



International Civil Aviation Organization

Aerodrome Safety & Planning Implementation Group

Seventh Meeting (ASPIG/7)
(Riyadh, Saudi Arabia, 6 – 10 April 2025)

Agenda Item 2: Regional Performance Framework for Aerodrome Safety

Operational Aspects Governing Vertiport Design and Authorization in Saudi Arabia

(Presented by the State of Saudi Arabia)

SUMMARY

This paper presents KSA guidance material for design specifications for vertiports, referencing the GACA Advisory Circular AC 140-01 Vertiports Design Specification (VDS) and GACA E-Book Volume 7 on Aerodromes, Heliports, and Vertiports. The paper outlines key GACA technical specifications, classification criteria, and authorization procedures aligned with available international guidance to support the safe and efficient operation of VTOL (Vertical Take-Off and Landing) aircraft. Action by the meeting is at paragraph 3.

REFERENCES

- GACAR Part 138 Certification, Authorization and Operation of Heliports
- GACA E-Book Volume 7 – Aerodromes, Heliports, Vertiports, and Water Aerodromes Administration
- GACA Advisory Circular AC 140-01 (Vertiports Design Specification - VDS)
- ICAO Annex 14, Volume II – Heliports
- EASA Prototype Technical Specifications for Vertiports
- CASA AC 139.V-01v1.0 (Australia)

1. INTRODUCTION

- 1.1 The emergence of Advanced Air Mobility (AAM) and VTOL aircraft has necessitated the development of regulatory frameworks and design specifications for vertiports. In response, the General Authority of Civil Aviation (GACA) of Saudi Arabia has taken the initial step of formulating and issuing GACA eBook Volume 7, Chapter 17 (*Establishment of Vertiports*) and GACA Advisory Circular AC-140-01 (*Vertiports Design Specification*).
- 1.2 The General Authority of Civil Aviation (GACA) oversees the construction and operation of vertiports in Saudi Arabia through the issuance of a GACA Vertiport Authorization, granted on a case-by-case basis. This evaluation process follows the guidelines set forth in GACA eBook Volume 7.
- 1.3 The General Authority of Civil Aviation (GACA) of Saudi Arabia actively participates in the ICAO Vertical Flight Infrastructure Working Group, where it raises concerns and contributes to discussions on vertiport design.

1.4 This working paper outlines the technical and operational aspects governing vertiport design and authorization in Saudi Arabia, ensuring alignment with international standards and best practices.

2. DISCUSSION

GACA Advisory Circular AC 140-01 (Vertiports Design Specification - VDS)

2.1 The structure of the promulgated Advisory Circular is aligned with the minimum requirements mentioned in references above, and comprises the following:

- **Part 1** General (Introduction; Purpose; Additional References; Definitions; Abbreviations/Symbols)
- **Part 2** Technical Specification (Physical Characteristics; Final Approach and Take-Off (FATO); Touch Down and Lift-Off (TLOF); Safety Area; Protected Area; Visual Aids; Vertiport Marking; Wind Direction Indicator; Vertiport Beacon; Vertiport Lighting; Obstacle Limitation Surfaces; Approach Surface; Transitional Surface; Obstacle Limitations)
- **Part 3** Rescue and Fire Fighting (Vertiport Emergency Plan; Rescue and Fire Fighting Services (RFFS); Hazard Area)
- **Part 4** Contact Information

2.2 This Advisory Circular serves as an initial step in developing guidance material for the industry on the fundamental requirements for establishing vertiports. It will remain in effect until more regulations are promulgated among States, along with ICAO SARPs and EASA Certification Specifications.

GACA E-BOOK VOLUME 7, Chapter 17

2.3 The General Authority of Civil Aviation (GACA) of Saudi Arabia has promulgated E-Book series to serve as Aerodrome safety Inspectors guidance material and also, provides the required information to all regulated entities under the GACA Aviation Safety.

2.5 The Vertiport Establishment and Operation Authorization Process by GACA Safety Inspectors consist of the following generic phases:

- Pre-Application
- Formal Application
- Document Compliance
- Demonstration and Inspection
- Authorization Phase

2.6 Despite ongoing efforts to promote and disseminate guidance on vertiports, challenges persist globally in the establishment and authorization of these facilities. The Kingdom of Saudi Arabia (KSA) seeks support on how to address some of these challenges in Section 3.1 of this Working Paper (WP).

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) Review and evaluate the adoption of GACA AC 140-01 as a reference model for vertiport design and authorization;
- b) Foster regional collaboration among States to standardize Advanced Air Mobility (AAM) infrastructures;
- c) Support the development of safety frameworks for Rescue and Fire Fighting Services (RFFS) and emergency planning at vertiports;

- d) Advocate for the establishment of standards for assessing Obstacle Limitation Surfaces (OLS) at vertiports.

Enclosures:

Attachment A: GACA E-Book Volume 7 – Aerodromes, Heliports, Vertiports, and Water Aerodromes Administration Chapter 17 Authorization of Establishment and Operations of Vertiports.

Attachment B: GACA Advisory Circular AC 140-01 (Vertiports Design Specification - VDS).
