



International Civil Aviation Organisation

Sixth Meeting of CNS/MET Sub Group of APANPIRG

Bangkok, Thailand, 15 to 19 July 2002

Agenda Item 18: Any other business

NOTIFICATION OF ANNEX DIFFERENCES

(Presented by Australia)

SUMMARY

Australia has completed a review of its compliance with ICAO Annexes. The Annexes relevant to the CNS/Met Sub-Group that were reviewed included Annexes 3, 5 and 10.

This Working Paper summarises the processes that were used in coordinating the review, the issues that need to be addressed, and the AIP published differences.

1. BACKGROUND

1.1 Contracting States are obligated by Article 38 of the Convention to notify ICAO of any differences between their national regulations and practices and the International Standards contained in the Annexes to the Convention.

1.2 The ICAO Universal Safety Oversight Audits have considered States' compliance with the selected Annexes in light of the differences notified by the State. In numerous cases unnotified differences have been identified and reported as part of the audit program.

1.3 Australian, aware of its obligation, has completed a full review of compliance with all Annexes. The identified differences have been forwarded to ICAO and also published in the Australian AIP.

2. ICAO ANNEX COMPLIANCE

2.1 As part of normal practice amendments to Annexes are considered by the relevant agency/ies within the Australia administration. A coordinated Australian response is formulated and forwarded to ICAO. In considering amendment proposals the concentration has been on the subject of the current amendment and on occasions wider consideration of Annex Standards and previously notified differences has not occurred. The effect has been in some aspects a lack of comprehensive notification.

3. RELEVANT ICAO ANNEXES AND DIFFERENCES

3.1 As the CNS/Met Sub-Group of APANPIRG addresses issues relating to communications, navigation, surveillance, and meteorology, the relevant ICAO Annexes are:

Annex 3	Meteorological Service for International Air Navigation
Annex 5	Units of Measurement to be Used in Air and Ground Operations
Annex 10	Aeronautical Telecommunications

3.2 The differences to these Annexes are given in the attachment to this Working Paper, and can also be found at <http://www.airservices.gov.au/pilotcentre/ais/sup/h24.pdf>

4. REVIEW PROCESS

4.1 The ICAO Annexes contain SARPs that may go across several organisations in support of the provision of aviation related services. In order to address compliance to the SARPs, the involvement of each of these organisations is required.

4.2 Coordination was required between Airservices Australia, Civil Aviation Safety Authority, Bureau of Meteorology, and the Department of Transport and Regional Services, so that each SARP was addressed by the relevant authoritative organisation.

4.3 Details of each SARP were put into a database, for ease of comment input and management. Electronic versions¹ of the Annexes enabled the input of most of the necessary SARP details into the database to be possible. However these electronic versions should necessarily be in a format that enables text to be copied.

4.4 The database contained the following fields:

- Annex Number
- Annex Volume
- Amendment Number
- Appendix Reference
- Annex Paragraph
- Paragraph Details
- Compliance Status
- Details of Difference
- Remarks
- CASR² or TSP³ Reference
- Assessor
- Difference to be Notified

4.5 Compliance status, details of difference, remarks, and CASR or TSP references were then entered into the database by the relevant authoritative organisation, and the summarised report provided to Australia's ANC Commissioner in Montreal.

5. ONGOING REVIEW

5.1 Australia has a database containing the SARPs and necessary information for the continued review and tracking for compliance.

5.2 From time to time, ICAO issues Amendments to the Annexes, and States are required to review their compliance to the SARPs and any amendments thereof.

¹ ICAO provides Acrobat Reader or DjVu versions of the Annexes on their website

² CASR – Civil Aviation Safety Regulation

³ TSP – Airservices Australia's Technical Standard and Practice

5.3 The amendments are issued as replacement pages to the Annexes. Review of compliance would be more easily achieved if ICAO also provided States with a copy of the final issued amendments showing deleted and new text. Currently each SARP issued with a particular Amendment has to be literally compared with the existing SARP to see where the change(s) is/are made.

5.4 Whilst most of the Annexes have their SARPs in an electronic form that can be copied into the State databases, there are some SARPs that need to be converted into a text readable format.

6. RECOMMENDATION

That the meeting note that:

- a) Australia has reviewed its compliance with ICAO Annexes and has filed the relevant differences with ICAO, and published them in the AIP.
- b) ICAO review the methodology of issuing Amendments to the Annexes, so that Amendment changes to the SARPs are more easily identifiable.
- c) ICAO provides electronic versions of the Annexes that enable text copying.

* * *

Contact: Gordon Young
Senior Engineer – Technical Standards
Airservices Australia
Email: gordon.young@airservices.gov.au

ANNEX 3**METEOROLOGY (14th Edition)****Chapter 2****General Provisions**

Paras 2.2.3, 2.2.4, 2.2.6

Does not comply with ISO 9000.

Chapter 4**Meteorological Observations and Reports**

Paras 4.1.3, 4.1.9, 4.3.3.b), 4.7

Runway Visual Range used in ATIS only.

Para 4.3.4.a) When the mean surface wind direction changes by 30° or more, the mean wind speed before or after the change being 20KT or more.

Para 4.3.4.b) When the mean wind speed changes by 10KT or more, the speed before or after the change being 30KT or more.0

Para 4.3.4.e) Aerodromes use the following: When the horizontal visibility is at, below or passes:

- 1) the highest alternate visibility

- 2) 6KM

- 3) 4KM

- 4) 2KM

- 5) 1,200M

- 6) 800M

At all other aerodromes, the following:

When the horizontal visibility:

Decreases to a value equal to or less than the alternate minimum.

Decreases to a value equal to or less than the circling minimum.

Increases to a value equal to or greater than the alternate minimum.

Increases to a value equal to or greater than the circling minimum.

Para 4.3.4.f) Runway Visual Range is not used.

Para 4.3.4.h) At aerodromes using Pan Ops procedures the following:

When a cumulative amount of BKN or more cloud is at, below or passes:

- a. highest alternate minimum,

- b. 300FT, 500FT, 1,000FT, in further 500FT increments up to the highest alternate minimum.

At all other aerodromes, the following:

Height above official aerodrome elevation of lowest cloud of amount BKN or more, when the height:

Decreases to a value equal to or less than the alternate minimum.

Decreases to a value equal to or less than the circling minimum.

Increases to a value equal to or greater than the circling minimum.

Increases to a value equal to or greater than the alternate minimum.

Para 4.3.4.i) The total reported cloud at or below the highest alternate minimum instead of the below 450M (1,500FT) in Annex 3

Para 4.3.4.j) Vertically visibility is not used in Australia.

Para 4.5.8 Not used in Australia.

Para 4.5.9 a) Does not comply.

Para 4.5.9.b) When gusts vary from a mean speed of 15KT or more by 10KT or more.

Para 4.7 Not used in Australia
Para 4.9.5 NSC is not used in Australia
Para 4.12.7 State of Runway not included in METAR/SPECI in Australia.

Chapter 5 Aircraft Observations and Reports

Para 5.7.2 Not used in Australia.

Chapter 6 Forecasts

Para 6.2.5. Australia uses the following:
Para 6.2.5.b) 1) 800M, 1,200M, 2KM, 4KM, 6KM, the highest alternate visibility.
Para 6.2.5.d) 1) 300FT, 500FT, 1,000FT, in further 500FT increments up to the highest alternate minimum.
Para 6.2.5.g) Vertical visibility is not reported in Australia.
Para 6.2.5 Australia uses in addition the following criteria:
Significant Front:
New expectation.
No longer expected.
Changes of one hour or more in expected time of passage.
Aircraft Icing or Turbulence:
New expectation.
Intensity increasing to moderate or severe.
Intensity decreasing from severe to light or from moderate to nil.
Paras 6.2.7, 6.2.8, 6.2.9, 6.2.10, 6.3.4, 6.3.5
BECMG is not used in Australia.
Paras 6.2.9, 6.3.4 Australia uses in addition the term INTER. The change indicator INTER is used only to describe changes which 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 time.
TEMPO defined in Australia for periods between 30 and 60 minutes.
Para 6.2.10 The term INTER as defined in 6.2.9 is also used in probability forecasts.
Para 6.2.11 FM followed by a 2 figure time group.
Para 6.2.13 Australia uses: When the visibility is less than 500M it should be expressed in steps of 50M; when it is 500M or more and less than 5KM, in steps of 100M. (As per WMO codes).
Para 6.2.14 NSW is replaced by "NO SIG WX" in Australia.
Para 6.2.15 Vertical visibility not forecast in Australia.
Para 6.2.15 NSC not used in Australia.
Para 6.2.16 Temperatures are forecast for 3 hourly period starting at commencement validity of the TAF, with a maximum of 4 forecast values given.
Para 6.3.3 Australia issues a Trend Type Forecasts (TTF) with 3 hour validity.
Paras 6.3.4, 6.3.5 Change indicators in use in Australia are FM, TEMPO and INTER. The term TILL is used to define end time of phenomena. The terms BECMG, TL and AT are not used.
Para 6.3.6 Australia, in addition to the change indicator TEMPO, uses change indicator INTER (Definition at 6.2.9 above).
The terms FM and TL are not used with INTER/TEMPO; instead, the start time and end time is used; eg, TEMPO 1100/1400.

Paras 6.3.8, 6.3.9, 6.3.10, 6.3.11

Australia uses the criteria for the issuing of METAR/SPECI as the basis for reporting changes in wind, visibility, weather and cloud.

Para 6.3.10

NSW is replaced by "NO SIG WX" in Australia.

Para 6.3.11

NSC is not used in Australia.

Para 6.3.12

Not used in Australia.

Para 6.4

Forecasts for take-off. TTF and TAF are used in Australia; no specific take-off forecast is issued.

Para 6.6

Plain language Area Forecasts issued in Australia.

Chapter 7

SIGMET and AIRMET information, Aerodrome Warnings and Wind Shear Warnings

Para 7.2.3

Australia does not issue SIGMET information for volcanic ash cloud and tropical cyclones in graphical format using the WMO BUFR code form.

Para 7.3.1

AIRMET, Australia issues AIRMET for cruising levels below FL120, variance as listed below;

Surface Wind Speed – winds of 40KT or more within 2,000FT of ground level.

Surface Visibility – the initial onset of phenomena producing extensive areas of visibility of less than 8KM.

Cloud – the initial onset of cloud coverage of BKN or more below 1,500FT above ground level.

Chapter 11

Requirements for and Use of Communications

Para 11.6.5

Aerodrome forecasts on VOLMET, period of validity 12, 18 or 24 hours are issued every 6 hours and amended as necessary.

ANNEX 5

UNITS OF MEASUREMENT TO BE USED IN AIR AND GROUND OPERATIONS (4th Edition)

Chapter 1

Definitions

Candela (cd):

Australia has adopted the following definition of Candela in accordance with the 16th CGPM (1979, Resolution 3) "The candela is the luminous intensity, in a given direction, of a source that emits monochromatic radiation of frequency 540×10^{12} hertz and that has a radiant intensity in that direction of 1/683 watt per steradian."

Knot (kt):

Australia's National Measurement Regulations specify the abbreviation of knot as 'kn'. The abbreviation 'kt' is used in aviation publications.

Nautical mile (NM):

Australia's National Measurement Regulations specify the abbreviation of nautical mile as 'n mile'. The abbreviation 'NM' is used in aviation publications.

Sievert (Sv):

Australia has adopted the following definition based on 16th CGPM, 1979, Resolution 5 and CIPM, 1984, Recommendation 1

"The sievert is the dose equivalent or dose equivalent index where:

- (a) an absorbed dose of ionising radiation equal to 1 gray is delivered to a biological material; and
- (b) the conditions under which the dose is delivered satisfy the formula:
 $Q \times N = 1$

where 'Q' is a factor that is the quality factor representing the effect on the detriment of the microscopic distribution of absorbed energy; and 'N' is a factor that is the product of all other modifying factors specified by the

International Commission on Radiological Protection as at the commencement of these regulations.”

Chapter 3 Standard Application of Units of Measurement

Para 3.2.1 Table 3-2. Non-SI units for use with the SI

Temperature, degree Celsius represented as ‘C’

Time, minute represented in upper case; ie ‘MIN’

Time, hour represented as ‘HR’

Para 3.2.2 Table 3-3. Non-SI alternative units permitted for temporary use with the SI

Speed, knot represented as ‘KT’

Para 3.3.1 Table 3-4. Standard application of specific units of measure

1.1 altitude – non-SI alternative unit used – ‘ft’ or represented as ‘FT’

1.3 distance (long) – non-SI alternative unit used – ‘NM’

1.5 elevation – non-SI alternative unit used – ‘ft’ or represented as ‘FT’

1.7 height – non-SI alternative unit used – ‘ft’ or represented as ‘FT’

**ANNEX 10 AERONAUTICAL TELECOMMUNICATIONS
VOL 1 (5th Edition), VOL 2 (5th Edition),
VOL 3 (1st Edition), VOL 4 (2nd Edition),
VOL 5 (2nd Edition)**

VOL 1 (Amendment No 76)

Paras 3.1.4.1 to 3.1.4.4

Legislation does not specify FM immunity requirements for ILS localizer and VOR airborne receiving systems.

Para 3.1.7.3.2

Australia does not meet the field strength requirements. Error suspected to exist in this paragraph of Annex 10.

Paras 3.3.8.1 to 3.3.8.4

Legislation does not specify FM immunity requirements for ILS localizer and VOR airborne receiving systems.

Paras 3.5.2.1 to 3.5.2.3

Standards applied for the specifications, fitment and operation of airborne DME equipment do not necessarily conform to the Annex standards.

Para 3.5.3.1.3.1

Standards applied for the specifications, fitment and operation of airborne DME equipment do not necessarily conform to the Annex standards.

Paras 3.5.3.4.1 to 3.5.3.4.4

Standards applied for the specifications, fitment and operation of airborne DME equipment do not necessarily conform to the Annex standards.

Para 3.5.4.1.5.1

Australia has not specified a peak pulse power density of approximately minus 83 dBW/m² at the maximum specified service range and level.

Paras 3.5.5.1.1 to 3.5.5.1.3

Standards applied for the specifications, fitment and operation of airborne DME equipment do not necessarily conform to the Annex standards.

Paras 3.5.5.1.4.1 to 3.5.5.1.4.3

Standards applied for the specifications, fitment and operation of airborne DME equipment do not necessarily conform to the Annex standards.

Paras 3.5.5.1.6 to 3.5.5.3.2.1

Standards applied for the specifications, fitment and operation of airborne DME equipment do not necessarily conform to the Annex standards.

Paras 3.5.5.3.2.3 to 3.5.5.4.1

Standards applied for the specifications, fitment and operation of airborne DME equipment do not necessarily conform to the Annex standards.

Paras 3.5.5.4.3.1 and 3.5.5.4.3.2

Standards applied for the specifications, fitment and operation of airborne DME equipment do not necessarily conform to the Annex standards.

Paras 3.11.6.1.1.1 to 3.11.6.1.4

Standards applied for the specifications, fitment and operation of airborne MLS equipment do not necessarily conform to the Annex standards.

VOL 2 (Amendment No 76)

Para 3.5.1.1.2 This is not specifically addressed in legislation.

Para 4.1.2.1 Australia also use:

Curly bracket { }

Square bracket []

Exclamation !

At/to @

Hash #

Dollar sign \$

Percent %

Accent ^

Ampersand &

Asterisk *

Para 4.4.3.1 The Switch recreates the heading of a message and in so doing utilises [<<_] instead of [<_]. This has no operational impact and is carried over from previous Annex10 requirements.

Paras 5.1.1.3, 5.1.2 and 5.1.7

This is not specifically addressed in legislation.

Paras 5.1.8.6 & 5.1.8.8

These standards are not specifically addressed in legislation.

Para 5.2.1.9.2.5 Australia does not use this term.

Paras 5.2.2.1.1.1 to 5.2.2.1.1.3

These standards are not specifically addressed in legislation.

Para 5.2.2.3.3 Australian practice is that the aeronautical station, not the aircraft station, would suggest an alternate frequency.

Paras 5.2.2.4.1, 5.2.2.5.3, 5.2.2.5.6 & 5.2.2.7.1.1

These are not specifically addressed in legislation.

5.2.2.7.1.2 Australia does not require the transmission of the message twice.

Paras 5.2.4.1.3 to 5.2.4.4.1

These standards are not specifically addressed in legislation.

Para 5.2.4.5.1 These standards are not specifically addressed in legislation.

Paras 5.3.2.5.1 to 5.3.2.5.3

These standards are not specifically addressed in legislation.

Paras 5.3.3.4.1 & 5.3.3.4.2

For civilian medical flights, Australia has adopted the following flight categories for the purpose of defining the priority which ATC must give to such flights in airspace or at aerodromes having high traffic movements – MERCY flights; MED 1 flights; MED 2 flights; HOSPITAL flights.

Para 7.2.1.2 Australia does not have any specification on rate of speech.

Para 8.2.8.5 “CURRENT DATA AUTHORITY” not included in the Downlink System Management Messages.

Paras 8.2.8.6.1 & 8.2.8.6.2

TAAATS will reject unexpected logons, not a FANS functionality.

Para 8.2.9.1.1

UL 40 is IMMEDIATELY STOP CLIMB AT [level]

UL 41 is IMMEDIATELY STOP DESCENT AT [level]

UL 129 is REPORT LEVEL [level]

Do not have UL 73 (departure clearance)

Do not have UL 183 – 235

DL 37 is LEVEL (level) instead of MAINTAINING (level)

DL 80 is DEVIATING [direction] [distance offset] OF ROUTE instead of DEVIATING UP TO (specified distance) (direction) OF ROUTE

DL 67b to 67g are DL 81, 83, 85, 82, 84, 86

Also have DL 67h WHEN CAN WE EXPECT TO CLIMB TO [level], and

DL 67i WHEN CAN WE EXPECT TO DESCEND TO [level].

Para 8.2.9.3.3.5 Australia does not restate the current clearance.

Para 8.2.9.3.3.6 Australia's CPDLC complies with the PANS part of this SARP, but FANS does not allow the predicative functionality.

Para 8.2.9.6.1 Australia has CPDLC transfer just before boundary, and voice at the boundary.

Para 8.2.9.6.2 Australia terminates CPDLC 10 minutes after boundary.

Paras 8.2.9.6.3.1 & 8.2.9.6.3.2

Australia is operating FANS CPDLC.

Para 8.2.10 Some messages are displayed slightly differently to the controller.

Para 8.2.12.2 & 8.2.12.3

Australia has ROGER MAYDAY (PAN).

Para 8.2.12.4 Not provided as it is not a FANS functionality.

Para 8.2.12.5.4 Australia has the procedure, but does not use the phrase.

Paras 8.2.14.1, 8.2.14.2.1 & 8.2.14.2.2

Not a FANS functionality.

Paras 8.2.14.3.1 to 8.2.14.3.4

Australia does not support downstream clearance delivery service.

Paras 8.2.14.3.5 & 8.2.14.4.1

FANS does not support downstream clearance delivery service.

Para 8.2.14.4.2 Australia does not support downstream clearance delivery service.

VOL 3 (Amendment No 76)

Paras 6.1.2.1 & 6.1.3.4

No software standards for airborne equipment are specified for VHF air-ground digital link.

Paras 6.3.1 to 6.4.1.1.2

No software standards for airborne equipment are specified for VHF air-ground digital link.

Para 6.4.1.1.3

No software standards for airborne equipment are specified for VHF air-ground digital link. Australian aircraft engaged in international operations are using equipment whose standards are the same as those used internationally.

Paras 6.4.3.1.3.1 to 6.9.5.5.2.2

No software standards for airborne equipment are specified for VHF air-ground digital link.

Para 9.1

There are no legislative requirements with regard to the aircraft addressing system. However, current practice is to assign a unique 24-bit aircraft address at the time of registration.

Paras 10.1.1 & 10.2.1

No standard set.

Para 11.2.3 & 11.2.3.1

Standards applied for the specifications, fitment and operation of HF data link airborne equipment do not necessarily conform to the Annex standards.

Paras 11.3.1.6, 11.3.1.11 & 11.3.2.4.4

No standard set.

Para 20.2.1.1.3

Australia's frequency band for airborne equipment is 118 to 136MHZ.

Para 20.2.1.1.4

Antenna polarisation is not specified for airborne equipment.

Para 20.2.3.1.1

Standards for the 25KHZ and 8.33KHZ channel spacings are not specified for airborne equipment.

Para 20.2.3.1.2

No standards are specified for effective radiated power for airborne equipment.

Para 20.2.3.1.3

Standards for the 25KHZ and 8.33KHZ channel spacings are not specified for airborne equipment.

Paras 20.2.3.1.4 & 20.2.3.1.5

Standards applied to the airborne equipment do not necessarily conform to the Annex standards.

Para 20.2.3.2.1

Standards for the 25KHZ and 8.33KHZ channel spacings are not specified for airborne equipment.

Paras 20.2.3.2.2.1 to 20.2.3.2.7

No standards are specified for receiver sensitivity for airborne equipment.

Para 20.2.3.2.8.1

No standards are specified for interference immunity for VDL technology for airborne equipment.

Paras 20.2.3.2.8.2 to 20.2.3.2.8.4.1

No standards are specified for the receiving function of installations intended to be used in independent operations of services applying DSB-AM and VDL technology.

Paras 20.2.3.3.1 to 20.2.3.3.4

Standards applied to the airborne equipment do not necessarily conform to the Annex standards.

Paras 20.2.4.1.1.1 to 20.2.4.1.2.1

Standards applied to the airborne equipment do not necessarily conform to the Annex standards.

Paras 20.2.4.1.4.1 to 20.2.4.1.8.2

Standards applied to the airborne equipment do not necessarily conform to the Annex standards.

Para 20.5.1.1 to 20.5.1.7

Australia permits the use of hand-held ELTs which do not necessarily conform to the Annex standards.

Para 20.5.1.8

No information register for ELT information is required.

Paras 20.5.2.1.1 to 20.5.3.2.2

Australia permits the use of hand-held ELTs which do not necessarily conform to the Annex standards.

VOL 4 (Amendment No 76)

Paras 2.1.3.1 to 3.1.2.10.5.5

Standards applied for the specifications, fitment and operation of airborne SSR transponders do not necessarily conform to the Annex standards.

Para 4.2

There are no standards specified for ACAS I.

Paras 4.3 & 4.4

Australian turbine powered commercial aeroplanes having a MTOW of more than 15,000KG, or having a passenger seating capacity in excess of 30 seats, are required to be fitted with TCAS II.

Para 4.5

There is no requirement for the extended squitter.

VOL 5 (Amendment No 76)

Paras 2.1.1 to 2.1.3

The requirement for 121.5MHZ is not specifically mandated.

Para 4.1.2.1

Australia uses 25KHZ separation.

Para 4.1.2.2.2

Australia does not use 8.33KHZ.

Para Paras 4.1.3.1.4 & 4.1.3.1.5

Australia does not continuously guard 121.5MHZ.