



ED-299

GUIDANCE FOR VERTIPORT OPERATORS AND OPERATIONS

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CHAPTER 1

INTRODUCTION

1.1 PURPOSE AND SCOPE

1.1.1 Purpose

This document:

- (i) Provides guidance for designers, developers and operators for planning and executing safe Visual Flight Rules (VFR) vertiport operations;
- (ii) Describes at a high level the systems, processes, procedures, equipment and facilities that should be provided at a single vertiport or a network of vertiports managed by the same vertiport operator;
- (iii) Serves as a template for the preparation of a vertiport manual;
- (iv) References and signposts other existing documentation that may be useful for vertiport operations;
- (v) Complements any separate guidance and standards specifically for the design of VFR vertiports, including but not limited to vertiport data, physical characteristics, obstacle environment and visual aids; and

NOTE: *Vertiport physical characteristics, obstacle environment and visual aids should be taken into consideration when providing the vertiport with the facilities, services, equipment and procedures required for safe vertiport operations.*

- (vi) Could be applied to existing heliports where doing so would support safe VTOL aircraft operations or a mixed operation of helicopter and VTOL aircraft operations – only to the extent where the standards for vertiports are equivalent or exceed those of heliports.

NOTE: *Application at heliports that are subject to any regulatory requirements would need to be acceptable to the relevant government agency.*

1.1.2 Scope

The scope of this guidance document:

- (i) Incorporates vertiports of all configurations, surface level vertiports or vertiports that are elevated;
- (ii) Is confined to the safety aspects of vertiport facilities, services, equipment and procedures to be expected at a vertiport; and
- (iii) Vertiports serving piloted VTOL aircraft for passenger and/or cargo operations

1.2 APPLICABILITY

Adoption of this guidance by designers, developers and operators of vertiports is recommended as a means of assuring that vertiports are operated safely for VTOL aircraft operated VFR.

Any regulatory application of this document in whole or in part is the sole responsibility of relevant government agencies.

This document provides the basis for further development of technical standards and regulations governing vertiport operations.

1.3 KEY ASSUMPTIONS AND CONSIDERATIONS

At a later stage, operations at vertiports serving Instrument Flight Rules (IFR), all-weather, and remotely piloted or autonomous VTOL aircraft operations, may be discussed.

VTOL aircraft come in multiple configurations. Vertiport facilities, services, equipment, policies and procedures will need to be provisioned to safely accommodate the types of VTOL aircraft the vertiport intends to serve. This document can only provide guidance at a general level covering all vehicles at this stage.

Vertiport facilities, services and equipment may be owned or operated by individuals or organisations (e.g., VTOL aircraft operator) other than the vertiport operator, if they are not the same entity.

1.4 TERMS DEFINITIONS AND ABBREVIATIONS

TABLE 1-1: TERMS AND DEFINITIONS

Term	Description/Meaning
Apron	A defined area on a vertiport provided for the stationing of VTOL aircraft for the embarkation and disembarkation of passengers, the loading and unloading of cargo and for parking.
Autonomous VTOL aircraft	An unpiloted VTOL aircraft that does not allow pilot intervention in the management of the flight.
Compliance monitoring manager	An individual responsible for the establishment, implementation and day-to-day functioning of the compliance monitoring system. Also, see 'Compliance monitoring system.'
Compliance monitoring system	A system which ensures the compliance of the management system of the vertiport operator with relevant requirements.
Emergency response plan	A plan that sets out the procedures for coordinating the response of vertiport agencies or services (air traffic services unit, firefighting services, vertiport administration, medical and ambulance services, VTOL operators, security services and police) and the response of agencies in the surrounding community (fire departments, police, medical and ambulance services, hospitals, military and harbour patrol or coastguard) that could be of assistance in responding to an emergency.
Ground handling	Services necessary for a VTOL aircraft's arrival and departure other than air traffic services. These services may be performed by various service providers.
Ground support equipment	Pieces of equipment that connect to and service a VTOL aircraft whilst on the ground (e.g., equipment for towing, VTOL charging)
Helicopter	A heavier-than-air-aircraft supported in flight by the reaction of the air on one or more power-driven rotors on substantially vertical axes.
Heliport	An aerodrome or a defined area on a structure intended to be used either wholly or in part for the arrival, departure and surface movement of helicopters.
Instrument Flight Rules	Rules which allow properly equipped aircraft to be flown under instrument meteorological conditions (IMC)
Local emergency plan	Applicable emergency arrangements of a local authority or government.
Local standby	When it is known that a VTOL aircraft has, or is suspected to have, developed some defect but the trouble would not normally involve any serious difficulty in effecting a safe landing.
Occurrence	Any safety-related event which endangers or which, if not corrected or addressed, could endanger an aircraft, its occupants or any other person and includes in particular an accident or serious incident.
Off-vertiport accidents	VTOL aircraft accidents occurring outside the vertiport boundaries.
Obstacle	All fixed (whether temporary or permanent) and mobile objects, or parts thereof, that: are located on an area intended for the surface movement of VTOL aircraft; extend above a defined

	surface intended to protect VTOL aircraft in flight; or stand outside those defined surfaces but, nonetheless, are assessed as a hazard to air navigation.
Obstacle environment	The presence of obstacles in and around a vertiport that could affect the safe operation of VTOL aircraft.
Piloted aircraft	Any aircraft operating or designed to operate with a pilot on board.
Remotely piloted VTOL	An unpiloted VTOL aircraft which is piloted from a remote pilot station. See also 'Unmanned Aircraft System'.
Safety management system	A systematic approach to managing safety, including the necessary organisational structures, accountabilities, policies and procedures.
Touchdown and lift-off area	An area where a VTOL aircraft may touch down or lift off
Unmanned aircraft system	An unmanned aircraft and the equipment to control it remotely
Vertiport	An area of land, water, or structure used or intended to be used for the landing, take-off and movement of VTOL aircraft.
Vertiport reference point	The designated geographical location of a vertiport.
Vertiport manual	A document detailing the characteristics, policies and procedures for the safe operation of a vertiport.
Vertiport operator	Any legal or natural person, organisation or enterprise engaged in or offering to engage in the operation and management of one or more vertiports. NOTE: <i>The vertiport operator need not be a separate entity from those fulfilling other roles at a vertiport.</i>
Visual aid	Vertiport visual aids (lights, markings, indicators and beacons and signs) are used to provide guidance to pilots maneuvering on the ground and while departing and landing at vertiports.
Visual flight rules	Rules that govern the operation of aircraft in Visual Meteorological Conditions (VMC) (conditions in which flight solely by visual reference is possible).
VTOL aircraft	Heavier-than-air aircraft, other than aeroplane or helicopter, capable of performing vertical take-off and landing by means of more than two lift/thrust units that are used to provide lift during the take-off and landing.
VTOL aircraft accident	An occurrence associated with the operation of a VTOL aircraft which, in the case of a manned aircraft, takes place between the time any person boards the VTOL aircraft with the intention of flight until such time as all such persons have disembarked. NOTE: <i>In the context of this document, a VTOL aircraft accident specifically relates to those which have occurred on, or in the vicinity, of the vertiport.</i>
VTOL aircraft ground incident	Where a VTOL aircraft on the ground is known to have an emergency situation other than an accident.
VTOL aircraft operator	A person, organisation or enterprise engaged in or offering to engage in a VTOL aircraft operation.
VTOL aircraft stand	A designated area on a vertiport to be used for parking a VTOL aircraft.
Weather standby	When weather conditions are such as to render a landing difficult or difficult to observe.

TABLE 1-2: ABBREVIATIONS

Abbreviation	Meaning
ATS	Air Traffic Service
CM	Compliance Monitoring
CMM	Compliance Monitoring Manager
CMS	Compliance Monitoring System
EASA	European Union Aviation Safety Agency
ERP	Emergency Response Plan
FOD	Foreign Object Debris
GPS	Global Positioning System
GSE	Ground support equipment
ICAO	International Civil Aviation Organisation
IEC	International Electrical Commission
IFR	Instrument Flight Rules
ISO	International Standards Organisation
MOC	Means of Compliance
QMS	Quality Management System
RFFS	Rescue and Fire Fighting Services
SMS	Safety Management System
RMT	Rulemaking Task
TLOF	Touchdown and Lift Off Area
UAS	Unmanned Aircraft System
VFR	Visual Flight Rules
VMC	Visual Meteorological Conditions
VRP	Vertiport Reference Point
VTOL	Vertical Take-off and Landing

1.5 RELATIONSHIP TO SC-VTOL

While this document was developed with a particular view to the European legal framework, namely the EASA Means of Compliance (MOC) Special Condition VTOL 02, it may be applied to support other regulatory frameworks.

1.6 RELATIONSHIPS TO OTHER DOCUMENTS

This document guides and aims to support regulations and/or standards related to vertiport management operations.

This document addresses organisation and operational requirements for vertiports which will be subject to EASA Rule Making Task (RMT).0230 – *Regulatory framework to accommodate UAS in the European Aviation System*. EASA cannot assure that the future regulatory framework will be aligned with the content of ED-299. For this reason, it is advised that the users of this document take note that reliance on it may not ensure alignment with the future EASA vertiport rules.