

European Regional Aerodromes Community



Aerodromes Rules Implementation Conference

Cologne, Hyatt Hotel
26-27 November 2014
Thomas Mayer



**small airport's perspective on implementation of
regulation 139/2014**

Challenging to all parties involved



**The reminder since beginning of ADR-rulemaking (and before):
MEMENTO FOR AVIATION RULEMAKERS (Dr. Pierre Moreillon, Lausanne)**

1. IS THERE A NEED FOR RULEMAKING OR FOR A DECISION?
2. RULES AND DECISIONS HAVE TO BE USEFUL, NECESSARY OR ACCEPTABLE FOR AVIATION
3. ONE RULE DOES NOT FIT ALL
4. RECOMMENDATIONS ARE NOT STANDARDS
5. THERE IS NO NEED FOR RECOMMENDATIONS TO BECOME STANDARDS
6. AVIATION KNOWLEDGE IS A PREREQUISITE FOR COMPREHENSIVE REGULATION
7. STAKEHOLDER INVOLVEMENT DOES NOT AFFECT AUTHORITY

**Memento
also applies for implementation!**

Challenging implementation

- Part AR: Competent authorities are needed urgently for:
 - certification (adequate processes),
 - oversight (adequate in total) and
 - to prescribe special conditions (aviation knowledge is a must-have!)
- OR.B.025: Demonstration of compliance, ... (a)(iii) that the flight procedures of the aerodrome have been approved
- OR.C.005 Aerodrome operator responsibilities
 - The aerodrome operator shall ensure directly, or coordinate through arrangements as required with the accountable entities providing the following services:

Challenging implementation

- (1) the provision of air navigation services appropriate to the level of traffic and the operating conditions at the aerodrome; and
- (2) the design and maintenance of the flight procedures, in accordance with the applicable requirements.

- OR.D.005 Management system (and SMS)
 - (d) The management system shall be proportionate to the size of the organisation and its activities, taking into account the hazards and associated risks inherent in these activities.

Excellent!

Challenging implementation

SUBPART B — AERODROME OPERATIONAL SERVICES, EQUIPMENT AND INSTALLATIONS (ADR.OPS.B)

Aerodrome emergency planning,

Wildlife strike hazard reduction,

Operation of vehicles,

Fuel quality,

Low visibility operations

Challenging implementation

SUBPART B — AERODROME OPERATIONAL SERVICES,
EQUIPMENT AND INSTALLATIONS (ADR.OPS.B)

Regulation 965/2012:

SPA.LVO.115 Aerodrome related requirements

- (a) The operator shall not use an aerodrome for LVOs below a visibility of 800 m unless:
 - (1) the aerodrome has been approved for such operations by the State of the aerodrome;

Challenging implementation

OPS.B.090 Use of the aerodrome by higher code letter aircraft

ICAO Annex 14, chapter 1:

*It is not intended to
or regulate the specifications limit
of an aircraft.*

Inconsistency?

Challenging implementation

ICAO-PANS aerodrome

The Air Navigation Commission, during its final review of Amendment 10 to Annex 14, Volume I, in June 2008, expressed the view that Annex 14, Volume I, was primarily a design document, and the SARPs therein were appropriate for designing new aerodromes. At existing aerodromes where full compliance with Standards cannot be achieved, alternative measures may be required in order to accommodate a specific type of aeroplane.

first edition is scheduled for applicability on **12 November 2015**.

CS and ICAO Annex 14

ADR.AR.C.025 Special conditions

(a) The Competent Authority shall prescribe special detailed technical specifications, named special conditions, for an aerodrome, if the related certification specifications issued by the Agency referred to in point ADR.AR.C.020(a) are **inadequate or inappropriate**, to ensure compliance with the essential requirements of Annex Va to Regulation (EC) No 216/2008, because:

(1) the certification specifications **cannot be met due to physical, topographical or similar limitations** related to the location of the aerodrome

CS and ICAO Annex 14

Limitation of rwy-slope 2 % (CS ADR-DSN.B.060 and ICAO Annex 14, 3.1.13 - recommendation)

EASA

AIRPLANE FLIGHT MANUAL

EMBRAER S.A.

THIS DOCUMENT INCLUDES ALL INFORMATION REQUIRED TO BE FURNISHED TO THE PILOTS BY THE EASA CERTIFICATION SPECIFICATIONS (CS-23) AND IS APPROVED BY THE ANAC ON BEHALF OF THE EUROPEAN AVIATION SAFETY AGENCY (EASA). THIS DOCUMENT IS APPLICABLE TO THE EMB-505 AIRPLANE.

NOTE: PHENOM 300 IS A COMMERCIAL DESIGNATION USED IN THIS MANUAL TO REFER TO THE EMB-505 AIRPLANES.

ANAC APPROVAL: _____

ADEMIR ANTONIO DA SILVA
GERENTE-GERAL DE CERTIFICAÇÃO DE
PRODUTO AERONÁUTICO

DATE: 29 April 2010

REGISTRATION NUMBER: _____

SERIAL NUMBER: _____

RUNWAY

Runway Slope -2% TO +2%

Runway Surface Type PAVED

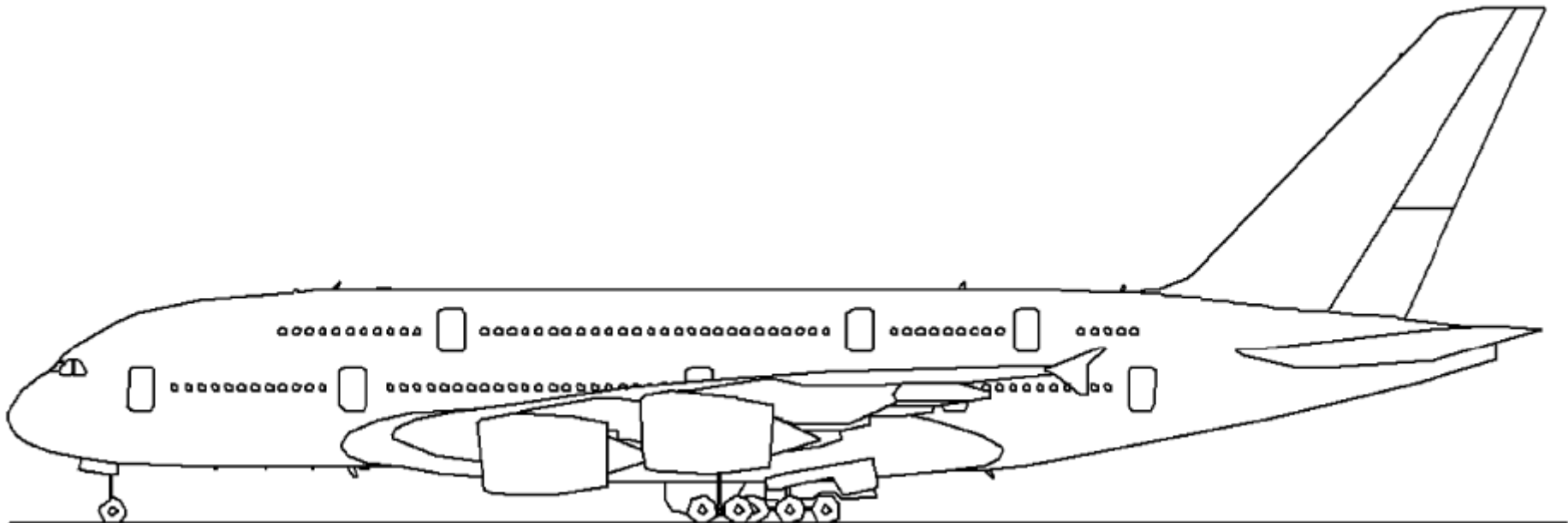
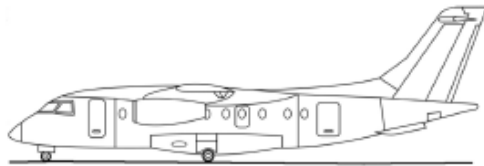
AFM-2666

APRIL 29, 2010

REVISION 3 – NOVEMBER 11, 2011

CS and ICAO Annex 14

Width of rwy-strip 300 m (CS ADR-DSN.B.160 and ICAO Annex 14, 3.4.3 – standard)



CS and ICAO Annex 14

1.6 Reference code

Introductory Note.— The intent of the reference code is to provide a simple method for interrelating the numerous specifications concerning the characteristics of aerodromes so as to provide a series of aerodrome facilities that are suitable for the aeroplanes that are intended to operate at the aerodrome. The code is not intended to be used for determining runway length or pavement strength requirements. The code is composed of two elements which are related to the aeroplane performance characteristics and dimensions. Element 1 is a number based on the aeroplane reference field length and element 2 is a letter based on the aeroplane wingspan and outer main gear wheel span. A particular specification is related to the more appropriate of the two elements of the code or to an appropriate combination of the two code elements. The code letter or number within an element selected for design purposes is related to the critical aeroplane characteristics for which the facility is provided. When applying Annex 14, Volume I, the aeroplanes which the aerodrome is intended to serve are first identified and then the two elements of the code.

1.6.1 An aerodrome reference code — code number and letter — which is selected for aerodrome planning purposes shall be determined in accordance with the characteristics of the aeroplane for which an aerodrome facility is intended.

CS and ICAO Annex 14

Table 1-1. Aerodrome reference code
(see 1.6.2 to 1.6.4)

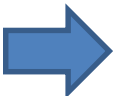
Code element 1			Code element 2	
Code number (1)	Aeroplane reference field length (2)	Code letter (3)	Wingspan (4)	Outer main gear wheel span ^a (5)
1	Less than 800 m	A	Up to but not including 15 m	Up to but not including 4.5 m
2	800 m up to but not including 1 200 m	B	15 m up to but not including 24 m	4.5 m up to but not including 6 m
3	1 200 m up to but not including 1 800 m	C	24 m up to but not including 36 m	6 m up to but not including 9 m
4	1 800 m and over	D	36 m up to but not including 52 m	9 m up to but not including 14 m
		E	52 m up to but not including 65 m	9 m up to but not including 14 m
		F	65 m up to but not including 80 m	14 m up to but not including 16 m

a. Distance between the outside edges of the main gear wheels.

Aeroplane reference field length. The minimum field length required for take-off at maximum certificated take-off mass, sea level, standard atmospheric conditions, still air and zero runway slope, as shown in the appropriate aeroplane flight manual prescribed by the certifying authority or equivalent data from the aeroplane manufacturer. Field length means balanced field length for aeroplanes, if applicable, or take-off distance in other cases.

CS and ICAO Annex 14

Information for air operator – AIP and NOTAM

- Elevation
 - TORA, TODA, ASDA, LDA
 - SID, STAR, APPCH-charts
 - Obstacle situation (type A-chart) 
 - PCN, load capacity
 - Width of RWY and TWY
 - RFF-category
 - etc.
- **No information about ARC**
 - **No details on aerodrome-approval or -certification**

CS and ICAO Annex 14

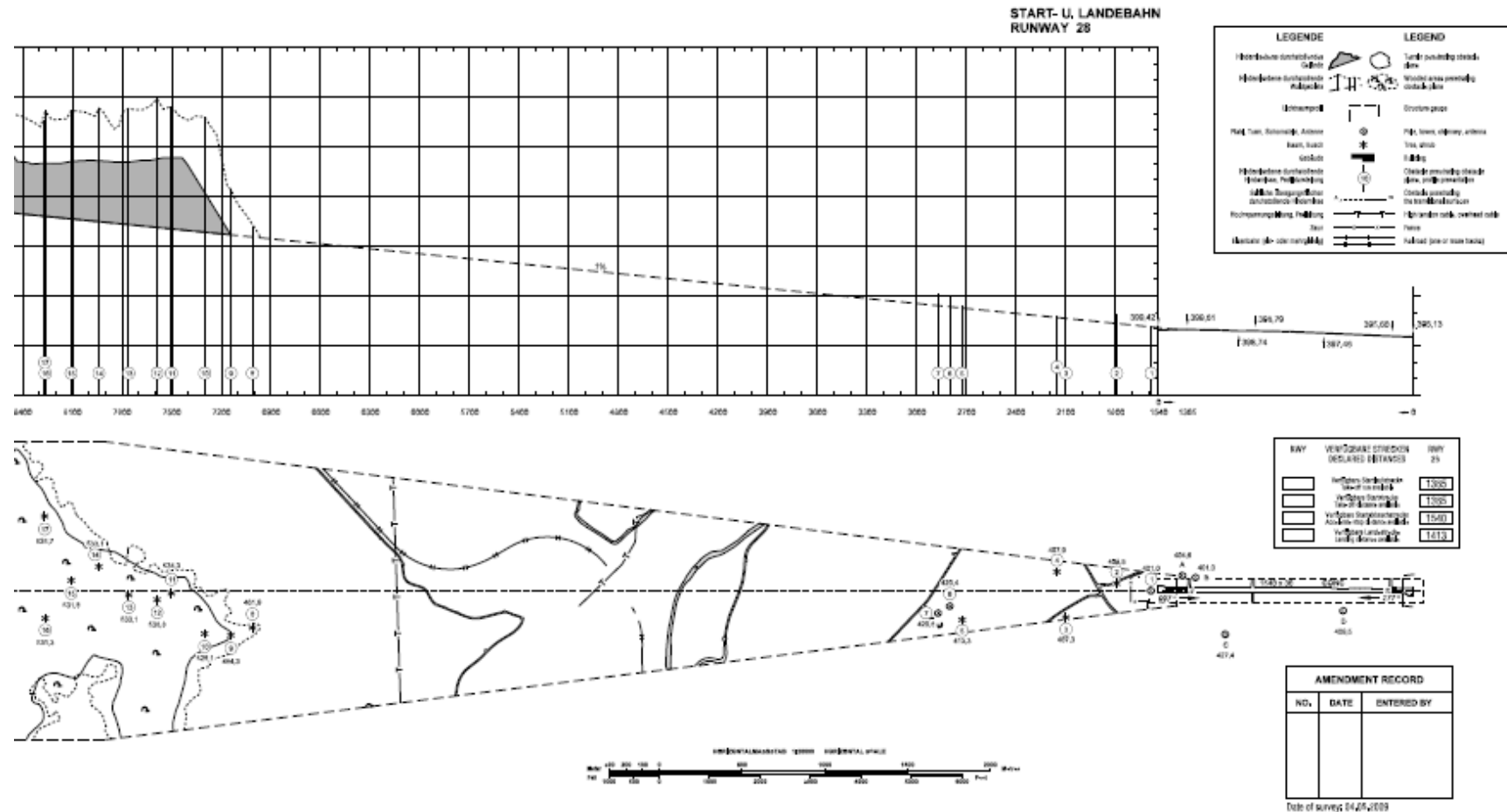
➤ IFR-Appch-charts

MDH/DH will be calculated with respect to PANS-OPS, real obstacle situation, approach-speed and -classification (PA / NPA / Nav.aids).

➤ Obstacle-situation (Type A-charts)

Typ A-charts are standardised (Annex 4, Aeronautical Charts), independent regarding ARC and the obstacle limitation surfaces of ICAO Annex 14 or CS. They are containing all relevant obstacle-information for departure.

CS and ICAO Annex 14



CS and ICAO Annex 14

To know the OLS-surfaces for take-off-runway of e.g. a Code 2-RWY is not sufficient in terms of operational needs.

(Example E55P: 8150 kg, 35 °C, 1.500 ft Elev., OEI net V2: 4,3%)

Table 4-2. Dimensions and slopes of obstacle limitation surfaces

RUNWAYS MEANT FOR TAKE-OFF			
Surface and dimensions ^a (1)	1 (2)	Code number 2 (3)	3 or 4 (4)
TAKE-OFF CLIMB			
Length of inner edge	60 m	80 m	180 m
Distance from runway end ^b	30 m	60 m	60 m
Divergence (each side)	10%	10%	12.5%
Final width	380 m	580 m	1 200 m 1 800 m ^c
Length	1 600 m	2 500 m	15 000 m
Slope	5%	4%	2% ^d

CS and ICAO Annex 14

ICAO PANS aerodrome

A new section concerning aerodrome operations for the use of aerodromes undertaking an assessment of its compatibility for the type of traffic or operation the aerodrome is intending to operate...

... In reality, many existing aerodromes worldwide were not built to the full design standards specified in the existing Annex 14, Volume I and, in certain cases, it is impossible or impracticable for those aerodromes to render their infrastructure to be in accordance with the Annex design Standards. This mainly relates to physical characteristics of an aerodrome,...

...When the aerodrome accommodates an aeroplane that exceeds the certificated characteristics of the aerodrome, the compatibility between the operation of the aeroplane and aerodrome infrastructure and operations shall be assessed and appropriate measures be developed and implemented in order to maintain an acceptable level of safety during operations...

CS and ICAO Annex 14

ICAO PANS aerodrome

... an idea how to understand regulation 139/2014 in due consideration of ICAO or

to view on CSs and the flexible provisions of:

- Article 7

Deviations from certification specifications

- ADR.AR.C.025

Special conditions

For all implementation-measures:

- Intensive, solution oriented consideration with technical, operational and regulatory framework during rulemaking and implementation processes is mandatory.
- Cooperation between EC, EASA, NAA's, aerodrome stakeholder and aerodrome-user
- Best practise-analyses, if necessary in foreign countries
- Evidence of the need to regulate or decide
- declaration vs. evidence
- Proportionality/adequacy

Always consider the memento!

European Regional Aerodromes Community

