Instrument number CASA EX21/10

I, GREGORY JAMES HOOD, Acting Director of Aviation Safety, on behalf of CASA, make this instrument under regulation 308 of the Civil Aviation Regulations 1988 (CAR 1988).

Greg Hood
Acting Director of Aviation Safety

3 April 2010

Exemption — from standard take-off minima — Virgin Blue

1 **Duration**

This instrument:
(a) commences on the day after it is registered; and
(b) stops having effect at the end of 31 March 2012.

2 **Revocation**

Instrument CASA EX42/09 is revoked.

3 **Definitions**

In this instrument:

**ATC** means air traffic control.

**CAT** means category, and refers to Category I, Category II or Category III minima.

**DH** means decision height.

**ICUS** refers to a pilot and means in command under supervision.

**low visibility operation** or **LVO** means:
(a) a landing with less than CAT I minima; or
(b) a take-off with less than 550 m RV or RVR.

**runway zone** means the touch-down zone (TDZ), the mid-zone (MID) or the end zone (END) of a runway.

**RV** means runway visibility and is assessed by an approved observer and reported by ATC. RV only applies where the visibility is 350 m or more.

**RVR** means runway visual range and is measured by instrument and reported by ATC.
4 Application
This instrument applies only to aircraft mentioned in Schedule 1 operated by
Virgin Blue Airlines Pty Limited, Aviation Reference Number 567591 (the
operator), in an LVO take-off at an aerodrome when both of the following
apply:
(a) ATC is in operation;
(b) ATC has informed the pilot of the aircraft that low visibility procedures are
in force.

5 Exemption
Each aircraft operated by the operator is exempt from compliance with
regulation 257 of CAR 1988 in relation to the standard take-off minima
determined by CASA under subregulation 257 (1) of CAR 1988.
Note Details of the determination are set out in AIP En Route 1.5, sections 4.3.

6 Conditions
The exemption is subject to the following conditions:
(a) each aircraft must use not less than the aerodrome minima mentioned for it
in Schedule 1, in accordance with Schedule 1;
(b) the requirements mentioned in Schedule 2 must be complied with.

Schedule 1     Aerodrome minima for LVO take-offs

1 At aerodromes that have the facilities required to support LVO take-offs
installed and in operation, the following are the minima that may be used by the
aircraft mentioned.

2 Within Australia, an aerodrome's runways capable of supporting LVO take-offs
will be shown in the AIP or by NOTAM.

Take-off minima

1 Take-off minima, with TDZ, MID and END RVR measurements available, for
B737 (NG), ERJ 170 and ERJ 190 aircraft are:
   125 m RVR TDZ and 125 m RVR MID and 125 m RVR END;

2 Take-off minima with TDZ and either MID or END measurements available, for
B737 (NG), ERJ 170 and ERJ 190 aircraft are:
   (a) 200 m RVR TDZ and 200 m RVR MID or, if MID is not available, then
        200 m RVR END; and
   (b) 350 m RV TDZ and 350 m RV MID or, if MID RV is not available, then
        350 m RV END. For 350 m or greater RV TDZ, the pilot in command must
        act as the approved observer for the TDZ.
Note Also see Schedule 2, clause 10, for specific runway lighting and marking requirements.

Schedule 2     Requirements for LVO take-offs

Training

1 The LVO take-off training course syllabus covering ground training and flight
simulator training must be approved in writing by CASA.
Note A sample training course syllabus is in Annex A.
2 The operator, or an approved training organisation, must certify that each pilot of the aircraft has successfully completed the LVO take-off training course.

Pilot experience

3 A pilot is authorised for LVO take-offs on the aircraft only if he or she has successfully completed the aircraft type LVO take-off training in accordance with the approved training syllabus.

4 Subject to clause 5, unless CASA approves otherwise in writing for an aircraft type with an approved cross-crew qualification transition course, the following pilot experience is required to operate to the minima shown in Schedule 1:
   (a) for a captain - at least 100 hours as pilot in command or ICUS or dual in the left-hand seat on the aircraft type with the operator;
   (b) for a co-pilot - at least 50 hours on the aircraft type with the operator.

5 However, if a pilot occupying a control seat does not have the experience mentioned in clause 4, he or she is restricted to, for take-off, a cross-wind not exceeding 10 knots and minima of at least 200 m RVR.

Competency

6 For competency, each pilot of the aircraft occupying a control seat must have successfully completed, to the operator’s approved operational and meteorological limits, a flight simulator competency check that includes a take-off with a near \( V_1 \) engine failure (reject) and a \( V_1 \) engine failure (continue).

7 Unless otherwise approved in writing by a CASA Team Leader, Flying Operations, a pilot mentioned in clause 6 must complete 2 checks every 12 months as follows:
   (a) each check must demonstrate competency in each activity mentioned in clause 6;
   (b) for 1 of the 2 checks, competency must be demonstrated to an operational check captain of the relevant aircraft type;
   (c) not less than 4 months and not more than 8 months may elapse between each check.

   Note CASA will only approve otherwise in exceptional circumstances where prior testing, experience or other demonstration of competency is compelling evidence of equivalent safety.

8 A captain may not participate in an LVO take-off from the right-hand seat unless, at least once in the preceding 12 months, he or she has demonstrated to an operational check captain competency in the LVO from the right-hand seat.

Operational restrictions

Take-offs

9 For LVO take-offs, the following restrictions apply:
   (a) for minima — the pilot in command of the aircraft must use the most restrictive of the following:
      (i) the minima mentioned in Schedule 1 that apply to the type of operation or procedure in which the aircraft is engaged;
      (ii) the minima the aerodrome facilities will support at the time of the LVO;
      (iii) the minima approved by the aircraft operator;
      (iv) the minima approved by the relevant foreign aviation regulatory authority;
(v) the minima approved in the aircraft flight manual (as amended);
(b) the maximum cross-wind component for an aircraft conducting an LVO take-off is:
   (i) if any RVR is less than 200 m — 10 knots; or
   (ii) otherwise — 15 knots;
(c) the pilot flying must:
   (i) be a captain with the operator; and
   (ii) not be undergoing initial command training with the operator; and
   (iii) occupy the left-hand seat;
10 For LVO take-offs, the following runway lighting and markings are required:
(a) with RVR or RV at 350 m or more — high-intensity runway edge lights (HIRL) spaced at not more than 60 m and either runway centreline lighting (RCLL) or runway centreline markings (RCLM) are required;
(b) with less than 350 m RVR — HIRL spaced at not more than 60 m, RCLL spaced at not more than 15 m and RCLM are required.

**Aircraft equipment**

11 The aircraft equipment required to conduct an LVO take-off must be operating and must be maintained in accordance with the aircraft maintenance planning document.

**Foreign approvals**

12 An LVO take-off may be conducted at an aerodrome outside Australia only if each of the following has been complied with:
   (a) the operator has:
      (i) received approval to conduct the operation from the relevant foreign aviation regulatory authority; and
      (ii) given CASA a copy of the approval;
   (b) the LVO is conducted in accordance with the operator’s relevant foreign aviation regulatory authority approval.

**Document and procedure requirements**

13 The operator must ensure that there is an operations manual on board each aircraft containing the following:
   (a) all necessary crew procedures required for a safe LVO take-off, including a standard call for the pilot monitoring to advise the pilot flying of deviations from the runway centreline during take-off;
   (b) a list of aerodromes and runways approved for LVO take-offs (the list);
   (c) the minima for the approved aerodromes and runways in the list;
   (d) a copy of this instrument;
   (e) an abbreviated check list which must include all relevant information for:
      (i) briefing on low visibility take-offs; and
      (ii) identifying the aircraft equipment necessary for carrying out the LVO take-off;
The operator’s procedures for LVO take-offs must be in accordance with this instrument.

Annex A — LVO take-off training requirements
This is a sample training course syllabus as mentioned in clauses 1 and 3 of Schedule 2.

Training

(a) Ground training
Ground training must cover at least the following subjects:

- aerodrome visual aids, markings and lighting systems;
- the meaning of the phrase “clear of runway”, with respect to runway exit
  light colours;
- use and limitations of different types of RVR systems;
- characteristics of fog – homogenous and non-homogenous;
- effects of precipitation, ice accretion, low level windshear and turbulence;
- actions to be taken in the event ground equipment failures;
- correct seating and eye position.

(b) Flight simulator training
The simulator must be at least level C and type specific with correct visual
modelling.

Some exercises should be conducted at maximum take-off weight (to provide a
maximum split between \( V_1 \) and \( V_R \)) at approved (or applied for) RVR minima
with up to maximum cross-wind and where possible a mix of day and night
environments.

Taxi exercise
Use of the aerodrome chart in following cleared taxi route to and from the
runway and the terminal, identifying stop bars and CAT II and CAT III holding
points and using all options to check line up on the correct runway.

Take-off exercises
There must be a minimum of 8 take-offs resulting in becoming airborne or in a
RTO, covering the exercises below. Additional exercises should be conducted to
cover operator requirements and the above training requirements.

Instructors should demonstrate in visual conditions the effectiveness of the
localizer display or other lateral guidance equipment, as the aircraft deviates
from the runway centreline.

Some suggested exercises are:

- normal take-offs (2) (RVR 200 m, X/wind 15 kts – RVR in accordance with
  the take-off minima for the aircraft type, X/wind 10 kts);
- engine failure near \( V_1 \) (RTO) and engine failure at \( V_1 \) (continue);
- loss of visibility at low speed (RTO) and after 100 kts (continue);
- pilot (PF) incapacitation;
- deliberate runway centreline deviation.
Explanatory Statement

Civil Aviation Regulations 1988

Exemption — from standard take-off minima – Virgin Blue

Section 98 of the Civil Aviation Act 1988 (the Act) empowers the Governor-General to make regulations for the Act and the safety of air navigation.

Legislation

Under subregulation 257 (1) of the Civil Aviation Regulations 1988 (CAR 1988), CASA may determine the meteorological minima, that is the visibility requirements, for landing or take-off at an aerodrome. Under subregulation 257 (2), the determination must be published in AIP or NOTAMS. Under subregulation 257 (3), it is an offence for an aircraft to take off if an element of the meteorological minima for that operation is less than that determined for the aircraft at the aerodrome.

The determination of standard meteorological minima for take-off and landing was made in instrument CASA 146/08. The minima are also set out in AIP En Route 1.5, sections 4.3 and 4.4. If conditions are met, the minimum visibility for take-off inside or outside Australian territory is 500 metres (proposed to become 550 metres). An exemption would be required to operate in lesser minimum visibility.

Under subregulation 308 (1) of CAR 1988, CASA may exempt aircraft, or persons in, on, or otherwise associated with the operation of, the aircraft, from compliance with specified provisions of CAR 1988. Under subregulation 308 (2), before making an exemption, CASA must take into account any relevant considerations relating to the interests of safety. Under subregulation 308 (3), CASA may make an exemption subject to any condition specified in the exemption as being necessary in the interests of safety. Under subregulation 308 (3A), it is an offence to contravene a condition of an exemption that is otherwise being relied upon for an operation.

CASA has issued an instrument exempting various aeroplanes operated by Virgin Blue Airlines Pty Limited (Virgin Blue) from the standard meteorological minima for take-off. Following the approval of Melbourne airport for Category II and Category III operations, which enables operations to be conducted to lower minima than was previously permitted under those exemptions, as well as the intended upgrade of other Australian aerodromes, a review of the rules governing low visibility operations was conducted. The exemption revokes the previous instrument and states the lower minima for the various aeroplanes, as well as the conditions for their use. For instance, the use of the lower minima will require a higher standard of runway lighting (see clause 10 in Schedule 2).

In essence, the operator must ensure that specified visibility standards are met for take-offs that may be performed only at aerodromes properly equipped to support them. Flight crew training, experience, recency and competency must meet specified benchmarks. Aircraft equipment must be maintained. Operational restrictions and limitations must be observed. Appropriate foreign approvals for the operations must be obtained. A range of documents for inspection must be carried on board the aircraft.
**Legislative Instruments Act**
Under subparagraph 6 (d) (i) of the *Legislative Instruments Act 2003* (the *LIA*), an instrument is a legislative instrument for section 5 of the LIA if it is declared to be a disallowable instrument under legislation in force before the commencement of the LIA. Under subregulation 308 (4) of CAR 1988, an exemption is a disallowable instrument. The exemption is, therefore, a legislative instrument and it is subject to tabling and disallowance in the Parliament under sections 38 and 42 of the LIA.

**Consultation**
Consultation under section 17 of the LIA has not been undertaken in this case. The instrument is required by Virgin Blue to enable low visibility take-offs inside and outside Australian territory consistent with the standards and requirements specified in the instrument which are not considered prejudicial to the interests of safety.

**Office of Best Practice Regulation**
The exemption would be of beneficial effect to the operator. The Office of Best Practice Regulation does not require preparation of a Regulation Impact Statement in this case because a preliminary assessment of business compliance costs in the context of the nature of the instrument indicates that it will have only a nil to low impact on business.

**Making and commencement**
The exemption has been made by the Acting Director of Aviation Safety, on behalf of CASA, in accordance with subsection 73 (2) of the Act.

The instrument comes into effect on the day after it is registered. It stops having effect at the end of 31 March 2012.

[Instrument number CASA EX21/10]