I, BRUCE ROBERT GEMMELL, Acting Director of Aviation Safety, on behalf of CASA, make this instrument:

(a) under paragraphs 178 (6) (b) and (c) of the Civil Aviation Regulations 1988 (CAR 1988); and

(b) under paragraph 3.1, subparagraph 12.1.1 (b) and paragraph 12A.5 of section 20.7.1B of the Civil Aviation Orders (CAOs).

[Signed B. Gemmell]
Bruce Gemmell
Acting Director of Aviation Safety and
Chief Executive Officer

2 June 2005

Determination — instrument approach and departure procedures
Approval — RNAV RNP trial at Queenstown, New Zealand

1 Duration
This instrument:
(a) commences on the day after it is registered on the Federal Register of Legislative Instruments; and
(b) stops having effect at the end of March 2007.

2 Dictionary
A dictionary for this instrument is in Schedule 4.

3 Application — determination
Section 5 applies to the Qantas trial of RNAV (RNP) approaches and departures in I.M.C. under the I.F.R. into Queenstown using approved pilots in approved aircraft.

4 Application — approval and specification
Section 7 applies to the conduct of the trial mentioned in section 3.
5 Determination

(1) The procedures mentioned in Schedule 1 are determined as instrument approach procedures (IAP).

(2) The procedures mentioned in Schedule 2 are determined as instrument departure procedures (IDP).

6 Conditions

(1) The determination is subject to the conditions mentioned in Schedule 3.

(2) The determination has effect only while the IAP mentioned in Schedule 1 and the IDP mentioned in Schedule 2 are approved by the CAA NZ.

7 Approval and specification

(1) For the definition of RNP-capable aeroplane in paragraph 3.1 of section 20.7.1B of the CAOs, Boeing 737-800 aeroplanes are approved for area navigation (RNAV).

(2) For subparagraph 12.1.1 (b) and paragraph 12A.5 of that section, the trial mentioned in section 3 is an approved RNP operation.

(3) For subparagraph 12.1.1 (b) and paragraph 12A.5 of that section, the appropriate RNP containment is at least 0.36NM (2 x RNP 0.18).

Schedule 1 Instrument approach procedures

Queenstown, New Zealand

RNAV (RNP) RWY 23
RNAV (RNP) RWY 05

Schedule 2 Instrument departure procedures

Queenstown, New Zealand

RNAV (RNP) Standard Instrument Departure
RNP Bowen One
RNP Jardine One

Schedule 3 Conditions

1 Subject to this Schedule, operations involving approaches and departures must be in accordance with the Qantas proposal.

2 The Qantas proposal, and operations in accordance with it, may be amended only with the approval of CASA.

3 An approach in I.M.C. must be conducted no lower than the RNP 0.3 decision altitude.
4 A departure in I.M.C. must be conducted using at least RNP 0.18.
5 RMP capability of at least 0.18 must be identified in the AFM.
6 Qantas must allow CASA to attend:
   (a) any simulator training undertaken for approaches or departures; or
   (b) any line flight that includes approaches or departures.
7 Qantas must, at intervals not exceeding 3 months, report to CASA in writing the number of approaches flown and any of the following events that occur on each approach after passing the initial approach fix:
   (a) UNABLE REQ NAV PERF — RNP messages;
   (b) ANP exceeding 0.1 NM;
   (c) XTK error exceeds 0.05NM;
   (d) vertical deviation exceeding 100 ft above or 40 ft below the VNAV path;
   (e) EGPWS warning;
   (f) autoflight system disconnect;
   (g) nav data errors;
   (h) pilot report of any anomaly.
8 An incident form and a feedback form must be drawn to the attention of, and made available to, all persons who are involved in the trial. All of these persons must be encouraged to complete the forms, without fear or favour, for the purpose of the reports under clause 7.
9 Qantas must immediately inform CASA of any matter concerning the trial that relates to the safety of approaches.
10 An RNAV (RNP) approach must not be used to satisfy any planning requirements for alternate aerodromes.
11 Before commencing an approach, the pilot in command must ensure that:
   (a) at least 1 of the approved aircraft’s GNSS receivers is operational; and
   (b) updating of the FMS by DME is inhibited; and
   (c) the RNP type for the approach is loaded from the current approved navigation data base and selected by the flight crew.
12 At all times during an approach, the pilot in command must ensure that:
   (a) the approach is flown by autopilot in LNAV mode; and
   (b) the approach is flown in accordance with the current approved navigation data base setting out that approach; and
   (c) navigation performance scales showing the ANP are displayed to both pilots.
Schedule 4 Dictionary

In this instrument:

**AFM** means aircraft flight manual.

**ANP** means the actual navigation performance of the aircraft as displayed to the flight crew by the FMS.

**approaches** means RNAV (RNP) approaches in IMC under the I.F.R. by Qantas into Queenstown using approved pilots in approved aircraft.

**approved aircraft** means RNP-capable Boeing 737-800 aeroplanes operated by Qantas for the purposes of the trial mentioned in section 3.

**approved navigation data base** means a navigation data base:

(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 Qantas who has been trained by the approved Qantas CAR 217 training and checking organisation to conduct RNAV (RNP) operations in accordance with the Qantas Operations Manual.

**departures** means RNAV (RNP) departures in I.M.C. under the I.F.R. by Qantas from Queenstown using approved pilots in approved aircraft.

**FMS** means the flight management system of an aeroplane.

**GNSS** means the Global Navigation Satellite System, a satellite system used by the pilot on board an aircraft to determine position from satellite data.

**Qantas** means Qantas Airways Limited (Aviation Reference Number 216147).

**Qantas proposal** means the Stage 3 RNP RNAV implementation proposal to CASA contained in the document titled *Qantas B737-800 RNP RNAV Implementation Queenstown New Zealand April 2005 Version 1.6*.

**Queenstown** means Queenstown Aerodrome, New Zealand.

**RNAV** means an Area Navigation System.

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

**RNP-capable means aeroplane** means an aeroplane:

(a) which is approved for area navigation (RNAV); and

(b) which meets the RNP capability necessary for an approved RNP operation in accordance with the aircraft’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, for example RNP 0.3.
**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.