

Consultation Reply Document:

Legislation for new types of Vertical Take-Off and Landing (VTOL) aircraft

Part B: Complex Motor-Powered Aircraft

CAP3318B

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PART B

Complex Motor-Powered Aircraft

Overall Approach

Consultation proposal: In our consultation (CAP 3267B) we set out our proposal that all new types of VTOL aircraft, both Powered-Lift and Non-Conventional Helicopters, should be classified as Complex Motor-Powered Aircraft (CMPA) by default. We explained that this classification would ensure these aircraft are maintained to the highest standards, and operations are conducted to the highest operational standards, consistent with the complexity and types of operations these aircraft are intended to be used for.

We acknowledged that in some cases, treating *all* Powered-Lift and Non-Conventional Helicopters as CMPA may not be proportionate for certain operational regimes, and that our views may evolve as we gain more data and evidence on their use. We therefore set out our proposal to introduce a discretionary power within regulations that would allow the CAA to disapply the default CMPA classification and determine that a specific Powered-Lift or Non-Conventional Helicopter aircraft type can be excluded from the CMPA regime.

The CAA is recommending the introduction of a new aircraft, **Multicopter**, to replace the proposed Non-Conventional Helicopter term and definition. Alongside **Powered Lift**, this would create two distinct VTOL categories based on the primary method by which lift is generated. Details of this change can be found in Part A to this CRD. In response to the following questions, Multicopter is used instead of Non-Conventional Helicopter. Note that some comments made specific reference to Non-Conventional Helicopter, for clarity these references have been kept and are marked with a (*)

We asked: Do you agree or disagree with our overall approach regarding the CMPA discretionary power?

Summary of responses: We received 12 responses to this question. Of these, five respondents strongly agreed and five respondents somewhat agreed. No respondents neither agreed nor disagreed, and no respondents somewhat disagreed. Two respondents strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Support for discretionary, proportionate and flexible approach, with innovation being enabled while maintaining safety and regulatory oversight.
- Support for treating new types of VTOL aircraft as CMPA by default while allowing discretion for lower-risk cases.
- Several saw this as a prudent early-stage approach, providing a safety baseline while still enabling innovation and proportionate regulation.

Comments opposing the proposals highlighted the following reasons:

- All VTOL aircraft should remain CMPA due to complexity, software dependency, and pilot-risk concerns.
- Proposed approach could create potential conflict with existing regulatory definitions and frameworks.
- Dedicated light powered-lift category was preferred instead of a discretionary route.
- Some argued that “default” CMPA treatment creates uncertainty for lighter aircraft and may discourage investment.
- Concerns were raised that a discretionary process is less predictable than a clearly defined regulatory category.

Other comments raised include:

- Respondents asked for clearer criteria, timelines and evidence expectations for CAA decisions under the proposed discretionary power.
- Some suggested eventual replacement of discretion with objective rules once operational experience matures.
- A recurring theme was the need for published determinations to support investor and operator certainty.

CAA view: The CAA proposes, based on the feedback received, we broadly intend to take forward the proposals we consulted upon, with some changes to reflect the changes in proposed definitions in Part A of this CRD: that we no longer intend to introduce Non-Conventional Helicopter and instead intend to use the term Multicopter. In addition, we intend to make changes to the eligibility criteria. In due course, we will publish our finalised proposals in an opinion and instruction document (OID), and consult on relevant guidance and other supporting materials.

The CAA’s proposed default position is that all VTOL should be CMPA. We acknowledge that for some aircraft this may be unduly onerous. Introducing a discretion allows for a more proportionate approach in individual cases where the CAA is satisfied it is suitable. The discretion provides a path from the outset for design organisations to apply for their aircraft to not be treated as CMPA, and subject to lighter-touch regulations instead. The CAA’s intention is that any application for an aircraft not to be treated as CMPA should be granted where the eligibility criteria are met and the risk assessment fully supports the application and satisfies the CAA that a high standard of safety will be maintained.

Eligibility Criteria

Consultation proposal: The consultation set out the proposed eligibility criteria for an other than CMPA classification, specifically that the aircraft must have a Maximum Take-Off Mass (MTOM) below 2,000 kg for Powered-Lift and 600 kg for Multicopters, and that operations must be limited to private, recreational (non-commercial) flights only. We

explained the rationale for these thresholds, noting their alignment with long-standing international certification structures and safety targets.

We asked: Do you agree or disagree with the proposed eligibility criteria with the use of MTOM with the proposed limits, and limited to private, recreational flights?

Summary of responses: We received 11 responses to this question. Of these, three respondents strongly agreed and three respondents somewhat agreed. No respondents neither agreed nor disagreed, and two respondents somewhat disagreed. Three respondents strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- MTOM was regarded as a practical starting point for eligibility.
- Criteria were seen as proportionate for lower-risk operations.
- Several respondents agreed that limiting the discretion eligibility to private and recreational flights was appropriate during early market development.
- Some respondents supported the criteria provided they are supplemented by wider risk assessment factors.

Comments opposing the proposals highlighted the following reasons:

- MTOM alone was insufficient; wider criteria were needed, including complexity, handling qualities, energy systems, number of occupants and operational use.
- The restriction to recreational flying was considered too narrow. Industry respondents argued that limiting eligibility to private/recreational flights excludes legitimate low-risk activity such as training, demonstration and maintenance flights.
- Several respondents considered the 600 kg threshold for Multicopters as being too low.

Other comments raised include:

- Respondents suggested criteria should include seating capacity, aircraft complexity, operating environment and performance.
- Several called for alignment with other frameworks such as FAA MOSAIC, EASA approaches or ICAO principles.

CAA view: The CAA proposes to make changes to the CMPA eligibility threshold criteria following the consultation: we have reconsidered the restriction to private, recreational flying and the 600kg MTOM eligibility weight threshold for non-conventional helicopters(*). Our amended proposal is detailed below.

Our current proposed policy, as set out in CAP 3186, establishes that new VTOL aircraft types should be treated as Complex Motor-Powered Aircraft (CMPA) by default. This

principle remains valid and would apply to Multicopters in the same manner as it does to Powered Lift aircraft.

With the introduction of Multicopter and removal of Non-Conventional Helicopter classifications, the CAA reviewed the approach to the discretionary criteria, and, taking account of the comments that it received from the consultation, it intends to make the following changes to the MTOM threshold:

- The existing 600 kg threshold associated with Non-Conventional Helicopters(*) will be removed.
- A common eligibility weight threshold of 1200 kg will be adopted for both Powered Lift and Multicopter aircraft.

This provides a consistent approach for all new types of VTOL.

Both types of aircraft, Powered Lift and Multicopter, are being built to the same safety standard, contained in SC-VTOL, and share many of the same design features (including distributed propulsion, fly-by-wire-only controls, highly automated and integrated electronic systems, NLDI, electric propulsion etc). As such, they share many of the associated underlying safety risks.

We consider that a 1,200kg MTOM is an appropriate threshold for VTOL to be eligible for the default CMPA classification to be disapplied where that is supported by the combination of systems and capabilities of the individual aircraft, which will be assessed through the CAA's evaluation of the risk assessment.

As we have refocused our proposed definition of these new types of VTOL aircraft to their method of producing lift, increasing the eligibility weight threshold for Multicopters accounts for an electric propulsion method with fewer moving parts compared to Powered-Lift and even conventional helicopters. We anticipate these aircraft performing like conventional helicopters. This approach:

- Provides a clearer and forward-looking regulatory structure.
- Maintains the existing policy that new VTOL aircraft types are CMPA by default.
- Introduces a common 1200 kg weight threshold for both Powered-Lift and Multicopters to be eligible for the CMPA discretion to be considered.

In addition to the change to the MTOM threshold, the CAA following the consultation has decided to amend the proposed operational criteria to enable the aircraft to be used for recreational training purposes. All other commercial flights would remain under the CMPA framework.

We do not propose to add additional eligibility threshold criteria as this would have restricted who could apply for the non-CMPA classification. Our intent is that if an applicant meets the eligibility criteria and submits an application and risk assessment, the CAA will

have regard to additional factors when evaluating that risk assessment. This is explained in more detail below.

Risk Assessment

Consultation proposal: We set out the proposed requirement for applicants to submit a comprehensive risk assessment as part of their application for other than CMPA classification, addressing at minimum: operational modes and environments; failure modes, redundancy and emergency procedures; pilot competency and training; maintenance and continuing airworthiness approaches; and interaction with nearby persons, property and airspace users. We explained that this risk assessment would enable the CAA to determine whether a comparable level of safety can be achieved outside the full CMPA regime.

We asked: Do you agree or disagree with the proposed approach to the risk assessment required for non-CMPA classification?

Summary of responses: We received 13 responses to this question. Of these, three respondents strongly agreed and six respondents somewhat agreed. No respondents neither agreed nor disagreed, and two respondents somewhat disagreed. Two respondents strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- A risk-based assessment was regarded as essential because weight alone cannot determine aircraft complexity.
- Respondents welcomed consideration of design features, operational environment, failure modes, maintenance and third-party risk.
- Some saw the approach as a useful way to enable proportionate treatment while maintaining safety assurance.

Comments opposing the proposals highlighted the following reasons:

- The assessment was considered too subjective without clearer criteria.
- The need for more detailed evidence requirements and decision standards.
- Uncertainty regarding applicant, DAH (Design Approval Holder) and operator responsibilities. Some preferred a formal safety-case approach.
- Concerns focused on lack of detail about evidence requirements, review criteria and what “acceptable risk” means.
- Some respondents argued that the process places too much burden on the applicant and may become too subjective.
- Industry asked whether the assessment would be standardised or closer to an operations safety case model.

Other comments raised include:

- Respondents suggested grouping airspace usage, operating site assumptions and interaction with infrastructure.
- Several asked for templates, examples or proformas to support consistent submissions.
- Some proposed early screening tools or modelling frameworks to reduce uncertainty before formal application.

CAA view: We intend to take forward our proposal to require submission and evaluation of a comprehensive risk assessment to be the basis for the CAA to grant other than CMPA classification. We note that our proposed approach regarding the risk assessment and what it should contain has been put forward as an outline at this stage in the process. We intend to further develop how the risk assessment should operate, providing additional detail on the kind of information the risk assessment would be expected to include, developing a standard format and setting out criteria the CAA would apply when evaluating the risk assessment and making its final decision. As we develop these more detailed proposals together with the supporting forms and guidance material we will take account of relevant comments that have been made here. We will consult on the guidance and supporting materials in due course.

CMPA Process

Consultation proposal: We set out the proposed process for non-CMPA classification, whereby the Design Approval Holder (DAH) would submit an application for alleviation from the requirements for a Complex Motor-Powered Aircraft alongside its application for aircraft certification, including confirmation that the eligibility criteria are met and the supporting risk assessment. We explained that the CAA would carry out a technical review, issue a written determination with reasons, and may impose restrictions in terms of occupancy, airspace use and overflight.

We asked: Do you agree or disagree with the proposed process for non-CMPA classification we have outlined?

Summary of responses: We received 11 responses to this question. Of these, four respondents strongly agreed and four respondents somewhat agreed. No respondents neither agreed nor disagreed, and one respondent somewhat disagreed. Two respondents strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- The process was viewed as clear and transparent:
- Provides suitable oversight for novel aircraft.
- Supporters welcomed a formal CAA technical review.

- Several respondents agreed that classification should be capable of including limitations or conditions rather than a simple yes/no decision.
- Some saw the process as a transparent route for manufacturers to demonstrate lower-risk aircraft characteristics.

Comments opposing the proposals highlighted the following reasons:

- Greater predictability and objective criteria requested.
- More detailed guidance and evidence requirements requested, and an early screening mechanism proposed.
- A dedicated light powered-lift pathway preferred over discretionary approach.
- Some respondents felt the process remains too subjective and could be costly for small manufacturers.
- Several argued that light VTOL aircraft should have a defined category rather than rely on case-by-case exemptions.

Other comments raised include:

- Respondents asked for better linkage between classification, maintenance, licensing and operational approvals.
- Infrastructure respondents asked that site-related restrictions be visible to infrastructure providers.
- Some respondents requested publication of decisions to give future applicants greater predictability.

CAA view: The CAA's proposal for these new aircraft is to include them into the current regulatory frameworks, as these are well established and known regimes. These proposed changes continue to reflect our planned way forward. In due course we will publish our finalised proposals in an opinion and instruction document, and consult on relevant guidance and other supporting materials.

The eligibility threshold criteria have been kept to a minimum, adding any further criteria may have impacted on an aircraft being able to qualify under the discretion from some of the CMPA requirements. With all VTOL being classified as CMPA, the use of the discretion and a risk assessment is seen as an appropriate method to enable this alleviation. The approach being taken by the CAA for the introduction of VTOL is to utilise existing regulations, only amending and introducing VTOL specific requirements where necessary. Specific regimes and pathways were not seen as equitable with existing aircraft.

We note that our proposed approach regarding the risk assessment and what it should contain has been put forward as an outline at this stage in the process. We intend to

further develop how the risk assessment should operate, thus enabling a process with a more predictable outcome. We will be developing a standard format and setting out clear criteria that the CAA would apply when evaluating the risk assessment and making its final decision. As we develop the process we will take account of relevant comments that have been made here.

We have reviewed the criteria, in particular, the restriction of private, recreational flying, and the 600kg limit for Non-Conventional Helicopters(*). We have amended the proposal to enable flight training and adopted a single 1,200kg MTOM for both Powered-Lift and Multicopters.

ANNEX 1

Abbreviations

AAM – Advanced Air Mobility

AMC – Alternative Means of Compliance

AIP – Aeronautical Information Publication

ATM – Air Traffic Management

CAMO – Continuing Airworthiness Management Organisations

CAT – Commercial Air Transport

CMPA – Complex Motor-Powered Aircraft

CS FCD – Certification Specific Flight Crew Data

DfT – Department for Transport

EASA – European Union Aviation Safety Agency

GM – Guidance Material

ICAO – International Civil Aviation Organisation

IFR – Instrument Flight Rules

ISMS – Information Security Management System

MCC – Multi-Crew Cooperation

NASP – National Aviation Security Programme

NAA - National Aviation Authorities

OEM – Original Equipment Manufacturer

OSD – Operational Suitability Data

OLS – Obstacle Limitation Surfaces

PPL – Private Pilot's License

RFFS – Rescue and Fire Fighting Service

SMS – Safety Management System

VFR – Visual Flight Rules

VTOL – Vertical Take-off and Landing

ANNEX 2

Summary of Questions

Question 1: Do you agree or disagree with our overall approach regarding the CMPA discretionary power? Please explain your answer.

Question 2: Do you agree or disagree with the proposed eligibility criteria with the use of MTOM with the proposed limits, and limited to private, recreational flights? Please explain your answer.

Question 3: Do you agree or disagree with the proposed approach to the risk assessment required for non-CMPA classification? Please explain your answer.

Question 4: Do you agree or disagree with the proposed process for non-CMPA classification we have outlined? Please explain your answer.