

BL 8-1

Regulations on calibration of aeronautical installations etc. from the air etc.*

Edition 1, 10 July 2001

In pursuance of § 52 and subsection (10) of § 149, of the Danish Air Navigation Act, cf. Consolidation Act no. 543 of 13 June 2001, the Civil Aviation Administration - Denmark hereby stipulates as follows on the authority of the Ministry of Transport, cf. Order no. 810 of 19 November 1998 of on delegation of authorities to the Civil Aviation Administration - Denmark and on publication of the Regulations issued by the Administration:

1. Reference documents

1.1 Annex 10 to the Chicago Convention, Aeronautical Telecommunications, Volumes I, II and IV, latest edition.

1.2 Annex 14 to the Chicago Convention, Aerodromes, Volume I, Aerodrome Design and Operation, latest edition.

1.3 ICAO Doc 8071, Manual on Testing of Radio Navigation Aids, Volumes I and III, latest edition.

1.4 ICAO Doc 8168, Aircraft Operations, Volume II - Construction of Visual and Instrument Flight Procedures, latest edition.

1.5 ICAO Doc 9157, Aerodrome Design Manual, Part 4, Visual Aids, latest edition.

1.6 BL 3-3, Radio navigation and radio landing aids on ground, latest edition.

1.7 BL 3-12, Working activities at public aerodromes, latest edition

1.8 BL 3-38, Regulations on the use of geographical co-ordinates, latest edition.

1.9 BL 7-22, Regulations on VHF radio installations on the ground for speech communication, latest edition.

1.10 BL 8-2, Regulations on establishment and operation of a Flight Calibration Organisation (FCO) that may calibrate aeronautical installations by aircraft etc., latest edition.

1.11 The brochure "Quality Assurance" issued by the Civil Aviation Administration - Denmark, latest edition.

1.12 The documents mentioned in paragraphs 1.1-1.11 can be bought on application to

* The draft BL has been notified to the European Commission in accordance with the provisions in the European Parliament's and Council Directive 98/34/EEC (the information procedure directive) as amended most recently by Directive 98/48/EEC.

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2. Definitions

Aeronautical installation:

A term covering a number of technical installations the purpose of which is to contribute to getting through air traffic, including communication, navigation and radar equipment and lighting installations on the ground as well as related procedures.

Flight Calibration Organisation (FCO):

An organisation approved by the Civil Aviation Administration - Denmark to carry out calibrations from the air by aircraft of installations where such calibration flights are required in accordance with BL 8-1.

NOTAM (Notice to Airmen):

A notification distributed by means of telecommunication about the establishment, status or change of aeronautical installations, services, procedures or danger activities, knowledge about which is of essential importance to the carrying through of flight operations.

Licence holder:

Licence holder in this BL shall mean any person having obtained a permission to establish and operate a public aerodrome or a civil area of a military aerodrome, or any person having obtained a permission to operate a flight control unit which is not attached to a specific aerodrome.

3. Applicability

This BL lays down regulations on calibration of installations within Danish territory and within areas where Denmark according to international agreements is obliged to exercise air navigation services.

4. General

4.1 The licence holder shall ensure that the installations and related procedures mentioned in paragraph 5.1 are calibrated within the deadlines/with the intervals mentioned in Part 6, and to ensure that calibration is only carried out by calibration organisations (FCOs) approved by the Civil Aviation Administration - Denmark.

Note: Regulations on approval of calibration organisations (FCO) are contained in BL 8-2.

4.2 The licence holder shall discontinue operation of an installation

- a. if calibrations or anything else indicate that the installation does not meet the requirements, cf. subsection (4) of § 60 of the Danish Air Navigation Act,
- b. if routine calibration, cf. Part 6, has not been carried out within the stipulated deadlines, and
- c. in the cases stated in the operational and maintenance instruction for the installation.

4.3 Any change in the carrying out of calibration shall in each individual case be approved by the Civil Aviation Administration - Denmark.

4.4 The licence holder shall ensure that all activities, including maintenance work, extensions and new activities within the aerodrome area and in the immediate vicinity of the aerodrome, are co-ordinated so that unintentional influence of the radiated signals from aeronautical installations are avoided.

5. Commissioned calibration

5.1 Calibration shall be carried out on a new established installation, in connection with upgrading to a higher category (ILS) and/or in connection with major changes of an existing installation. Such calibration is called commissioned calibration.

Note: If a licence holder is in doubt whether there is a need for carrying out calibration, he shall contact the Civil Aviation Administration - Denmark for clarification, cf. subsection (4) of § 60 of the Danish Air Navigation Act.

5.2 Commissioned calibration shall be carried out for the following installations with related procedures before being taken into operation:

- a. Direction-finding stations (VDF).
- b. Communication installations (COM) as regards the coverage area.
- c. Instrument landing system (ILS), including marking beacons (MM/OM) or DME.
- d. Localizer (LLZ) alone, including marking beacons (MM/OM) or DME:
- e. Directional radio beacon (VOR).
- f. Omnidirectional radio beacon (NDB and L).
- g. Direction measuring equipment (DME).
- h. Marker radio beacon (MKR).
- i. Radar as regards coverage area and mapping.
- j. Visual ground landing aids (APAPI/PAPI/PLASI).
- k. Approach landing systems.
- l. Photo recording installations.
- m. Visual flight procedures.
- n. Instrument flight procedures.

Note 1: Regulations on ground radio communication installations can be found in BL 7-22 and international standards can be found in ICAO Annex 10, Volume II.

Note 2: Regulations on Radio navigation and radio landing aids on ground can be found in

BL 3-3 and international standards can be found in ICAO Annex 10, Volumes I and III.

Note 3: International standards for surveillance radar and anti collision systems can be found in Annex 10, Volume IV.

Note 4: International standards for visual landing aids can be found in ICAO Annex 14, Volume I.

Note 5: International standards for construction of visual and instrument flight procedures can be found in ICAO Doc 8168, Volume II.

Note 6: Parameters to be calibrated and their tolerances can be found in ICAO Doc 8071, Manual on Testing of Radio Navigation Aids, Volume I: Testing of Ground-based Radio Navigation Systems.

6. Routine calibration

6.1 In addition to the commissioned calibration the installations and related procedures mentioned in paragraph 5.2 shall subsequently be calibrated on a routine basis according to the deadlines and intervals stated in appendix 1 to this BL.

6.2 The tolerances stated in appendix 1 may be used, but not exceeded.

6.2.1 The Civil Aviation Administration - Denmark may, however, in special cases and after substantiated application, approve an exceeding of the tolerance.

6.3 If a calibration lasts for more than one day, the time for the next calibration shall be calculated from the day when the calibration was initiated.

7. Site survey

The licence holder may request calibration to evaluate the suitability of an area to establish a given installation by test establishment (site survey).

8. Supplementary calibration

8.1 The Civil Aviation Administration - Denmark may at any time require a supplementary calibration be carried out, or such calibration may be requested by the licence holder himself.

8.2 Reasons for carrying out supplementary calibration may be:

- Receipt of an error report from operative users or from the responsible technical organisation, cf. BL 3-3.
- Noting of unusual deviation of course and/or course structure. The deviation need not be outside tolerance to occasion supplementary calibration.
- Changes in the surroundings within the critical and sensitive areas.
- Signs of instability noted on going through the operational record and/or recorded measuring values.
- If it is noted that operation and maintenance of the installation has not been made in accordance with the approved instruction.

8.3 The licence holder shall be under the obligation to notify the Civil Aviation Administration - Denmark if supplementary calibration is requested.

9. Carrying out of calibration

9.1 The licence holder shall ensure that the necessary wiring is available at the individual installations. The licence holder shall further ensure position determinations in WGS84 for theodolite positions, if relevant.

Note: Regulations on the use of geographical co-ordinates can be found in BL 3-38.

9.2 The licence holder shall make available technical experts in connection with preparation and completion of calibration.

9.3 The licence holder shall ensure that the necessary technical data for the systems

to be calibrated are delivered to the flight calibration organisation

9.4 The licence holder shall ensure the necessary co-ordination with the relevant air traffic services unit and technical organisation regarding the completion of calibration.

9.5 The licence holder shall keep documentation for calibration for 5 years. Documentation for the commissioned calibration, cf. Part 5, shall, however, be kept for as long as the installation is operational.

9.6 The licence holder shall ensure that registered monitor values are delivered to the flight calibration organisation after completion of the calibration.

9.7 Immediately after completion of a calibration the flight calibration organisation shall submit a preliminary report to the licence holder. This report shall contain a recommendation indicating whether the installation shall continue in operation or whether it shall be taken out of operation.

9.8 If, on the basis of the preliminary calibration report, the licence holder decides to take the installation out of operation, he shall immediately occasion the publication of a NOTAM about this.

9.8.1 The installation may not be taken into operation again until after a detailed evaluation in the Civil Aviation Administration - Denmark or when renewed calibration has been completed with satisfactory result.

9.8.2 The licence holder shall immediately inform the Civil Aviation Administration - Denmark about any calibration resulting in a closing down of the installation.

Note: The flight calibration organisation shall submit copy of the measuring results, including copy of the preliminary report, to the Civil Aviation Administration - Denmark not later than 30 days after completing calibration.

10. Exemption

The Civil Aviation Administration - Denmark may in quite exceptional cases grant exemption from the regulations in this BL when it is deemed compatible with the considerations on which the regulations in question are based.

11. Punishment

11.1 Violation of the regulations in Parts 4 and 5, paragraphs 6.1 and 6.2 and Part 9 is punishable with fine.

11.2 Criminal liability may be imposed on companies etc. (legal persons) under the rules of Chapter 5 of the Danish Criminal Code, cf. subsection (14) of § 149 of the Danish Air Navigation Act.

18. Implementation

This BL comes into force on 15 August 2001.

Civil Aviation Administration - Denmark, 10 July 2001

Ole Asmussen

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Appendix 1

System	Type	Commissioned calibration	Deadline and tolerance for calibration, cf. Part 6
COM	Direction-finding stations (VDF)	Yes	Yearly / +30 days
	Communication installations (COM)	Yes	
NAV	ILS, including marking beacons	Yes	180 days / +20 days
	LLZ alone, including marking beacons	Yes	180 days / +20 days
	Directional radio beacon (VOR)	Yes	Yearly / +30 days
	Omnidirectional radio beacon (NDB)	Yes	
	Direction measuring equipment (DME)	Yes	As for the system to which the DME is bound, however yearly as a minimum
	Marker radio beacon	Yes	As for the system to which the marker radio beacon is bound, however yearly as a minimum
RADAR	Coverage	Yes	
	Mapping	Yes	In connection with major change of mapping
AGA	APAPI/PAPI/PLASI	Yes	Yearly / +30 days
	Approach landing systems	Yes	
Diverse	Photo recording installations	Yes	Yearly / +30 days
PANS-OPS	Visual flight procedures	Yes	
	Instrument flight procedures	Yes	