



Australian Government

Civil Aviation Safety Authority

Instrument number CASA 104/12

I, JOHN FRANCIS McCORMICK, Director of Aviation Safety, on behalf of CASA, make this instrument under:

- (a) subregulation 179A (1) of the *Civil Aviation Regulations 1988* (**CAR 1988**); and
- (b) regulation 11.160 of the *Civil Aviation Safety Regulations 1998* (**CASR 1998**); and
- (c) paragraph 3.1, subparagraph 12.1.1 (b) and paragraph 12A.5 of Civil Aviation Order 20.7.1B (**CAO 20.7.1B**).

[Signed John F. McCormick]

John F. McCormick
Director of Aviation Safety

26 March 2012

Instructions — RNAV (RNP-AR) approaches and departures

1 Duration

This instrument:

- (a) commences on the day after registration; and
- (b) stops having effect at the end of February 2015.

2 Dictionary

A dictionary for this instrument is in Schedule 4.

3 Application

The instructions in Schedule 1 apply to an RNAV (RNP-AR) approach or departure in I.M.C. under the I.F.R.

4 Instructions

The instructions in Schedule 1 are issued.

5 Exemption

- (1) This exemption applies to the Jetconnect trial.
- (2) Jetconnect is exempt from compliance with subparagraph (a) (ii) of the definitions of *authorised instrument approach procedure* and *authorised instrument departure procedure* in subregulation 178 (7) of CAR 1988.

6 Application — approval and specification

Section 7 applies to the conduct of the Jetconnect trial.

7 Approval and specification for CAO 20.7.1B

- (1) For the definition of *RNP-capable aeroplane* in paragraph 3.1 of CAO 20.7.1B, Boeing 737-800 aeroplanes operated by Jetconnect on RNAV (RNP-AR) IAP and IDP are approved for area navigation (RNAV).
- (2) For subparagraph 12.1.1 (b) and paragraph 12A.5 of CAO 20.7.1B:
 - (a) the Jetconnect trial is an approved RNP operation; and
 - (b) the appropriate RNP containment is at least 2 times the RNP type specified in an approved aircraft's AFM for the procedure.

8 Conditions

The Jetconnect trial must be conducted in accordance with the conditions in Schedule 3.

Schedule 1 Instructions

- 1 For an RNAV (RNP-AR) approach or departure, the pilot in command of the aircraft must use the authorised RNAV (RNP-AR) IAP or IDP.
- 2 The pilot in command may use an authorised RNAV (RNP-AR) IAP or IDP only when conducting an RNAV (RNP-AR) approach or departure for, and in accordance with, the Jetconnect trial.

Schedule 2 Jetconnect trial

The Jetconnect trial is the trial of authorised RNAV (RNP-AR) IAP and IDP that:

- (a) is described in the Jetconnect proposal and accepted by CASA; and
- (b) complies with the conditions mentioned in Schedule 3.

Schedule 3 Conditions

- 1 An RNAV (RNP-AR) approach or departure may only be conducted:
 - (a) by an approved pilot flying in a manner consistent with his or her level of training for the approach or departure being undertaken; and
 - (b) in a Jetconnect Boeing 737-800 aircraft that is an RNP-capable aeroplane for that approach or departure as identified in the AFM.
- 2 Subject to clause 3, an operation involving an RNAV (RNP-AR) approach or departure must be in accordance with the Jetconnect proposal and this instrument.
- 3 The Jetconnect proposal, and operations in accordance with it, may be amended only with the approval of CASA.
- 4 Subject to clause 5, an RNAV (RNP-AR) approach must be conducted at no lower than the RNAV (RNP-AR) decision altitude identified on the authorised RNAV (RNP-AR) IAP for the approach.

- 5 An RNAV (RNP-AR) approach must be conducted at no lower than the RNP limitation identified in the approved aircraft's AFM for the approach being undertaken.
- Note* Although the authorised RNAV (RNP-AR) IAP for the approach may permit a lower decision altitude as described in clause 4, the actual altitude must not be lower than the RNP capability of the aircraft at the time of the operation, taking into account unserviceabilities etc.
- 6 An RNAV (RNP-AR) departure must be conducted using an RNP type not less than the RNP limitation identified in the approved aircraft's AFM for the departure being undertaken.
- 7 Jetconnect must allow CASA, on request, to attend:
- (a) any simulator training undertaken for RNAV (RNP-AR) approaches and departures; and
 - (b) any line flight that includes an RNAV (RNP-AR) approach or departure.
- 8 Jetconnect must ensure that all RNAV (RNP-AR) approaches and departures are monitored by its Flight Operations Quality Assurance program, which must record at least the following events:
- (a) UNABLE REQ NAV PERF – RNP messages;
 - (b) XTK error exceeding 0.05 n miles;
 - (c) vertical deviation exceeding exceeding 100 ft above or 40 ft below the VNAV path;
 - (d) EGPWS warning;
 - (e) autoflight system disconnect;
 - (f) navigation data errors;
 - (g) pilot report of any anomaly.
- 9 Jetconnect must immediately tell CASA of any matter concerning an authorised RNAV (RNP-AR) IAP or IDP that relates to the safety of such approaches or departures at an Australian airport.
- 10 At all times during an authorised RNAV (RNP-AR) IAP or IDP, the pilot in command must ensure that:
- (a) for operations equal to or less than RNP 0.30, the approach or departure is flown by autopilot in LNAV and VNAV mode; and
 - (b) for operations greater than RNP 0.30, the approach or departure is flown in LNAV and VNAV; and
 - (c) the approach or departure is flown in accordance with the current approved navigation database setting out that approach or departure; and
 - (d) navigation performance scales showing the ANP are displayed to both pilots.
- 11 Before the trial begins for an aerodrome, Jetconnect must give CASA a study, acceptable to CASA, of:
- (a) the likely environmental effects of the conduct of the trial at the aerodrome; and
 - (b) the measures that would be taken by Jetconnect to mitigate those effects.
- 12 It is a condition of the trial that each of the measures mentioned in paragraph 13 (b), that is acceptable to CASA, is complied with.

Schedule 4 Dictionary

In this instrument:

AFM means aircraft flight manual.

ANP means actual navigation performance.

approved aircraft means an RNP-capable Boeing 737-800 aeroplane operated by Jetconnect for the purposes of the Jetconnect trial.

approved navigation database means a navigation database:

- (a) on a medium approved by the manufacturer of an approved aircraft as suitable for use with the aircraft; and
- (b) incapable of modification by the operator or flight crew of the approved aircraft in which it is installed.

approved pilot means a pilot, employed by Jetconnect, who has been trained by the approved Jetconnect CAR 217 training and checking organisation to conduct RNAV (RNP-AR) approaches and departures in accordance with the Jetconnect Operations Manual.

authorised RNAV (RNP-AR) IAP means an RNAV (RNP-AR) instrument approach procedure designed by a certified designer under Part 173 of the *Civil Aviation Safety Regulations 1998 (CASR 1998)*, with charts clearly marked “FOR CASA APPROVED OPERATORS ONLY”.

authorised RNAV (RNP-AR) IDP means an RNAV (RNP-AR) instrument departure procedure designed by a certified designer under Part 173 of CASR 1998, with charts clearly marked “FOR CASA APPROVED OPERATORS ONLY”.

FMS means flight management system.

Jetconnect means Jetconnect Limited of Auckland, New Zealand, Aviation Reference Number 590369.

Jetconnect proposal means the *RNP AR Terminal Project Plan V1.5* dated 9 August 2011.

Jetconnect trial means the trial mentioned in Schedule 2.

LNAV means lateral navigation.

RNAV means an area navigation system.

RNAV (RNP-AR) approach means an RNAV (RNP-AR) instrument approach in I.M.C. under the I.F.R. for which authorisation is required in Australia.

RNAV (RNP-AR) departure means an RNAV (RNP-AR) instrument departure in I.M.C. under the I.F.R. for which authorisation is required in Australia.

RNP means the required navigation performance as displayed to the flight crew by the FMS.

RNP-capable aeroplane means an aeroplane:

- (a) that is approved for area navigation (RNAV); and
- (b) that meets the RNP capability necessary for an approved RNP operation in accordance with the aeroplane’s flight manual; and
- (c) whose FMS permits the RNP type to be selected and displayed to the flight crew.

RNP type means a level of navigation performance capability expressed in nautical miles and specified in the approved aircraft's AFM to indicate the minimum navigation system requirements needed to operate in an area, on a route or in a procedure.

Example RNP 0.3.

VNAV means vertical navigation.

XTK error means the cross-track difference between the indicated position of the approved aircraft and the planned position as displayed to the flight crew by the FMS.
