

Statement on the Regulation of Type-Certification of VTOL Aircraft

CAP 3002

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Introduction

This document presents the UK Civil Aviation Authority's (CAA) current position on how we will apply existing regulations to organisations seeking to type-certify their VTOL aircraft. This follows a call for input from industry that was open from 16th October 2023 to 20th November 2023. The call for input and response documents can be found on the CAA Citizen Space website.

Based on extensive review of available sources in 2021/22, the CAA took the decision to adopt Special Condition VTOL (SC-VTOL) and notified industry and other regulators of this position publicly in June 2022.

On 14th of March 2024, the CAA published its [decision](#) adopting EASA Special Condition Vertical Take Off and Landing Aircraft (SC VTOL) and associated Means of Compliance (MoC).

SC-VTOL will enable and form the basis of our regulation of type-certification of VTOL aircraft. Both CAA and industries' collective understanding of these new technologies will grow as designs mature and actual operations commence. In due course these experiences and increased understanding will inform the CAA's work of amending existing legislation in the future, where appropriate.

The CAA has developed this statement on how we will apply SC-VTOL and certification standards in this area to inform and enable stakeholders planning for type-certification of VTOL aircraft. Amendments to the existing regulatory framework in the future will involve industry input and formal consultation as per [Introduction to UK aviation safety policy and rule development | Civil Aviation Authority \(caa.co.uk\)](#).

Scope

This Policy Statement is directed at organisations seeking to type-certify their VTOL aircraft in the UK. The scope of this statement is limited to the basis of type-certification of VTOL aircraft with a pilot on board.

Interpretation

In this document, references to EU regulations are to those regulations as retained and amended in UK domestic law under the European Union (Withdrawal) Act 2018 and now known as assimilated EU law following the Retained EU Law (Revocation and Reform) Act 2023. They are referenced as "UK Regulation (EU) year/number" or "UK Regulation (EU) No. number/year".

Definitions

'aeroplane' means an engine-driven fixed-wing aircraft heavier than air that is supported in flight by the dynamic reaction of the air against its wings.

'Acceptable Means of Compliance' (AMC). For established Certification Specification (CS), it is a recognised way, but not the only way, to demonstrate compliance with a CS requirement.

'helicopter' means a heavier-than-air aircraft supported in flight chiefly by the reactions of the air on one or more power-driven rotors on substantially vertical axes;

'Means of Compliance' (MoC) is a defined way, but not the only way, to demonstrate compliance with a Special Condition requirement.

'Special Condition' (SC) means a set of technical specifications that are developed when the related certification specifications do not contain adequate or appropriate safety standards for the product.

'VTOL aircraft' means a heavier-than-air aircraft capable of performing vertical procedures by means of more than two lift/thrust units.

Requirements and applicable regulations

The UK technical specifications for type certification of VTOL aircraft are contained in "[Special Condition Vertical Take-off and Landing \(VTOL\) Aircraft](#)" (SC-VTOL). SC-VTOL should be read in conjunction with the Means of Compliance (MoC) to SC-VTOL as adopted by the CAA, to assist in demonstrating compliance with certification requirements.

In accordance with Part 21 paragraph 21.A.15 (UK Regulation (EU) No. 748/2012, also known as Part 21), in the absence of suitable SC-VTOL MoCs that apply to your specific aircraft, a combination of individual Acceptable Means of Compliance (AMCs) from Certification Standards CS-23 (Normal Category Airplanes), CS-25 (Large Aeroplanes), CS-27 (Small Rotorcraft) and CS-29 (Large Rotorcraft) can be proposed by the applicant to develop a means of compliance to meet the type-certification basis requirements against which the VTOL will be type-certificated.

It will be the responsibility of the applicant to propose which means of compliance are most appropriate for certification of their VTOL aircraft and present their case to the CAA. The means of compliance should be selected on the basis of the proposed design and the operations the VTOL aircraft will be expected to perform.

In instances where no dedicated MoC for SC-VTOL or certification standards and associated AMCs are readily available, as per paragraph 21.B.80, the applicant will be required to work with the CAA to develop an acceptable means to ensure an appropriate level of safety is demonstrated.

The applicant will need to provide Operational Suitability Data (OSD) containing data CAA considers important for safe operation of the aircraft type. OSD covers pilot(s) and maintenance engineers training, simulator qualification (where applicable), the Master Minimum Equipment List (MMEL), and other areas dependent on the aircraft systems. In addition, as part of the certification process, the applicant will need to set out how they intend to comply with environmental protection requirements, including those relating to noise.

Related Documents

- [UK Regulation \(EU\) No. 2018/1139 \(the UK Basic Regulation\)](#)
- [UK Regulation \(EU\) No. 748/2012 \(the Initial Airworthiness Regulation\)](#)
- [UK CAA Special Condition - Vertical Take-Off and Landing Aircraft](#)
- [SC-VTOL Mean of Compliance](#)

Review of Policy

The CAA will keep this statement under review having regard to technological developments, research and evidence it receives from stakeholders.

Point of Contact

Any queries or further guidance required on the content or implementation of this VTOL type certification Policy Statement should be addressed to: aamenquiries@caa.co.uk