



Australian Government
Civil Aviation Safety Authority

Instrument number CASA EX94/14

I, GERARD JOHN CAMPBELL, Executive Manager, Operations Division, a delegate of CASA, make this instrument under regulation 11.160 of the *Civil Aviation Safety Regulations 1998* and subsection 33 (3) of the *Acts Interpretation Act 1901*.

[Signed G.J. Campbell]

Gerard J. Campbell
Executive Manager
Operations Division

21 August 2014

Exemption – from standard take-off minima – Virgin Australia (B737 (NG) and ERJ 190 aircraft)

1 Definitions

In this instrument:

ATC means air traffic control.

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

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

LVO take-off means a take-off with less than 550 m RV or RVR.

runway zone means the touchdown 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.

2 Revocation

Instrument CASA EX125/13 is revoked.

3 Application

This instrument applies only to aircraft mentioned in Schedule 1 operated by Virgin Australia Airlines Pty Ltd, 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.

4 Exemption

Each aircraft operated by the operator is exempt from compliance with regulation 257 of the *Civil Aviation Regulations 1988 (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.

5 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.

6 Expiry

This instrument expires at the end of July 2017, as if it had been revoked by another instrument.

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

- 3 Take-off minima, with TDZ, MID and END RVR measurements available, for B737 (NG) and ERJ 190 aircraft are:
125 m RVR TDZ and 125 m RVR MID and 125 m RVR END.
- 4 Take-off minima with TDZ and either MID or END measurements available, for B737 (NG) 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; and
 - (c) the pilot flying must:
 - (i) be a captain with the operator;
 - (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 — runway edge lights 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 — high-intensity runway edge lights 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 LVO take-offs; and
 - (ii) identifying the aircraft equipment necessary for carrying out the LVO take-off.
- 14 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 of 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 an 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, cross-wind 15 knots — RVR in accordance with the take-off minima for the aircraft type, cross-wind 10 knots)
- engine failure near V_1 (RTO) and engine failure at V_1 (continue)
- loss of visibility at low speed (RTO) and after 100 knots (continue)
- pilot (PF) incapacitation
- deliberate runway centreline deviation.