CIVIL AVIATION AUTHORITY
OF NEW ZEALAND

**PURSUANT** to Sections 28, 29 and 30 of the Civil Aviation Act 1990

**I, Hon TIM MACINDOE, Associate Minister of Transport,**

**HEREBY MAKE** the following ordinary rules.

**SIGNED AT** Hamilton

This 18th day of September 2017

by **Hon TIM MACINDOE**

Associate Minister of Transport

**Civil Aviation Rules**

# Part 125, Amendment 22

# Air Operations - Medium Aeroplanes

***Docket 16/CAR/10***

# Contents

## Rule objective

The objective of amendment 22 to Part 125 is –

(1) to enable a performance-based set of options for determining landing distance calculation procedures as specified in rule 125.233; and

(2) to insert a performance-based rule for SEIFR passenger operations to have sufficient electrical supply to land safely in an emergency.

## Extent of consultation

A Notice of Proposed Rulemaking, NPRM 17-02, containing the proposed Small Issues rule amendments was issued for public consultation under Docket 16/CAR/10 on 20 February 2017.

The NPRM was published on the CAA web site and emailed to identified stakeholders including representative organisations who were considered likely to have an interest in the proposal.

A period of 29 days was allowed for comment on the proposed rule.

## Summary of submissions

Forty five written submissions and no oral comments were received on the NPRM. A summary of submissions for this NPRM is available on the CAA website. These submissions and comments have been considered. As a result of the consultation –

- the phrase ‘dispatch of’ is deleted in paragraphs (a) and (c) of Appendix D.1 as the phrase has fundamentally changed the base requirement to apply only to dispatch of an aircraft and excludes landing requirements; and

- the phrase ‘appropriate aerodrome data including, but not limited to, surface conditions and ambient weather,’ is inserted in paragraph (a)(2) of Appendix D.3, to clarify what ‘data’ refers to.

## Examination of submissions

Submissions may be examined by application to the Docket Clerk at the Civil Aviation Authority between 8:30 am and 4:30 pm on weekdays, except statutory holidays.

## Insertion of amendments

The amendments to the rules in this Part are reflected by-

(1) revoking and replacing rule 125.233 to give a holder of an air operator certificate the option of either calculating the landing distance of landing on a runway by using procedures approved by the Director, or as specified in Appendix D;

(2) revoking rule 125.235;

(3) revoking and replacing rule 125.361 to provide for a performance-based rule for SEIFR passenger operations to have sufficient electrical supply to land safely in an emergency; and

(4) inserting Appendix D to enable a performance-based set of options for determining landing distance calculation procedures (TALPA procedures or another procedure as specified in the Appendix).

## Effective date of rule

Amendment 22 to Part 125 comes into force on 30 October 2017.

## Availability of rules

Civil Aviation Rules are available from–

CAA web site: http://www.caa.govt.nz/
Freephone: 0800 GET RULES (0800 438 785)

## Part 125 Air Operations – Medium Aeroplanes

***Rule 125.233 is revoked and replaced with the following rule:***

### 125.233 Landing distance – runways

(a) A holder of an air operator certificate must ensure that, for each aeroplane it operates, the landing weight for the estimated time of landing will not exceed the landing weight specified in the aeroplane flight manual.

(b) A holder of an air operator certificate must use the following procedures for calculating the landing distance for an aeroplane on a runway:

(1) that have been approved under paragraph (c); or

(2) as provided in Appendix D.

(c) The Director may approve an application by a holder of an air operator certificate for procedures referred to in paragraph (b)(1) if satisfied of the following matters:

(1) whether or not the aeroplane proposed has performance data issued by the manufacturer supporting the procedures that is available for use by the pilot or flight crew; and

(2) whether the operator has reliable access to either –

(i) accurate, real time reporting on runway conditions that is appropriate for the procedures to be used; or

(ii) data that enables the operator to identify equivalent conditions; and

(3) the margin of error that should be applied when calculating landing distance using the procedures which must take into account the following:

(i) the implications of pilot technique on landing distance;

(ii) the implications of unexpected environmental conditions at the destination aerodrome;

(iii) whether the calculation is being undertaken at the dispatch stage or en-route;

(iv) whether the margin of error is supported by the reporting of the runway conditions; and

(4) whether all personnel involved in the reporting of runway conditions, calculation of data and operation of the flight have had appropriate training in the use of the procedures.

***Rule 125.235 is revoked:***

### 125.235 Landing distance – wet and contaminated runway [*Revoked*]

***Rule 125.361 is revoked and replaced with the following rule:***

### 125.361 Instrument flight rules

(a) Except as provided in paragraph (b), a holder of an air operator certificate must ensure that every aeroplane that is operated under IFR under the authority of the certificate is equipped with—

(1) the following that must be in addition to, and independent of, the instruments and equipment required under Subpart F of Part 91:

(i) a means of indicating airspeed, calibrated in knots, with a means of preventing malfunctioning due to either condensation or icing;

(ii) a means of indicating sensitive pressure altitude calibrated in feet; and

(2) spare bulbs for flight compartment instrument illumination; and

(3) spare fuses.

(b) An additional means of indicating aeroplane attitude, powered by a power source that is separate from the power source for the attitude indication required under Subpart F of Part 91, may be installed instead of the additional means of indicating air speed required by paragraph (a)(1)(i).

(c) A holder of an air operator certificate must ensure that each aeroplane that is used to conduct a SEIFR passenger operation under the authority of the certificate is equipped with an emergency electrical supply system with sufficient capacity for the following in the event that all engine-powered electrical generating systems fail:

(1) the extension of landing gear, if appropriate;

(2) the extension of flaps;

(3) the operation of those aeroplane systems essential for continued safe IFR flight and landing, including those required by paragraphs (d)(3), (d)(4), and (d)(5);

(4) the descent of the aeroplane from maximum operating altitude to sea level, assuming the aeroplane is configured in the optimum gliding configuration and operated at the optimum still air range gliding speed for the descent, plus one attempt at engine restart.

(d) A holder of an air operator certificate must ensure that each aeroplane that is used to conduct a SEIFR passenger operation under the authority of the certificate is equipped with—

(1) an additional independent engine-powered electrical generating system capable of supplying adequate electrical power for all the required electrically operated instruments and systems and;

(2) an additional attitude indicator, powered by an independent source; and

(3) an area navigation system capable of being programmed with the positions of aerodromes and emergency landing sites en-route that is—

(i) certified for IFR by the navigation system manufacturer; and

(ii) permanently installed in the aeroplane; and

(iii) powered by the aeroplane's emergency electrical supply system; and

(4) a radar altimeter or radio altimeter that is powered by the aeroplane's emergency electrical supply system; and

(5) a landing light that is powered by the aeroplane's emergency electrical supply system; and

(6) for a pressurised aeroplane, sufficient additional oxygen for every occupant for the period that is required for the aeroplane to descend safely from its cruising level to a cabin altitude of 14,000 feet following engine failure assuming—

(i) the maximum cabin leak rate; and

(ii) the best range gliding speed for the aeroplane; and

(iii) the best gliding configuration for the aeroplane; and

(7) a powerplant installation that has been certificated by an ICAO Contracting State to FAR 33, Amendment 28, or equivalent airworthiness standards, and is equipped with—

(i) an ignition system that activates automatically, or is capable of being operated manually, for take-off and landing, and during flight in visible moisture and is designed to be capable of operation for the full duration of any flight; and

(ii) a magnetic particle detector system that monitors the engine and reduction gearbox lubrication systems, and includes a flight deck caution indicator; and

(iii) an engine control system that permits continued operation of the engine through a power range sufficient to allow diversion to a suitable aerodrome and landing in the event the fuel control unit fails or malfunctions; and

(iv) an engine fire warning system.

(e) If the magnetic particle detector system required by paragraph (d)(7)(ii) incorporates a method to remove detected particles without the removal of the particle detector from the engine or without examining the particles, the holder of the air operator certificate must ensure that each particle detection occurrence indicated by the particle detection system is recorded in the technical log as soon as practicable after the indication.

***Insert Appendix D after Appendix C:***

# Appendix D — Landing Distance Assessments for Runways

## D.1 Permitted landing distance assessments – Dry runway

A holder of an air operator certificate must carry out the following procedures under rule 125.233(b)(2) for calculating the landing distance where a runway is dry:

(a) A holder of an air operator certificate must ensure that, for each aeroplane it operates, the landing weight for the estimated time of landing allows a full-stop landing from 50 feet above the threshold within 70% of the landing distance available assuming that the aeroplane is landed.

(b) When calculating the landing weight in under paragraph (a), the holder of an air operator certificate must take account of—

(1) aerodrome elevation; and

(2) ambient temperature at the aerodrome; and

(3) the type of runway surface and the runway surface condition; and

(4) the runway slope in the direction of landing; and

(5) not more than 50% of the reported headwind component or not less than 150% of the reported tailwind component.

(c) For an aeroplane to land as specified in paragraphs (b) and (c), it is assumed that the aeroplane will land on the most favourable runway taking into account—

(1) the forecast meteorological conditions; and

(2) surrounding terrain; and

(3) approach and landing aids; and

(4) obstacles within the missed approach flight path.

(d) If the holder of an air operator certificate is unable to comply with paragraph (c) for the destination aerodrome, the aeroplane may be dispatched if an alternate aerodrome is designated that permits compliance with paragraphs (a), (b), and (c).

## D.2 Permitted landing distance assessments – Wet or contaminated runway

A holder of an air operator certificate must carry out the following procedure under rule 125.233(b)(2) for calculating the landing distance where a runway is wet or contaminated –

ensure that, for each aeroplane it operates, when the appropriate weather reports or forecasts or a combination of them, indicate that the runway at the estimated time of arrival of its aeroplane may be wet or contaminated, the landing distance available is at least 115% of the landing distance required by paragraph D.1.

## D.3 TALPA procedures

A holder of an air operator certificate must carry out the following procedures under rule 125.233(b)(2) that provides for calculation of the landing distance for a runway –

(1) utilising TALPA performance data provided by the aeroplane manufacturer to enable inflight calculation of landing performance by the flight crew as specified in the manufacturer's recommendations; and

(2) utilising appropriate aerodrome data including, but not limited to, surface conditions and ambient weather, on runway conditions.