

Consultation Reply Document:

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

CAP3240

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Executive Summary

The UK Government has set an objective to see piloted eVTOL operations in the UK from 2028. In the [2025 eVTOL Delivery Model](#), the CAA set an ambition to have in place, by the end of 2028, a clear regulatory framework and operational systems that allow initial commercial passenger eVTOL (electric Vertical Take-Off and Landing) flights in the UK. To support this ambition, the CAA published a consultation on 7th November 2025 on the policies needed to accommodate the safe use of these new types of VTOL aircraft. This consultation proposed to use existing aviation regulatory frameworks where possible, only introducing bespoke requirements where technical or operational characteristics mean that existing requirements cannot be applied.

The consultation closed on 29th January 2026 and received 28 responses. Overall, the proposals in the consultation received strong levels of support. Across all questions, 85% of responses were positive and 7% were negative. Many respondents considered our proposals effective, proportionate and safety-enabling. Comments that disagreed with our proposals mostly requested further clarification or detail on how proposals would work in practice. Some respondents raised concerns about the international compatibility of our proposals. This consultation reply document provides a summary of comments received and our response. It sets out the following positions we intend to take forward:

- **Definitions and Thresholds:** To classify new types of VTOL aircraft as Powered-Lift or Non-Conventional Helicopters, and to treat these aircraft as Complex Motor-Powered Aircraft (CMPA) by default.
- **Initial Airworthiness:** To include new VTOL aircraft in the scope of existing initial airworthiness requirements.
- **Continuing Airworthiness:** To include new VTOL aircraft in the scope of existing continuing airworthiness requirements, and to determine any specific requirements needed for new VTOL aircraft maintenance.
- **Pilot Licensing:** To deliver a pilot licensing pathway to enable commercial and private pilot licence holders to fly new types of VTOL aircraft.
- **Flight Operations:** To apply existing flight operations regulatory requirements for aeroplanes and helicopters, or a combination of both, to new types of VTOL aircraft, as is appropriate to the specific type of aircraft.
- **Aerodromes:** To apply regulatory requirements for aerodromes - currently under review - to aerodromes accommodating new types of VTOL.

Further consultation will be required to gain feedback on policy detail and proposed changes to legislative text. When these consultations have concluded, we will provide our final opinion and instructions to Department for Transport, who will consider whether to progress with our proposals in a statutory instrument.

Chapter 1

Introduction

Context

The emergence of new types of VTOL (Vertical Take-Off and Landing) aircraft and associated technologies has the potential to broaden and enhance the reach of civil aviation. The UK Government has set an objective to see piloted eVTOL operations in the UK from 2028 and has established the Future of Flight programme to help deliver it. To achieve the regulatory side of this objective, the CAA has set an ambition to have in place, by the end of 2028, the clear regulatory framework and operational systems that allow initial commercial passenger eVTOL flights in the UK.

Whilst it is possible to operate new types of VTOL aircraft today for testing and demonstration purposes, existing regulations do not provide for every new type of VTOL aircraft and its operations. The CAA, sponsored by the Department for Transport, published a consultation on 7th November 2025 to take feedback on the policies needed to accommodate the safe use of these new types of VTOL aircraft in the UK.

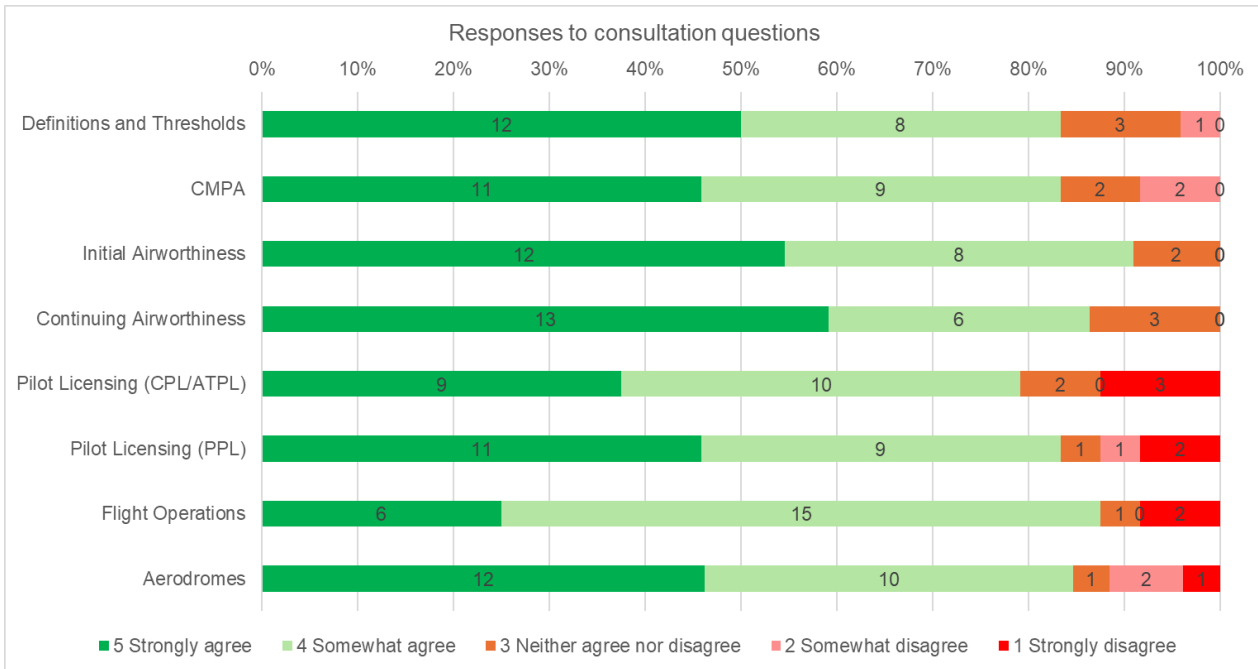
The consultation proposed to apply existing regulatory frameworks to these new types of VTOL aircraft as far as possible, such that existing aviation safety standards would be equitably applied to these new aircraft. This approach would utilise established, well-understood frameworks, and ensure equity with existing aviation, coherence across the aviation regulatory system and compatibility with international frameworks. We proposed bespoke regulatory requirements where technical or operational characteristics mean that existing regulations could not be applied – for example, on fuel/energy policy.

Summary of responses

The consultation closed on 29th January 2026 and received 28 responses. Respondents included academics (9), aircraft manufacturers (4), air operators (3), aircraft designers (2), pilot training organisations (2), public bodies (2), and aerodrome operators (1), amongst others.

Overall, the proposals in the consultation received strong levels of support. Across all questions, 85% of responses were positive, and 7% of responses were negative¹. All policy proposals received between 79% and 91% support. The level of support by question is provided in Figure 1.

¹ Positive responses are considered those that responded 'Strongly agree' or 'Somewhat agree' to our questions. Negative responses are considered those that 'Strongly disagree' or 'Somewhat disagree'. Responses of 'Neither agree nor disagree' have been included, but responses with 'No view' were excluded, as were questions with no response provided.



Many respondents agreed with the benefits of utilising existing frameworks as far as is possible, and considered our proposals effective, proportionate and safety-enabling. Comments that disagreed with our proposals mostly requested further clarification or required more detail on how the proposals would work in practice – for example, some respondents requested more details on our proposed criteria for an aircraft to be considered ‘non-complex’. Some respondents raised concerns about the international compatibility of our proposals – for example, whether using Powered-Lift as an aircraft classification is compatible with the CAA’s aircraft certification specifications (i.e. Special Condition for VTOL Capable Aircraft UK.SC.VTOL Issue 2).

The following chapters provide an outline of our consultation policy proposals, a full summary of comments received, our response and the policy positions we intend to take forward into the next stage of policy development.

Next steps

Further consultation will be required to gain feedback on detailed policy and proposed changes to technical legislative text. When these consultations have concluded, we will provide our final opinion and instructions to Department for Transport, who will consider whether to progress with our proposals in a statutory instrument.

Chapter 2

Definitions and Thresholds

Definitions and naming convention

The consultation proposed to use existing UK or ICAO definitions as far as is possible, aligning with our international commitments to ICAO and promoting harmonisation with other National Aviation Authorities (NAAs).

The consultation proposed to update the existing UK definition of 'Powered-Lift aircraft'² to capture most new types of VTOL aircraft and align with the ICAO definition from Annex 1³. The consultation proposed that new types of VTOL that would otherwise fit the existing domestic and ICAO definition of helicopter should be subject to regulations applicable to helicopters where they do not meet the definition of Powered-Lift because they can't fly with their entire mass supported by a wing. As these new types of helicopters are expected to use safe forced landing methods other than autorotation, which may not account for complete energy depletion, we proposed to treat this type of aircraft as 'Non-Conventional Helicopter' (NCH). We defined NCH as *a helicopter that is not capable of autorotation*, to account for any unique features associated with it. Those with a controlled safe forced landing capability that accounts for all eventualities, including complete energy depletion, would be treated as a conventional helicopter.

We also proposed that the CAA should have a discretion to determine which of the classifications in Part 1 of Schedule 4 to the Air Navigation Order (ANO) is the most appropriate to apply to an aircraft that does not fit clearly within any statutory definition.

We asked the question: *Do you agree or disagree with our proposals regarding definitions and naming conventions? Please explain your answer.*

We received 24² responses to this question from 8 individuals and 16 organisations. Of these, 12 strongly agreed and 8 somewhat agreed to our proposals, with 3 neither agreeing or disagreeing. There was 1 who somewhat disagreed and no one who strongly disagreed.

Those who agreed with our proposal provided the following reasons:

- Support for the approach of classifying new aircraft based on shared features with conventional aircraft, such as helicopters, creating a clear and proportionate baseline for requirements.

² Here and onwards, the total number of responses to each question excludes those who responded with 'No view' or did not provide an answer.

- The use of internationally recognised concepts and clear categories, which would allow consistent application of regulations and requirements.
- Welcomed the use of technologically neutral and consistent terminology and taxonomy to the benefit of reduced ambiguity.
- Proportionality of the regulation and scalability of the industry without negatively affecting safety levels.
- The proposed framework appropriately distinguishes aircraft characteristics and operational intent, without being overly prescriptive.
- The approach supports international harmonisation. The proposed wording aligns with ICAO and does not represent substantive divergence from both EASA and FAA regulatory frameworks.
- Support for the use of CAA discretion to determine the most appropriate classification to apply to an aircraft that does not fit clearly within any existing statutory definition.

Of those who disagreed with our proposal, the following reasons were provided:

- The content of the consultation was lacking detail.
- Concerns about potential boundary cases that could lead to inconsistent interpretation or inappropriate classification of an aircraft as Powered-Lift (e.g. gyroplanes using pre-rotator for take-off).
- One respondent disagreed with the naming conventions, requesting to remove references to Powered-Lift and NCH, instead referring to all incoming aircraft as verticraft, which they saw as a neutral term.
- Several respondents believe that the NCH definition needs further work, because some novel aircraft use propellers for lift/direction thrust and therefore cannot be classified as rotorcraft, falling outside the proposed definitions.
- One respondent raised concerns about discrepancies between our proposed approach and SC.VTOL certification principles - noting that SC.VTOL uses a single categorisation of aircraft (VTOL-Capable Aircraft).
- Concerns with the differences between UK's approach and that of other jurisdictions on CMPA.
- One respondent noted that continued alignment between Air Operations performance categories and the certification basis should be ensured.

Other key points raised in responses include:

- There was a request for clarification that a Non-Conventional Helicopter (NCH) is a subcategory of Helicopter.

- One respondent asked for an explanation under what conditions would Powered-Lift aircraft will be allowed to use special-use airspace, such as helicopter routes.
- There was a concern around differences in CMPA approach between regulators.
- There was a request for further information on CMPA discretion parameters.
- There was a request for mapping guidance how common architectures map to Powered-Lift or NCH.

We will ensure that the proposed classification of aircraft minimises edge cases or ambiguity. As the CAA cannot predict every possible future design of aircraft, we are proposing to create a discretion within the legislation that would allow the CAA, working with the relevant manufacturer, to allocate the appropriate regulatory framework to an aircraft that does not fall perfectly into any definition. The terminology will remain technology-neutral to retain regulatory flexibility and foster innovation.

We will clarify that the propulsion architecture that a Powered-Lift aircraft uses (vectored thrust, lift+cruise etc.) is not relevant as we are developing our regulations to be technologically agnostic, instead focusing on the capabilities and performance of the aircraft. As long as the aircraft is capable of vertical take-off and landing, and is able to fully maintain its weight on the wing in cruise, it will be treated as a Powered-Lift aircraft.

We propose creating the class of NCH to allow for a subset of requirements to apply to certain novel types of helicopter, where we consider that it is necessary in order to mitigate any relevant safety risks without placing undue regulatory burden on existing types. Aircraft that fit the definition of a helicopter but do not have the capability to autorotate (or equivalent approved alternative) in all circumstances, including energy depletion, will be treated as NCH. Those that have the capability to autorotate (or equivalent approved alternative) in all circumstances including energy depletion will be treated as a conventional helicopter. We are of the view that it is appropriate to treat NCH as a type of helicopter, because they possess rotating aerofoils, which, like those of any other helicopter, generate both lift and propulsion, not just propulsion as is the case with a propeller. In our view it is the flight method, not technology, that should inform the classification. Those aircraft that do not fit neatly into any of the definitions will be dealt with under discretionary provisions, and the most appropriate ruleset to maintain safety and proportionality would be applied.

Based on the comments received we have adjusted our proposed definition of a Non-Conventional Helicopter to *a helicopter that it not capable of autorotation, or equivalent alternative, in the event of power failure or energy depletion*. Autorotation is not the only method to complete a safe controlled forced landing. The proposed NCH definition has therefore been reworded so aircraft with alternative methods of achieving the same capability are not captured.

With regard to the concerns of discrepancy between SC-VTOL's use of definition of VCA (VTOL-Capable Aircraft), and the use of Powered-Lift and NCH in areas of regulations other than those for certification we do not consider these different definitions to present an issue. All aircraft that fit the definition of a VCA must be certified using SC-VTOL. Powered-Lift and NCH are then definitions that cover which operational regulations will be applied to any aircraft regardless of the certification standards. This is consistent with existing methodologies. Helicopters can be certified under CS27 or CS29. If an aircraft meets the definition of VCA and helicopter, but not the definition of an NCH, it will be treated as a conventional helicopter in the regulations for their operation.

We note that some of the comments made asked for clarity on issues that will ultimately be for operators to demonstrate. This would include the capability to route into large airports or use helicopter routes. Being able to pursue flight into specific airports or helicopter routes is the responsibility of the operator, who should demonstrate they are able to comply with established flight operations requirements.

Respondents wanted to know more about which Powered-Lift aircraft would be classified as complex-motor powered aircraft (CMPA) and why. For more details see the responses in the next section.

It should also be noted that aircraft classification (aeroplane, helicopter etc.) is separate from classification of an aircraft as CMPA. The latter concerns which regulations are appropriate to it in Continuing Airworthiness, Flight Crew Licensing and Air Operations regulation and should not be conflated with categories of aircraft.

We remain committed to ensuring close alignment with other state aviation authorities and ICAO. We are aware of the approach taken by other authorities and see our proposals as compatible, because they will achieve similar outcomes, even if there are some differences in rules and requirements. We will continue to engage with our international colleagues and ensure broad harmonisation where possible.

Overall, respondents broadly supported the proposals, seeing them as suitable for enabling initial AAM operations without unduly burdening the operators. As a result, we will take the proposed policy position forward, taking into account the commentary provided by the respondents.

Complex Motor-Powered Aircraft (CMPA)

Complex Motor-Powered Aircraft (CMPA) is a regulatory classification that determines whether an aircraft is subject to certain flight operations and continuing airworthiness requirements. At present, an aircraft is classified as CMPA if it is an aeroplane or helicopter that meets certain mass, passenger, crew, or propulsion criteria, regardless of certification basis, or if it is a tilt-rotor aircraft regardless of weight, crew or passenger numbers.

The consultation proposed to start from the presumption that all Powered-Lift and Non-Conventional Helicopters, as defined in the prior section, should be classified as CMPA. We also considered that the default position that all Powered-Lift and Non-Conventional Helicopter are CMPA may not be appropriate for some new types of VTOL aircraft, and that our views on this may evolve as we gain more data and evidence on the enduring performance of aircraft. On that basis, we proposed that:

- For some Powered-Lift or Non-Conventional Helicopters, the CAA should have a discretion to decide whether the default position that they are CMPA should be disapplied, having regard to criteria relating to the aircraft and its anticipated operations, and,
- If the CAA exercises that discretion and the aircraft is determined to be non-CMPA, the CAA should be able to apply conditions relating to its maintenance and operations, while we are building an evidence base in respect of the operations of these novel aircraft.

This proposal intended to ensure our overall approach to flight operations and airworthiness requirements provides the appropriate level of safety, whilst providing proportionate regulation of industry as technology evolves.

We asked the question: *Do you agree or disagree with our proposals regarding CMPA? Please explain your answer.*

We received 24 responses from 8 individuals and 16 organisations. Of these, 11 strongly agreed and 9 somewhat agreed with our proposals, with 2 neither agreeing or disagreeing. There were 2 who somewhat disagreed and no one who strongly disagreed.

Of those who agreed with our proposal, the following reasons were provided:

- Complexity and novelty of new types of VTOL aircraft. Powered-Lift, and Non-Conventional Helicopters are sufficiently new, complex, and safety-critical to justify CMPA classification. This included concerns about unknown or novel failure modes, highly integrated systems, distributed propulsion architectures, and automation complexity.
- Safety as the primary driver. CMPA classification is seen as ensuring appropriate design, operational, and maintenance oversight, maintaining a high and consistent level of safety, particularly for commercial passenger operations.
- Appropriate risk alignment. CMPA requirements ensure that operational risk is equivalent to legacy commercial aviation, preserving fairness and avoiding lower-standard parallel categories.

- Support for limited CAA discretion. Some agreed with the CAA retaining limited, transparent discretion to classify an aircraft as non-CMPA where justified. This was subject to criteria being clearly defined, transparent decisions, and uncompromised safety outcomes.

Of those who disagreed with our proposal, the following reasons were provided:

- The need for an objective, transparent decision framework. This includes published clear, objective criteria for CMPA vs non-CMPA determinations, covering factors such as seating capacity and MTOM (maximum take off mass), intended operational environment, flight envelope, system complexity, and level of automation

Other key points raised in responses include:

- The need for transparency in use of CAA discretion. Multiple respondents requested published decision-making criteria, required “evidence packages”, conditions or operational limitations that may apply, and clear review points for decisions that depart from the CMPA default.
- The importance of considering intended use, with CMPA remaining the default for commercial VTOL operations.

We propose to take forward our proposal for all Powered-Lift and Non-Conventional Helicopters to be classified as CMPA from the outset, with a discretion to enable some aircraft to be determined as non-CMPA. Our rationale is based on strong and broad support for treating Powered-Lift and Non-Conventional Helicopters as CMPA due to their complexity, novelty, and risk profile. However, respondents also consistently requested greater transparency and specifically a clear decision-making framework. This feedback will be addressed through further consultation on CMPA which will set out the decision process and criteria for aircraft to be considered non-CMPA.

Chapter 3

Initial Airworthiness

The current initial airworthiness framework and requirements are well established, known, and suitable for new types of VTOL aircraft. The consultation proposed to use the current initial airworthiness framework as set out in Part 21 of UK Regulation (EU) No. 748/2012, and only amend the regulations where necessary to include Powered-Lift and Non-Conventional Helicopters. This would ensure new VTOL aircraft will be subject to the same high standard of safety oversight that currently applies to existing Part 21 aircraft.

We asked the question: *Do you agree or disagree with our proposals regarding initial airworthiness? Please explain your answer*

We received 22 responses to this question from 7 individuals and 15 organisations. Of these, 12 strongly agreed and 8 somewhat agreed to our proposals, with 2 neither agreeing or disagreeing. There were no responses that somewhat disagreed or strongly disagreed.

The majority of comments received were not directly related to the proposed changes to UK Regulation (EU) No. 748/2012, but to the wider certification picture.

Of those who agreed with our proposal, the following reasons were provided:

- Safety and appropriateness of existing frameworks. Strong support for using the existing Part 21 initial airworthiness framework, which is familiar, well-proven, and already accommodates novel aircraft types. Agreement that VTOL aircraft intended for commercial passenger transport should meet equivalent safety standards to Part 25 aeroplanes and Part 29 helicopters.
- Safety as enabler of market confidence. Several emphasised that strong, clear airworthiness requirements are needed to maintain public confidence, enable safe commercial operations, and support long-term scalability of the UK VTOL market.

While no respondents disagreed outright. Concerns among those who expressed negative or cautious views included:

- Potential over-flexibility, with the inclusion of discretionary provisions allowing CAA to consider an aircraft as non-CMPA for the purposes of initial airworthiness requirements.
- Risk of over- or under-regulation. It was felt that simply adapting existing rules could omit important new considerations for novel technologies, or overextend existing requirements in ways not suited to VTOL systems. Also, weight category concern in that aircraft under 600 kg should be subject to alternative initial airworthiness requirements, even for commercial use, due to different risk/protection profiles.

Of those who didn't provide a view, the following reasons were provided:

- The need for international harmonisation first, or a sense that international standards (e.g., ICAO noise requirements for VTOL) are still developing, and respondents prefer clarity before offering a firm opinion.

There is strong overall support for applying the existing Part 21 framework to new types of VTOL aircraft, which is well understood, internationally consistent, and capable of integrating emerging VTOL technologies. We therefore propose to take forward our proposal to use the current initial airworthiness framework and requirements. Concerns around the CAA's discretion will be addressed through further consultation on the specific subject.

Chapter 4

Continuing Airworthiness

The requirements for continuing airworthiness (CAW) are laid out in UK Regulation (EU) 1321/2014. This includes the maintenance organisation (Annex II, Part 145) and continuing airworthiness management organisation (Annex Vc, Part CAMO) approvals, and the associated Parts that support these functions. In addition, amendments will be necessary to Part ML (Annex Vb) and Part CAO (Annex Vd) to enable Powered-Lift and Non-Conventional Helicopters to operate as General Aviation aircraft where they have been classified as non-CMPA following application of CAA's discretion.

The current continuing airworthiness framework and requirements are well established and are suitable for new types of VTOL aircraft. The consultation proposed to use the current continuing airworthiness framework and requirements, only amending the regulations where necessary to include Powered-Lift and Non-Conventional Helicopters. This approach will ensure new VTOL aircraft will be subject to the same high maintenance standards with the same level of oversight as that which applies to existing aircraft.

We asked the question: *Do you agree or disagree with our proposals regarding continuing airworthiness? Please explain your answer.*

We received 22 responses to this question from 7 individuals and 15 organisations. Of these, 13 strongly agreed and 6 somewhat agreed to our proposals, with 3 neither agreeing or disagreeing. There were no responses that somewhat disagreed or strongly disagreed.

Of those who agreed with our proposal, the following reasons were provided:

- Support for using existing frameworks. Strong agreement that continuing airworthiness should remain under current regulatory requirements. Existing CAW frameworks are seen as suitable, proven, and effective for tracking and ensuring airworthiness, even for novel VTOL aircraft.
- Broad agreement with a tiered approach allowing differentiation between Pilot-owner maintenance, Complex maintenance tasks, and General aviation (i.e. non-CMPA Powered-Lift or Non-Conventional Helicopters)
- Alignment that Powered-Lift and Non-Conventional Helicopters should meet the same maintenance and safety standards as the wider aviation industry to maintain consistent levels of safety and commercial compatibility.

There were no direct disagreements with our proposals. However, respondents who expressed concerns or partial reservations cited:

- Confusion over the definitions of Non-Conventional Helicopters and Powered-Lift, and how “adjustments” apply if these aircraft are included on approval certificates.

Other key points raised in responses include:

- Suggestion for Pilot-Owner maintenance limits, restricting pilot maintenance for complex systems (particularly flight controls), but allowing normal pilot-owner tasks (wheels, brakes, tyres).
- Need for clarity on approvals and certification, with requests for clearer guidance on how organisation approvals, airworthiness reviews, and maintenance programmes will apply to Powered-Lift and NCH categories.

We propose to take forward our proposal to use the current continuing airworthiness framework, only making changes where necessary. Our rationale is that there is strong majority support for applying the existing continuing airworthiness framework, which is already robust, industry-familiar, and operationally proven.

Chapter 5

Pilot Licensing

The requirements for personnel licensing are laid out in implementing rule UK Regulation (EU) No 1178/2011 referred to as the Aircrew Regulation, subject to UK Regulation 2018/1139, referred to as the UK Basic Regulation. UK personnel licensing requirements under this legislation are ICAO compliant, ensuring licences are accepted internationally.

The personnel licensing framework and licence categories are well established, and the existing provisions for the sub-category of a Powered-Lift Type Rating are suitable for new types of VTOL aircraft.

The consultation proposed to use the operational suitability data established in accordance with Part-21 and the principles of the Powered-Lift framework, and Helicopter type rating provisions, amending the regulations where necessary to enable existing commercial licence holders to pursue a type rating course for new Powered-Lift aircraft and Non-Conventional Helicopters.

The consultation proposed to enable a new pathway for existing Private Pilot Licence (PPL) holders to pursue Powered-Lift and Non-Conventional Helicopter type ratings for non-commercial purposes. A new pathway for ab-initio flight training routes for VTOL aircraft is not being proposed.

New type rating training courses are subject to the training standards determined in the operational suitability data, aligning with the current approach to type rating training. Certification Specifications for Operational Suitability Data—Flight Crew Data (CS-FCD) enables the determination of the specific type rating requirements for new aircraft types. It provides a standardised data-driven process to ensure pilots receive the appropriate training for a particular aircraft type, which is then reflected on their license.

Commercial Pilot Licensing

We asked the question: *Do you agree or disagree with our proposals regarding a personnel licensing pathway for commercial licence holders (CPL/ATPL) to secure a type rating to fly new types of VTOL aircraft? Please explain your answer.*

We received 24 responses to this question from 8 individuals and 16 organisations. Of these, 9 strongly agreed and 10 somewhat agreed with our proposals, with 2 neither agreeing or disagreeing. No responses somewhat disagreed and 3 responses strongly disagreed with our proposals. One of these responses provided no reason for the strong disagreement.

Of those who strongly agreed or somewhat agreed with our proposals, the following reasons were provided:

- Aligning the licensing framework with existing professional pilot framework to obtain a type rating for new VTOL aircraft was seen as a positive approach.
- The need to mirror current professional licensing approach in complex airspace was highlighted with an acknowledgment that not all aspects will be applicable.
- Multiple responses offered detailed rationale in support of the proposal to use existing pathways and type ratings supported by the OEM OSD process, describing the approach as supporting public confidence, standardised scalable training, testing, scalable operations, and workforce availability
- The importance of internationally comparable pilot qualification pathways and outcomes and the opportunity to simplify licensing across territories was referenced in 3 responses.
- Clarification was sought in 1 response to confirm the pathway was for rotary pilots rather than fixed wing pilots.
- Another response somewhat agreed emphasising any modifications to personnel licensing must provide an equivalent level of safety, referencing in particular the need for robust competencies in vertical flight, low-level operations, abnormal and emergency handling and operations in complex airspace.

Of those who disagreed with our proposal, the following reasons were provided:

- Concern around instrument rating requirements referenced the risk of inadvertent entry into IMC (Instrument Meteorological Conditions) and past accidents involving insufficient instrument training.
- The pathway from ab-initio to CPL/ATPL was considered unclear with likelihood of significant use of flight simulator devices. This was contrasted with the current pathways to CPL/ATPL which were described as structured and well proven

Of those who didn't provide a view, the following reasons were provided:

- Neutral comments recognised the importance of clarity in licensing without expressing technical views.
- One respondent questioned whether new licensing paths/criteria would apply to existing pilots.

Other key points raised in responses include:

- Current approach using a flight hour-based metric was questioned as not being suitable for VTOL aircraft, highlighting the need for deeper understanding of automation and energy management systems.
- Competency based training was proposed as a more effective and outcome-driven alternative to traditional flight hour-based training, with demonstration of defined competencies rather than the accumulation of flight time.

- Flight cycles as an alternative to flight hours were proposed as an alternative.
- Proposal that FSTD and OTD (other training device) based training should be considered acceptable for new VTOL aircraft training.
- International harmonisation was raised as a concern to avoid market fragmentation.

In general, responses highlight a perception that Powered-Lift aircraft align more closely to helicopter operations. The significance of helicopter experience and aeroplane experience for type rating training and the extent to which the handling characteristics of Powered-Lift aircraft align more closely to aeroplane or helicopter experience will become clear as manufacturers share training data. Cockpit design is not standard, and airplane-adjacent controls may be a factor in physical ergonomics.

There is no requirement for a pilot to have an instrument rating for VFR flights in any other aircraft classification, and we do not consider that it is necessary or proportionate to introduce such a requirement.

We propose to take forward our proposals regarding a personnel licensing pathway for commercial licence holders (CPL/ATPL) to secure a type rating to fly new types of VTOL aircraft. We will consult further on the existing pre-requisites, competency-based and sector-based alternatives to flight hours, and cross-category competencies. Our rationale is based on the overall support for the policy framework proposed for commercial personnel licensing routes.

Private Pilot Licensing

We asked the question: *Do you agree or disagree with our proposals regarding the introduction of a personnel licensing pathway for private pilot licence holders (PPL) to secure a type rating to fly new types of VTOL aircraft non-commercially? Please explain your answer.*

We received 24 responses to this question from 8 individuals and 16 organisations. Of these, 11 strongly agreed and 9 somewhat agreed to our proposals, with 1 neither agreeing or disagreeing. There was 1 who somewhat disagreed and 2 responses strongly disagreed with our proposals. One of these responses provided no reason for the strong disagreement.

Of those who strongly agreed and somewhat agreed with our proposals, the following reasons were provided:

- Expansion of access and enabling innovation beyond commercial operations
- Opportunity to develop skills and support long-term workforce development
- Support for type-specific training
- Opportunity to consider licensing requirements for '*modern VTOL aircraft*'

- Supporting public acceptance of new types of VTOL aircraft.

Of those who disagreed with our proposal, the following reasons were provided:

- The rapid development of lightweight Vertical Take-Off and Landing (VTOL) aircraft presents an opportunity for the UK Civil Aviation Authority (CAA) to adopt a proportionate, risk-based approach to pilot training that reflects both technological maturity and operational realities. Particular emphasis was placed on the handling qualities and workload characteristics when compared to conventional rotorcraft or early-generation VTOL concepts.
- The need for a pilot training pathway for PPL to consider both large and small VTOLs
- The lack of vertical flight skills, emergency handling, and energy management understanding essential for VTOL aircraft and the risk of oversimplifying training requirements for novel VTOL types.

Of those who didn't provide a view, the following reasons were provided:

- One response did not express a view stating that licensing requirements fell outside their competence

Other key points raised in responses include:

- While the proposed approach is generally well supported, responses included qualifications recommending caution, and a measured approach with clearly defined training to support broader privileges proportionate to the risks involved and clear differentiation from commercial operations.
- References to ab-initio route as a pathway progression from PPL to CPL/ATPL.
- Request to consider a reduction in the minimum flight training requirements for licence issue or type endorsement for lighter VTOL, while maintaining an equivalent level of safety through competency-based assessment and structured training sessions.
- The technological context of highly augmented handling systems merits a review of appropriate metrics for pilot competence with a proportionate adjustment to training requirements representing a pragmatic evolution of regulation.
- Consideration should be given to expressing training requirements in terms of structured flight sessions rather than flight time.
- Caveats to positive views included recommendations for a staged approach which prioritises commercial pilot licencing and the need to ensure there is equivalent level of safety to current requirements

For existing PPL holders in the aeroplane or helicopter category, the prerequisites for initial type rating training and checking for Powered Lift aircraft, including theoretical knowledge, will be set out in the Operational Suitability Data (OSD).

References to an ab-initio flight training pathway go beyond the proposal of enabling a pathway for current PPL holders to obtain a type rating on Powered-Lift aircraft for non-commercial purposes, so are not being considered at this stage.

We recognise that for very small, short range eVTOL aircraft there may be a scope for alternative qualifications to that of the ICAO compliant PPL. The requirement that the pilot must be able to operate the aircraft safely, particularly without endangering third-parties on the ground, and other airspace users, must be the same as for existing forms of aviation.

We propose to take forward our proposals regarding the introduction of a personnel licensing pathway for current private pilot license holders (PPL) to secure a type rating to fly new types of VTOL aircraft for non-commercial purposes. We will consult further on relevant pre-requisites and alternatives to the ICAO compliant PPL. Our rationale is based on the overall support for this approach evident in the responses to the policy framework proposed.

Chapter 6

Flight Operations

In the consultation, we proposed to equitably apply existing flight operations requirements, as included in UK Regulation (EU) 965/2012, as far as possible. We proposed to use the principles of existing Helicopter requirements for Non-Conventional Helicopters and the principles of either Helicopter or Aeroplane requirements, or a combination of both as applicable, for Powered-Lift. We proposed to make more material updates to flight time limitations and fuel policy requirements to reflect the different concept of operations of Powered-Lift.

We asked: *Do you agree or disagree with our proposed changes regarding flight operations regulations? Please explain your answer.*

We received 24 responses to this question from 8 individuals and 16 organisations. Of these, 6 strongly agreed, and 15 somewhat agreed to our proposals, with 1 response neither agreeing or disagreeing. There were none that somewhat disagreed and 2 that strongly disagreed.

Of those who agreed with our proposal, the following reasons were provided:

- Welcomed the use of existing rules as far as practical.
- Supported the application of existing operational principles by mode of operation.
- Supported the performance-based regulatory approach.
- Supported performance-based energy policy.
- Welcomed the option to recharge with passengers on board when supported by validated mitigations.
- Agreement with the premise of using regulations that are based on the core capability of a specific aircraft.
- Support for review of single pilot flight time limitations scheme (CAP 371).

Of those who disagreed with our proposal, the following reasons were provided:

- Concerns with the proposed rules due to the belief that eVTOL aircraft will struggle to meet Visual Flight Rules (VFR) minima and VFR fuel requirements.
- Concerns that VFR operations would not require flight crew to have an Instrument rating.

Other key points raised in responses include:

- Recommendation to strengthen the treatment of mode transition/conversion for tilt-capable or multi-mode aircraft, define how “modes” and any transition corridor are expressed in operating limitations and procedures and specify how changes to the transition envelope (e.g., due to software updates) are controlled, communicated, and linked to training updates.
- Request to provide clearer guidance on energy management assumptions and how any statistical/operational evidence is expected to be used to support approvals.
- Highlighted the importance for the UK CAA to work with ICAO and NAAs to further develop an internationally compatible aviation modality.
- Request CAA perform a review of the flight time requirements that look at a performance-based, mission-based criteria.
- The level of automation must be considered when determining flight time requirements, as operations in such a craft will affect pilots differently compared to conventional aircraft.
- Requested additional details on whether take-off or landing mode dictates energy reserve.
- Maintain consistency between flight operations rules and safety assumptions in the SC-VTOL certification basis.
- Potential for use of competency-based training with alternative metrics, such as sectors flown or operations sectors.
- Ensuring transferability between performance categories and SC-VTOL certification basis.
- Recommendation to consider possible relief from Standardised European Rules of the Air (SERA) for Powered-Lift in certain circumstances.

Based on the responses, we intend to take forward the flight operations policy proposals outlined in the consultation. The CAA sees itself as being largely aligned with the expectations of the industry, though further work will take place.

With regards to the impact that transition from vertical to horizontal flight can bring, under the current proposal it will be up to the manufacturer, as part of the demonstration process, to perform it safely during intended operations. Relevant procedures will need to be stipulated in the approved Aircraft Flight Manual.

We propose to review and propose amendments, where appropriate, to energy management regulations. This will result in the inclusion of new types of aircraft and associated operations in an equitable manner. The rules will make it clear that required energy reserves will be dictated by the mode that the aircraft is landing in (vertical or on the wing). In addition, existing regulations already allow for performance-based fuel schemes, namely an individual fuel scheme. However, permission to use one is subject to

evidence provided by the operator and approval by the CAA. Unless and until sufficient evidence is provided, the basic scheme will apply.

The CAA will review CAP 371: The Avoidance of Fatigue In Aircrews as all single pilot operations are carried out in compliance with it. There are currently no fatigue risk management provisions for single pilot operations in the flight operations regulations. The CAA acknowledges that an aircraft's level of automation impacts the workload of the pilot. While it is expected that automation will reduce the workload, the pilots will still require excellent airmanship skills to perform the kind of operations these aircraft are expected to perform, such as low-level single pilot VFR flying. In addition, the short nature of flights may counteract some of the reduction in workload provided by automation.

In line with both EASA and the FAA, the CAA will propose regulations that explicitly state that Standardised European Rules of the Air (SERA) helicopter limits will not be initially applied to Powered-Lift until it can be demonstrated that the aircraft can operate to the same standards as a helicopter, for example, when it comes to stopping distances and turn performance. There is insufficient justification for alternative approaches at this time, and any changes would have to be applied to all aircraft with the same capability (i.e. not just Powered-Lift).

The CAA acknowledges the alternative proposals in lieu of flight hours, such as sectors flown and competency-based approaches, and will be consulting further.

With regards to performance classes (PC), the UK CAA acknowledges the need to ensure consistency between PC and safety assumptions embedded in the SC-VTOL certification basis. To this end, we will ensure that principles of PC 1, 2, and 3 are adjusted, where appropriate, to ensure both engine failure and Critical Failure for Performance (CFP) are accommodated as needed. With regards to Powered-Lift certification performance gradations to operational performance outcomes relevant to route approvals, such as contingency climb and obstacle clearance, all the performance class flight profiles are created by the Original Equipment Manufacturer (OEM) and should be based on ICAO doc 10110 as appropriate to the aircraft in question. We would finally like to draw attention to the different purposes of helicopter performance classes (PC1/PC2/PC3) and performance categories. As noted above, the flight profiles that will need to be flown to achieve these goals are created by the OEM as part of certification and approved by the CAA. Those aircraft that are able to remain airborne in the case of the most critical failure and achieve the required climb performance can fly over a congested area, subject to the minimum height required in SERA. Those that cannot, must adjust their operational areas/routes to ensure that there is always a controlled safe landing area within reach. This is the same requirement that any other aircraft has to meet.

One respondent was concerned that we are proposing that there is no requirement for pilots of Powered-Lift or NCH to be instrument rated for VFR only operations. There is no requirement for a pilot to have an instrument rating for VFR flights in any other aircraft

classification, and we do not consider that it is necessary or proportionate to introduce such a requirement here.

Other responses to the consultation on the proposed approach for Flight Operations with new types of VTOL aircraft not directly addressed have been considered by the CAA. We consider these responses are either adequately addressed in the proposed policy, or do not merit further changes.

We will consult on the further detail of the proposed Flight Operations policy in due course, providing further clarification and further opportunity for feedback from stakeholders.

Chapter 7

Aerodromes

In the consultation, we proposed to apply requirements to new types of VTOL aircraft in line with the changes that we will be proposing to the Heliport Certification & Safety Management System framework³. The approach at its core relies on the principles of existing Heliport requirements, which will then be further enhanced under the new framework proposals for Heliport Certification & Safety Management Systems. We proposed to make more material updates to guidance material to better reflect the capabilities and opportunities of Powered-Lift aircraft.

We asked the question: *Do you agree or disagree with our proposed changes regarding aerodrome regulations? Please explain your answer.*

We received 26 responses to this question from 8 individuals and 18 organisations. Of these, 12 strongly agreed and 10 somewhat agreed with our proposals, with 1 neither agreeing or disagreeing. There were 2 that somewhat disagreed and 1 that strongly disagreed.

Of those who agreed with our proposal, the following reasons were provided:

- Support for a scalable, risk-based aerodrome framework aligned with existing and proposed helicopter standards.
- Agreement that modernising regulations is essential for safe integration of Powered-Lift operations.
- Strong endorsement of maintaining pathways for commercial use of unlicensed operating sites.
- Approval of proportionate requirements, including SMS, aerodrome manuals, and harmonisation with existing CAP168 principles.
- Support for enabling shared use of aerodromes, heliports and vertiports to minimise infrastructure costs and maximise commercial viability.
- Agreement that additional guidance on physical characteristics, Obstacle Limitation Surfaces, and emergency response will enhance safety.
- Endorsement of publishing data for vertiports in the UK AIP to support operational planning.

Of those who disagreed with our proposal, the following reasons were provided:

³ [CAP 3199A : Comment Response Document: Policy framework for Heliport Certification and Safety Management Systems | UK Civil Aviation Authority](#)

- Concern that eVTOL battery fires pose much higher risks than conventional fuels and are adequately mitigated through the proposed regulatory changes.
- Comments that operations at unlicensed sites may become unsafe if there is significant divergence from the Aerodrome regulation in the Flight Operations Regulation requirements for operating sites.
- Concerns that current proposals may inadvertently overregulate the industry, if true performance-based criteria are not adequately used.
- Concerns that key differences in Powered-Lift performance (e.g. slopes, wake, downwash/outwash) compared to helicopters are not fully captured.
- Concerns about inadequately defined boundaries between aerodromes and operating sites.

Other key points raised in responses include:

- Calls for explicit guidance on noise management, emergency planning, high-voltage safety and thermal event response.
- Emphasis on aligning Aerodrome and Flight Operation requirements to avoid conflicting frameworks or regulatory “cliff edges.”
- Importance of allowing alternative means of compliance or equivalent levels of safety proposals where physical modification of aerodromes is impractical.
- Requests for clarity on “virtual Final Approach and Take-Off (FATO)” concepts and how they apply to elevated or constrained vertiports.
- Recognition that urban environments necessitate vertical procedures and updated OLS definitions.
- Need for early publication of firefighting and Rescue and Fire Fighting Service (RFFS) guidance specific to Li-ion battery events.
- Suggestion to expand AIP information to include charging infrastructure compatibility.

Based on the responses received, as well as similar comments received in response to the Heliport Certification & SMS proposal consultation, the CAA believes that there is stakeholder support for the proposals. Stakeholders emphasise the need for a risk based, scalable approach that can accommodate varying operational contexts while maintaining proportionality and avoiding regulatory overburden.

We intend to update the unlicensed operating site pathway within the Flight Operations Regulation for helicopters, with applicability for Powered-Lift, viewed as an important mechanism to enable early-stage activities. This is in recognition of different views concerning the applicability of unlicensed operating sites to General Aviation (non-Commercial) and Commercial Charter, including “On Demand” services, as these were not explicitly covered within the consultation scope.

A range of technical recommendations were submitted covering noise management, emergency response planning, charger information standards, and Li-ion battery firefighting guidance. However, stakeholders generally acknowledged that many of these matters are either not solely within the CAA's remit or require joint responsibility with other authorities, emergency services, or standards bodies. The CAA remains committed to advising other agencies and services where appropriate to enable their responsibilities to be met.

We are investigating our proposals for expanding the role of the Aeronautical Information Publication (AIP), including requests for the inclusion of charging facility information, reflecting a sector-wide desire for greater transparency, standardisation, and network-wide operational awareness.

Following this feedback, we intend to maintain our current pathway and objectives, including a period of further industry consultation through the means of working groups and written consultations. We anticipate a future heliports-focused consultation this year with applicability to vertiports.

Chapter 8

Other questions

We asked the question: *Do you have any further feedback on our policy proposals?*

Respondents who responded to this question noted:

- Benefits of aligning with regulatory approaches used for existing aircraft types
- The balance between established aviation safety principles and flexibility needed for new technologies
- The need for further clarity on how certain definitions or regulations apply in practice, across different policy domains, operation types and technology types
- The need for detail on exact policy wording before final feedback can be provided
- The importance of continued international alignment
- The need for ongoing industry engagement, both during policy development and implementation

The feedback provided by respondents will inform the next stage of policy development. We will take these suggestions forward in our policy delivery approach, by continuing to consider international computability of our policies, by engaging closely with industry through policy working groups, and through consulting further on detailed policy proposals.

We asked the question: *Please describe how you/your organisation will be impacted by these proposals, including any information on impacts to your costs, trade, innovation.*

Some of the impacts identified by respondents include:

- Business impacts: Additional certainty on regulatory requirements provides clarity for businesses on how they will be regulated in the future, reducing overall regulatory risk and providing increased certainty for investors. Some costs of compliance for businesses to demonstrate compliance with regulations.
- Wider economic impacts: Creation of a new market for new types of VTOL will enable new business models and attract inward investment, supporting growth and jobs.
- Innovation impacts: New opportunities to research, innovate and experiment across new technologies and operational concepts
- Consumer impacts: New opportunities for consumers to benefit from alternative modes of transport, enhancing connectivity and reducing travel times.

The impacts identified by respondents will support the development of the Department for Transport's assessment of the economic impacts of our proposals.

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 proposals regarding definitions and naming convention? Please explain your answer.

Question 2: Do you agree or disagree with our proposals regarding CMPA? Please explain your answer.

Question 3: Do you agree or disagree with our proposals regarding initial airworthiness? Please explain your answer.

Question 4: Do you agree or disagree with our proposals regarding continuing airworthiness? Please explain your answer.

Question 5: Do you agree or disagree with our proposals regarding a personnel licensing pathway for commercial licence holders (CPL/ATPL) to secure a type rating to fly new types of VTOL aircraft? Please explain your answer.

Question 6: Do you agree or disagree with our proposals regarding the introduction of a personnel licensing pathway for private pilot licence holders (PPL) to secure a type rating to fly new types of VTOL aircraft non-commercially? Please explain your answer.

Question 7: Do you agree or disagree with our proposed changes regarding Flight Operations regulations? Please explain your answer.

Question 8: Do you agree or disagree with our proposals to update the regulatory framework for Aerodromes? Please explain your answer.

Question 9: Do you have any further feedback on our policy proposals?

Question 10: Please describe how you/your organisation will be impacted by these proposals, including any information on impacts to your costs, trade, innovation