International Civil Aviation Organization

Sixth Meeting of the Aerodrome Safety, Planning & Implementation Group

(*ASPIG/6*) (Muscat, Sultanate of Oman, 27 – 29 May 2024)

Agenda Item 2: Regional Performance Framework for Aerodrome Safety

AUTHORISATION OF LANDING AREA

(Presented by Sultanate of OMAN)

SUMMARY

This paper presents the Guidance Material developed and to be promulgated by Oman CAA for the authorization of landing areas in the Sultanate of Oman.

The Guidance Material outlines the factors that can be utilized to assess the suitability of a place/location for the landing and take-off of aeroplanes.

Action by the meeting is at paragraph 3.

REFERENCE

- Royal Decree of the Sultanate of Oman No. (76/2019),
- CAR 139, Part 1 — Aerodrome Certification, Design and Operation,
- CAR 139, Part 2 — Heliports/Water Aerodrome,
- ICAO Annex 14, Volume I — Aerodrome Design and Operations,
- ICAO Annex 14, Volume II — Heliports,
- ICAO Doc 9774 — Manual on certification of aerodromes,
- ICAO Doc 9157 — Aerodrome Design Manual,
- ICAO Doc 9137 — Airport Services Manual.

1. INTRODUCTION

1.1 The fundamental mission of Oman CAA is to provide safe, secure, efficient, and environmentally sustainable civil aviation services in the Sultanate of Oman, whilst ensuring the protection of public aviation interest, and promoting Oman's economic and social development. Oman CAA strives to achieve this by implementing international standards and best practices, investing in modern infrastructure, fostering a culture of innovation and continuous improvement, and collaborating with national and international stakeholders in a transparent and accountable manner.

1.2 In the same vein, Oman CAA is working to improve the safety of aerodromes in the Sultanate. Oman CAA has certified 08 airports, 03 of which are used for international operations (Muscat international Airport, Salalah International Airport and Suhar International Airport). Moreover, all certified aerodromes went through the certification process as per the local regulatory requirements established in Oman, specifically in CAR 139 P1 — Aerodrome Certification, Design and Operation,

and are operated under any conditions and requirements set out in the aerodrome certificate. For more information, all publications are available via (caa.gov.om).

1.3 Article 14 of Royal Decree of the Sultanate of Oman No. (76/2019) states that "Aircraft are prohibited from landing at undeclared airports, except in cases of emergencies or with the consent of the Competent Authority". This means that any undeclared aerodromes may be used for landing or take off of aircraft if authorized by the CAA. Further, terms such as 'landing place' or 'landing area' might be part or have the same definition of undeclared airports or aerodromes.

1.4 In line with best practices adopted by other States., Oman is working on promulgating its first-time a Guidance Material for the authorization of landing area to be used by aeroplane.

2. DISCUSSION

2.1 Oman CAA expands the types of aerodromes as follows:

(a) Airport,

(b) Heliport,

(c) Helideck,

(d) Water aerodrome,

(e) Landing area,

(f) Landing site,

(g) STOLport,

(h) Etc.

2.2 ICAO Annex 14 Vol 1 — Aerodrome Design and Operations defines:

(a) the aerodrome as "a defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft". Moreover, the operations of aircrafts differ significantly from those conducted on land or in water.

(b) the landing area as "That part of a movement area intended for the landing or take-off of aircraft".

2.3 Considering that:

(a) the specifications of ICAO Annex 14 — Volume I apply only for aerodromes open for public use, and

(b) the specifications of ICAO Annex 14 — Volume II apply to all heliports intended to be used by helicopters in international civil aviation.

2.4 And in the absence of Guidelines for aeroplane landing areas, it is considered of paramount importance to develop and promulgate a GM for the authorisation of a landing area and put it into use in accordance with local needs to ensure the safety of aircraft operation. This guidance applies exclusively to flights conducted during day light hours and under Visual Flight Rules (VFR).

2.5 Furthermore, Oman CAA established the minimum requirements to be considered when authorizing operations in a landing area as at **Appendix A**. These requirements are mostly derived from ICAO Annex 14 — Volume I, and other relevant ICAO publications, and they are classified as either mandatory or optional.

2.6 These minimum requirements are mainly related to the following Items:

(a) Physical characteristics;

(b) Obstacle Limitation Surfaces;

(c) Visual Aids for Navigation;

(d) Aerodrome operational services, facilities and equipment;

(e) Aeronautical study/risk assessment.

2.7 Oman CAA would want to share one experience with taking the minimum requirements at para 2.5 into account. These minimum requirements provided recommended criteria which would set out the factors that have been be used to determine the suitability of Ras Had landing area.

2.8 The CAA has received a request for an aerial work permit and a low-level flight permit to undertake a geographical survey in the Sultanate of Oman for Sander Geophysics Ltd, which is a Canadian company specializing in high resolution airborne surveys for petroleum and mineral exploration, and geological and environmental mapping. The company conducted the operation using a Canadian registered twin turbine Cessna Grand Caravan C208B C-GSGW, as well as their own pilots, geophysicists and aircraft engineers. The aircraft first landed at Muscat International Airport before continuing to Ras Had aerodrome, where the activity started. This operation was unprecedented by a desktop verification of all submitted material and an on-site verification, to ensure the safety of aircraft operation.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

(a) note the content of this Paper;

(b) use the template as a reference in developing a guidance material;

(c) encourage the MID Region states to:

i. adopt a comparable strategy for the authorisation of a landing area;

ii. provide and share feedback on the specific methods and issues they experienced.

(d) encourage ICAO to organize regional or international events that will allow states, organizations and appropriate stakeholders to discuss case studies, lessons learned, and guidance materials related to landing area authorization.

MINIMUM REQUIREMENTS TO BE CONSIDERED WHEN AUTHORIZING OPERATIONS IN A LANDING AREA

Item	Specifications	Required	Optional
I. PHYSICAL CHARACTERISTICS			
1. Runway		☒	☐
Length	A runway length equal to or greater than that specified in the aeroplane's Approved Flight Manual (AFM) or approved performance charts for the prevailing conditions is required. Both take-off and landing requirements need to be considered for both directions.	☒	☐
Width	A minimum width of 18 metres is required for runways.	☒	☐
Longitudinal slope	The longitudinal slope between the runway ends should not exceed 2%.	☐	☒
Transverse Slope	The transverse slope should not exceed 2%.	☐	☒
Surface testing	The surface of the runway shall be assessed to determine its effect on aeroplane control and performance.	☒	☐
Runway Strip	A minimum length of 30m and width of 30m is recommended to be available.	☐	☒
2. Taxiway	The taxiway width should be a minimum of 7.5 m wide.	☐	☒
II. Obstacle Limitation surfaces			
1. Approach surface	Specifications are under development.	☒	☐
2. Take off surface		☒	☐
3. Transitional surface		☒	☐
4. Inner horizontal surface		☒	☐
5. Conical surface		☒	☐
III. Visual Aids for Navigation			
1. Marking	It is highly recommended to provide markings similar to those found at aerodromes open for public use. If markings are provided, they should follow the specifications set out in CAR 139, part 1.	☐	☒
2. Wind direction indicator	It is the preferred method to be provided at landing areas.	☒	☐

Item	Specifications	Required	Optional
IV. Aerodrome operational services, facilities and equipment			
1. Suitability of the aerodrome	A pilot shall not use an aerodrome unless the aeroplane is clear of all persons, animals, vehicles or other obstructions.	☒	☐
2. Airport operations safety plan	The aerodrome operator shall develop a plan for the safety operations of the aircraft.	☒	☐
3. Aerodrome security program	It is highly recommended to provide an aerodrome security program. Fencing might be the preferred method to be provided.	☐	☒
4. Aerodrome emergency plan	An aerodrome emergency plan shall be established at the aerodrome, commensurate with the aircraft operations and other activities conducted at the aerodrome.	☒	☐
5. Coordination with ATC	It is highly recommended to provide a coordinator for the exchange of operational information with air traffic control units.	☒	☐
6. Safety of the runway	The aerodrome operator shall confirm the safety of the runway before it is used for take-off and landing.	☒	☐
V. AERONAUTICAL STUDY/RISK ASSESSMENT			
1. Aeronautical study/Risk assessment	It is the responsibility of the aerodrome operator/Aircraft operator to develop a risk assessment for the use of the aerodrome with the presence of all stakeholders involved in the operation (Air Navigation Services, etc.). Items to be discussed but not limited to are as follows: - Geographic location, - Environmental considerations, - Aerodrome data, - Air Navigation Services requirements, - Etc.	☒	☐

Note: This guidance is only for flights conducted by day light hours and under Visual Flight Rules (VFR).

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