to any SIGMET in adjoining FIR (YMMM or YBBB) that is current for the same event.

5.2.11 The two letter **location designator** will be one of the following:

BN	for events in YBBB north of 30° south
BS	for events in YBBB south of 30° south
BB	for events in YBBB that cross 30° south
MW	for events in YMMM to the west of 130° east
ME	for events in YMMM east of 130° east
MM	for events in YMMM that cross 130° east

The areas covered by these designators are also shown in the following diagram:



5.2.12 **Reference** to another SIGMET cancels a current SIGMET. SIGMET current for the same event in the adjoining Melbourne or Brisbane FIR (i.e: when the event straddles the boundary of YMMM and YBBB).

5.2.13 **Examples**

The first example is a SIGMET for a turbulence event which is initially confined to YBBB. The second and third SIGMETs are subsequently issued because the extent of the turbulence is expected to move south and straddle the boundary of YMMM and YBBB. Note that the description of the horizontal extent of the event is the same in both SIGMETs. The fourth and fifth SIGMETs cancel C02 and D01 as the intensity of the turbulence has weakened and no longer requires a SIGMET.

Example of a SIGMET for turbulence which is initially confined to YBBB.

1. YBBB SIGMET C01 VALID 100800/101200 YBRF-YBBB BRISBANE FIR SEV TURB FCST WI YMNY-YJAK-YEUO-YTHY SFC/9000FT MOV S 15KT NC
RMK: BN

Examples of SIGMETs issued when the turbulence straddles the boundary of YMMM and YBBB.

2. YBBB SIGMET C02 VALID 101200/101600 YBRF-YBBB BRISBANE FIR SEV TURB FCST WI YARY-YTIB-YWAG-YEMG 2000/9000FT MOV S 15KT WKN
RMK: BN SEE ALSO YMMM C01

3. YMMM SIGMET C01 VALID 101200/101600 YSRF-YMMM MELBOURNE FIR SEV TURB FCST WI YARY-YTIB-YWAG-YEMG 2000/10000FT MOV S 15KT WKN
RMK: ME SEE ALSO YBBB C02

Examples of cancelling SIGMETs

4. YBBB SIGMET C03 VALID 101500/101600 YBRF-YBBB BRISBANE FIR CNL SIGMET C02 101200/101600
RMK: BN

5. YMMM SIGMET C02 VALID 101500/1600 YSRF
YMMM MELBOURNE FIR CNL SIGMET C01 101200/101600
RMK: ME

5.2.14 Graphical representations of text SIGMETs are also available in NAIPS Flight Briefing. The polygon shown is the geographical position of the phenomenon at the beginning of the validity period. This product is intended for situational awareness, and the text SIGMET should be used for flight planning purposes. Coverage of this product is limited to those areas in the Australian FIRs given in sections *5.1.9, 5.1.10 and 5.1.11.*

5.2.14.1 The following three graphics will be automatically generated and issued every 10 minutes and when a text SIGMET is issued:

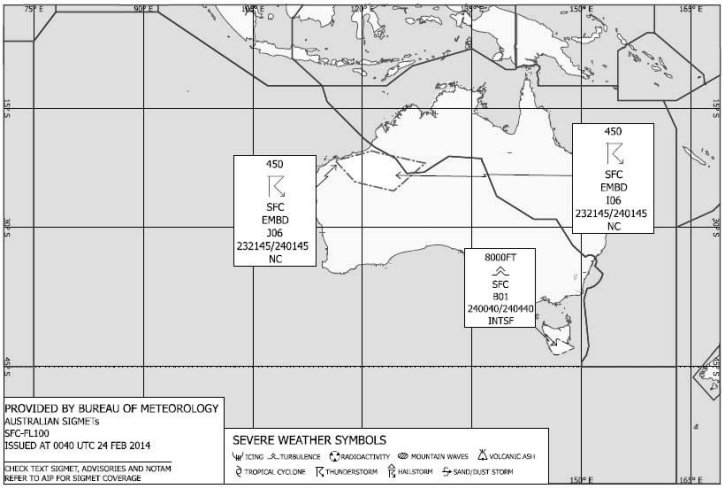
a) Low level SIGMETs (affecting airspace below FL100);

b) High level SIGMETs (affecting airspace above FL100); and

c) All SIGMETs

When the vertical extent of a phenomenon crosses FL100, the SIGMET will be shown in all three graphics. The graphics will be issued even if there are no text SIGMETs current.

5.2.14.2 A graphical example is given below. The associated text SIGMETs are also given.



1. YMMM SIGMET B01 VALID 240040/240440 YMHF - YMMM MELBOURNE FIR SEV TURB FCST WI LRP-LKEC-4300S 14900E-SEC-YMSY SFC/8000FT STNR INTSF
RMK: ME

2. YMMM SIGMET J06 VALID 232145/240145 YPRF-YMMM MELBOURNE FIR EMBD FCST WI S2500 E12400-S2350 E11840-S2100 E11600-S1958 E12100-S2130 E12820 TOP FL450 STNR NC
RMK: MW SEE ALSO YBBB I06

3. YBBB SIGMET I06 VALID 232145/240145 YPRF-YBBB BRISBANE FIR EMBD TS FCST WI S2500 E12400-S2350 E11840-S2100 E11600-S1958 E12100-S2130 E12820 TOP FL450 STNR NC
RMK: BN SEE ALSO YMMM J06

5.2.14.3 A decode of the information in the western-most box given in the graphic above as follows:

Symbol	Description
450	Upper limit of SIGMET (FL450)
	Phenomenon symbol (Thunderstorm)
SFC	Lower Limit of SIGMET (Surface)
EMBD	Thunderstorm descriptor (Embedded)
J06	SIGMET number
232145/240145	SIGMET validity
NC	Expected change in intensity (No change)

5.2.14.4 A full decode of the phenomenon symbols used in these images can be found at *section 23.*

5.2.14.5 There will be multiple SIGMETs displayed for the one phenomenon when an extended (EXTD) SIGMET is first issued and the previous SIGMET (for the same phenomenon) is yet to expire; when a NEW SIGMET is first issued in response to a significant change to an event given in a previous SIGMET, and the previous SIGMET is yet to be cancelled; and when a SIGMET includes a second forecast location.

5.2.14.6 If a text SIGMET cannot be rendered graphically, it will be displayed in text format on the graphic.

5.3 AIRMET

5.3.1 AIRMET information concerns the occurrence or expected occurrence, in an area over which meteorological watch is being maintained, of one or more of the following phenomena when the phenomena have not been included in a current GAF.

Weather Element/ Phenomenon	Criteria
Visibility	– Widespread areas of visibility of less than 8,000M over an area of at least 3,000NM^2; or – Visibility of less than 5,000M in areas of high traffic density
Cloud	– Widespread areas of cloud coverage of BKN or OVC below 1,500FT AGL over an area of at least 3,000NM^2; or – Cloud coverage of BKN or OVC below 1,000FT AGL in areas of high traffic density; or – Any cumulonimbus or towering cumulus cloud
Weather	– Isolated and occasional thunderstorms (with and/or without hail); or – Moderate icing (not issued separately when icing occurs in convective clouds); or – Moderate turbulence (not issued separately when turbulence occurs in convective clouds); or – Moderate mountain waves
Freezing Level	– Significant change in freezing level (change of 2,000FT or more)

5.3.2 AIRMET information, which concerns phenomena of a lesser degree of severity than SIGMET information, is given to aircraft operating at or below 10,000FT.

5.3.3 AIRMET information is issued by MET forecasters and disseminated by ATS as an element of ATC initiated FIS, to aircraft operating on routes or in areas likely to be affected. It will indicate the locality or area in which the phenomena exist or are expected to exist.

5.3.4 Pilots in command who encounter any of the above phenomena, which have not been notified by a forecast or an AIRMET advice, should report the details by SHORT AIREP.

Note: AIRMET information is additional to SIGMET information, which is issued to all aircraft types.

5.3.5 AIRMET Format

The coding format of an AIRMET will mostly follow the *ICAO Annex 3* format, including the following specifics:

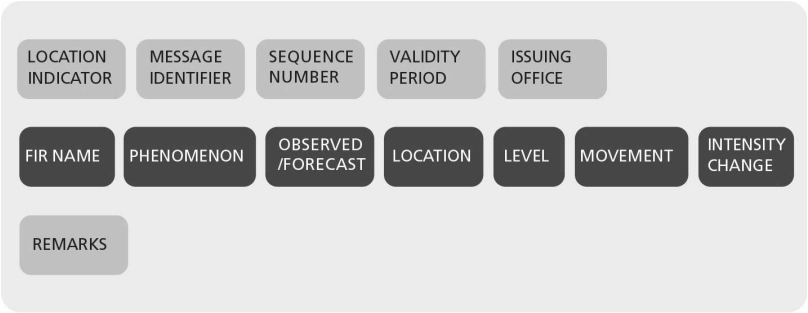
(1) two digit number providing sequential count of the number of AIRMET issued per FIR since 0001UTC in the day concerned

(2) The validity period of an AIRMET shall not exceed 4 hours; and

(3) Inclusion of a remark ('RMK') line, to list the identifiers of GAFs that are impacted by the AIRMET. In addition, 'SEE ALSO YXXX will be included when cross-referencing of AIRMET messages is required to any matching AIRMET in the other FIR.

5.3.6 AIRMET Structure

The structure of an Australian AIRMET is shown as follows:



5.3.6.1 Location Indicator

ICAO location indicator of the Australian Flight Information Region (YMMM or YBBB) for which AIRMET is issued.

5.3.6.2 Message ID

The message identifier is "AIRMET"

5.3.6.3 Sequence Number

A two-digit sequence number corresponding to the number of AIRMET messages issued within a FIR since the last 0001UTC, commencing at 01.

5.3.6.4 Validity period

The validity period is given in the format DDHHMM/DDHHMM, where DD is the day of the month and HHMM is the time in hours and minutes in UTC.

5.3.6.5 Issuing Office

The issuing office gives the ICAO indicator for the BoM office issuing the AIRMET, i.e. one of:

YPRM	Adelaide
YMRF	Melbourne
YBRF	Brisbane
YPDM	Darwin
YPRF	Perth
YMHF	Hobart
YSRF	Sydney

5.3.6.6 FIR

The abbreviation and full name of the Flight Information Region for which the AIRMET is issued.

5.3.6.7 Phenomenon

The description of the phenomenon consists of a qualifier and a phenomenon abbreviation.

5.3.6.8 Observed/Forecast

Indication of the element Observed or Forecast OBS [AT <GGggZ>] or FCST

5.3.6.9 Location

The location of the phenomenon can be depicted as a single location, where <CCCC> is an approved PCA location or it can be depicted as an area bounded by a series of PCA locations or coordinate points.

5.3.6.10 Level

The vertical extent of the phenomenon.

5.3.6.11 Movement

Movement or expected movement, where the direction is given with reference to one of the 16 compass radials and speed is given in knots (KT). The abbreviation STNR (stationary) is used if no significant movement is expected.

5.3.6.12 Intensity Change

The expected evolution of the phenomenon's intensity is indicated by one of the following abbreviations:

INTSF: intensifying

WKN: weakening

NC: no change

5.3.6.13 Remark

The remark (RMK) line includes additional information regarding an AIRMET message, such as:

- list of GAF identifiers the AIRMET message applies to; and/or
- cross-referencing AIRMET messages when a phenomenon straddles the FIR boundary;
- any additional information deemed necessary.

5.3.6.14 In addition to the above, AIRMETs have the following procedural/format requirements:

(i) AIRMETs will not be issued to notify of improvements to weather in GAFs (corrected GAFs can be issued);

(ii) AIRMETs can be issued per GAF or per phenomena (Note: when crossing FIR boundary a separate AIRMET is issued for each FIR) at the forecaster's discretion; and

(iii) An AIRMET will be cancelled when the phenomenon for which the AIRMET has been issued is included in the valid GAF(s) even if the commencement of the AIRMET is in the future.

(iv) If during the validity period of an AIRMET, the phenomenon is no longer occurring or is no longer expected, the AIRMET is cancelled by issuing an AIRMET with the abbreviation CNL, followed by the sequence number and validity of the AIRMET being cancelled. Cancellation AIRMET can be issued for a commencement time in the future.

5.3.7 **AIRMET EXAMPLES**

a) AIRMET for fog
YMMM AIRMET 01 VALID 231400/231800 YSRF –
YMMM MELBOURNE FIR SFC VIS 0300M (FG) FCST WI YORG – KIAN – YBOM – YSCN SFC/0600FT STNR NC
RMK: GAF NSW-E

b) AIRMET for thunderstorms
YMMM AIRMET 02 VALID 190530/190930 YPRM –
YMMM MELBOURNE FIR ISOL TS OBS AT 0525Z WI YCFH - YMRE - YCBP - YALA TOP ABV 10000FT MOV S 05KT NC
RMK: GAF SA

c) AIRMET for Melbourne FIR:
YMMM AIRMET 06 VALID 230800/231200 YSRF –
YMMM MELBOURNE FIR MOD TURB FCST WI YCTM – YBIA – YGFN – YSNW SFC/8000FT MOV E 05KT NC
RMK: GAF NSW-E SEE ALSO YBBB 10

d) AIRMET for Brisbane FIR:
YBBB AIRMET 10 VALID 230800/231200 YSRF –
YBBB BRISBANE FIR MOD TURB FCST WI YCTM – YBIA – YGFN – YSNW SFC/8000FT MOV E 05KT NC
RMK: GAF NSW-E SEE ALSO YMMM 06

e) AIRMET for change to freezing level
WAAU21 ASRF 030638
YBBB AIRMET 03 VALID 030656/031056 YSRF-
YBBB BRISBANE FIR FZ LVL OBS WI YBOM - YSWG - YSDU - YSCO
8000FT STNR NC
RMK: GAF NSW-E

f) Cancel AIRMET for Example b)
YMMM AIRMET 07 VALID 190830/190930 YPRM –
YMMM MELBOURNE FIR CNL AIRMET 02 190530/190930
RMK: GAF SA

5.4 **Volcanic Activity**

5.4.1 **General.** Many volcanoes to the North and East of Australia are active. This activity is monitored by local authorities, pilots and by the Darwin Volcanic Ash Advisory Centre (VAAC) operated by the Bureau of Meteorology. During reported activity, the following procedures will be adopted (pilots should be aware that a volcano can erupt without notice):

a. **Notification of Airborne Volcanic Ash Clouds.** During flight planning, pilots of aircraft proceeding towards known areas of volcanic activity will be issued current NOTAM and SIGMET information. The Darwin VAAC will issue a "Volcanic Ash Advisory" message containing the following information:

(1) VA ADVISORY

(2) DTG (UTC year/month/day/time of issue)

(3) VAAC (name of issuing centre)

(4) VOLCANO (volcano name and IAVCEI reference number)

(5) PSN (coordinates of volcano in degrees and minutes)

(6) AREA (State or region of ash)

(7) SUMMIT ELEVATION (AMSL in metres or feet)

(8) ADVISORY NR (year and incrementing number for volcano)

(9) INFO SOURCE (free text, e.g. AIREP)

(10) AVIATION COLOUR CODE (red, orange, yellow, green, unknown or nil)

(11) ERUPTION DETAILS (summary of the eruption)

(12) OBS VA DGT (UTC day & time of observation of ash)

(13) OBS VA CLD (horizontal & vertical extent of observed or estimated ash cloud; and direction and speed of movement of ash cloud)

(14) FCST VA CLD +6HR (Day/Time UTC of forecast; horizontal & vertical extent of forecast ash cloud)

(15) FCST VA CLD +12HR (Day/Time UTC of forecast; horizontal & vertical extent of forecast ash cloud)

(16) FCST VA CLD +18HR (Day/Time UTC of forecast; horizontal & vertical extent of forecast ash cloud)

(17) RMK (NIL or free text)

(18) NXT ADVISORY (Date and Time UTC)

An example of this message is shown at *Section 24.*

Prolonged Volcanic Activity. In conjunction with neighbouring States, temporary airspace and airways will be established to avoid hazardous areas, and notified by NOTAM.

5.4.2 **Pilot Reports.** Pilots of aircraft crossing or intending to cross countries in SE Asia and the SW Pacific which promulgate active volcano NOTAM, SIGMET or ADVICES should refer to APPENDIX 1 to this Section.

6. HAZARDOUS WEATHER

6.1 Responsibility

6.1.1 Pilots, meteorologists and ATS cooperate to ensure accurate information is promulgated to assist pilots in the avoidance of hazardous weather, particularly volcanic ash cloud and phenomena associated with thunderstorms.

6.1.2 Meteorologists are responsible for the observation of weather phenomena and forecasting their occurrence, development and movement, in terms applicable to aircraft operations.

6.1.3 ATS is responsible for distributing reports of hazardous meteorological conditions to pilots as a part of the Flight Information Service. ATS also makes visual and limited radar weather observations for the information of meteorologists and pilots, and is responsible for relaying pilot weather reports to the BoM. At some locations, ATS may supplement weather advice with weather radar data. Details are given at *GEN 3.3 Section 2.13.*

6.1.4 The pilot must advise ATS promptly of any hazardous weather encountered, or observed either visually or by radar. When practicable, observations should include as much detail as possible, including location and severity. Hazardous weather includes, in particular, thunderstorms, severe turbulence, hail, icing, line squalls, and volcanic ash cloud.

6.1.5 Pilots are responsible for the safety of their own aircraft using advices and clearances passed by ATS and information obtained from their own visual or airborne radar observations. Outside controlled airspace all hazardous weather avoidance action is the sole responsibility of the pilot.

D

6.2 Wind Shear - Pilot Reporting

6.2.1 Wind shear encountered by aircraft must be reported by pilots to ATS as aircraft following may not have the performance required to recover from the same wind shear encounter. The wind shear may also be increasing in intensity, making flight through the wind shear more dangerous for following traffic.

6.2.1.1 Due to cockpit workload, reports may be initially reported as WIND SHEAR ESCAPE and a full report provided when workload allows.

6.2.1.2 The full report must include:

a. an assessment of the intensity as follows:

(1) light - shear causing minor excursions from flight path and/or airspeed;

(2) moderate - shear causing significant effect on control of the aircraft;

(3) strong - shear causing difficulty in keeping the aircraft to desired flight path and/or airspeed; or

(4) severe - shear causing hazardous effects to aircraft controllability; and

b. a factual plain language report regarding airspeed/ground speed changes (gain or loss) or undershoot/overshoot effects; and

c. the altitude or altitude band at which the adverse effect was experienced; and

d. where practicable, other relevant information such as significant changes in wind direction and/or speed may be included.

6.2.2 At non-controlled aerodromes, the report should also be broadcast to all aircraft on the CTAF and should include the name of the aerodrome.

6.2.3 The responsibility to continue an approach to land, or to takeoff, following notification of low level wind shear rests with the pilot in command.

7. AUTOMATIC METEOROLOGICAL BROADCASTS

7.1 Routine broadcasts of selected operational meteorological information for use by aircraft in flight are made from suitable locations using discrete ground-to-air frequencies.

7.2 Automatic En Route Information Service (AERIS)

7.2.1 The AERIS continuously broadcasts METAR/SPECI and TTF (where available) from a network of VHF transmitters installed around Australia. Details of transmitter sites, frequencies and locations for which meteorological information is provided are at *ERSA GEN-FIS*.

7.3 **VOLMET**

7.3.1 VOLMET broadcasts are prefixed by the designator "VOLMET" and may contain:

a. METAR/SPECI or Trend Forecast (TTF) when available, and

b. advice regarding the availability of SIGMET.

7.3.2 Individual VOLMET broadcasts will not exceed five (5) minutes duration.

7.3.3 Cloud types, excepting cumulonimbus, will not be included in VOLMET broadcasts.

7.3.4 Reference to the need to amend the current aerodrome forecasts is not included in VOLMET broadcasts of trend forecasts. Specific information regarding VOLMET broadcasts is detailed in the following table:

Location Hours (UTC) (1)	**Callsign** (2)	**FREQ (kHz)** (3)	**Sequence** (4)	**Form** (5)	**Contents (Note)** (6)	**Remarks** (7)
Alice Springs H24	Australian	6676 11387	00 - 05 and 30 - 35	TTF TTF TTF TTF TTF TTF TTF TTF	Sydney Brisbane Cairns Townsville Melbourne Adelaide Darwin Perth	Plain language

Note: If time permits, additional information will include the availability of SIGMET. Should time not permit transmission of all content, deletions will be in reverse order of transmission.

7.4 **Aerodrome Weather Information Service (AWIS) and Weather and Terminal Information Reciter (WATIR)**

7.4.1 AWIS and WATIR provide actual weather conditions via telephone and, at specified locations, broadcast. Most broadcasts are continuous (updated every minute) but some (as indicated in *ERSA*) must be activated by a press-to-talk (PTT) pulse. AWIS provides information from the AWS. WATIR combines the AWS information with additional terminal information from the airport operator.

7.4.2 Basic AWSs provide wind direction and speed, temperature, humidity, pressure setting and rainfall. Advanced AWSs provide automated cloud and visibility and some AWSs also provide additional present weather fields (for example FG and TS).

7.4.3 AWIS will provide some of the following information:

a. Message identifier e.g. “AWS AERODROME WEATHER” OR “AUTOMATED WEATHER INFORMATION SERVICE”.

b. station identifier as a plain language station name,

c. wind direction in degrees Magnetic and speed in Knots,

d. altimeter setting (QNH),

e. temperature in whole degrees Celsius,

f. cloud below 10,000FT*,

g. visibility*,

h. dew point in whole degrees Celsius,

i. RH,

j. RVR at selected locations ^,

k. rainfall over the previous 10 minutes, and

l. present weather information*.

*See *sub-sections 12.8, 12.13 and 12.14* for information on automated visibility, weather and cloud output.

^See ERSA FAC for aerodrome specific details.

7.4.4 AWIS and WATIR information is considered to be automated “real time” data. When information is not available from an installed sensor, either because of invalid data or an inoperative sensor, the relevant element of the broadcast will be identified as “[ELEMENT NAME] CURRENTLY NOT AVAILABLE”; e.g. “TEMPERATURE CURRENTLY NOT AVAILABLE”. When the information from the AWIS is determined as being corrupt, incomplete, or not available, a NOTAM will be issued.

7.4.5 The integrity of the barometric system in BoM-accepted AWSs is such that they are an approved source of QNH. Therefore, QNH from these AWSs may be used in accordance with *ENR 1.5 section 5.3*.

7.4.6 When AWIS information is available after hours (AH), and the aerodrome is uncontrolled, reference will be made to its availability in ATIS ZULU.

7.4.7 The availability of AWIS and WATIR is contained in *ERSA FAC* and *ERSA MET.*

8. METEOROLOGICAL BRIEFING

8.1 A limited elaborative briefing service is available from Regional Forecasting Centres (RFCs) and Meteorological Offices (MOs) on the following telephone numbers (briefing may not be available 24/7):

Adelaide	08 8366 2617	Hobart	03 6221 2026
Canberra	02 6249 6579	Melbourne	03 9669 4850
Cairns	07 4034 9437	Perth	08 9263 2255
Brisbane	07 3229 1854	Sydney	02 9296 1527
Darwin	08 8920 3814		

Note: Conversations on these briefing services are recorded.

9. AVAILABILITY OF METEOROLOGICAL DOCUMENTATION

Available documents include the following:

a. surface synoptic charts,

b. forecast medium and upper level charts,

c. satellite imagery,

d. grid point winds and temperatures,

e. route sector winds and temperatures,

f. significant weather charts, and

g. Graphical Area Forecasts (GAFs), and

h. TAFs and TTFs.

10. NOTIFICATION REQUIRED FROM OPERATORS

10.1 **For International Operations**

Forecast Required	Availability	Notice Required
a)Preliminary operational planning (to assist in the general planning of the following day's operations)	3 - 24 hours before EOBT	8 hours
b)Preflight	At least 3 hours before EOBT	8 hours
c)En route	As arranged	

10.2 **For Domestic Operations**

10.2.1 All meteorological information issued on a routine basis and held by the briefing office concerned is available without prior notice. Eight (8) hours notice is required for non-routine forecasts.

10.3 **Forecasts for Flights - Valid Graphical Area Forecasts (GAFs) not Available**

10.3.1 Flight Forecasts required for flights for which valid GAFs are not available will be supplied subject to the request being received three (3) days prior to departure and forecaster capacity to provide the service.

Note: Every effort will be made to expedite MET documentation for Mercy and SAR flights.

10.3.2 Notification should include part or all of the following information as applicable:

a. departure aerodrome and EOBT;

b. destination and ETA;

c. route;

d. ETAs and EOBTs for intermediate stopping places;

e. heights for upper winds and temperatures;

f. time documentation required

11. AIREP

11.1 **AIREP Special**

11.1.1 A pilot in command should make a special AIREP report when requested, or as soon as practicable after encountering any SIGMET phenomenon (refer *para 5.1.1*), or any other MET condition which is likely to affect the safety or markedly affect the efficiency of other aircraft.

11.1.2 The estimate of next position may be omitted from an AIREP SPECIAL report except where the report is made at a planned position reporting point.

11.1.3 In the climb-out and approach phases, a pilot in command must report meteorological conditions, not previously advised, which are likely to affect the safety of aircraft operations.

11.2 **Short AIREP**

11.2.1 Short AIREP should be provided by pilots when requested.

ATS should be advised when a pilot encounters:

a. Cloud - unexpected significant variations to amount, base or tops (by reference to QNH);

b. Visibility - reduced due fog, mist, hail, rain, snow or dust, or improvement observed;

c. Wind - significant variation to forecast;

d. Other Phenomena - incidence of severe or moderate turbulence, thunderstorms, moderate or severe icing, hail, line squalls, standing waves or winds of 40KT or more within 2,000FT of ground level.

11.2.2 The report comprises:

a. callsign of the ground station;

b. callsign of the aircraft;

c. Short AIREP;

d. position and time; or

e. EN ROUTE (departure point) TO (destination);

f. weather report.

11.3 **AIREP Section 3 Required from Operators**

11.3.1 AIREP meteorological information reporting points are indicated by the symbols ▲ and △ on en route charts (ERC-L and ERC - H). Meteorological information, if required, is provided by AMDAR equipped aircraft at these reporting points by the inclusion of AIREP Section 3 (see *GEN 3.4* APPENDIX 2). Additionally, whenever conditions experienced are significantly above or below those forecast, AIREP including Section 3 should be submitted by AMDAR equipped aircraft. (See also *Section 4.7 and ENR 1.1 para 2.10.3.1*).

11.3.2 All AMDAR equipped flights are required to transmit meteorological information from MET reporting points shown on charts which are used in lieu of Australian AIP aeronautical charts.

12. AERODROME WEATHER AND FORECAST DECODE

12.1 Identifier

12.1.1 METAR is used to identify routine observations (hourly or half hourly) when conditions are at or above specified levels. SPECI is used to identify special observations; i.e: observations when conditions are below specified criteria, or when there have been significant changes since the previous report. SPECI is also used to identify observations reported 10 minutes following an improvement to above SPECI conditions.

12.1.2 TTF METAR or TTF SPECI is used to identify METAR or SPECI to which a trend forecast is appended (see also *para 3.6.2*). The use of this identifier is restricted to those locations that issue Trend Forecasts.

12.1.3 TAF, TAF AMD, TAF COR, TAF... CNL, TAF... and NIL are used to identify Aerodrome Forecast, Amended Aerodrome Forecast, Corrected Aerodrome Forecast, Cancelled Aerodrome Forecast, Nil Aerodrome Forecast and Provisional Aerodrome Forecast respectively.

Note: Message formats can be found at Section 14. for METAR/SPECI, Section 15. for TAF, and Section 17. for TTF.

12.2 Location

12.2.1 The location is indicated by the ICAO location indicator, the place name, or the approved abbreviation.

12.3 Origination Time

12.3.1 The origination date/time of TAF and METAR/SPECI is given in UTC using a six figure group followed by the abbreviation Z.

12.4 Validity Period

12.4.1 The validity period of a TAF is given in UTC in the format ddhh/ddhh, where ddhh is the day of month and hour, e.g: 0100/0206 is a validity period from 00 UTC on the 1st until 0600 UTC on the 2nd.

12.5 AUTO

12.5.1 This group will be included when the METAR/SPECI contains only automated observations, which may include visibility, present weather, and cloud.

12.5.2 When the Automatic Weather Station (AWS) includes sensors for horizontal visibility, present weather and cloud, the AUTO report will include the parameters from these sensors in the "body of the message" (where previously only manually observed visibility, present weather and cloud data were included).

Note: Pilots should exercise caution when interpreting automated visibility, present weather and cloud information as data from these instruments may not be equivalent to human observations.

12.6 **Wind**

12.6.1 Wind direction is rounded to the nearest 10 degrees and is given in three (3) figures relating to True North.

12.6.2 Wind speeds are given in two (2) figures.

12.6.3 When the wind is calm, the group is encoded as 00000KT.

12.6.4 A variable wind direction is given as VRB and is used when the reporting or forecasting of a mean wind direction is not possible, such as in the following conditions:

a. Light winds (3KT or less).

b. When forecasting a single direction is not possible; e.g. with a tropical cyclone, or with the passage of a thunderstorm, in which case the forecast wind might be, for example, VRB60KT.

12.6.5 Maximum wind speed is given only when it is 10KT or more greater than the mean wind speed. It is indicated by the letter G which is followed by the maximum wind speed; e.g. 280°, mean speed 20KT, maximum speed 35KT, is given as 28020G35KT

12.6.6 At some aerodromes, an additional wind group will be given in METAR/SPECI when the direction varies by 60° or more during the sampling period (normally 10 minutes). The group gives the extreme range of directions in clockwise order, e.g. 360V090.

12.7 **Visibility**

12.7.1 In TAF, the prevailing visibility (the greatest visibility covering more than half the aerodrome) is always given.

12.7.2 In METAR/SPECI, if the visibility is not the same in different directions and:

a. the minimum visibility is the prevailing visibility, or

b. if the visibility is fluctuating rapidly, then the minimum visibility is the only information provided.

12.7.3 When the minimum visibility is not the prevailing visibility and the minimum visibility is less than 5,000M, both the prevailing visibility and the minimum visibility will be given. In this case the prevailing visibility is reported first, followed by the minimum visibility including an indicator to show the general direction of the minimum visibility in relation to the observing point (the meteorological station), e.g. the visibility groups 9000 0600N indicate a prevailing visibility of 9,000M and a minimum visibility of 600M to the north.

12.7.4 A visibility of 10KM or more is given by 9999.

12.8 **Automatic Visibility Information**

12.8.1 A report from an AWS with a visibility sensor will include data from this sensor in the body of the report if the report is fully automated (in which case the abbreviation AUTO is also included in the message).

Note: Pilots should exercise caution when interpreting automated visibility information as it may not be equivalent to a human observation. The information is reported as a 10 minute average; and, as it is sourced from a single instrument sampling only a very small parcel of the atmosphere, it may not be representative of the entire airport.

12.8.2 AWS may issue special reports (SPECI) for visibility using data from visibility sensors (where previously only manual observations of visibility could initiate a visibility SPECI).

12.9 **Runway Visual Range (RVR)**

12.9.1 RVR may be reported in SPECI messages from aerodromes with RVR instrumentation.

12.9.2 RVR will be reported in the format **R**DD/VVVVi or **R**DD/VVVV**V**VVVVi where:

a. **R** and **V** are fixed

b. DD gives the runway indicator, e.g. 36

c. VVVV gives the RVR value

d. i gives any distinct upward or downward tendency of the RVR over the averaging period, where i will be either U (upward), D (downward) or N (nil) e.g. R36/0900U

12.9.3 When **R**DD/VVVVi is reported, VVVV is the average RVR. The averaging period is normally the preceding 10 minutes.

12.9.4 **R**DD/VVVV**V**VVVVi is reported when the RVR has varied significantly during the averaging period. VVVV**V**VVVV gives the one-minute mean minimum RVR followed by V followed by the one-minute mean maximum RVR during the averaging period, e.g: R16/0500V1100.

12.9.5 Parallel runways will be distinguished by appending to DD the letter L, C or R indicating the left, centre or right runway, respectively, e.g: R32L/0900.

12.9.6 When the RVR is greater than the maximum value which can be assessed by the system in use, the group VVVV will be preceded by the indicator P, and VVVV will give the highest value which can be assessed, e.g. R32L/P1900.

12.9.7 When the RVR value is assessed to be greater than 2,000 metres, the group VVVV will be reported as P2000, e.g. R32L/P2000.

12.9.8 When the RVR is less than the minimum value which can be assessed by the system in use, the group VVVV will be preceded by the indicator M, and VVVV will give the lowest value which can be assessed, e.g. R32L/M0100.

12.9.9 When the RVR value is assessed to be less than 50 metres, the group VVVV will be reported as M0050 e.g. R32L/M0050.

12.10 **Present Weather**

12.10.1 Present Weather is reported using the codes listed at *Section 13.*

12.10.2 Appropriate intensity indicators and letter abbreviations will be combined in groups of two (2) to nine (9) characters to indicate present weather at, or in the vicinity of, the aerodrome. If more than one form of precipitation is observed, the appropriate letter abbreviations shall be combined in a single group with the first reported being the dominant type of precipitation. In such a group, the intensity shall refer to the total precipitation.

12.10.3 Up to three (3) groups may be used to report present weather.

12.10.4 The intensity of precipitation, blowing dust, sand or snow, dust storm and sand storm will be indicated by the prefix (-) for light, (+) for heavy, and no prefix for moderate.

12.10.5 The qualifier VC will be used to report certain significant weather phenomena in the vicinity (between approximately 8 and 16KM of the ARP) of the aerodrome.

12.11 **Automatic Present Weather Information**

12.11.1 A report from an AWS with a present weather sensor will include data from this sensor in the “body of the report” if the report is fully automated, in which case the abbreviation AUTO is also included in the message. Pilots should exercise caution when interpreting automated present weather information, as it may not be equivalent to a human observation.

Note: Pilots should exercise caution when interpreting automated present weather information, as it may not be equivalent to a human observation.

12.12 **Cloud**

12.12.1 Cloud height is reported in hundreds of feet using three figures; e.g: 700FT is reported as 007.

12.12.2 Cloud amount is reported using the following abbreviations:

FEW = few	= 1 to 2 OKTAS
SCT = scattered	= 3 to 4 OKTAS
BKN = broken	= 5 to 7 OKTAS
OVC = overcast	= 8 OKTAS

12.12.3 Nil cloud is reported as SKC (sky clear). Cloud information is not included in a forecast if the sky is clear.

12.12.4 Cloud information is reported from the lowest to the highest layer or mass in accordance with the following:

a. The lowest layer or mass, regardless of amount.

b. The next layer or mass, covering more than 2 OKTAS.

c. The next higher layer or mass, covering more than 4 OKTAS.

d. Cumulonimbus and/or towering cumulus clouds, whenever observed and not reported in a, b or c above.

12.12.5 Type of cloud is identified only for cumulonimbus and towering cumulus observed at or near the aerodrome. These will be given as CB and TCU respectively. When an individual layer or mass of cloud is composed of cumulonimbus and towering cumulus with a common cloud base, the type of cloud is reported as cumulonimbus only, and the amount shall be reported as the sum of the CB and TCU amounts.

12.12.6 Whenever cumulonimbus cloud is forecast, the degree of associated thunderstorm activity or probability of occurrence is included.

12.12.7 A clear sky will be indicated in a report by SKC.

12.13 **CAVOK**

12.13.1 CAVOK is included in the report (from staffed stations only) or forecast when the following conditions are observed, or forecast to occur, simultaneously:

a. visibility of 10KM or more;

b. Nil significant cloud, i.e. no cloud below 5,000 FT or below the highest 25NM minimum sector altitude, whichever is greater, and no cumulonimbus or towering cumulus at any height; and

c. Nil significant weather, i.e. none of the weathers listed at *Section 13.*

When the term CAVOK is given, the elements visibility, weather and cloud will not be given.

12.13.2 In METAR/SPECI, whenever a total of BKN or more low or middle-level cloud is at or above 5,000FT, and CAVOK has been reported, the cloud amount and base will be given after the RMK indicator.

12.14 **Automatic Weather Stations with Cloud Information**

12.14.1 A report from an AWS with a cloud sensor will include data from this sensor in the body of the report if the report is fully automated (in which case the abbreviation AUTO is also included in the message). The data will be in the same form as manual reports except that:

a. NCD will be reported if no cloud is detected, and

b. there will be no indication of cumulonimbus or towering cumulus.

Note: Pilots should exercise caution when interpreting automated cloud information as it may not be equivalent to a human observation. The information is reported as a 30 minute average (with double weighting given to the last 10 minutes); and, as it is sourced from a single ceilometer sampling only the sky directly overhead, it may not be representative of the skyline.

12.14.2 AWS may issue special reports (SPECI) for cloud using data from cloud sensors (where previously only manual observations of cloud could initiate a cloud SPECI).

12.15 **Significant Variation**

12.15.1 Aerodrome forecasts will include significant changes or variations (indicated by FM, BECMG, INTER and TEMPO) to the previously given conditions when the relevant criteria are met. These relate to improvements as well as deteriorations

12.15.2 The variation groups TEMPO and INTER are used to indicate significant variations of a temporary or intermittent nature. The change groups FM and BECMG are used to specify changes that are more lasting in nature. The indicators are the beginning of a self-contained forecast, except that wind is not included after INTER/TEMPO if it has not significantly changed.

12.15.3 When thunderstorms or reduced visibility due to fog, mist, dust, smoke or sand is forecast, but the probability is assessed at between 30% and 40%, the terms PROB30 or PROB40 are used respectively. INTER and TEMPO may also be used with a PROB for thunderstorms. If greater than or equal to 50% probability id forecast, reference is made to the phenomenon in the forecast itself not by the addition of a PROB statement.

12.15.4 The terms NSW (nil significant weather) and NSC may be included following FM or BECMG to indicate significant improvements expected.

12.15.5 If a TAF or TTF includes a forecast of turbulence, its commencement will be indicated by the abbreviation FM, and its cessation within the forecast coverage will be indicated by the abbreviation TILL. Start and finish times are given in the format ddhhmm (day of month, hour, minute). Turbulence associated with cumulonimbus (CB) and towering cumulus (TCU) clouds is not included in forecast.

12.16 **Temperature**

12.16.1 Aerodrome weather reports contain both air temperature and dewpoint.

12.16.2 Up to four forecast values of air temperature are given, for the times HH,HH+3hours,HH+6hours and HH+9hours, where HH is the time of commencement of the TAF validity period. Users should use linear interpolation to determine the forecast value between these points. The temperature forecasts are prefixed by the letter “T”.

12.16.3 Negative values are indicated by the letter M before the numeral.

12.17 **QNH**

12.17.1 QNH is given in whole hectopascals using four (4) figures.

12.17.2 Observed intermediate values are rounded down. QNH is always given, prefixed by the letter Q; e.g: Q0997.

12.17.3 Up to four forecast values of QNH are given, for the times HH, HH+3 hours, HH+6 hours and HH+9 hours, where HH is the time of commencement of the TAF validity period. Users should use linear interpolation to determine the forecast value between these points. The QNH forecasts are prefixed by the letter “Q”.

12.18 **Supplementary Information**

12.18.1 In METAR/SPECI, supplementary information is used to report the following:

a. **recent weather** (RE) of operational significance, and

b. **wind shear** (WS) information on a takeoff or landing runway.

12.19 **Remarks Section**

12.19.1 **Rainfall**. The remarks section of the report will include rainfall recorded by an automatic rain gauge. The information is in the form RF##.#/###.# where the first three (3) digits after the indicator RF will report the rainfall recorded in the 10 minutes prior to the observation time, and the next four (4) digits report the total rainfall recorded since 0900 local time. Both amounts are expressed in millimetres to the nearest 0.2MM.

Note: In situations of fine droplet precipitation, such as very light drizzle or fine mist situations, there may not be sufficient precipitation recorded to indicate any rainfall in the last 10 minutes. Therefore, pilots should regard automated reports of rainfall as guidance material.

12.19.2 **Plain Language**. Any other significant weather conditions (e.g: an approaching front or visible bushfires) are appended as plain language.

12.20 **Elements Not Available**

12.20.1 A report from a fully automated AWS that does not include information from sensors for visibility, weather, or cloud will report ////, // or ////// respectively in lieu of these parameters.

12.21 **Trend Forecast (TTF)**

12.21.1 At major aerodromes, a statement of trend, valid for three (3) hours from the time of the observation, is appended to the observation. See *sub-section 3.6 and Section 17.* for further details of TTF.

12.22 **Examples**

12.22.1 **Aerodrome Weather Reports**

a. SPECI YMML 092000Z 22012KT 6000 SHRA SCT035TCU 31/20 Q1020 RETS RMK RF02.0/004.0

b. SPECI YBCS 221745Z 23014G29KT 6000 1200NE TSRA FEW040CB BKN100 26/22 Q1003 RMK RF04.0/004.0

c. SPECI YSSY 271915Z VRB01KT 3000 VCFG FEW030 18/17 Q1018 RMK RF00.0/000.0

d. METAR YMOR 100400Z 06013KT 5000 FU 31/08 Q1010 RMK RF00.0/000.0 SKY OBS DUE BUSH FIRE SMOKE

e. SPECI YSCB 141400Z AUTO20008KT 9000 // BKN016 14/11 Q1001 RMK RF00.0/000.0

f. SPECI YMAV 240215Z AUTO 36018G28KT 9999 // NCD 31/10 Q1014 RMK RF00.0/000.0

g. METAR YSBK 241700Z AUTO 15002KT 0900 // ////// 04/04 Q1020 RMK RF00.0/000.0 CLD: SKY MAY BE OBSC

12.22.2 **Trend Forecasts**

a. TTF SPECI YPAD 012200Z 00000KT 5000 DZ OVC005 14/14 Q1025 RMK RF00.4/000.4
FM2200 00000KT 9999 NSW BKN008
FM2300 03005KT 9999 NSW SCT020

b. TTF SPECI YMML 100200Z 05008KT 4000 DZ BKN005 OVC100 16/15 Q1017 RMK RF00.2/000.2 NOSIG

c. TTF METAR YPPH 120500Z 36015KT CAVOK 32/08 Q1014
RMK RF00.0/000.0
FM0630 28025KT 9999 NSW BKN030
INTER 0530/0730 5000 SHRA BKN008

d. TTF METAR YBTL 220730Z 35006KT 9999 FEW050TCU 31/21 Q1005
RMK RF00.0/000.0 DISTANT THUNDER NOSIG

e. TTF SPECI YBTL 240800Z 03010KT 4000 TSRA BKN030CB SCT120 27/24 Q1008 RMK RF00.0/000.0
FM0830 03005KT 9999 SHRA BKN035
INTER 0830/1100 4000 TSRA SCT010 SCT030CB

f. TTF METAR YSCB 140600Z 20008KT CAVOK 14/11 Q1001
RMK RF00.0/000.0 NOSIG
USE TAF FOR ARRIVALS AFTER 0800Z

12.22.3 **Aerodrome Forecasts**

a. TAF YCOM 070635Z 0708/0720 18015KT 9999 FEW005 BKN020
TEMPO 0710/0714 2000 -SHSN BKN005 SCT020
RMK T 03 00 M02 M04 Q 1008 1007 1006 1006

b. TAF YSSY 020435Z 0206/0312 31005KT CAVOK
FM021400 16015KT 8000 SHRA BKN008 SCT030
FM022300 23010KT 9999 NSW SCT030
RMK T 25 21 18 15 Q 1012 1013 1014 1014

c. TAF YSCB 270448Z 2706/2806 33015G28KT 3000 +RA BKN010 OVC100
FM271400 16015KT 8000 SHRA FEW010 SCT040 SCT100
INTER 2710/2714 1000 +TSRA BKN005 SCT040CB
RMK FM270800 MOD TURB BLW 5000FT TILL271300
T 14 13 13 11 Q 1016 1015 1013 1016

d. TAF YMHB 100445Z 1006/1024 14004KT 3500 DZ OVC012
FM101700 VRB02KT 0300 FG
RMK T 12 11 10 10 Q 1018 1019 1020 1019

e. TAF YMML 291645Z 2918/3024 36007KT CAVOK
BECMG 3001/3002 18015KT 9999 -SHRA FEW015 SCT025
FM300900 15005KT CAVOK
PROB30 3016/3022 0500 FG
RMK T 11 12 14 16 Q 1020 1021 1019 1018

13. WEATHER CODE AND TRANSLATION

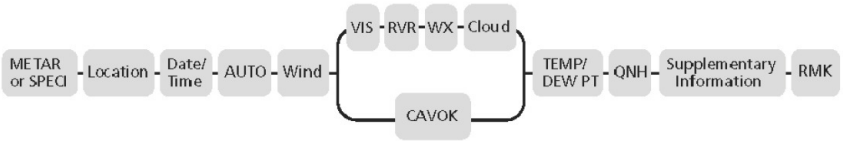
CODE	TRANSLATION
	WEATHER DESCRIPTORS
BC	PATCHES (or PATCHES OF)
BL	BLOWING
DR	DRIFTING
FZ	FREEZING
MI	SHALLOW
SH	SHOWERS (or SHOWERS OF)
TS	THUNDERSTORMS (or THUNDERSTORMS WITH)
PR	AERODROME PARTIALLY COVERED (USED ONLY TO DESCRIBE FG)
	PHENOMENA
BR	MIST
DU	DUST
DS	DUST STORM
DZ	DRIZZLE
FC	FUNNEL CLOUDS
FG	FOG
FU	SMOKE
GR	HAIL
GS	SMALL HAIL PELLETS
HZ	HAZE
IC	ICE CRYSTALS (VERY SMALL ICE CRYSTALS IN SUSPENSION, ALSO KNOWN AS DIAMOND DUST)
PL	ICE PELLETS
PO	DUST DEVILS
RA	RAIN
SA	SAND
SG	SNOW GRAINS
SN	SNOW
SQ	SQUALLS

SS	SAND STORM
UP	UNKNOWN PRECIPITATION TYPE (FROM WEATHER SENSOR)
VA	VOLCANIC ASH

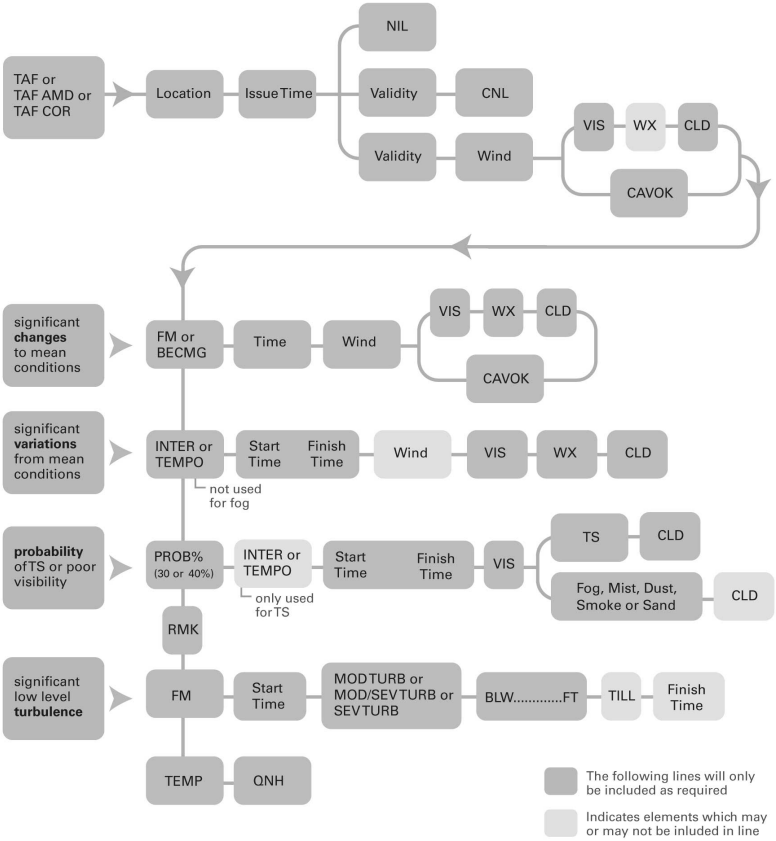
Note 1: Intensity is indicated with precipitation, duststorms and sandstorms. In these cases, the weather code is prefixed by the qualifier - for light and + for heavy. Moderate intensity is indicated by the absence of a prefix.

Note 2: METAR/SPECI may provide an indication of weather in the vicinity (within approximately 8 and 16 KM of the aerodrome reference point). The proximity qualifier VC will be used only in combination with the abbreviations TS, DS, SS, FG, FC, SH, PO, BLDU, BLSA and BLSN.

14. METAR/SPECI (AERODROME WEATHER REPORT) FORMAT



15. TAF - AERODROME FORECAST



Note: Flight planning requirements for TAF can be found at ENR 1.10 para 1.2.5.

16. AERODROMES AND CATEGORIES FOR WHICH TAF WILL BE AVAILABLE

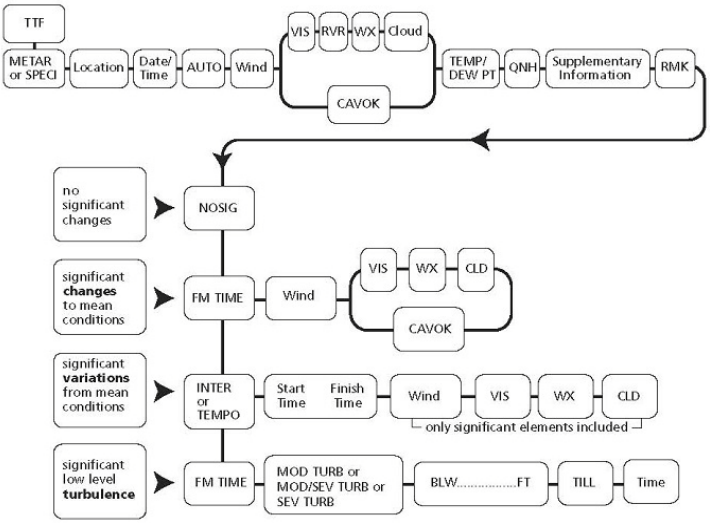
Note: Airfield categories and associated services are contained at para 3.4.3.

Adelaide	A	Brisbane West Wellcamp	C	Coonabarabran	D
Albany	C	Broken Hill	C	Coondewanna	C
Albury	B	Broome	A	Cunderdin	D
Alice Springs	A	Browse Island	D	Curtin/Derby South	B
Amberley (RAAF)	B	Bundaberg	B	Darwin	A
Archerfield	B	Burketown	D	Derby	C
Argyle	D	Busselton	D	Devonport	C
Armidale	C	Bunbury	C	Dubbo	B
Avalon	A	Cairns	A	East Sale (RAAF)	B
Ayers Rock (Yulara)	B	Camden	B	Edinburgh (RAAF)	B
Bairnsdale	D	Canberra	A	Elcho Island (Ngayawili)	D
Ballarat	C	Carnarvon	D	Emerald	B
Ballera Gas Field	D	Ceduna	D	Ernabella (Pukatja)	D
Ballina/Byron Gateway	B	Charleville	C	Esperance	C
Bankstown	B	Christmas Creek	C	Essendon	B
Barimunya	C	Christmas Island	A	Fitzroy Crossing	D
Barrow Island	B	Clermont	D	Flinders Island	C
Bathurst	C	Cloncurry	C	Forrest	C
Bathurst Island (Nguiu)	C	Cobar	D	Fortescue Dave Forrest	C
Bayu Undan	D	Cocos Island	A	Georgetown	D
Bendigo	C	Coen	D	Geraldton	B
Birdsville	D	Coffs Harbour	A	Giles	D
Boolgeeda	C	Coober Pedy	D	Gladstone	B
Bourke	D	Cooktown	D	Glen Innes	D
Brisbane	A	Cooma	C	Gold Coast (Coolangatta)	A

Goulburn	D	Learmonth	A	Mount Magnet	D
Gove	C	Leigh Creek	D	Mudgee	D
Grafton	D	Leinster	C	Mungalalu-Truscott	C
Griffith	C	Leonora	C	Murray Bridge	D
Groote Eylandt	C	Lismore	C	Narrabri	C
Halls Creek	D	Lockhart River	D	Narrandera	D
Hamilton	C	Lombadina	B	Newman	B
Hamilton Island	B	Longreach	C	Ngukurr	D
Hervey Bay	B	Lord Howe Island	A	Norfolk Island	A
Hobart	A	Mackay	B	Normanton	C
Hooker Creek (Lajamanu)	D	Maitland	D	Nowra	B
Horn Island	A	Mangalore	D	Oakey	B
Horsham	D	Maningrida	C	Olympic Dam	C
Hughenden	D	Mareeba	D	Onslow	D
Innisfail	D	Maryborough (QLD)	D	Orange	C
Ivanhoe	D	McArthur River Mine	D	Paraburdoo	B
Jabiru	D	Meekatharra	C	Parafield	B
Jabiru Venture	D	Melbourne	A	Parkes	D
Jandakot	B	Merimbula	C	Pearce (RAAF)	B
Julia Creek	D	Mildura	B	Perth	A
Kalgoorlie	A	Modec Venture	D	Port Augusta	C
Karratha	B	Moomba	C	Port Hedland	A
King Island	C	Moorabbin	B	Port Keats	D
Kingaroy	D	Moree	C	Port Lincoln	B
Kingscote	C	Mornington Island	D	Port Macquarie	B
Kowanyama	D	Moruya	C	Portland	D
Kununurra	C	Mount Gambier	C	Proserpine/ Whitsunday Coast	B
Latrobe Valley	C	Mount Hotham	D	Renmark	D
Launceston	A	Mount Isa	B	Richmond (QLD)	D

Richmond (RAAF)	A	Taree	C	Warburton	D
Rockhampton	A	Telfer	C	Warrnambool	C
Roma	C	Tennant Creek	C	Weipa	C
Rottnest Island	D	Thangool	D	Whyalla	C
Scherger	D	Thargomindah	D	Williamson (MIL)	D
Scone	D	The Granites	D	Williamtown (RAAF)	A
Shark Bay	D	The Monument	D	Wiluna	D
Shepparton	D	Tindal	A	Windorah	D
Solomon	C	Toowoomba	C	Winton	D
Southern Cross	D	Townsville	A	Wollongong	C
St George	D	Trepell	C	Woomera	B
St Helens	C	Tropicana	C	Wynyard (Burnie)	C
Strahan	C	Troughton Island	C	Young	D
Sunshine Coast	B	Truscott-Mungalalu	C	Yuendumu	D
Swan Hill	D	Wagga Wagga	B		
Sydney	A	Walgett	D		
Tamworth	B	Wangaratta	D		

17. TTF - TREND FORECASTS



Note 1: See Section 12. for decode of METAR/SPECI.

Note 2: TREND (decode)

(1) NOSIG is used to indicate that no significant changes to the elements wind, visibility, weather and cloud, as reported in the METAR/SPECI, are expected to occur during the validity period of the TTF.

(2) FM (time) indicates that significant changes to a new set of mean conditions, from those previously given, are expected to occur at the specified time and to persist until the end of the validity period of the TTF or until new mean conditions are given.

(3) INTER (periods less than 30 minutes) and TEMPO (periods of between 30 and 60 minutes) are given either as INTER or TEMPO (time2/time3) - in this case, intermittent or temporary variations are expected to commence at (time 2) and to end at (time 3).

(4) Turbulence associated with cumulonimbus (CB) and towering cumulus (TCU) clouds is not included in forecast. TILL (time) is used if the turbulence is expected to cease before the end validity period of the TREND.

18. GRAPHICAL AREA FORECASTS (GAF) FOR OPERATIONS AT AND BELOW 10,000FT

18.1 The domestic graphical area forecast system provides for the routine issue of forecasts for designated areas.

18.2 **Preparation and Issue Times**

a. GAFs are issued with the 6 hour validity periods 2300Z to 0500Z, 0500Z to 1100Z, 1100Z to 1700Z and 1700Z to 2300Z;

b. At each issue time two GAFs will be issued covering a 12 hour period, for example at 2200Z, both 2300Z to 0500Z and 0500Z to 1100Z GAFs will be issued

c. GAFs will be issued no later than 30min before the commencement of the validity period of the first GAF;

d. the issuance of a new GAF replaces the previously issued GAF for the same validity period

18.3 **Approved Abbreviations Used in Graphical Area Forecasts (GAF)**

a. Clouds: CU, TCU, SC, CB, ST, AS, AC, NS or combinations of these.

b. Weather: CAVOK, MTW, NIL, TURB, and other abbreviations as per the codes given in *Section 13.*

c. Cloud Amounts or descriptors: FEW, SCT, BKN, OVC and for CB, ISOL, OCNL, FRQ, EMBD, BASE, CLD ON GND

d. Qualifiers: MOD, SEV, +, -.

e. Units: KT, KM, M, FT.

f. Time: Z.

g. Variations: TEMPO and INTER are only used for Critical Locations. FM, TL, BECMG

h. Heights: ABV, BLW, LYR, SFC

i. Directions: N, NE, E, SE, S, SW, W, NW.

j. Corrections: COR (correction), IMPR (improvement to conditions), TRANS ERR (transmission error), TYPO (typographical error).

k. General: FZLVL, FZLYR, WDSPR, WI, VAL, STNR, BTN and other abbreviations listed in *GEN 2.2 Section 2.*

18.4 **Sections of the Graphical Area Forecast (GAF)**

The GAF shall comprise of:

a. a header giving details of issue time and validity times. It will also contain the word “CORRECTED” for a GAF correction (as per *18.5*)

b. an image depicting weather areas labelled with an alpha character, e.g. **A.** Weather areas may be subdivided further with addition of a numerical character, e.g. **A1**. The weather in **A1** will be the same as **A** with a minor differentiation, such as lower visibility in showers

c. a table providing detailed meteorological information for the areas shown on the image divided into four columns:

(1) AREA gives the alpha character corresponding to areas in the image

(2) SURFACE VIS and WX gives details of weather and associated visibility

(3) CLOUD, ICING and TURB gives the cloud, icing and turbulence in the area or associated with the weather in the SURFACE VIS and WX column

(4) FZLVL gives the height of the freezing level, or ABV 10,000FT where the freezing level is above 10,000FT AMSL

d. a legend explaining information important to the interpretation of the product

e. a remarks box for additional information including forecasts for critical locations and reason for correction for a Corrected GAF.

18.5 **Changes to GAFs and Corrected GAF**

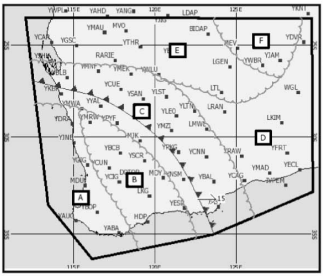
GAFs are not amended. Advice of deteriorating conditions will be in the form of an AIRMET (see section *5.3*) or SIGMET (see section *5.2*). A corrected GAF will be issued between standard issue times to notify of:

a. Typographical error (TYPO)

b. Errors such as transmitting before completion (TRANS ERR); and

c. Improvement in conditions (IMPR) - e.g. removal of fog, thunderstorms, etc.

An example GAF is given below:



All heights AMSL
TS / CB / TCU implies SEV ICE and SEV TURB
CU / SC / AC implies MOD TURB CLD ABV FZLVL implies MOD ICE
Speed of movement in KT ● refers to Critical Locations
– refers to Limit of Forecast
Check AIRMETs, SIGMETs and NOTAMs

REMARKS:

For more information contact (08) 9263 2255

Graphical Area Forecast SFC - 10000FT WA-S
Issued at 1703080415 - Valid 080500 to 081100
Weather Features valid at 080500

Australian Government
Bureau of Meteorology

AREA	SURFACE VIS AND WX	CLOUD, ICING AND TURB	FZLVL
A	> 10KM NIL	BKN CU/SC 3000/ABV10000FT	6000FT
	3000M SCT SHRA	ISOL TCU 2000/ABV10000FT BKN ST 0800/2000FT BKN CU 2000/ABV10000FT	
B	> 10KM NIL	BKN CU/SC 2000/ABV10000FT	6000FT
	3000M SCT SHRA	ISOL TCU 2000/ABV10000FT BKN ST 0800/2000FT BKN CU 2000/ABV10000FT	
	2000M ISOL TSRA	ISOL CB 2000/ABV10000FT BKN ST 0800/2000FT	
C	> 10KM NIL	BKN CU/SC 2000/ABV10000FT	5000FT S OF 32S, 7000FT N OF 32S
	2000M WDSPR SHRA	ISOL TCU 2000/ABV10000FT BKN ST 0800/2000FT OVC CU/SC 2000/ABV10000FT	
	2000M ISOL TSRA S OF YNSM	ISOL CB 2000/ABV10000FT BKN ST 0800/2000FT	
D	> 10KM NIL		9000FT
E	> 10KM NIL	SCT CU 4000/9000FT	ABV 10000FT
	5000M ISOL SHRA	ISOL TCU 4000/ABV10000FT BKN ST 2000/4000FT BKN CU 4000/9000FT	
F	> 10KM NIL		ABV 10000FT
	3000M SCT RA	BKN ST 2000/4000FT BKN AC/AS 9000/ABV10000FT	
	2000 ISOL TSRA	ISOL CB 5000/ABV10000FT BKN ST 2000/4000FT	

19. FORECASTS FOR OPERATIONS ABOVE 10,000FT

19.1 The meteorological documentation for operations above 10,000FT will consist of the following as appropriate:

a. Forecasts.

b. Significant Weather Prognostic Charts:

(1) Latitude Equator - 50°S, Longitude 100 - 180°E valid at 0000, 0600, 1200, 1800 UTC; or

(2) WAFS charts as applicable for areas outside of the above.

c. Wind and Temperature Charts:

(1) Produced for the Australian region plus ICAO Areas E, F and K.

(2) Valid at 0000, 0600, 1200, 1800 UTC, and updated six hourly.

d. Grid Point Forecasts (wind and temperature):

(1) Latitude 10 - 50°S, Longitude 100 - 160°E for FL385, FL340, FL300, FL235, FL185 valid at 0000, 0600, 1200, 1800 UTC;

(2) WAFS charts as applicable for areas outside of the above.

Note: Charts are a mercator projection.

e. For domestic operations, Route Sector Winds and Temperatures together with standard flight plan numbers for frequently used air routes.

20. SIGNIFICANT WEATHER CHARTS

20.1 The significant weather expected in the airspace from FL250 to FL 630 (SIGWX High) and FL100 to FL250 (SIGWX Medium) are depicted on the relevant chart using approved symbols and abbreviations. Significant features of the surface synoptic situation are also usually shown.

20.2 The approximate availability and validity times of the Australian area high-level SIGWX charts are as follows:

Available (UTC)	Valid (UTC)
0800	0000
1400	0600
2000	1200
0200	1800

Note: SIGWX High charts will be updated if an error or omission is found.

20.3 The approximate availability and the validity times of the Australian area medium-level SIGWX charts are as follows.

First Available (UTC)	Updated (UTC)	Valid (UTC
0900	2000	0000
1500	0200	0600
2100	0800	1200
0300	1400	1800

20.4 Significant variations during three (3) hours each side of the validity time are included on the chart.

21. GRID POINT WIND AND TEMPERATURE (GPWT) FORECASTS

21.1 GPWT charts provide a display of wind and temperature data derived from weather model data. The high-level and mid-level charts are produced with a 2.5° or 5° latitude and longitude grid resolution using data from the World Area Forecast System (WAFS) models. The low level charts are produced with a 1.5° or 5° latitude and longitude grid resolution using data from the Bureau's Numerical Weather Prediction Model. The data is overlaid on a geographic background. The values given represent the wind and temperature at a specific pressure level, which is approximated to a height or flight level, for the mid-point of each square.

21.2 GPWT are presented to aircrew on a geographic background to facilitate interpretation on specific routes.

21.3 Low-level GPWT Reference Charts with PCA points can be found in the NAIPS Charts Directory.

21.4 A block of GPWT data contains the following information for each level:

a. dd: two numbers indicating the wind direction in degrees true to the nearest 10;

b. fff: three numbers indicating the wind speed in knots

c. t: the sign of the temperature (+ or -)

d. TT: two numbers indicating the temperature in whole degrees Celsius. Dashed line (-- --- ---) are used when the grid point is below ground level and hence there is no valid wind or temperature for that point.

Example: 2503563 dd fff tTT

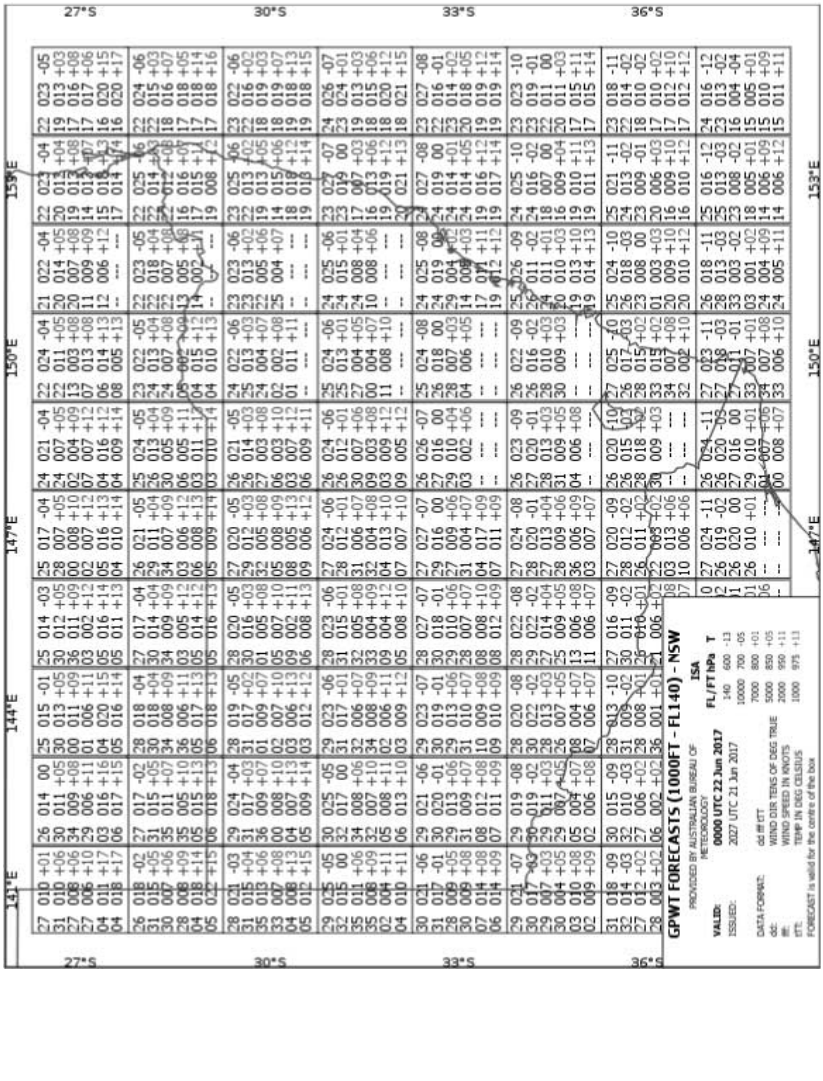
25 035 -63

21.5 GPWT forecasts are issued every six hours. High-level and mid-level charts are valid in six hourly time steps for the next 24 hours, however, low level charts are valid in three hourly time steps for the next 24 hours.

21.6 Receipt of a forecast for a particular validity time will automatically amend and supersede any prior issue for that time. Both issue and validity times appear with each forecast.

21.7 An example of Grid Point Forecast presentation is given on the following page.

GRID POINT FORECAST



22. ROUTE SECTOR WINDS AND TEMPERATURES

22.1 Route sector winds and temperatures (RSWT) forecasts are provided for various sectors of frequently used domestic air routes. Some longer routes may be sub-divided into segments, e.g: YPAD/YPOD/YMHB as per example below.

22.2 RSWT forecasts are prepared for six levels, as shown in the following example:

FL - ISA YMML/YSSY YSSY/YBBN YMML/YPAD YMML/YMHB YPAD/YPOD/YMHB

450-56 2604859 2503761 2805659 2705557 2905659 2805457

390-56 2405360 2203757 2705260 2606861 2805960 2706961

340-52 2404950 2003849 2706050 2506551 2806450 2606651

300-44 2404439 2002939 2805039 2504941 2905639 2605341

240-33 2403123 2202322 2804123 2703825 2904523 2803925

180-21 2502312 2302111 2803412 2803013 3003812 2803114

22.3 A block of RSWT data contains the following information for each level:

a. two numbers indicating the mean wind direction in degrees true to the nearest 10° true;

b. three numbers indicating the wind speed in knots;

c. two numbers indicating the mean temperature in degrees Celsius (without the negative sign).

22.4 The ISA value is the International Standard Atmosphere temperature for the given flight level.

22.5 The forecasts are issued twice daily, at approximately 0500 and 1700 UTC. Four validity times are provided at each issue - 0000, 0600, 1200 and 1800 UTC.

22.6 The issuance of a new forecast will supersede any forecast previously issued for that validity time.

22.7 RWST forecasts are available from NAIPS (under Charts) and from BoM’s aviation web page.

1	YMML-YSSY	16	YBBN-25S-YBMA	32	YPPH-YCAR-YPLM	48	YSSY-YGTH-YPAD
2	YMML-YMHB	17	YBMA-YPDN	33	YCAR-YPPD	49	YBBN-YWLG
3	YMML-YPAD	18	YBAS-ASB-YPDN	34	RESERVED	50	YPGV-YBCS
4	YMML-CANDY	19	YPAD-LGS	35	YCMU-143E-YBMA	51	YPPH-KAGUX-YPKA
5	CANDY-CRICK	20	YMMI-YCDU	36	YSSY-149E-YCMU	52	YBCS-YHID
6	YCDU-YCAG	21	YSSY-APOMA	37	RESERVED	53	YSSY- 28S
7	YCAG-YPPH	22	APOMA-138E-YBAS	38	RESERVED	54	28S-YEML-YBTL
8	CRICK-YPPH	23	YBBN-YROM-NONET-YBAS	39	RESERVED	55	YPPH-YMOG-YNWN
9	YMML-YMMI-LGS	24	YBAS-YBMA	40	YPDN-YPGV	56	YNWN-CIN
10	YPAD-YPWR-YBAS	25	YBMA-YBTL	41	YPAD-POD-YMHB	57	YCAR-YNWN
11	YPPH-ERE-YPPD	26	YSDU-VENEL-YPAD	42	YBAS-LANOP	58	YPLM-YPPD
12	YPPD-CIN-TROUT YPDN	27	YSSY-YMCO-YMHB	43	LANOP-YPKG-YPPH	59	YGEL-GAS-WAL
13	YPDN-GRY-YBTL	28	YMML-YMDG-YBBN	44	RESERVED	60	YPAD-YOOM
14	YBBN-YBMK-YBCS	29	LGS-YBAS	45	YMML-YGTH-YWLG	61	YBBN-YSDU
15	YSSY-YBBN	30	YBCS-YBMA	46	YWLG-ABR-YBPN	62	YWLG-141E-YCDU
		31	RESERVED	47	YPAD-ISLAV-YCAG	63	YSSY-TAM-YBMK

ROUTE SECTOR NUMBERS

23. SIGNIFICANT WEATHER CHARTS - SYMBOLS

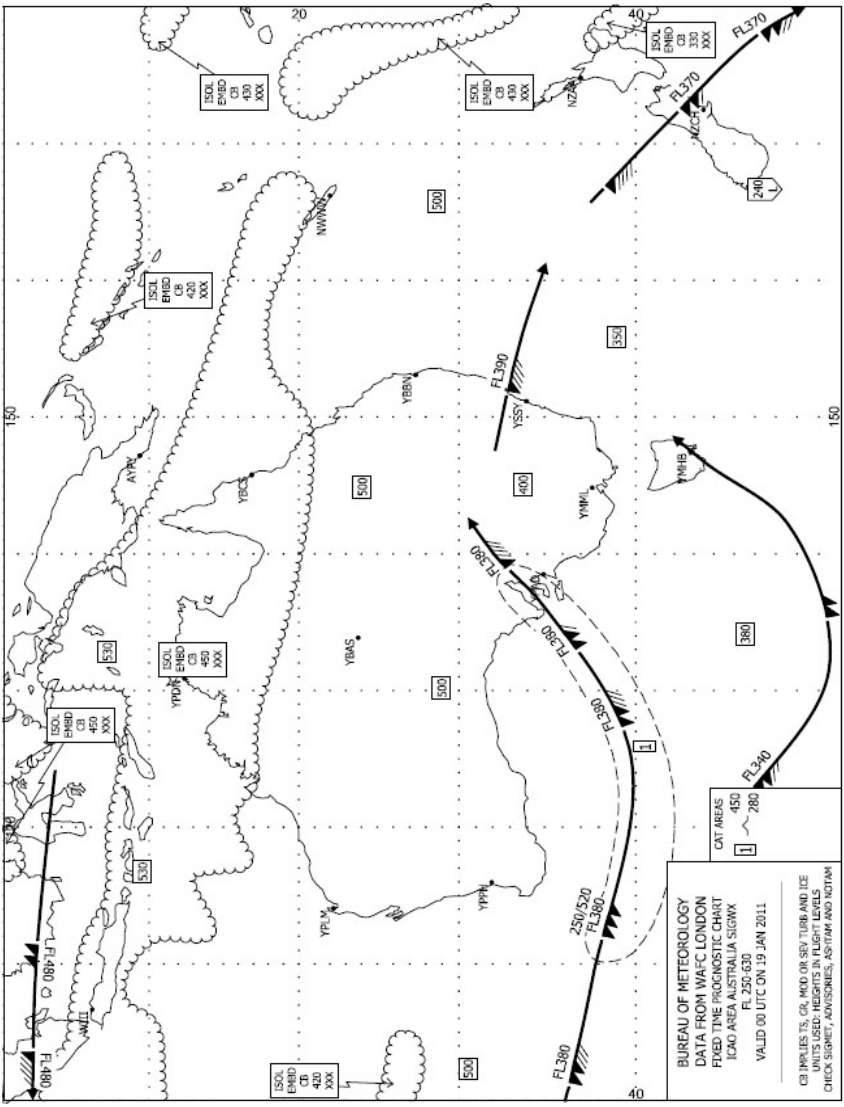
Tropical cyclone		Drizzle	
Severe squall line		Rain	
Moderate turbulence		Snow	
Severe turbulence		Shower / Hail	
Mountain waves		Widespread blowing snow	
Moderate aircraft icing		Severe sand or dust haze	
Severe aircraft icing		Widespread sandstorm or dust storm	
Widespread fog		Widespread haze	
Radioactive materials in the atmosphere		Widespread mist	
Volcanic eruption		Widespread smoke	
Mountain obscuration		Freezing precipitation	
Cold front at the surface		FL 270 Position, speed and level of max. wind #	
Warm front at the surface		Convergence line	
Occluded front at the surface		0°:100 Freezing level	
Quasi-stationary front at the surface		Intertropical convergence zone	
H 460 Tropopause High		10 State of the sea	
270 L Tropopause Low		18 Sea-surface temperature	
380 Tropopause Level		40 Widespread strong surface wind *	

Pennants correspond to 50 kt or 100 km/h.
Feathers correspond to 10 kt or 20 km/h.
Half-feathers correspond to 5 kt or 10 km/h.
If the maximum wind speed is 240 km/h (120 kt) or more, the flight levels between which winds are greater than 160 km/h (80 kt) is placed below the maximum wind level e.g 220/400.
The line delineating the jet axis begins/ends at the points where a wind speed of 160 km/h (80 kt) is forecast.

* This symbol refers to widespread surface wind speeds exceeding 60 km/h (30kt).

24. EXAMPLES

24.1 Significant Weather Prognosis.



Note 1: Significant variations during three (3) hours each side of the validity time are included on the chart.

Note 2: SIGWX High will be annotated ICAO AREA AUSTRALIA SIGWX FL250-630.

Note 3: For SIGWX Medium Level (SWM) the chart will be annotated "Significant weather (SIGWX) A100-FL250". Weather phenomena below A100 will not normally be shown.

Note 4: Heights are indicated on SWH and SWM charts in flight level (FL), top over base. When XXX is used, tops or bases are outside the layer of the atmosphere to which the chart applies.

Note 5: Cumulonimbus, altocumulus and altostratus cloud are indicated by the abbreviations CB, AC and AS respectively. CB is preceded by ISOL (isolated, i.e. individual), OCNL (occasional, i.e. well separated), FRQ (frequent, i.e. little or no separation) or EMBD (embedded in layers of other clouds or concealed by haze). AC and AS amounts are indicated by the abbreviations FEW, SCT, BKN or OVC. The upper figure following the abbreviations is the approximate flight level at the top of the cloud; the lower figure indicates the approximate flight level of the base of the cloud; XXX will indicate that the base or top is outside the layer of atmosphere to which the chart applies

$$\text{eg,} \quad \text{ISOL CB} \quad \frac{400}{XXX}$$

Note 6: The use of the abbreviation CB implies associated thunderstorms and the occurrence of turbulence and icing.

Note 7: A similar convention is employed to indicate the height indications of phenomena such as aircraft icing, turbulence etc.

Note 8: When shown, centres of surface high or low pressure are represented by H or L respectively, the position at the surface of the point of highest or lowest pressure is indicated by a "+" followed by the value of the MSL pressure in Hectopascals. When used, an arrow indicates the expected speed of movement (in knots). Movement of other significant features is shown in similar fashion.

Note 9. Colours, if used, are to improve clarity of presentation and have no other significance.

24.2 **Wind and Temperature Charts**

24.2.1 Wind and temperature charts are provided for four regions:

a. Australian Region - Latitude 0 to 50S, Longitude 100E to 180E

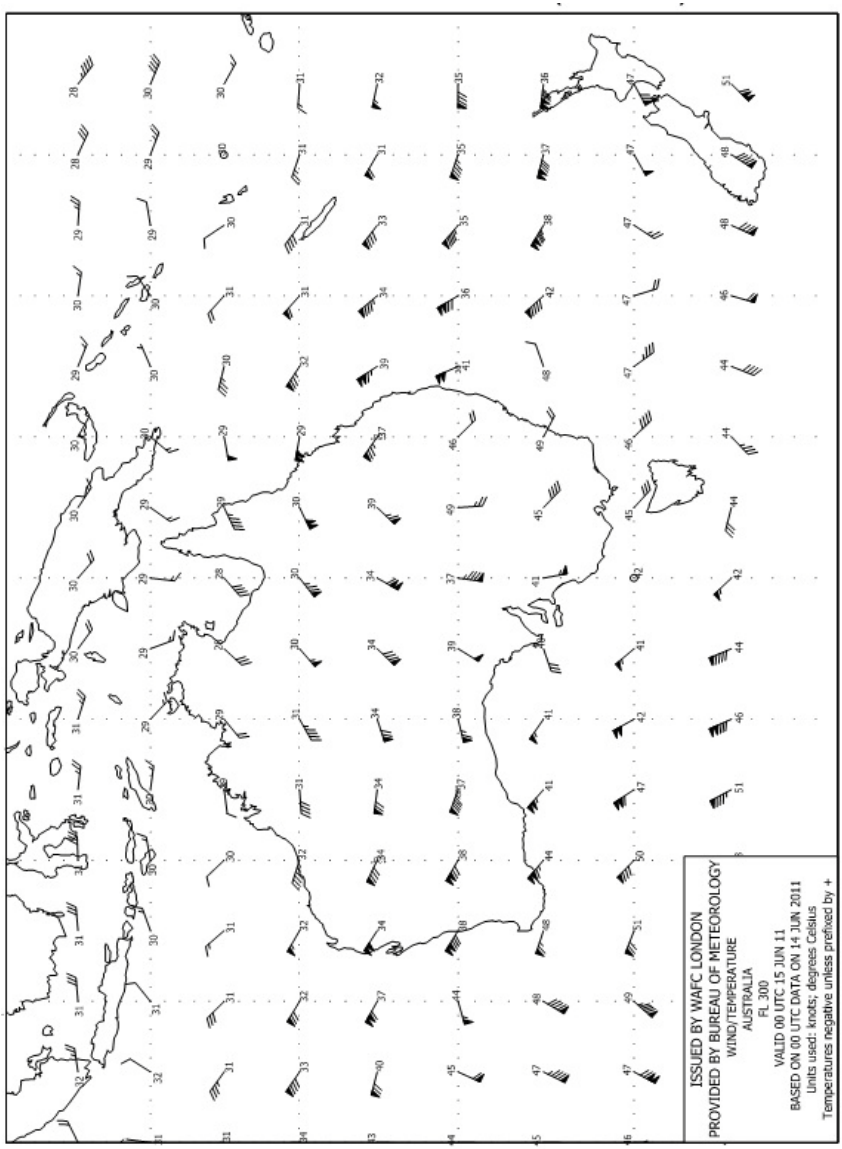
b. ICAO Area E - Latitude 45N to 47S, Longitude 25E to180E

c. ICAO Area F - Latitude 42 30N to 47 30S, Longitude 100E to 110W

d. ICAO Area K - Latitude 0 to 90S, Longitude 0 to 180W

Note: Charts are a mercator projection except for ICAO Area K which is polar stereographic.

WIND AND TEMPERATURE CHART (EXAMPLE)



24.3 **Volcanic Ash Advisory**

VA ADVISORY	
DTG:	20030908/0230Z
VAAC:	DARWIN
VOLCANO:	COLO [UNA UNA] 0606-01
PSN:	S0010 E12130
AREA:	SULAWESI INDONESIA
SUMMIT ELEV:	507M/1663FT
ADVISORY NR:	2003/2
INFO SOURCE:	GMS JMA
AVIATION COLOUR CODE:	NIL
ERUPTION DETAILS:	ERUPTED 20030908/0205Z
OBS VA DTG:	08/0215Z
OBS VA CLD:	SFC/FL250 N0010 E12140 - N0000 E12240 - S0030 E12230 - N0010 E12140 MOV ESE 20KT FL250/FL550 N0030 E12130 - N0010 E 12200 - S0040 E12130 - N0000 E12030 - N0030 E12130 MOV E 30KT
FCST VA CLD +6HR:	08/0815Z SFC/FL250 N0000 E12230 - S0000 E12410 - S0040 E12340 - S0010 E12210 - N0000 E12230 MOV ESE 20KT FL250/FL550 N0100 E12100 - N0110 E11840 - S0010 E12000 - S0020 E12100 - N0100 E12100 MOV E 35KT
FCST VA CLD +12HR:	08/1415Z SFC/FL250 S0000 E12330 - S0030 E12510 - S0120 E12450 - S0030 E12310 - S0000 E12330 FL250/FL550 NO ASH EXP
FCST VA CLD +18 HR:	08/2015Z SFC/FL550 NO VA EXP
RMK:	OBSERVATIONS SUGGEST A MAJOR CONTINUING ERUPTION. YESTERDAY INDONESIAN AUTHORITIES UPGRADED THE CIVIL ALERT TO LEVEL 4 (OUT OF 4). ALL AIRCRAFT IN AREA ARE REQUESTED TO SEND PIREPS.
NXT ADVISORY:	20030908/0830Z

APPENDIX 1

SPECIAL AIR REPORT OF VOLCANIC ACTIVITY

1. **Special Air Reports Containing Information on Volcanic Activity (ICAO Model VAR).**

1.1 Section 1 and such parts of Section 2 as are appropriate are required from all aircraft as follows:

a. whenever pre-eruption volcanic activity or volcanic eruptions are observed; and

b. whenever volcanic ash cloud is observed or encountered.

1.2 All elements of Section 1 and those elements of Section 2 which are observed shall be recorded and indicated respectively in the appropriate places on the form which is produced overleaf.

1.3 Information recorded for items 9 to 16 is not for transmission by RTF, but, on arrival at an aerodrome, is to be delivered together with the information recorded in Section 1 without delay by the operator or a flight crew member to the aerodrome meteorological office. If such an office is not easily accessible, the completed form must be delivered in accordance with local arrangements made between the Meteorological and ATS authorities and the operator.

APPENDIX 1 - CONTINUED

MODEL VAR

Operator ..... Aircraft Identification (as per Item 1 of flight plan .... Pilot – in – Command .....

Dep. from ..... Date ..... Time..... UTC
Arr at ..... Date ..... Time..... UTC

	Addressee	
	AIREP SPECIAL	
SECTION 1	1. Aircraft Identification	
	2. Position	
	3. Time	
	4. Flight level or altitude	
	5. VOLCANIC ACTIVITY OBSERVED AT	(position or bearing and distance from aircraft)
	6. Air Temperature	
	7. Spot Wind	
	8. Supplementary Information	
	(Brief description of activity including vertical and lateral extent of ash cloud, horizontal movement, rate of growth, etc. as available)	
	The following information is not for transmission by RTF	
SECTION 2	9. Density of ash cloud	(a) wispy ☐ (b) moderate dense ☐ (c) very dense ☐
	10. Colour of ash cloud	(a) white ☐ (b) light grey ☐ (c) dark grey ☐ (d) black
	11. Eruption	(a) continuous ☐ (b) intermittent ☐ (c) not visible ☐
	12. Position of activity	(a) summit ☐ (b) side ☐ (c) single ☐ (d) multiple ☐ (e) not observed ☐
	13. Other observed features of eruption	(a) lightning ☐ (b) glow ☐ (c) large rocks ☐ (d) ash fall out ☐ (e) mushrooming cloud ☐ (f) nil ☐
	14. Effect on aircraft	(a) communication ☐ (b) nav system ☐ (c) engines ☐ (d) pitot static ☐ (e) windscreen ☐ (f) windows ☐ (g) nil ☐
	15. Other effects	(a) turbulence ☐ (b) St Elmos Fire ☐ (c) fumes ☐ (d) ash deposits ☐
	16. Other information	Add and information considered useful

INTENTIONALLY BLANK

GEN 3.6 SEARCH AND RESCUE

1. PURPOSE

1.1 The purpose of the Search and Rescue (SAR) organisation is to provide assistance to aircraft in distress and to search for, provide aid to, and organise the rescue of survivors of aircraft accidents and forced landings.

2. RESPONSIBLE AUTHORITY

2.1 Airservices Australia is responsible for the provision of a SAR alerting and in-flight emergency response service. Joint Rescue Coordination Centre (JRCC) Australia is responsible for the conduct of SAR for missing aircraft, aircraft reported crashed and ELT searches within the Search and Rescue Region (SRR) under Australian jurisdiction.

3. ORGANISATION

3.1 JRCC Australia have established an aviation Rescue Coordination Centre in Canberra which is responsible for the coordination of SAR efforts within the Australian SRR. Refer to the chart at *para 11.*

4. RESCUE COORDINATION CENTRES

SAR Region	Location and Address
AUSTRALIA RCC	JRCC Australia 82 Northbourne Avenue BRADDON ACT 2601 Postal Address: GPO Box 2181 CANBERRA CITY ACT 2601 Ph: 1 800 815 257 Ph: +61 2 6230 6899 (overseas) Fax: 1 800 622 153 Email: rccaus@amsa.gov.au AFTN: YSARYCYX

5. PROCEDURES

5.1 Emergency Phases

All ATS Units have been designated as alerting posts and are responsible for the declaration of the appropriate emergency phase. Three phases of emergency have been established for classifying emergency situations and are declared in accordance with the following paragraphs.

5.1.1 **Uncertainty Phase (INCERFA)** when:

a. uncertainty exists as to the safety of the aircraft and its occupants;

b. an aircraft operating in accordance with SAR procedures fails to report and communication checks fail to reveal any news of the aircraft;

c. an aircraft is known or believed to be subject to irregular operations; namely, when it is experiencing navigational, altitude or communications difficulties;

d. an aircraft is about to make or has made a landing other than a forced landing, where the position is in doubt, on an unprepared surface or on an aerodrome that is operationally unsuitable; or

e. information is received that an aircraft is missing.

5.1.2 **Alert Phase (ALERFA)** when:

a. apprehension exists as to the safety of the aircraft and its occupants;

b. an aircraft fails to land within five (5) minutes of having received a landing or approach clearance, and communications cannot be re-established with the aircraft;

c. following an uncertainty phase, subsequent communication checks or enquiries fail to reveal any news of the aircraft;

d. information has been received that the operating efficiency of the aircraft has been impaired to the extent that the safety of the aircraft may be affected;

e. there is reason to believe that the safe conduct of a flight is in jeopardy; or

f. an aircraft is operating in IMC or at night when it should not.

5.1.3 **Distress Phase (DETRESFA)** when:

a. there is reasonable certainty that an aircraft and its occupants are threatened by grave and imminent danger and require immediate assistance;

b. an aircraft is known or believed to be subject to unlawful interference;

c. following the alert phase there is the probability that an aircraft is in distress;

d. the fuel on board is considered to be exhausted or insufficient to reach safety unless a SARTIME has been notified; or

e. an aircraft is likely to or about to make, or has made, a forced landing or has ditched or crashed.

5.2 **Pilot Notification**

5.2.1 The efficacy of the SAR action by Airservices or JRCC Australia is directly related to the amount and accuracy of details notified in the flight notification or flight note, and to any position details reported in flight. When notifying of in-flight difficulties, early advice and the degree of apprehension felt by the pilot will enhance the assistance which can be provided by the ground organisation.

5.2.2 When a pilot lands at a place other than an aerodrome included in the flight notification, the pilot should report the fact to ATS, JRCC Australia or the police as soon as possible.

5.2.3 **Flight Notes**

Persons maintaining a SARWATCH by means of a Flight Note must contact JRCC Australia in the event that the flight becomes overdue.

5.3 **Advice to Pilot**

5.3.1 If a phase declaration concerns a technical difficulty, the operating company, if applicable, will normally be advised. Subsequent advice relating to the difficulty will be restricted to that authorised by the company and will be prefixed “YOUR COMPANY ADVISES”.

5.4 **In-Flight Emergency Response Action**

5.4.1 **Radio Failure or Failure to Report.** On the basis that only the aircraft's transmitter may have failed and that ground transmissions can still be received, the following information may be broadcast from suitable stations, including some radio navigation aids:

a. lowest safe altitudes;

b. direction, bearings, DR position or headings to steer if practicable;

c. emergency aerodromes;

d. weather conditions at destination and alternates;

e. ditching weather report; and

f. separation action being taken by ATC.

5.4.2 **Navigational Assistance**. All available navigation aids, which may be of use to the aircraft, will be switched on and non-continuous aids may also be activated. Furthermore:

a. ATS surveillance system equipped units will keep a lookout for the aircraft;

b. aerodrome lighting may be activated; and

c. if the aircraft can advise its last known position, and headings, speed and times flown since that position, an air plot can be made, actual winds added, and a DR position and heading to steer passed to the aircraft on an advisory basis.

5.4.3 **Intercept and Escort.** Arrangements may be made to escort an aircraft experiencing abnormal operations.

5.4.4 **Ditching.** When a ditching is likely, the RCC will obtain the positions of ships along the aircraft's route and advise the pilot, and:

a. attempts will be made to arrange a direct speech link or a rapid relay system between the aircraft and a selected ship;

b. weather reports, including sea conditions and a selected ditching heading will be passed to the aircraft; and

c. arrangements may be made for ships to provide navigational assistance, lighting, and reduce the effects of the sea swell or wind.

5.5 **Medical Emergency**

5.5.1 A pilot that is not engaged in the transport of patients under HOSP or MEDEVAC operations, should notify ATC of an onboard medical emergency by declaring a PAN and appending the words 'MEDICAL PRIORITY REQUIRED'. The pilot should specify any service attendance requirements such as ARFFS. ATC will provide the flight with MEDEVAC priority but will not arrange an ambulance or activate aerodrome emergency procedures unless requested. Declaring a medical emergency does not satisfy the biosecurity pre-reporting requirements specified in *GEN 1.3*.

5.5.2 The pilot of a medical flight should notify ATC of changes to priority requirements by changing the status of their flight e.g. by amending status from HOSP to MEDEVAC.

5.6 **Participation In Searches**

5.6.1 **General.** When requested by the Australia RCC to carry out a SAR operation, the aircraft and crew are deemed to be hired by JRCC Australia.

5.6.2 **Charges For Aircraft Use.** Expenses incurred by the owner of an aircraft engaged in SAR operations at the direction of the Australia RCC may be recovered from JRCC Australia. The hourly payment rate for SAR flying should be negotiated between JRCC Australia and the operator concerned.

5.6.3 **Briefing.** Whenever possible the pilot of a search aircraft should contact the RCC to confirm the briefing prior to the search commencing.

5.6.4 **Debriefing.** Pilots should present a post-flight report to the RCC as soon as possible after completion of the flight.

5.6.5 **Safety.** Civil aircraft engaged in SAR operations are required to comply with the Civil Aviation Regulations. If a breach of the Regulations is required in order to relieve a person from grave and imminent danger, and failure to do so is likely to result in loss of life or serious permanent disability, a Mercy Flight must be declared or an alternative course of action taken.
ENR 1.1 Section 11.14.1 contains details on Mercy Flights.

6. AERODROME EMERGENCIES

6.1 General

This section explains the terms that are used to classify aerodrome emergencies and defines the degree of response required from agencies involved in the Aerodrome Emergency Plan (AEP).

6.2 Local Standby

6.2.1 A Local Standby is declared when activation of only the airport based agencies involved in the AEP is warranted. A Local Standby will be the normal response when an aircraft approaching an airport is known or is suspected to have developed some defect, but the trouble is not such as would normally involve any serious difficulty in effecting a safe landing.

6.2.2 The normal response to a Local Standby will be from the (on-airport) Airservices/RAAF Rescue and Fire Fighting Service (RFFS) and the Aerodrome Safety Officer. No outside services will respond. At an aerodrome without RFFS facilities, the response (if any) to a declaration of a Local Standby will be set out in the AEP.

6.2.3 Unless the pilot states otherwise, for the purposes of activating an AEP, a PAN call from an aircraft will result in the declaration of not less than a Local Standby.

6.3 Full Emergency

6.3.1 A Full Emergency is declared when activation of more than just airport-based responding agencies is advisable. A Full Emergency will be declared when an aircraft approaching the airport is known or suspected to be in such trouble that there is danger of an accident. In order to provide the appropriate response, one of the following levels must be used by ATS in declaring the Full Emergency to outside services:

a. Level I – up to 18 seats (ATC - Light).

b. Level II – up to 215 seats (ATC - Medium).

c. Level III – up to 560 seats (ATC - Heavy).

6.3.2 When a Full Emergency has been declared, the response will be from all services including on-airport services according to the level (I, II or III) notified.

6.3.3 If a pilot declares a MAYDAY, then this equates to a Full Emergency condition. The AEP will then be activated by declaring “FULL EMERGENCY LEVEL (I, II or III)”.

6.4 Crash on Airport

The response to a crash on the airport will be the same as for a Full Emergency.

6.5 Other Situations

For an aerodrome where there is no on-airport fire service or when the airport fire service has been stood down, ATS will state, “THERE IS NO ON-AIRPORT FIRE SERVICE AT YOUR INTENDED AERODROME. WHAT SERVICES DO YOU REQUIRE?” ATS will then activate the AEP at the appropriate level. The AEP will cover this situation to ensure that an over-response is not made.

6.6 Phraseology

Standard phraseology exists for the declaration of abnormal and emergency operations, i.e: PAN and MAYDAY. Pilots are reminded that timely use of these phrases will get the level of response required. The use of non-standard terminology can lead to misinterpretation of a pilot’s requirements. This does not preclude ATS requesting confirmation of a pilot’s requirements; e.g: “DO YOU WISH THE AIRPORT TO BE PLACED ON LOCAL STANDBY?”

7. RESCUE AND FIRE FIGHTING SERVICES

7.1 General

RFFS is provided at certain aerodromes according to the type of aircraft normally using that aerodrome and the frequency of aircraft operations.

7.2 Aerodrome Category

RFFS facilities are allocated a category from 1 to 10 (see *ERSA*).

7.3 Hours of Service

Information regarding the hours of service of RFFS is available from all ATS units and is published in *ERSA*.

7.4 **RFFS Emergency Frequency**

To enhance the safe management of emergency situations, a national RFFS emergency frequency (131.0MHz) is available for direct communication between the Fire Commander and affected flight crew during an airport emergency at selected airports (identified in *ERSA FAC* under Rescue and Firefighting Services). ATC must be advised of an intention to operate on the frequency.

7.4.1 All communication with ATC during an airport emergency must be conducted on the normal ATC frequencies.

7.4.2 The Fire Commander will keep ATC informed of the incident action plan.

8. EMERGENCY LOCATOR TRANSMITTER (ELT)

8.1 Australian aircraft (except exempted aircraft) are required to be fitted with or to carry an ELT in accordance with the requirements of *CAR 252A*. Procedures detailing the use of ELTs in an emergency are found in *ERSA EMERG*.

Note: While the installation and use of automatic ELTs saves lives, improper use will lead to false alarms and a resultant strain on scarce SAR resources.

8.2 **Monitoring 121.5MHz**

Pilots should monitor 121.5MHz before engine start and after shutdown. Reception of an ELT transmission must be reported to ATS or the RCC immediately.

8.3 **Inadvertent Activations**

If an ELT has been inadvertently activated, this must also be reported to ATS or the RCC immediately.

8.4 **Testing ELTs**

Operational tests must be limited to 5SEC, and the preferred procedure is that they be conducted within the first 5MIN of the hour. JRCC Australia must be notified in advance of the test and, where the beacon is operated on 406MHz, its HexID must be provided. Detailed ELT testing procedures can be found on the AMSA website.

9. COSPAS-SARSAT

9.1 COSPAS (from the Russian acronym for “Space System for Search for Vessels in Distress”) and SARSAT (from “Search and Rescue Satellite Aided Tracking”), together constitute an international project consisting of a network of satellites in low near-polar orbits, with the capability of detecting and calculating positions of ELTs. The Australian Mission Control Centre operated by the JRCC Australia in Canberra, is linked to three earth stations known as Local User Terminals at Albany (WA), Bundaberg (QLD) and Wellington (New Zealand).

9.2 COSPAS-SARSAT provides coverage for 121.5/243MHz ELTs over all the Australian continent, New Zealand, and several hundred miles to sea. Coverage for 406MHz ELTs is world-wide. This coverage is not continuous as the time interval between successive satellite passes can be as much as two hours.

9.3 COSPAS-SARSAT can calculate the position of 121.5/243MHz ELTs to within 20KM, and 406MHz ELTs to within 3KM.

10. SEARCH AND RESCUE TRANSPONDER (SART)

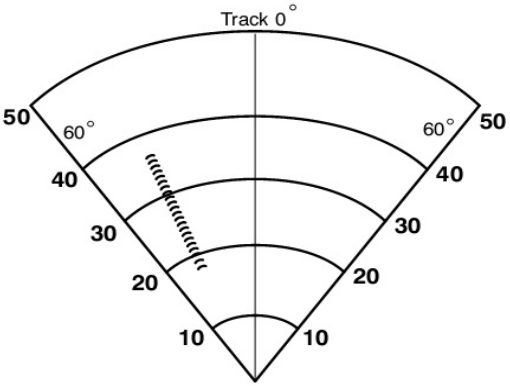
10.1 The International Maritime Organisation has introduced a requirement for all vessels over 300 tonnes gross weight, engaged in international trade, to be equipped with SARTs. These devices are intended to enhance the probability of location and rescue of survivors.

10.2 SARTs work by responding to radar transmissions in the 9 Gigahertz (GHZ) range, the frequencies used by most maritime and aviation navigation and weather radars (aircraft radars would need to be used in the mapping mode).

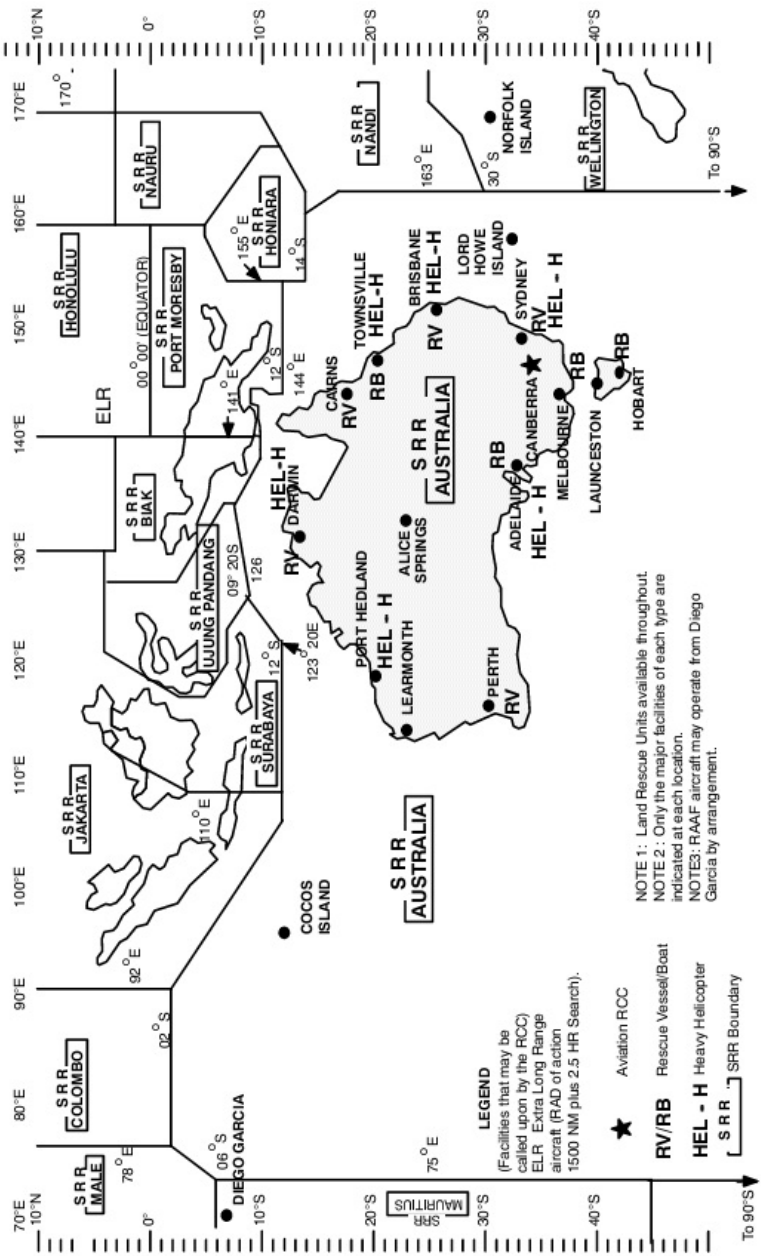
10.3 When a SART receives a radar pulse, it will transmit 10 - 20 pulses in reply. This will show on the radar screen as a series of ‘returns’ leading the way from the SARTs position. SART transmissions will not interfere with the primary role of aircraft radars, i.e: weather detection.

10.4 ICAO and Airservices do not intend to introduce SARTs to the aviation industry. However, pilots who detect SART transmissions should report them, with the position, to ATS, who will alert SAR authorities.

10.5 **Example of SART - 40° left at 19NM**



11. SAR BOUNDARIES



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GEN 4. CHARGES FOR AERODROMES/HELIPORTS AND AIR NAVIGATION SERVICES

GEN 4.1 AERODROME/HELIPORT CHARGES

1. LANDING CHARGES

1.1 Most aerodromes will have airport specific conditions of use (including access agreements) and landing charge regimes. Aircraft operators should use the contact details listed in *ERSA FAC* to obtain specific information and/or obtain copies of appropriate documents.

2. PASSENGER MOVEMENT CHARGE

2.1 The Australian Government levies a Passenger Movement Charge (PMC), on all liable air and sea passengers departing Australia for another country, whether or not the passenger intends to return to Australia. The PMC is currently AUD$60 per passenger. The Department of Home Affairs has administrative responsibility for the PMC.

The Department, on behalf of the Commonwealth of Australia, enters into voluntary "Arrangements" with carriers (airlines, air charters and shipping operators) which impose an obligation on the carrier to remit an amount which is equal to the PMC liability owed to the Commonwealth by the departing person on board the aircraft or vessel. The collection of the PMC occurs at the time a ticket is sold to the passenger and is forwarded to the Department by the carrier within specified time frames. Arrangements with carriers removes the obligation for a passenger to pay the costs directly to the Department.

Carriers are asked to enter into an arrangement to collect and remit the PMC. Information on how to establish a PMC arrangement can be found on the Departmental website:
https://www.homeaffairs.gov.au/trav/ente/goin/departing/passenger-movement-charge-(PMC)
or, contact the Passenger Movement Charge Administration Office by email: pmcadminstation@border.gov.au, or telephone 61 2 6264 1531. Where an arrangement is not in place with a small itinerant flight and sea craft an Australian Border Force officer will collect the charge directly from each passenger, or from the captain, or agent for each voyage for the total number of passengers at the place of departure. An official receipt is provided after payment of the PMC has been collected.

2.2 **Collect and Remit Passenger Movement Charge (PMC)**

Collect AUD$60 PMC from all liable passenger and remit to the Department of Home Affairs in accordance with the conditions contained within the PMC Arrangement. Payment should be made in Australian currency by electronic funds transfer to the Department of Home Affairs Passenger Movement Charge: Commonwealth Bank of Australia SWIFT: CTBAAU2S
BSB 062-987 Account Number 10020668 or by cheque mailed to: Passenger Movement Charge Unit, the Department of Home Affairs. GPO Box 2809, Melbourne VIC 3001 Australia.

A PMC Remittance Report is required at the time of payment containing information such as total passenger numbers and total number of exempt passengers. Flight by flight data listing the flight number (or date and time of flight departure), the total number of passengers, the number of exemptions aboard. A PMC Remittance Report is available on the Departmental website: www.homeaffairs.gov.au/busi/traveller-industry/passenger-movement-charge# or by contacting: pmcadministration@border.gov.au

2.3 Exemptions from the PMC include:

a. **a person under** 12 years of age at the date of departure;

b. **traditional inhabitants** of Torres Strait Islands or Papua and New Guinea travelling in connection with the performance of traditional activities in the Torres Strait and adjacent territory;

c. a member of a **foreign defence force** departing on a military aircraft or a military ship as part of their military employment, including spouse and/or child of that defence force member;

d. **crew** of aircraft and vessels (operational and positioning) including medical attendants (Medivac operators' own attendants) on specific Medivac flights;

e. **transit** (air and sea) passengers who do not undergo Customs and Immigration processing;

f. **emergency** passengers who land in Australia for reasons beyond the person's control; e.g: illness, mechanical failure or other emergency (includes illness/injury of a person on Medivac flights however, the accompanying passenger is not exempt);

g. passengers on **single journeys** who depart Australia more than once are only liable to pay PMC once;

h. **diplomatic and consular representatives** of a country other than Australia, their families, staff and their families; travelling on a diplomatic passport with subclass visa 995 or 403;

i. passengers departing Australia to an installation in the **Joint Petroleum Development Area** for the purpose of prospecting for petroleum or undertaking petroleum operations;

j. **Protective Service Officers** (as defined in the A*ustralian Federal Police Act 1979*) on an aircraft for the purpose of enhancing the security of the aircraft;

k. travel to an **Indian Ocean Territory** (Christmas and Cocos [Keeling] Islands) unless the passenger intends to depart from there for an overseas destination;

l. when t**ravel between the Australian mainland and/or an Indian Ocean Territory** can only be reasonably accomplished by first departing for another country, provided the stay in the other country does not exceed seven (7) days.

2.4 Passengers who have paid the PMC at the time of ticket sale are required to have a record of payment on the ticket.

2.5 The collection and remittance of PMC will be a condition on which charters will be approved.

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GEN 4.2 AIR NAVIGATION SERVICES CHARGES

1. AIRCRAFT CHARGES

1.1 Airservices Australia is responsible for the provision of airways facilities and services in Australia. The provision of airways facilities and services is managed on a commercial basis and Airservices levies flight-based charges to recover the cost associated with these facilities and services from aircraft operators.

1.2 The Department of Infrastructure and Regional Development (DoIRD) is responsible for the recovery of the cost of noise amelioration programs through the mechanism of the Noise Levy Charge. The Bureau of Meteorology (BoM) is responsible for the provision of aviation weather services and recovers the cost of these services from aircraft operators. To avoid duplication of administration and to assist customers in making payments, a single monthly invoice and/or statement covering Airservices charges, BoM charges and the Commonwealth Noise Levy is issued.

1.3 This document sets out the basis on which charges are imposed. It also includes other related information which aims to assist customers in understanding the charging arrangements. Airways charges are administered in accordance with the legislation. This advice should be used by customers as a guide only. Details on unit rates of charge and other information are contained in the booklet entitled "*Charges for Facilities and Services Standard Contract Terms*" which can be obtained by contacting the Financial Services Centre, Airservices Australia.

2. CHARGING SYSTEM

2.1 Aviation charges:

a. apply to all flights by an aircraft, both domestic (within an Australian flight information region) and international (to and from an Australian flight information region) except:

(1) flights that are notified as maintenance or test flights; and

(2) operational missed approaches; and

b. include a discount at specified aerodromes for circuit training.

2.2 The charges are calculated on each tonne of the maximum takeoff weight as set out in the flight manual of the aircraft, with any part of a tonne charged on a pro-rata basis.

2.3 The following types of charge may be applicable:

(1) terminal navigation charges,

(2) rescue and firefighting charges,

(3) en route charges.

3. TERMINAL NAVIGATION CHARGE

3.1 Terminal Navigation Charge covers aerodrome control, approach control and terminal navigation aids. Charges applicable to specific locations may be obtained by contacting the Airservices Financial Services Centre at the address shown at *para 10.1.3 or by phoning the number at para 10.1.5.*

4. RESCUE AND FIRE FIGHTING CHARGES

4.1 The charge for rescue and fire fighting facilities and services for aircraft with a maximum takeoff weight of 2.5 tonnes or greater may be obtained by contacting the Airservices Financial Services Centre at the address shown at *para 10.1.3* or by phoning the number at *para 10.1.5.*

5. EN ROUTE CHARGES

5.1 If all or any part of a flight operates under the IFR, there will be an en route charge for the whole flight in an Australian flight information region. En route charges may be obtained by contacting the Airservices Financial Services Centre at the address shown at *para 10.1.3* or by phoning the number at *para 10.1.5*.

6. DoIRD AND BoM CHARGES

6.1 Details on how the Meteorological Service Charge and the Noise Levy Charge are applied may be obtained from the Financial Services Centre, Airservices Australia.

7. INTEREST

7.1 Interest is payable on the amount of the charge owing from the date it becomes overdue until the date it is paid. The interest is calculated daily and compounded monthly at the rate of 2% pa above the Commonwealth Bank Overdraft Index Rate (monthly charging cycle) current on the first day of each month.

7.2 If overdue amounts are not paid, Airservices may:

a. give the operator 14 days notice of their intention to withhold services (with a copy to the Civil Aviation Safety Authority); and

b. withhold those services after that time, having regard to air navigation safety.

8. LIABILITY FOR CHARGES

8.1 The liability for charges lies with the Certificate of Registration (COR) holder of the aircraft which incurs the charges, but mechanisms exist to transfer this liability to a third party where this is more appropriate.

9. ASSIGNMENT OF LIABILITY

9.1 The buyer and seller of an aircraft should complete an Assignment of Liability of charges payable in respect of the aircraft from the date of delivery of the aircraft to the buyer.

9.2 The charges payable in respect of an aircraft on hire or lease for more than 30 days may be assigned to the hirer or lessee.

9.3 A form of Assignment of Liability is available from the Financial Services Centre, Airservices Australia.

9.4 Notwithstanding, the Financial Services Centre having accepted and Assignment of Liability, the holder of the COR for the aircraft continues to be liable for the charges payable in respect of the aircraft.

10. ADMINISTRATION OF AIRCRAFT CHARGES

10.1 Financial Services Centre

10.1.1 The Financial Services Centre administers the charging arrangements for Airservices Australia's airways, rescue and fire fighting charges, BoM meteorological charges and DoIRD Noise Levy charges. The Centre is responsible for:

a. the edit and correction of flight data,

b. maintenance of debtors' accounts and other records,

c. issue of invoices and statements,

d. handling of account enquiries,

e. receipt of payments, and

f. debt recovery action.

10.1.2 The Financial Services Centre is located in the Airservices Australia Head Office at 25 Constitution Avenue, Canberra, ACT 2600.

10.1.3 All correspondence should be directed to:

The Manager
Financial Services Centre
Airservices Australia
PO Box 231
CIVIC SQUARE ACT 2608

10.1.4 Urgent enquiries can also be made to the Financial Services Centre fax number 02 6268 5693 (Dial 61-2 in lieu of 02 if calling from outside Australia).

10.1.5 Telephone enquiries should be directed to the Financial Services Centre free-call (Australia wide, except for mobile phones) number 1800 026 147, or, in the Canberra area, to 02 6268 5714.

10.2 **Invoices**

10.2.1 Invoices are issued for each aircraft and show charges for flights undertaken in the preceding calendar month as well as flights from earlier months which, for any reason, have not already been invoiced.

10.2.2 To reduce administrative costs, an invoice for an aircraft will normally be issued only when the total value of flights to be invoiced exceeds $55, or at least quarterly.

10.2.3 If requested by an aircraft operator, this administrative arrangement can be modified for aircraft where monthly invoicing is required irrespective of the value of the invoices.

10.3 **Statements**

10.3.1 Statements are issued when an invoice has been generated or there are outstanding charges. The statement will contain an amount brought forward (if there are outstanding charges and/or interest from previous periods) and the total charges accrued in the current billing period. Any receipts and/or interest since the previous statement will also be shown along with any adjustments and a reference to the nature of that adjustment.

10.4 **Disputed Accounts**

10.4.1 Where a particular item on an invoice is disputed by the debtor, a note should accompany the remittance identifying the disputed items and reason for dispute. The full amount of the invoice should be paid while the dispute is being resolved as this will prevent interest accruing on the unpaid amounts in the event that the dispute is resolved in favour of Airservices/BoM/DoIRD.

In the event that the dispute is resolved in favour of the debtor, a credit adjustment will be made which will appear on the next statement and a credit note or refund issued.

10.5 **Remittances**

10.5.1 A tear-off remittance advice is provided with each statement, and payment should be forwarded to the Financial Services Centre with this remittance advice. Payment can also be made by direct deposit to the Centre's bank account, provided advice of each payment is given to the Financial Services Centre by facsimile. Operators who wish to make payments by this method should contact the Financial Services Centre, Airservices Australia, for details.

10.6 **Receipts**

10.6.1 Advice of receipts will be contained in each month's statement.

10.7 **Credit Notes**

10.7.1 Credit notes will be despatched to customers on the next working day following a credit being processed and give invoice details, amounts and an explanation of the adjustment.

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