

**AIRPORT STANDARDS DIRECTIVE 801
[ASD 801]**

AERODROME OPERATING MINIMA



**AIRPORT STANDARDS DIVISION
DEPARTMENT OF CIVIL AVIATION MALAYSIA**

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INTRODUCTION

1. Aerodrome operating minima is established in order to ensure a desired level of safety for aircraft operations at an aerodrome by limiting these operations under specified weather conditions.
2. This Airport Standards Directive contains specifications regarding the appropriate combination of airside infrastructure, facilities, procedures and services for aerodrome operator to determine the aerodrome operating minima.
3. The system of visual aids, non-visual aids, procedures and services made available at aerodromes shall be adequate and effective to prevent collision[s] between aircraft, between aircraft and ground vehicles, between aircraft and obstacles, between vehicles and obstacles and between vehicles as well as to safeguard against unauthorised or inadvertent entry onto operational runway[s].
4. This Directive has been written in general terms. Specific advice could be obtained from the Authority at:

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OBJECTIVE

5. This Airport Standards Directive is intended to serve guidance concerning the **visibility** condition[s] which the aerodrome operator intends to maintain operations at the aerodrome.
6. The implementation of this Directive will ensure safe and efficient operations at the aerodrome for the movement of an aircraft from the landing runway to the parking position on the apron and back again to the take-off runway, as well as other movement on the aerodrome surface.

RULES

7. Aerodrome operator shall declare aerodrome operating minima expressed as a minimum Visibility or Runway Visual Range [RVR].
8. Aerodrome operator shall determine the aerodrome operating minima based on combination of visual aids, non-visual aids, procedures and services available at the aerodrome based on the specifications contained in this Directive.

9. The aerodrome operator shall prohibit the commencement or continuation of aerodrome operations when the minimum Visibility or RVR is less than the specified aerodrome operating minima.
10. Aerodrome[s] that do not meet the visual aids, non-visual aids, procedures and services specified in this Directive shall only be operated up to minimum Visibility of 1500 m.
11. Notwithstanding all of the above, the following shall be observed –
 - i. that aircraft landing and taking-off at an aerodrome shall be governed by AIC 13/2002, or any amendments thereof;
 - ii. that aircraft operating under Visual Flight Rules [VFR] landing and taking-off at an aerodrome shall be governed by rules as published in the Aeronautical Publication Information [AIP] Malaysia; and
 - iii. that the Low Visibility Procedure [LVP] established at any aerodrome shall be executed at visibility condition[s] as specified in those procedure.

APPLICABILITY

12. The specification in this Directive shall apply to all aerodromes open to public transport aircraft.

AUTHORITY

13. The Authority referred to in this Directive is the Director General of Civil Aviation.

AERODROME OPERATING MINIMA

14. The reason for providing an aerodrome operating minima is to enable an aerodrome to operate safely in the intended conditions.
15. Horizontal visibility is the common factor in aerodrome operating minima for take-off and landing as well as surface movement of aircraft and vehicles.
16. The horizontal visibility for aerodrome operating minima shall be either minimum Visibility or Runway Visual Range [RVR].
17. Visibility used as aerodrome operating minima shall be that reported by the Meteorological Office.
18. RVR used as aerodrome operating minima shall be that reported as Instrumented Runway Visual Range.

BASIC INFRASTRUCTURE AND FACILITIES REQUIREMENTS

19. The infrastructure and facilities required at a particular aerodrome will depend both on the traffic density and visibility conditions in which operations should take place.
20. The required infrastructure and facilities are listed in Appendix A.
21. Specifications for the required infrastructure and facilities are contained either in the relevant Airport Standards Directive[s] or ICAO Annex 14 Volume I.

BASIC PROCEDURAL REQUIREMENTS

22. Procedures are an important and integral in the application of aerodrome operating minima. The required procedures shall be implemented partly by the aerodrome operator, partly by the air traffic control units, and partly by the pilots.
23. The procedures to be employed at a particular aerodrome will be dictated by both traffic density and visibility conditions.
24. The required procedures on the part of aerodrome operator listed in Appendix B.

SERVICES AT AERODROMES

25. Aerodrome services provide the essential ground support elements. The lower the visibility conditions and the greater the traffic volume, the more complex and extensive are the aerodrome services required to support the intended operation.
26. The basic services which shall be available at aerodromes are –
 - i. Air traffic services
 - ii. Apron management services
 - iii. Meteorological services
 - iv. Aeronautical information services
27. Air traffic services: Control and guidance of aircraft and vehicles on the manoeuvring area via radiotelephony communications.
28. Apron management services: Regulate the safe activities of aircraft, vehicles and personnel on the apron.
29. Meteorological services: Accurate and timely reporting of meteorological conditions is essential. Current meteorological information must be available.
30. Aeronautical information services: Ensure timely dissemination of information on the availability and serviceability of aerodrome facilities, procedures and services.

VISIBILITY CONDITIONS

31. The visibility conditions to be considered are –

Visibility Condition 1

Horizontal visibility sufficient for pilot to taxi and to avoid collision with other traffic on the taxiways and at intersections by visual reference, and for personnel of air traffic control units to exercise control over all traffic on the basis of visual surveillance. The visibility shall not be less than 800 m or 550 RVR

Visibility Condition 2

Horizontal visibility sufficient for pilot to taxi and to avoid collision with other traffic on the taxiways and at intersections by visual reference, but insufficient for personnel of air traffic control units to exercise control over all traffic on the basis of visual surveillance. The visibility shall not less than 400 m RVR

Visibility Condition 3

The horizontal visibility less than 400 m RVR [low visibility operations]

TRAFFIC DENSITY

32. Traffic density to be considered are -

Light

Not greater than 15 movements per runway or less than 20 total aerodrome movements in the mean busy hour.

Medium

Of the order of 16 to 25 movements per runway or between 20 to 35 total aerodrome movements in the mean busy hour.

Heavy

Of the order of 26 or more movements per runway or more than 35 total aerodrome movements in the mean busy hour.

PROMULGATION IN AIP

33. Infrastructure and facilities provided at aerodrome that determine the aerodrome operating minima shall be published in the Aeronautical Information Publication.
34. Specific type of observation system and number of observation sites used to observe and report Visibility or Runway Visual Range shall be promulgated in the Aeronautical Information Publication.
35. Position of RVR instruments shall be shown on aerodrome charts

DEVIATIONS

36. The Department of Civil Aviation shall notify and publish deviations from any Standards and Recommended Practices contained in ICAO Annex 14 in the Aeronautical Information Services publications in compliance to the Article 38 of the Convention on International Civil Aviation.

37. The Appendices to this Directive shall be taken, construed, read and be part of this Directive.

AZHARUDDIN ABDUL RAHMAN
Director General
Department of Civil Aviation
Malaysia

Dated: 16 July 2007

APPENDIX B

BASIC PROCEDURAL REQUIREMENT

Procedures	Traffic density	Light			Medium			Heavy		
	Visibility Condition	1	2	3	1	2	3	1	2	3
AERODROME OPERATOR										
Aerodrome charts		√	√	√	√	√	√	√	√	√
Designation of taxiways		√	√	√	√	√	√	√	√	√
Movement area inspection and reporting		√	√	√	√	√	√	√	√	√
Regulation of ground staff conduct on movement area		√	√	√	√	√	√	√	√	√
Regulation of ground staff radiotelephony procedures		√	√	√	√	√	√	√	√	√
Periodic electrical monitoring of SMGC aids		√	√	√	√	√	√	√	√	√
Communication procedure with ATS		√	√	√	√	√	√	√	√	√
Emergency procedure		√	√	√	√	√	√	√	√	√
Establishment of standard taxi-routes				√		√	√	√	√	√
Low-visibility movement area protection measures				√			√			√
Continual electrical monitoring of SMGC aids				√			√			√
APRON MANAGEMENT										
Apron management and control procedure		√	√	√	√	√	√	√	√	√
Stand allocation and information procedure		√	√	√	√	√	√	√	√	√
Operation of lighting and docking aids				√			√			√
Provision of discrete RTF channel							√		√	√
Low visibility procedure				√			√			√

Procedures	Traffic density	Light			Medium			Heavy		
	Visibility Condition	1	2	3	1	2	3	1	2	3
AIR TRAFFIC CONTROL										
Visual monitoring of SMGC aids		√	√	√	√	√	√	√	√	√
Radiotelephony procedures and phraseology		√	√	√	√	√	√	√	√	√
Use of signalling lamp		√	√	√	√	√	√	√	√	√
Operation of lighting aids		√	√	√	√	√	√	√	√	√
Determination of taxi routes				√		√	√	√	√	√
Initiation / Termination of low visibility procedures				√		√				√
Continual electrical monitoring of SMGC aids				√			√			√
Monitoring of Surface Movement Radar [SMR]							√		√	√
Selective switching of taxiway centre line lights							√			√
Selective switching of taxiway centre line lights				√		√	√		√	√

