

Consultation Reply Document:

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

Part E: Flight Operations

CAP3318E

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PART E

Flight Operations

Summary

We presented our proposals for incorporating new types of VTOL aircraft and new propulsion systems into [UK Regulation \(EU\) No. 965/2012](#) (Air Operations) in our most recent consultation ([CAP 3267E](#)). The consultation ran from 28 May 2026 to 6 August 2026. We explained that these proposals build on the mostly favourable response received during the initial consultation ([CAP 3186](#)) and the subsequent Consultation Response Document ([CAP 3240](#)). In this most recent consultation, we have set out a section-by-section summary of how the policy proposals should be applied to the regulation. Where we considered no changes to be necessary, this is because the section in view already enables the use of new types of aircraft and propulsion systems without having to introduce changes.

Articles

Consultation proposal: We proposed to amend Articles 1, 2, 5, 6 and 8 to include new technologies, to add new definitions (as per the previous consultation [CAP 3186](#) and CRD [CAP 3240](#)) and to adjust existing articles to include new technologies. We noted that the other articles enable new types without requiring changes.

Annexes

Annex II (Part-ARO) - Authority Requirements for Air Operations

Consultation proposal: We have proposed to add references to new technologies. This will ensure that the new aircraft types, propulsion systems and energy sources are equitably included.

Annex III (Part-ORO) - Organisation Requirements for Air Operations

Subpart GEN: General Requirements

Consultation proposal: We have established that no changes are necessary to Section 1 (General), Section 2 (Management) or Section 3 (Additional organisational requirements).

Subpart AOC: Air Operator Certification (Question 1)

Consultation proposal: We have proposed to add references to new technologies in the general AOC provisions.

We have also proposed changes regarding flight data monitoring (FDM). We believe that operators of aircraft certified under the Initial Airworthiness Special Condition VTOL (SC-VTOL) that are required to be equipped with a Flight Data Recorder (FDR) should also be

required to implement an FDM programme. This recognises the significant volume of data captured by these new types of aircraft and the novel nature of the technologies involved. The FDM programme could be used, among other things, to assist in the application for an 'individual fuel scheme' by recording exact energy usage and energy remaining for every flight.

We asked: Q1 Do you agree or disagree with the proposal to require all operators of aircraft certified under SC-VTOL that are required to be equipped with a Flight Data Recorder to have a Flight Data Monitoring (FDM) programme?

Summary of responses: We received 13 responses to this question. Of these, 7 respondents strongly agreed, 4 respondents somewhat agreed, no respondents neither agreed nor disagreed, 1 respondent somewhat disagreed and 1 respondent strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Supporters considered FDM important for novel aircraft safety assurance, operational learning and continuous improvement.
- Several saw FDM as valuable for supporting individual fuel or energy schemes.
- Respondents welcomed data-driven safety management during early operations with new types of VTOL aircraft.

Comments opposing the proposals highlighted the following reasons:

- Some argued that mandatory FDM for all FDR-equipped SC-VTOL aircraft would be disproportionate.
- Concerns focused on small operators, fleet size, lightweight recorders and limited data parameters.
- Respondents suggested simplified or phased FDM arrangements.

Other comments raised include:

- Data protection, operator ownership and de-identified sharing with type certificate holders were raised.
- Infrastructure respondents asked for aggregated FDM findings to inform vertiport and operating site standards.
- Several requested proportional approaches based on operation type, scale and complexity.

CAA view: We propose to proceed as consulted having considered the responses. The CAA notes the strong support by the respondents for the introduction of Flight Data Monitoring (FDM) programmes for aircraft certified under SC-VTOL. Respondents recognised the value of FDM in supporting safety assurance, operational learning, continuous improvement and the safe introduction of novel aircraft technologies.

The CAA also notes the concerns raised regarding proportionality, particularly for smaller operators, limited fleet sizes and aircraft equipped with lightweight recording systems.

Having considered the responses, the CAA has decided to proceed with the proposal as consulted. All operators of aircraft certified under SC-VTOL that are required to be equipped with a flight data recorder, including a lightweight flight recorder where applicable, will be required to implement an appropriately scaled FDM programme when operating to Part-CAT, Part-SPO or Part-NCC.

The CAA considers that this requirement is justified given the novel characteristics of SC-VTOL aircraft and the need to support the development of a robust evidence base during the introduction of these new technologies into commercial service. FDM programmes provide a proven means of identifying operational trends, validating assumptions made during certification and rulemaking activities, detecting emerging safety risks, and supporting continuous safety improvement. The information gathered through FDM will contribute to a better understanding of real-world operations and assist both operators and the CAA in ensuring that safety objectives continue to be met as experience is gained.

The CAA also recognises that FDM data may provide additional benefits beyond safety monitoring, such as using it to support applications for individual fuel or energy schemes, monitoring energy consumption, and assessing operational performance.

The CAA emphasises that FDM programmes are intended to be operator-led and implemented as part of a positive safety culture. Information collected through FDM should be used primarily for safety improvement purposes. It should be used in a non-punitive manner that promotes the engagement and trust of flight crew and other personnel. Ownership and control of FDM data remain with the operator, and any sharing of data with third parties, including type certificate holders, is a matter for the operator, subject to applicable legal, contractual and data protection requirements.

The CAA acknowledges suggestions regarding the use of aggregated or de-identified data to support wider industry learning, including the development of infrastructure, vertiport and operating site standards. While such collaboration may provide valuable safety benefits, participation in any wider data-sharing initiatives remains a matter for individual operators, unless otherwise required by law.

Further guidance on the implementation and operation of Flight Data Monitoring programmes is available in:

- [AMC1 ORO.AOC.130](#)
- [GM1 ORO.AOC.130](#)
- [GM2 ORO.AOC.130](#)
- [GM3 ORO.AOC.130](#)

Subpart DEC: Declaration

Consultation proposal: We consider no changes are necessary in this subpart.

Subpart SPO: Commercial Specialised Operations

Consultation proposal: We consider no changes are necessary in this subpart.

Subpart MLR: Manuals, Logs and Records

Consultation proposal: We consider no changes are necessary in this subpart.

Subpart SEC: Security

Consultation proposal: We proposed to add references to new technologies within the security provisions.

Subpart FC: Flight Crew

Consultation proposal: We proposed to add references to new technologies in Section 1 (Common Requirements) and Section 2 (Additional Requirements for Commercial Air Transport Operations). We consider that no changes are necessary to Section 3 (Additional Requirements for Commercial Specialised Operations).

Subpart CC: Cabin Crew

Consultation proposal: We proposed to add new propulsion systems to the cabin crew regulations.

Subpart TC: Technical Crew in HEMS, HHO or NVIS Operations

Consultation proposal: We proposed to add references to new technologies to ensure equitable inclusion.

Subpart FTL: Flight and Duty Time Limitations and Rest Requirements

Consultation proposal: We consider no changes are needed in this subpart, as these regulations relate to multi-pilot aeroplane operations and are therefore not applicable to these new technologies. We note that the national requirements for single-pilot operations of aeroplanes and all helicopter operations are contained in [Chapter 5 of the Air Navigation Order 2016](#) and the associated guidance document ([CAP 371](#)) have been reviewed as to their applicability to powered-lift. The review concluded that the existing [CAP 371](#) single-pilot helicopter flight time limitation provisions provide an appropriate and evidence-based baseline for the initial introduction of commercial powered-lift operations. The assessment found that the fatigue risks associated with powered-lift operations, including frequent short sectors, repeated take-off and landing cycles, operation in complex airspace, and the management and monitoring of highly automated systems, are adequately addressed by the existing [CAP 371](#) framework. There is currently insufficient

operational evidence to support the application of less restrictive flight time limitations to powered-lift operations.

The review also concluded that advanced automation does not in itself justify reductions in existing fatigue protections, as automation can introduce additional monitoring and workload demands. Operators will therefore be expected to comply with the applicable [CAP 371](#) limitations and manage fatigue risks through their Safety Management System. The CAA intends to continue monitoring operational experience and will consider whether powered-lift-specific requirements are necessary through the wider review of [CAP 371](#) and the UK flight time limitations framework as the sector develops.

[Appendix I to Annex III \(Part-ORO\)](#)

Consultation proposal: We set out that the form would be updated to include new technologies.

Annex IV (Part-CAT) - Commercial Air Transport Operations

[Subpart A: General Requirements](#)

Consultation proposal: We proposed to add references to new technologies to Section 1 (Motor-Powered Aircraft).

[Subpart B: Operating Procedures \(Questions 2–5\)](#)

Consultation proposal: We proposed to add references to new technologies to the general operating procedures for motor-powered aircraft. We also proposed changes in the following areas:

[Use of Aerodromes and Operating Sites \(Question 2\)](#)

Consultation proposal: We proposed to include powered-lift in the use of operating sites to maintain equity with helicopters, explaining that an 'operating site' means a site, other than an aerodrome, selected by the operator or pilot-in-command for landing, take-off and/or external load operations.

We asked: Q2 Do you agree or disagree with the proposal to include powered-lift in the use of operating sites equitably with helicopters?

Summary of responses: We received 13 responses to this question. Of these, 12 respondents strongly agreed, no respondents somewhat agreed, no respondents neither agreed nor disagreed, no respondents somewhat disagreed and 1 respondent strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents strongly supported giving powered-lift access to operating sites on an equitable basis with helicopters, seeing this as essential for enabling AAM, UAM and non-traditional operating models. Supporters stressed that site suitability should be performance-based and linked to aircraft limitations.

Comments opposing the proposals highlighted the following reasons:

- New types would not be held to, or could not achieve, the same standards as existing aircraft that currently use operating sites.

Other comments raised include:

- Respondents highlighted obstacles, downwash/outwash, emergency response and third-party risk. Several asked for alignment between operating site and the vertiport workstreams.

CAA view: We propose to proceed as consulted having considered the responses.

The CAA proposes to permit powered-lift operations from operating sites. Consistent with the approach applied to existing helicopter operations, operators will be required to demonstrate an equivalent level of safety through the application of the same operating site selection and suitability criteria.

The CAA acknowledges stakeholder comments regarding downwash and outwash effects and recognises the importance of understanding the impact of these characteristics on operating site suitability, third-party risk and infrastructure requirements. The CAA is continuing to undertake research and engagement in this area to support the safe integration of new aircraft types.

The development of the regulatory framework for powered-lift operations is being undertaken through a coordinated, cross-domain approach within the CAA. Relevant policy, airworthiness, flight operations, airspace and infrastructure specialists continue to work collaboratively to ensure a coherent and proportionate regulatory framework that supports the introduction of new technologies while maintaining appropriate safety standards.

Fuel and Energy Schemes (Question 3)

Consultation proposal: We proposed to update the Commercial Air Transport fuel schemes to accommodate new and emerging aircraft types, energy sources and propulsion systems. We explained that the intent of the proposed changes is to ensure regulatory requirements remain proportionate, adopt a performance-based approach where appropriate, and continue to deliver an equivalent level of safety across all types of operations. We set out three tiers of fuel scheme:

- **The Basic Fuel Scheme** - the default prescriptive approach based on established fuel planning methodologies with a time-based final reserve requirement.
- **The Basic Fuel Scheme with Variation** - permitting reductions to certain fuel or energy elements following the collection of appropriate evidence and subject to CAA approval, retaining a time-based final reserve requirement.
- **The Individual Fuel Scheme** - a performance-based alternative allowing an operator, subject to CAA approval and supporting evidence, to establish a bespoke fuel or energy scheme tailored to each specific routing.

We explained that helicopters certified under SC-VTOL would be subject to the general helicopter regulations, consistent with the CAA's approach of classifying aircraft based on their capabilities rather than the fuel source powering them.

For powered-lift, we proposed that fuel or energy schemes would be proportionately derived from a combination of existing helicopter and aeroplane fuel schemes, with the intended landing mode being the primary determining factor - final reserve requirements would be equitably based on helicopter final reserve requirements if landing vertically, or on fixed-wing aeroplane final reserve requirements where the aircraft is capable of, and intends to conduct, a fully wing-borne landing. We noted that operators would initially be required to operate in accordance with the Basic Fuel Scheme, with progression to alternative schemes permitted only once sufficient operational evidence has been gathered and CAA approval obtained.

Q3 We asked: Do you agree or disagree with the proposal to update the Commercial Air Transport fuel schemes to equitably accommodate new and emerging aircraft types, energy sources and propulsion systems?

Summary of responses: We received 14 responses to this question. Of these, 8 respondents strongly agreed, 5 respondents somewhat agreed, no respondents neither agreed nor disagreed, no respondents somewhat disagreed and 1 respondent strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents supported updating fuel schemes to incorporate battery-electric, hybrid-electric and other energy systems. Many favoured technology-neutral energy planning rather than traditional fuel-only concepts. Several supported individual fuel or energy schemes based on evidence and operational data.

Comments opposing the proposals highlighted the following reasons:

- Disagreement was limited, but some respondents felt the proposal needs more detail. Concerns included how early operations can obtain approved performance-

based schemes without extensive in-service data. Some warned against over-reliance on prescriptive time-based reserves.

Other comments raised include:

- Respondents asked for clear AMC/GM, approval criteria and implementation timescales. Type certificate holder data, modelling, flight testing and battery degradation evidence were suggested. EASA Part-IAM was cited as a useful reference point

CAA view: We propose to proceed as consulted having considered the responses.

The CAA proposes to introduce a technology-neutral fuel and energy planning framework that accommodates new aircraft types, energy sources and propulsion systems whilst maintaining an equivalent level of safety. The regulatory text will be refined to clarify the application of fuel and energy schemes to powered-lift aircraft and to confirm that performance-based schemes will only be available following the accumulation of sufficient evidence and CAA approval.

The CAA notes the strong support for the proposal to update Commercial Air Transport fuel and energy schemes to accommodate new aircraft types, propulsion systems and energy sources. Respondents broadly supported the adoption of a technology-neutral approach, the development of performance-based fuel and energy schemes, and the use of operational evidence to support alternative planning methodologies.

The CAA agrees that the existing fuel scheme framework can be adapted to support emerging technologies while maintaining an equivalent level of safety. The revised framework will therefore extend the existing fuel scheme concepts currently available to aeroplane operators to other aircraft categories operating scheduled routes between licensed or certified aerodromes, subject to meeting the applicable criteria, approval requirements and supporting evidence.

The CAA also acknowledges respondents' requests for greater clarity regarding approval criteria, acceptable means of compliance and implementation arrangements. Supporting AMC and GM¹ material will provide further guidance on the evidential requirements for alternative fuel and energy schemes, including the use of operational data, modelling, flight test evidence and relevant type certificate holder information.

The CAA agrees that operators should initially gain operational experience before adopting performance-based fuel or energy schemes. Therefore, the Basic Fuel/Energy Scheme will remain the only scheme available for the commencement of commercial operations. Progression to a Basic Fuel Scheme with Variation or an Individual Fuel Scheme will

¹ Existing AMC that will be adjusted equitably to include new types

require the operator to demonstrate compliance with the relevant requirements over time and obtain CAA approval based on sufficient operational evidence.

For helicopters, including those utilising new propulsion technologies and multicopters, final reserve requirements under the Basic Fuel/Energy Scheme will remain aligned with the existing helicopter framework.

For powered-lift aircraft, the final reserve requirement will be determined by the planned method of landing. Where the intended landing is fully wing-borne, final reserve requirements will be aligned with the equivalent aeroplane provisions. Where the intended landing utilises vertical lift, final reserve requirements will be based on the existing helicopter framework, whilst recognising the significantly different energy consumption characteristics of powered-lift aircraft during cruise, transition and vertical flight. Further detail on the application of these requirements will be provided in supporting AMC and GM material.

Where a powered-lift aircraft is capable of both wing-borne and vertical landings, operators may utilise the reserve applicable to the planned landing method, provided that suitable pre-planned alternate landing arrangements are available and the aircraft can comply with the associated performance requirements.

Example of text from the existing AMC that will be equitably adjusted to include new types:

AMC1 CAT.OP.MPA.180 Fuel or energy scheme — aeroplanes

INDIVIDUAL FUEL SCHEME

Prior to submitting an individual fuel scheme for approval, the operator should perform all the following actions to establish a baseline safety performance:

(1) measure the baseline safety performance of its operation with the current fuel scheme by:

(i) selecting safety performance indicators (SPIs) and targets; and

*(ii) collecting statistically **relevant data**² for a period of at least two years of **continuous operation**³ (note: the number of flights should be sufficient to provide data to support the intended deviation);*

² Relevant Data - see ICAO doc 9976 table 5.5 for examples

³ Continuous Operation - by default, two years of data is required so that two winters and two summers are included in the data. Temperature, pressure and humidity all effect aircraft performance and therefore energy burn. Battery performance is also affected by temperature. Having two years of data as a minimum allows an operator to identify any trends to prove that the fuel energy policy is adequately safe in all operating conditions.

(2) identify the hazards associated with the individual fuel scheme and carry out a safety risk assessment of these hazards; and

(3) based on this safety risk assessment, establish a mechanism for risk monitoring and risk control to ensure an equivalent level of safety to that of the current fuel scheme.

Special Recharging, Discharging or Battery Swapping (Question 4)

Consultation proposal: We proposed to introduce a new definition for "special recharging, discharging or battery swapping", aligned with the existing concept of special refuelling. As with special refuelling, the operator would be required to perform a risk assessment, develop procedures, and establish and implement a training programme for personnel involved in such operations. We explained that this provides equity with existing aircraft types and places the onus on the operator to create mitigations for the risks associated with these types of operations.

We asked: Q4 Do you agree or disagree with the proposed introduction of a definition for "special recharging, discharging or battery swapping", aligned with the existing concept of special refuelling, and with placing responsibility on the operator to manage the associated risks through a risk assessment, procedures, and personnel training?

Summary of responses: We received 14 responses to this question. Of these, 10 respondents strongly agreed, 3 respondents somewhat agreed, no respondents neither agreed nor disagreed, no respondents somewhat disagreed and 1 respondent strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents strongly supported defining battery charging, discharging and swapping.
- Many agreed operators should manage risks through procedures, risk assessment and personnel training.
- Supporters welcomed alignment with special refuelling while recognising different electrical and thermal hazards.

Comments opposing the proposals highlighted the following reasons:

- Limited disagreement focused on whether operator responsibility alone is sufficient.
- Some respondents argued that infrastructure owners, charging-equipment providers and building operators also hold relevant duties.
- Concerns were raised about passenger embarkation or disembarkation during charging.

Other comments raised include:

- One respondent had concerns over battery fire, thermal runaway, high voltage and configuration control.
- Respondents asked for clarity on interfaces between operator, site provider and type certificate holder.
- UAM respondents stressed that overly prescriptive restrictions could affect turnaround times and viability.

CAA view: We propose to proceed as consulted having considered the responses.

We note the strong support for the proposed introduction of a regulation for "special recharging, discharging or battery swapping" and intend to proceed as consulted. The CAA continues to consider that aligning these activities with the existing concept of special refuelling provides a proportionate and familiar framework for managing the associated risks.

The operator remains responsible for ensuring that these activities are conducted safely through appropriate risk assessment, procedures and personnel training. Where such activities take place at an aerodrome or operating site, they should be conducted in coordination with the relevant site operator and in accordance with the procedures contained within the operator's approved operations manual. This approach is consistent with the existing regulatory treatment of special refuelling operations.

The CAA considers that the proposed framework provides sufficient flexibility to accommodate different technologies and operating concepts whilst maintaining clear accountability and appropriate safety oversight.

Over Water Operations (Question 5)

Consultation proposal: We proposed that existing helicopter overwater requirements, suitably adapted where necessary, should form the baseline regulatory framework for powered-lift and electrically powered helicopter overwater operations. We explained that current proposed designs of powered-lift exhibit operational characteristics that align more closely with helicopters than aeroplanes, typically taking off and landing vertically, flying at low altitudes, and operating over short distances. We noted that when operating over water, powered-lift are expected to face similar risks to those encountered by helicopters, including limited options for diversion or forced landing and minimal glide capability following a loss of propulsion, and that existing helicopter over-water regulations are specifically designed to address these low-altitude vertical-lift operations.

We asked: Q5 Do you agree that existing helicopter overwater requirements, suitably adapted where necessary, should form the baseline regulatory framework for powered-lift and electrically powered helicopter overwater operations?

Summary of responses: We received 13 responses to this question. Of these, 3 respondents strongly agreed, 7 respondents somewhat agreed, no respondents neither

agreed nor disagreed, 1 respondent somewhat disagreed and 2 respondents strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Supporters agreed helicopter overwater rules provide a mature baseline for vertical or low-altitude overwater operations.
- Respondents accepted that adaptations may be needed for batteries, flotation, evacuation and ditching.
- Some considered helicopter requirements appropriate where powered-lift risks are equivalent.

Comments opposing the proposals highlighted the following reasons:

- Respondents argued that powered-lift aircraft capable of wing-borne flight should not be treated like helicopters.
- Respondents preferred capability-based or aeroplane-derived rules for aircraft with glide or runway diversion capability.
- Concerns focused on autorotation assumptions and helicopter-specific design concepts.

Other comments raised include:

- Respondents suggested performance-based criteria focused on safe forced landing and system redundancy.
- Equipment requirements, life jackets and flotation were highlighted as areas needing proportionality.
- Some proposed new or amended route and area rules for powered-lift aircraft.

CAA view: We propose to proceed as consulted having considered the responses.

We note that respondents generally supported the use of existing helicopter overwater requirements as a baseline, whilst recognising that adaptations may be necessary to reflect the specific characteristics of powered-lift.

The CAA continues to consider that the operational characteristics of current powered-lift designs are more closely aligned with helicopters than aeroplanes when conducting overwater operations.

Powered-lift are expected to operate at comparable altitudes and over similar route structures, with limited opportunities for diversion or safe forced landings following a loss of propulsion. As such, the helicopter overwater framework provides the most appropriate baseline from which to address the associated operational and survivability risks.

Helicopters certified in accordance with SC-VTOL remain helicopters for regulatory purposes and are therefore already subject to the existing helicopter requirements. Where existing requirements refer to "autorotation", the CAA will adapt the provisions as necessary to refer to a "safe controlled forced landing", recognising that powered-lift and multicopters may achieve this through different technical means.

The CAA acknowledges that future powered-lift designs may demonstrate capabilities that differ from those of traditional helicopters. However, the proposed framework provides a suitable and proportionate baseline which can be adapted where necessary through certification and operational requirements. The CAA therefore remains satisfied that this approach maintains appropriate levels of safety whilst supporting the introduction of new VTOL aircraft types.

Subpart C: Aircraft Performance and Operating Limitations (Questions 6 & 7)

Consultation proposal: We proposed to add references to new propulsion systems and energy sources to Section 1 (Aeroplanes). For Section 2 (Helicopters), we set out that all chapters - general requirements and performance classes 1, 2 and 3 - would be amended to ensure that operations performed by helicopters certified under SC-VTOL are addressed on an equitable basis.

We proposed to introduce a new Section 2B (CAT.POL.PL) for powered-lift, developed primarily by drawing on the existing helicopter provisions in Section 2, reflecting the operational characteristics common to powered-lift. We explained that where powered-lift are capable of conducting take-off and/or landing in a fully wing-borne configuration, relevant provisions from Section 1 (Aeroplanes) would be applied to ensure appropriate and proportionate regulatory coverage. We also set out our proposal that take-off and landing profiles for each performance class would be developed by the Type Certificate holder in line with ICAO Doc 10110, approved by the CAA and adopted by operators within their approved Operations Manual.

We asked: Q6 Do you agree or disagree with the proposed regulatory framework for powered-lift in Section 2B, including the application of aeroplane-based provisions where aircraft are capable of wing borne take off and/or landing?

Summary of responses: We received 13 responses to this question. Of these, 10 respondents strongly agreed, 2 respondents somewhat agreed and no respondents neither agreed nor disagreed. Only 1 respondent somewhat disagreed and no respondents strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents strongly supported a hybrid framework reflecting both aeroplane and helicopter characteristics.

- Many welcomed applying aeroplane-based provisions where aircraft operate in wing-borne mode.
- Supporters saw this as performance-based and better aligned to certified aircraft capability.

Comments opposing the proposals highlighted the following reasons:

- No rationale was provided for the disagreements

Other comments raised include:

- Some respondents wanted more detail before assessing operational impacts.
- Concerns were raised that the framework must not cumulatively apply full aeroplane and helicopter rules
- Respondents asked for mapping between aircraft performance assumptions and site requirements.

CAA view: We propose to proceed as consulted having considered the responses.

The CAA proposes implementing a performance-based regulatory framework that applies existing safety principles equitably to powered-lift and new propulsion technologies, while ensuring requirements are proportionate to the aircraft's certified capabilities.

We asked: Q7 Do you agree or disagree that take-off and landing profiles for powered-lift should be developed by the Type Certificate holder and incorporated by operators, in line with ICAO Doc 10110?

Summary of responses: We received 12 responses to this question. Of these, 7 respondents strongly agreed, 3 respondents somewhat agreed, and 1 respondent neither agreed nor disagreed. No respondents somewhat disagreed and 1 respondent strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents agreed that type certificate holders are best placed to define aircraft-specific take-off and landing profiles.
- Supporters noted that profiles depend on design, flight controls, propulsion, performance and failure cases.
- Several supported incorporation into operator manuals and training programmes.

Comments opposing the proposals highlighted the following reasons:

- Disagreement was limited but wanted standards set by vertiport and landing site operators

Other comments raised include:

- Several emphasised that profiles should include abort, reversion and degraded-mode scenarios where relevant.
- VRS avoidance and configuration-specific transitions were highlighted.

CAA view: We propose to require Type Certificate Holders to create landing and take-off profiles in equity with existing helicopter operations. Aircraft certified to Performance Category Enhanced will be held to the same safety objectives as helicopters certified to Category A. Aircraft certified to Performance Category Basic will be held to the same safety objectives as helicopters certified to Performance Category B

As for Category A helicopters, aircraft certified to Category Enhanced will be required to operate to Performance Classes 1 or 2 as per the principles in ICAO doc 101110. The exact profiles will be for the Type Certificate holder to create and have approved. These must then be added as a CAT performance supplement to the Pilot Operators Handbook or Aircraft Flight Manual (POH/AFM). The supplement must also contain the appropriate performance information and charts to allow for changes in performance due to density altitude and wind. Operators must comply with these profiles and use the performance information. There is no requirement for the Type Certificate holder to create profiles for both classes, but operators can only operate in compliance to the profiles the Type Certificate holder has created.

As is required for Category B helicopters, aircraft certified to Category Basic will be required to operate to Performance Class 3 and will be limited as to where and when they can operate. This includes, limited congested area operations, no IFR/IMC operations and no night Commercial Air Transport operations.

Subpart D: Instruments, Data, Equipment (Questions 8–11)

Consultation proposal: We proposed to add references to new technologies to Section 1 (Aeroplanes) and Section 2 (Helicopters), with any instruments, data or equipment specifically required by an individual aircraft type that exceed the baseline regulatory requirements to be defined and specified by the relevant Type Certificate holder.

We proposed to introduce a new, dedicated Section 5 for powered-lift within Part IDE, derived from existing requirements applicable to aeroplanes and helicopters, reflecting the dual-mode operational capabilities of powered-lift. We explained that requirements common to both categories would be applied directly; where differences exist, the most appropriate provision would be selected based on operational characteristics; and where neither set alone is sufficient, a combination would be applied.

We asked: Q8 Do you agree or disagree with the proposal to adapt Annex IV Subpart D section 2 to equitably accommodate new propulsion systems and energy types and that this approach provides an appropriate and proportionate framework, while maintaining clear accountability with Type Certificate holders for any aircraft specific requirements?

Summary of responses: We received 11 responses to this question. Of these, 7 respondents strongly agreed, 3 respondents somewhat agreed, no respondents neither agreed nor disagreed, no respondents somewhat disagreed, and 1 respondent strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents supported adapting operational rules to accommodate electric, hybrid-electric and other propulsion systems.
- Many agreed the type certificate holder should define aircraft-specific limitations, alerts and procedures.
- Supporters welcomed a technology-neutral framework focused on safety outcomes.

Comments opposing the proposals highlighted the following reasons:

- No rationale was given for the disagreement

Other comments raised include:

- Energy status, energy consumption, system health and thermal management indications were highlighted.
- Respondents asked for clear separation of TCH and operator responsibilities.
- Several requested flexibility for future propulsion concepts.

CAA view: We propose to proceed as consulted having considered the responses.

We note the strong support for the proposed approach. The CAA continues to consider that adapting the existing framework provides a proportionate and technology-neutral means of accommodating new aircraft types as well as new propulsion systems and energy sources whilst maintaining established safety principles.

We asked: Q9 Do you agree or disagree with the proposal to create a dedicated powered-lift section derived from existing aeroplane and helicopter requirements, including the approach to selecting or combining requirements where differences exist, and that this approach provides an appropriate and proportionate framework, while maintaining clear accountability with Type Certificate holders for any aircraft specific requirements?

Summary of responses: We received 11 responses to this question. Of these, 6 respondents strongly agreed, 5 respondents somewhat agreed, no respondents neither agreed nor disagreed, no respondents somewhat disagreed and no respondents strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents supported a dedicated powered-lift section rather than forcing aircraft wholly into aeroplane or helicopter rules.

- Many welcomed selecting requirements according to actual aircraft capability and operational mode.
- Supporters agreed that type certificate holders should remain accountable for aircraft-specific requirements.

Comments opposing the proposals highlighted the following reasons:

- There were no disagreements.

Other comments raised include:

- Some respondents nevertheless cautioned against cumulative or duplicated requirements.
- Respondents asked for performance-based and technology-neutral implementation.
- Several highlighted overwater equipment and radio altimeter requirements as areas needing careful tailoring.

CAA view: We propose to proceed as consulted having considered the responses.

We note the strong support for the proposed approach. The CAA continues to consider that adapting the existing framework provides a proportionate and technology-neutral means of accommodating new aircraft types as well as new propulsion systems and energy sources whilst maintaining established safety principles.

Flight Data Recorders and Lightweight Flight Recorders (Questions 10 & 11)

Consultation proposal: We proposed to consolidate the existing requirements into a single, harmonised framework. For helicopters certified under SC-VTOL, we proposed that they be subject to the same FDR requirements as conventional helicopters with an MCTOM greater than 3,175 kg first registered on or after 1 January 2016, with a mandatory lightweight flight recorder for those not required to carry a full FDR. For powered-lift, we proposed that aircraft with an MCTOM greater than 3,175 kg would be required to carry an FDR capable of recording at least the preceding 10 hours of flight data, while those with an MCTOM greater than 5,700 kg would be required to record at least the preceding 25 hours. All helicopter certified under SC-VTOL and powered-lift not required to carry an FDR would be required to carry a lightweight flight recorder.

We asked: Q10 Do you agree or disagree that helicopters certified under SC-VTOL should be subject to the same Flight Data Recorder requirements as other types of helicopter of equivalent mass, with a mandatory lightweight flight recorder for those below the FDR threshold?

Summary of responses: We received 10 responses to this question. Of these, 5 respondents strongly agreed, 3 respondents somewhat agreed, no respondents neither agreed nor disagreed, 1 respondent somewhat disagreed and 1 respondent strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents supported equivalent flight recording requirements for SC-VTOL helicopters.
- Supporters saw recorders as important for investigation, safety monitoring and early operational learning.
- Some welcomed lightweight recorders as a proportionate solution below traditional FDR thresholds.

Comments opposing the proposals highlighted the following reasons:

- Some respondents wanted closer alignment with EASA SC-VTOL and Part-IAM recorder standards.
- Concerns included recording duration, recorder options and UK-specific divergence.
- Some argued requirements should be capability-based rather than mass-threshold based.

Other comments raised include:

- ED-155 and ED-112A compliance options were referenced.
- Respondents asked the CAA to justify any UK-specific differences.
- Some noted modern aircraft may have alternative data recording and health-monitoring systems.

CAA view: We propose to proceed as consulted having considered the responses.

The CAA's approach for this rulemaking task is to incorporate new aircraft types into the existing flight operations regulatory framework. The existing FDR requirements therefore apply by default. SC-VTOL, however, requires a flight recorder for all aircraft weights so the lightweight recorder will be required for these types that are certified at 3175 kg or less

We asked: Q11 Do you consider the proposed Flight Data Recorder and data retention requirements for powered-lift aircraft to be appropriate, taking into account their unique design and operational profiles?

Summary of responses: We received 11 responses to this question. Of these, 7 respondents strongly agreed, 2 respondents somewhat agreed, no respondents neither agreed nor disagreed, and 1 respondent somewhat disagreed, and 1 respondent strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents supported recording and retention requirements to support safety investigations and operational learning. Many considered flight data particularly

valuable for novel aircraft and early service experience. Supporters agreed requirements should reflect powered-lift design and operational profile.

Comments opposing the proposals highlighted the following reasons:

- One respondent challenged proposed 10-hour and 25-hour retention requirements.
- Industry argued that the consultation did not justify UK-specific recording durations.
- Some requested alignment with EASA provisions, including five-hour minimum recording.

Other comments raised include:

- Respondents suggested differentiating aircraft data from audio, video and datalink recordings.
- Some recommended placing detailed retention periods in AMC rather than implementing rules.
- Type certificate holder responsibility for aircraft-specific recording parameters was noted.

CAA view: We propose to proceed as consulted having considered the responses.

Powered-lift operate as both a helicopter and an aeroplane. Aligning with the FDR requirements for both is considered to be equitable.

New Helicopters, including multicopters, over 3175 kg are required to have an FDR that records for the last 10 hours and new Aeroplanes over 5700 kg are required to have an FDR that records for the last 25 hours.

SC-VTOL requires a flight recorder for all aircraft weights so the lightweight recorder will be required for these types that are certified at 3175 kg or less

Aircraft that are required to have a lightweight recorder must record for the last 5 hours.

Annex V (Part-SPA) - Specific Approvals (Questions 12–16)

Subpart A: General Requirements -

We considered no changes are necessary.

Subpart B: Performance-Based Navigation (PBN) (Question 12) -

Consultation proposal: We proposed that powered-lift comply with the full set of helicopter specific approval requirements for PBN, and that they fall within the scope of the helicopter approval requirements for the RNP 0.3 specification.

We asked: Q12 Do you agree or disagree with the proposal that powered-lift aircraft should comply with all helicopter-specific approval requirements for Performance-Based

Navigation (PBN), including being subject to the helicopter approval requirements for the RNP 0.3 specification?

Summary of responses: We received 11 responses to this question. Of these, 7 respondents strongly agreed, no respondents somewhat agreed, 1 respondent neither agreed nor disagreed, 1 respondent somewhat disagreed and 2 respondents strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Supporters agreed helicopter PBN requirements are relevant during low-level, terminal-area and constrained-site operations.
- Some considered RNP 0.3 a sensible safety baseline for vertical take-off and landing environments.
- Respondents welcomed predictable navigation performance for operating sites and vertiports.

Comments opposing the proposals highlighted the following reasons:

- Respondents opposed automatic application of all helicopter-specific PBN requirements.
- Aircraft capable of wing-borne flight were seen as potentially more aligned with aeroplane navigation provisions.
- Industry asked for PBN requirements to be based on certified operation and flight profile, not aircraft label alone.

Other comments raised include:

- Infrastructure respondents noted navigation containment directly affects urban siting.
- Several requested alignment between PBN requirements and vertiport/operating site criteria.
- Respondents favoured a performance-based approach with helicopter requirements applied only where relevant.

CAA view: We propose to proceed as consulted having considered the responses.

Applying the requirement for powered-lift to obtain specific approval for designated PBN operations as per current helicopter requirements is the most pragmatic approach to enable powered-lift to conduct PBN operations within the timeframe of this regulatory activity.

As noted, this approval requirement is also stated in guidelines contained within ICAO Doc 10103. The current ICAO instrument flight procedure design criteria for PBN IFPs has not

been revised to account for the performance characteristics for the range of powered-lift other than that known already for helicopter.

Current initial airworthiness criteria for CNS (CS-ACNS Issue 5) sets out the system and functional requirements for a helicopter or aeroplane to meet the level of navigation accuracy and system redundancy required to meet PBN requirements. There is currently no consideration for other types of powered-lift. Therefore, to be certified and gain approval for PBN operations the choice must be for a Type Certificate Holder to achieve this as either aeroplane or helicopter. This position is based on the current scope of international PBN standards and concepts, which apply to aeroplane and helicopter operations. If future developments extend these standards and concepts to support the integration of powered-lift, the CAA will consider whether any revisions to its position are warranted/required

Operators will therefore be required to obtain SPA.PBN approvals including an RNP 0.3 approval.

Subparts C (MNPS), D (RVSM), E (LVO) and M (EFBs) -

Consultation proposal: We considered no changes are necessary to these sections.

Subpart F: ETOPS -

Consultation proposal: We noted that a rulemaking task is underway to update this to Extended Diversion Time Operations (EDTO), and that the regulations are type and power agnostic.

Subpart G: Transport of Dangerous Goods -

Consultation proposal: We set out that these regulations will apply to new aircraft types, but no changes are necessary as the section is technology agnostic.

Subpart H: Night Vision Imaging Systems (NVIS) (Question 13) -

Consultation proposal: We set out that existing NVIS regulations would apply to helicopters certified under SC-VTOL, and that we propose to amend the regulations so that they also appropriately cover powered-lift.

We asked: Q13 Do you agree or disagree that helicopter NVIS regulations apply to helicopters certified under SC-VTOL and with the proposal to amend them to include powered-lift?

Summary of responses: We received 10 responses to this question. Of these, 8 respondents strongly agreed, 2 respondents somewhat agreed, no respondents neither agreed nor disagreed, no respondents somewhat disagreed and no respondents strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents supported using helicopter NVIS rules where powered-lift aircraft conduct comparable NVIS operations.
- Supporters considered existing NVIS requirements mature and safety-focused.
- Several agreed that equipment, training and operational approvals should be consistent for similar missions.

Comments opposing the proposals highlighted the following reasons:

- No disagreement was recorded.

Other comments raised include:

- Some respondents still emphasised that requirements should apply only where NVIS operations are intended.
- Aircraft-specific factors may need to be considered in approvals.
- Respondents supported flexibility for future powered-lift designs.
- Type-specific procedures, equipment and performance limitations were noted.
- The approach was generally seen as proportionate.

CAA view: We propose to proceed as consulted having considered the responses.

We note the strong support for the proposal. The CAA continues to consider that existing helicopter NVIS requirements provide a mature and well-established framework for the conduct of NVIS operations and therefore represent an appropriate basis for powered-lift operations undertaking similar activities.

The proposed amendments will ensure that powered-lift aircraft can conduct NVIS operations within an established regulatory framework whilst maintaining requirements for appropriate equipment, training, operational procedures and approvals. The CAA agrees that any approval should take account of the specific characteristics, capabilities and limitations of the aircraft type concerned.

The CAA also recognises the importance of maintaining flexibility as powered-lift technology evolves. The proposed approach provides a proportionate framework that supports future aircraft designs whilst ensuring that the safety standards applicable to NVIS operations remain consistent across aircraft conducting comparable operations.

[Subpart I: Helicopter Hoist Operations \(Question 14\)](#) -

Consultation proposal: We proposed that these regulations would apply to helicopters certified under SC-VTOL, and that we propose to adapt them to also appropriately include powered-lift.

We asked: Q14 Do you agree or disagree that Helicopter Hoist Operations regulations apply to helicopters certified under SC-VTOL and with the proposal to amend them to include powered-lift?

Summary of responses: We received 10 responses to this question. Of these, 7 respondents strongly agreed, 3 respondents somewhat agreed, no respondents neither agreed nor disagreed, no respondents somewhat disagreed and no respondents strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents supported applying hoist rules where powered-lift aircraft undertake hoist operations.
- Supporters noted that hoist missions involve specialist equipment, procedures, training and oversight.
- Several agreed existing helicopter hoist requirements provide a practical baseline.

Comments opposing the proposals highlighted the following reasons:

- No disagreement was recorded.

Other comments raised include:

- Some comments emphasised that not all powered-lift aircraft will be designed for hoist operations.
- Requirements should remain linked to aircraft certification and mission approval.
- Respondents highlighted aircraft-specific downwash, energy reserve and hoist integration issues.
- Type certificate holder limitations and procedures were seen as important.
- The proposal was viewed as enabling.

CAA view: We propose to proceed as consulted having considered the responses.

We note the strong support for the proposal. The CAA continues to consider that existing helicopter hoist operation requirements provide a mature and proven framework for the conduct of hoist operations and therefore represent an appropriate basis for powered-lift aircraft undertaking comparable missions.

Helicopters certificated in accordance with SC-VTOL remain helicopters for the purposes of the operational regulations and are therefore already subject to the existing helicopter hoist operation requirements. The proposed amendments will extend the framework to powered-lift and ensure that powered-lift aircraft conducting hoist operations are subject to appropriate requirements relating to equipment, training, operational procedures and approvals. The CAA agrees that such operations should only be conducted where the

aircraft is certificated and approved for the intended role, taking account of any aircraft-specific limitations, procedures and performance characteristics defined by the Type Certificate Holder.

The CAA considers that this approach provides a proportionate and enabling framework that maintains established safety standards whilst accommodating the introduction of new VTOL aircraft types and future technological developments.

Subpart J: Helicopter Emergency Medical Service (Question 15) -

Consultation proposal: We proposed that these regulations would apply to helicopters certified under SC-VTOL, and that we propose to adapt them to also appropriately include powered-lift.

We asked: Q15 Do you agree or disagree that Helicopter Emergency Medical Service regulations apply to helicopters certified under SC-VTOL and with the proposal to amend them to include powered-lift?

Summary of responses: We received 10 responses to this question. Of these, 7 respondents strongly agreed, 2 respondents somewhat agreed, no respondents neither agreed nor disagreed, 1 respondent somewhat disagreed, and no respondents strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents supported extending HEMS rules to powered-lift where aircraft are used for similar missions.
- Supporters noted HEMS involves higher risk, time pressure, challenging sites and specialist procedures.
- Several agreed established helicopter HEMS requirements provide a useful safety baseline.

Comments opposing the proposals highlighted the following reasons:

- One respondent somewhat disagreed based on the assumption that the new types could not land at small sites with power failure.

Other comments raised include:

- Respondents highlighted patient loading, cabin layout, downwash, emergency procedures and energy reserves.
- Some supported future HEMS use but only where aircraft and operators meet relevant approvals
- Type-specific limitations should be reflected in operational approvals.

CAA view: We propose to proceed as consulted having considered the responses.

We note the strong support for the proposal. The CAA continues to consider that existing HEMS requirements provide a mature and proven framework for the conduct of emergency medical service operations and therefore represent an appropriate basis for powered-lift aircraft undertaking comparable missions.

Helicopters certificated in accordance with SC-VTOL remain subject to the existing helicopter HEMS requirements. The proposed amendments are intended to extend the framework to powered-lift aircraft where they are certificated and approved to conduct HEMS operations.

Operators, aircraft and flight crew will be required to meet requirements equivalent to those that currently apply to HEMS operations before an approval can be granted. This includes demonstrating compliance with the applicable operational, training, equipment and performance requirements relevant to the intended operation. The CAA considers that this approach maintains established safety standards whilst enabling the future use of new VTOL aircraft types in HEMS operations.

Subpart K: Helicopter Offshore Operations (Question 16) -

Consultation proposal: We proposed that these regulations would apply to helicopters certified under SC-VTOL, and that we propose to adapt them to also appropriately include powered-lift.

We asked: Q16 Do you agree or disagree that Helicopter Offshore Operations regulations apply to helicopters certified under SC-VTOL and with the proposal to amend them to include powered-lift?

Summary of responses: We received 10 responses to this question. Of these, 6 respondents strongly agreed, 3 respondents somewhat agreed, no respondents neither agreed nor disagreed, no respondents somewhat disagreed and 1 respondent strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents supported enabling offshore operations where powered-lift aircraft meet relevant safety requirements.
- Supporters considered existing offshore helicopter rules a useful baseline for demanding environments.
- Several agreed requirements should include equipment, survival, training and operational approvals.

Comments opposing the proposals highlighted the following reasons:

- No rationale was given for the one disagreement

Other comments raised include:

- Respondents highlighted flotation, survival equipment, corrosion protection and emergency landing/ditching.
- Some anticipated future review as operational experience develops.
- Type certificate holder and operator safety cases were seen as important

CAA view: We propose to proceed as consulted having considered the responses.

We note the strong support for the proposal and intend to proceed as consulted. The CAA continues to consider that existing offshore helicopter requirements provide a mature and proven framework for operations conducted in the offshore environment and therefore represent an appropriate basis for powered-lift aircraft undertaking comparable missions.

Helicopters certificated in accordance with SC-VTOL remain subject to the existing helicopter offshore operating requirements. The proposed amendments are intended to extend the framework to powered-lift aircraft where they are certificated and approved to conduct offshore operations.

Aircraft, operators and flight crew will be required to meet requirements equivalent to those that currently apply to offshore helicopter operations before such operations can be conducted. This includes compliance with the applicable operational, survival equipment, training and performance requirements relevant to the intended operation. The CAA considers that this approach provides an appropriate and proportionate framework that maintains established safety standards whilst enabling the future use of new VTOL aircraft types in offshore operations.

Subpart L: SET-IMC -

Consultation proposal: We set out that these regulations are not appropriate to new types and no changes are being made.

Annex VI (Part-NCC) - Non-Commercial Air Operations with Complex Motor-Powered Aircraft (Questions 17–19)

Subparts A & B: General Requirements and Operational Procedures -

Consultation proposal: We proposed to add references to new technologies.

Fuel Scheme (Question 17)

Consultation proposal: We proposed to amend the fuel scheme in Part-NCC so that it applies equitably to new aircraft types and emerging propulsion systems. We explained that helicopters certified under SC-VTOL would automatically be incorporated within the existing helicopter fuel requirements. For powered-lift, we proposed that fuel or energy requirements should be derived proportionately from a combination of existing helicopter

and fixed-wing aeroplane fuel and energy schemes, with the intended landing mode being the primary factor in determining applicable fuel or energy reserves. We set out that, by default, final reserve requirements would be equitably aligned with helicopter final reserve requirements, with the option to apply fixed-wing aeroplane final reserve requirements where a powered-lift aircraft is capable of, and intends to carry out, a fully wing-borne landing.

We asked: Q17 Do you agree or disagree with the proposal to determine fuel or energy reserve requirements for powered-lift aircraft primarily on the intended landing mode, with final reserves aligned to helicopter or fixed-wing aeroplane requirements as appropriate?

Summary of responses: We received 13 responses to this question. Of these, 6 respondents strongly agreed, 4 respondents somewhat agreed, no respondents neither agreed nor disagreed, 2 respondents somewhat disagreed and 1 respondent strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Supporters welcomed recognising different energy needs for vertical and wing-borne landing.
- Several considered landing mode a practical basis for aligning reserves with helicopter or aeroplane concepts.
- Respondents supported avoiding a single reserve rule for all powered-lift aircraft.

Comments opposing the proposals highlighted the following reasons:

- Several OEMs argued landing mode should not be the primary determinant of energy reserve.
- Concerns focused on battery state, degradation, temperature, prediction accuracy, go-around energy and contingency strategies.
- Industry preferred performance-based, aircraft-specific reserves supported by AFM and certification data.

Other comments raised include:

- EASA Part-IAM final reserve energy was cited as a possible model.
- Infrastructure respondents noted final reserve policy affects urban network density and site spacing.
- Several suggested prescriptive time defaults should sit in AMC as fallback provisions.

CAA view: We propose to proceed as consulted having considered the responses.

The CAA acknowledges the comments advocating for performance-based fuel and energy reserve policies derived from aircraft-specific certification data and AFM provisions. Whilst

such approaches may be appropriate in Commercial Air Transport operations, they rely on a level of regulatory oversight and operational control that is not available within the Part-NCC environment.

The CAA considers that a reserve framework based primarily on the intended landing mode provides a proportionate, practical and readily applicable means of establishing fuel and energy reserve requirements for powered-lift aircraft operating under Part-NCC. This approach also maintains alignment with existing fuel reserve concepts already familiar to operators and pilots.

The CAA believes that proposed approach therefore remains the most appropriate means of ensuring an equitable, operationally practical and safety-focused fuel and energy reserve policy for powered-lift aircraft operating under Part-NCC.

Subpart C: Aircraft Performance and Operating Limitations

Consultation proposal: We proposed to add references to new technologies.

Subpart D: Instruments, Data and Equipment (Questions 18 & 19) -

Consultation proposal: We proposed the same approach as for Part-CAT: references to new technologies added to Sections 1 and 2, with a new dedicated Section 5 for powered-lift derived from existing aeroplane and helicopter requirements, with Type Certificate holders responsible for defining any aircraft-specific requirements beyond the baseline.

We asked: Q18 Do you agree or disagree with the proposal to adapt Annex VI Subpart D section 2 to equitably accommodate new propulsion systems and energy types and that this approach provides an appropriate and proportionate framework, while maintaining clear accountability with Type Certificate holders for any aircraft specific requirements?

Summary of responses: We received 11 responses to this question. Of these, 7 respondents strongly agreed, 3 respondents somewhat agreed, no respondents neither agreed nor disagreed, no respondents somewhat disagreed and 1 respondent strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents supported adapting non-commercial complex operations rules for new propulsion and energy systems.
- Supporters agreed type certificate holders should define aircraft-specific limitations, equipment and procedures.
- Several welcomed using existing requirements while allowing technology-neutral adaptation.

Comments opposing the proposals highlighted the following reasons:

- No rationale was given for the one disagreement.

Other comments raised include:

- Respondents highlighted energy information, thermal status and system health as key pilot information.
- Proportionality for day VFR, night IFR, UAM and regional operations was requested.
- Some respondents wanted requirements tailored to operation type, aircraft capability and mission.
- Concerns included equipment requirements that may not fit UAM or highly integrated flight decks.

CAA view: We propose to proceed as consulted having considered the responses.

We note the strong support for the proposal. The CAA continues to consider that adapting the existing framework provides a proportionate and technology-neutral approach to accommodating new propulsion systems and energy sources within non-commercial complex operations, whilst maintaining established safety principles.

Consultation proposal: The CAA agrees that aircraft-specific requirements, including those relating to energy status, system health monitoring, thermal management, limitations and operating procedures, should be defined through the aircraft certification process by the Type Certificate Holder. This ensures that requirements remain aligned with the specific characteristics and capabilities of the aircraft, whilst maintaining clear accountability for aircraft-specific provisions.

The CAA also recognises the importance of ensuring that requirements remain proportionate to the nature of the operation and sufficiently flexible to accommodate future technological developments. The proposed framework has therefore been designed to support a wide range of operations and aircraft types whilst maintaining appropriate levels of safety and regulatory oversight

We asked: Q19 Do you agree or disagree with the proposal to create a dedicated powered-lift section derived from existing aeroplane and helicopter requirements, including the approach to selecting or combining requirements where differences exist and that this approach provides an appropriate and proportionate framework, while maintaining clear accountability with Type Certificate holders for any aircraft specific requirements?

Summary of responses: We received 11 responses to this question. Of these, 8 respondents strongly agreed, 3 respondents somewhat agreed, no respondents neither agreed nor disagreed, no respondents somewhat disagreed and no respondents strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents supported a dedicated powered-lift section for non-commercial complex operations.
- Many agreed requirements should be based on actual aircraft performance and risk.
- Supporters welcomed maintaining type certificate holder accountability for aircraft-specific items.

Comments opposing the proposals highlighted the following reasons:

- No disagreement was recorded

Other comments raised include:

- Some respondents cautioned against duplication across aeroplane and helicopter rules.
- Industry asked for efficient rulemaking focused on areas of genuine difference.
- Several noted that a dedicated section should consolidate, not multiply, obligations.

CAA view: We propose to proceed as consulted having considered the responses.

We note the strong support for the proposal. The CAA continues to consider that establishing a dedicated powered-lift section provides the most appropriate means of applying equipment, data and instrument requirements to aircraft that do not fit within existing aeroplane or helicopter categories.

The proposed approach allows requirements common to both aircraft categories to be applied consistently, whilst enabling aeroplane or helicopter provisions to be selected, adapted or combined where necessary to reflect the operational characteristics and safety considerations of powered-lift aircraft. The CAA considers that this approach provides a proportionate framework that avoids unnecessary duplication whilst addressing areas where specific provisions are required.

The CAA also agrees that aircraft-specific requirements should continue to be defined through the certification process by the Type Certificate Holder. This maintains clear accountability for limitations, procedures and equipment that are unique to a particular aircraft type whilst ensuring the framework remains sufficiently flexible to accommodate future technological developments.

Annex VII (Part-NCO) - Non-Commercial Air Operations with Other-Than Complex Motor-Powered Aircraft (Questions 20 & 21)

We explained that the changes to Part-NCO are only for aircraft certified under SC-VTOL that meet the requirements of the discretion and are therefore not considered CMPA for the purposes of non-commercial operations only.

Subparts A & B: General Requirements and Operational Procedures -

Consultation proposal: We proposed to add references to new technologies.

Fuel Scheme -

Consultation proposal: We considered no changes are necessary but noted that under NCO.OP.125(b)(1) operators will need to consider the final reserve fuel or energy based on the severity of the hazard to persons or property that could result from an emergency landing after fuel or energy starvation.

Subpart C: Aircraft Performance and Operating Limitations -

Consultation proposal: We considered that no changes are necessary.

Subpart D: Instruments, Data and Equipment (Questions 20 & 21) -

Consultation proposal: We proposed the same approach as for Part-CAT and Part-NCC: references to new technologies added to Sections 1 and 2, with a new dedicated Section 5 for powered-lift, and Type Certificate holders responsible for defining any aircraft-specific requirements beyond the baseline.

We asked: Q20 Do you agree or disagree with the proposal to adapt Annex VII Subpart D section 2 to equitably accommodate new propulsion systems and energy types and that this approach provides an appropriate and proportionate framework, while maintaining clear accountability with Type Certificate holders for any aircraft specific requirements?

Summary of responses: We received 10 responses to this question. Of these, 6 respondents strongly agreed, 3 respondents somewhat agreed, no respondents neither agreed nor disagreed, and no respondents somewhat disagreed and 1 respondent strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents supported adapting non-commercial operations rules to accommodate new energy systems.
- Many agreed the framework should preserve existing safety objectives while enabling electric and hybrid propulsion.
- Supporters saw type certificate holder involvement as essential for aircraft-specific energy management.

Comments opposing the proposals highlighted the following reasons:

- No rationale was given for the one disagreement

Other comments raised include:

- Respondents highlighted energy starvation prevention, flight planning and contingency management.

- AFM data, alerts, indications and procedures were identified as key TCH responsibilities.
- Some requested scalable rules across different designs and operations

CAA view: We propose to proceed as consulted having considered the responses.

We note the strong support for the proposal. The CAA continues to consider that adapting the existing framework provides a proportionate and technology-neutral approach to accommodating new propulsion systems and energy sources within non-commercial operations, whilst maintaining established safety principles.

The CAA agrees that aircraft-specific requirements, including those relating to energy management, system monitoring, limitations, alerts and operating procedures, should be defined through the aircraft certification process by the Type Certificate Holder. This ensures that requirements remain aligned with the specific characteristics and capabilities of the aircraft whilst maintaining clear accountability for aircraft-specific provisions.

The CAA notes that the application of Part-NCO to new VTOL aircraft will be limited in practice, as these operations will only be available to aircraft that meet the requirements of the discretion and gain approval, under the scope of the Complex Motor-Powered Aircraft (CMPA) discretion. The proposed framework therefore provides an appropriate and proportionate basis for accommodating these aircraft whilst supporting future technological developments and maintaining appropriate levels of safety.

We asked: Q21 Do you agree or disagree with the proposal to create a dedicated powered-lift section derived from existing aeroplane and helicopter requirements, including the approach to selecting or combining requirements where differences exist and that this approach provides an appropriate and proportionate framework, while maintaining clear accountability with Type Certificate holders for any aircraft specific requirements?

Summary of responses: We received 9 responses to this question. Of these, 8 respondents strongly agreed, 1 respondent somewhat agreed, no respondents neither agreed nor disagreed, no respondents somewhat disagreed and no respondents strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents supported a dedicated powered-lift section for non-commercial operations.
- Supporters welcomed selecting the most relevant requirements from aeroplane and helicopter frameworks.
- Several agreed the approach reflects the hybrid nature of powered-lift aircraft.

Comments opposing the proposals highlighted the following reasons:

- No disagreement was recorded

Other comments raised include:

- Concerns were raised about deviating from ICAO or international structures
- Respondents asked for a clear identification of aircraft-specific requirements through approved data.
- Several wanted implementation to be performance-based and technology-neutral.

CAA view: We propose to proceed as consulted having considered the responses.

We note the strong support for the proposal and intend to proceed as consulted. The CAA continues to consider that establishing a dedicated powered-lift section provides the most appropriate means of applying instruments, data and equipment requirements to aircraft with operational characteristics that do not align fully with existing aeroplane or helicopter categories.

The proposed approach enables requirements from the aeroplane and helicopter frameworks to be selected, adapted or combined where necessary to reflect the unique characteristics of powered-lift aircraft, whilst maintaining a technology-neutral and proportionate regulatory framework. Aircraft-specific requirements will continue to be defined through the certification process by the Type Certificate Holder, ensuring clear accountability for limitations, procedures and equipment specific to an individual aircraft type.

The CAA notes the comments regarding international alignment. Whilst Part-NCO is founded upon ICAO-compliant requirements for existing aircraft categories, there are currently no ICAO Standards and Recommended Practices specifically applicable to powered-lift aircraft. The CAA therefore considers that the proposed approach provides an appropriate framework for integrating these aircraft into the existing regulatory structure whilst maintaining compatibility with established aviation regulatory principles.

Subpart E: Specific Requirements -

Consultation proposal: We proposed to add references to new technologies to Section 1 (General), Section 2 (HESLO) and Section 3 (HEC). We noted that we consider no changes are necessary to Section 4 (Parachute Operations), Section 5 (Aerobatic Flights) or Section 6 (Maintenance Check Flights).

Annex VIII (Part-SPO) - Specialised Operations (Questions 22 & 23)

Subparts A & B: General Requirements and Operational Procedures -

Consultation proposal: We proposed to add references to new technologies. We noted that for the SPO fuel scheme, we consider no changes are necessary, but that operators will need to consider that the final reserve fuel or energy must account for the severity of the hazard to persons or property that could result from an emergency landing after fuel or energy starvation.

Subpart C: Aircraft Performance and Operating Limitations -

Consultation proposal: We proposed to add references to new technologies.

Subpart D: Instruments, Data and Equipment (Questions 22 & 23) -

Consultation proposal: We proposed the same approach as for the other Annexes: references to new technologies added to Sections 1 and 2, with a new dedicated Section 5 for powered-lift, and Type Certificate holders responsible for defining any aircraft-specific requirements beyond the baseline.

We asked: Q22 Do you agree or disagree with the proposal to adapt Annex VIII Subpart D section 2 to equitably accommodate new propulsion systems and energy types and that this approach provides an appropriate and proportionate framework, while maintaining clear accountability with Type Certificate holders for any aircraft specific requirements?

Summary of responses: We received 10 responses to this question. Of these, 7 respondents strongly agreed, 2 respondents somewhat agreed, no respondents neither agreed nor disagreed, no respondents somewhat disagreed and 1 respondent strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents supported adapting specialised operations rules for emerging propulsion and energy systems.
- Supporters agreed that safety intent should be preserved while allowing aircraft-specific solutions.
- Several respondents welcomed clear accountability for type certificate holders.

Comments opposing the proposals highlighted the following reasons:

- No rationale was given for the one disagreement

Other comments raised include:

- Energy reserves, equipment requirements and emergency procedures were highlighted.
- Respondents asked for flexibility across specialist operations with different risks.
- Several repeated support for performance-based, technology-neutral regulation.
- One request that the framework should distinguish clearly between the Type Certificate holder's responsibility for defining design-related limitations and equipment and the operator's responsibility for operational implementation and compliance

CAA view: We propose to proceed as consulted having considered the responses.

We note the strong support for the proposal. The CAA continues to consider that adapting the existing framework provides a proportionate and technology-neutral approach to accommodating new propulsion systems and energy sources within specialised operations, whilst maintaining established safety principles.

The CAA agrees that aircraft-specific requirements, including those relating to energy management, limitations, equipment and operating procedures, should be defined through the aircraft certification process by the Type Certificate Holder. This ensures that requirements remain aligned with the specific characteristics and capabilities of the aircraft whilst maintaining clear accountability for design-related provisions.

The CAA also agrees on the importance of maintaining a clear distinction between the responsibilities of the Type Certificate Holder and those of the operator. Requirements established through certification represent the minimum approved standards for the aircraft type and must be complied with by the operator. Operational requirements are additional to these certification requirements and may impose further obligations depending on the nature of the operation being conducted. The CAA therefore considers that the proposed framework provides clear accountability whilst retaining the flexibility necessary to support a broad range of specialised operations.

We asked: Q23 Do you agree or disagree with the proposal to create a dedicated powered-lift section derived from existing aeroplane and helicopter requirements, including the approach to selecting or combining requirements where differences exist and that this approach provides an appropriate and proportionate framework, while maintaining clear accountability with Type Certificate holders for any aircraft specific requirements?

Summary of responses: We received 10 responses to this question. Of these, 8 respondents strongly agreed, 1 respondent somewhat agreed, no respondents neither agreed nor disagreed, no respondents somewhat disagreed and 1 respondent strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents supported a dedicated section for specialised powered-lift operations.
- Many agreed that requirements should be selected according to mission, aircraft capability and operating risk.
- Supporters welcomed continued accountability for type certificate holders on aircraft-specific limitations.

Comments opposing the proposals highlighted the following reasons:

- One disagreement provided with no rationale

Other comments raised include:

- Respondents highlighted the need for scalable rules for future specialist use cases.

- Several requested ongoing industry review as operations mature.
- AMC/GM and implementation guidance were identified as important next steps

CAA view: We propose to proceed as consulted having considered the responses.

We note the strong support for the proposal. The CAA continues to consider that establishing a dedicated powered-lift section provides the most appropriate means of applying instruments, data and equipment requirements to aircraft with operational characteristics that do not align fully with existing aeroplane or helicopter categories.

The proposed approach enables requirements from the aeroplane and helicopter frameworks to be selected, adapted or combined where necessary to reflect the specific characteristics, operational capabilities and risks associated with powered-lift aircraft. Aircraft-specific requirements will continue to be defined through the certification process by the Type Certificate Holder, ensuring clear accountability for limitations, procedures and equipment unique to a particular aircraft type.

The CAA recognises the comments regarding future specialist operations and implementation guidance. The CAA intends to develop appropriate AMC and GM to support implementation of the new requirements, and this material will be subject to consultation in due course. The CAA considers that the proposed framework provides a proportionate and flexible basis for accommodating future operational developments whilst maintaining appropriate levels of safety and regulatory oversight.

General and Closing Questions

We asked whether respondents agreed with the position that no changes are necessary to the sections identified, on the basis that they are already sufficiently flexible to accommodate new and emerging aircraft types and propulsion systems. We also invited respondents to raise any further concerns with the content of the consultation that had not been addressed through other questions.

We asked: Q24 Do you agree or disagree with the position that no changes are necessary to the sections identified, on the basis that they are already sufficiently flexible to accommodate new and emerging aircraft types and propulsion systems?

Summary of responses: We received 10 responses to this question. Of these, 4 respondents strongly agreed, 4 respondents somewhat agreed, no respondents neither agreed nor disagreed, no respondents somewhat disagreed and 2 respondents strongly disagreed.

Comments in support of the proposals highlighted the following reasons:

- Respondents agreed that unnecessary amendments should be avoided where existing rules are already flexible.

- Supporters saw value in retaining stable requirements while monitoring operational experience.
- Several agreed that some existing provisions are performance-based enough to accommodate new technologies.

Comments opposing the proposals highlighted the following reasons:

- There was no rationale given for one of the disagreements
- Concerns included prescriptive flight-hour thresholds, flight preparation and operational planning.

Other comments raised include:

- Multiple respondents asked for future reviews as operational experience develops
- Industry requested the opportunity to review draft regulations, AMC and GM.

CAA view: We propose to proceed as consulted having considered the responses.

Respondents have suggested that operator experience requirements should move away from prescriptive flight-hour thresholds. There are merits to considering this approach, however this is a broader regulatory policy question. The current rulemaking task is specifically focused on incorporating new aircraft types and propulsion systems into the existing regulatory framework in an equitable and proportionate manner.

The scope of this work does not include a review of the underlying regulatory principles relating to pilot or operator experience requirements. Any move from prescriptive flight-hour requirements to an alternative framework would represent a significant policy change affecting all operators and aircraft types, rather than solely those operating new types of VTOL aircraft. Such a change would require substantial research, analysis, evidence gathering, and stakeholder engagement to ensure that safety objectives continue to be met across the wider aviation sector.

Expanding the scope of the current rulemaking activity to include a fundamental review of experience requirements would introduce significant complexity and would be likely to cause substantial delays to the implementation of the proposed regulations. Accordingly, the CAA considers that any review of experience requirement methodology should be addressed, if appropriate, through a separate future policy and rulemaking initiative.

We asked: Q25 Do you have any further concerns with the content of this consultation that have not been addressed through other questions?

The additional comments generally support the proposed regulatory framework for helicopters certified under SC-VTOL and powered-lift while identifying several areas for further consideration and clarification. We have set out relevant additional comments and our responses below, by subject matter.

Safety, Operations and Energy Management

Summary of responses: Several respondents emphasised the importance of robust operational safety measures for new types of VTOL aircraft. Suggestions included restricting certain maintenance activities, such as battery removal and replacement, to appropriately qualified personnel, ensuring flight planning accounts for power source failures or battery fires, and considering suitable energy reserve requirements to manage operational uncertainties. Overall, contributors stressed the need for safe operating procedures that properly reflect the unique characteristics of helicopters certified under SC-VTOL and powered-lift.

CAA response: The CAA agrees that maintenance activities involving aircraft batteries should be conducted only by appropriately qualified personnel. The proposed amendments to the airworthiness regulations require battery removal and replacement to be carried out by an approved maintenance organisation. Consequently, these tasks would not be permitted as pilot-owner maintenance or be undertaken solely by an individual licensed engineer acting outside an approved organisational framework. This approach covers both scheduled maintenance and battery replacement resulting from defects.

Battery swapping undertaken for the purpose of recharging is also considered a maintenance activity and, therefore, must be conducted under the control of an approved maintenance organisation. Where appropriate procedures and approvals are in place, such activities may be performed in a line maintenance environment.

With respect to power source failures, energy exhaustion and battery fire scenarios, existing aviation regulatory frameworks already contain established requirements addressing loss of power, fuel or energy reserves, and emergency flight profiles. Compliance with the performance and operating limitations requirements will require appropriate consideration of these failure conditions. The CAA's intention is to adapt these existing regulatory principles, in collaboration with type certificate holders, for powered-lift and multicopter aircraft to ensure that they achieve at least an equivalent level of safety to that of existing certificated aircraft categories.

We therefore consider that the proposed framework provides an appropriate basis for addressing the operational and maintenance risks associated with these aircraft while maintaining established aviation safety standards.

Industry Engagement and Regulatory Development

Summary of responses: A recurring theme was the desire for continued stakeholder involvement during the development of detailed regulations, Acceptable Means of Compliance (AMC), and Guidance Material (GM). Respondents welcomed the consultation but noted that some proposals remain high level and do not yet include detailed legislative drafting. Several contributors encouraged opportunities for industry review and feedback on detailed regulatory text before finalisation.

CAA view: The CAA will consider the best methods of engaging stakeholders in the development of AMC and GM as this work proceeds, as well as consultation. Regarding regulations, the CAA has consulted on the proposed policy changes for each regulation. While detailed wording is sometimes consulted on by CAA, the policy is always the core information we are seeking responses on. Detailed wording can be misleading for stakeholders, as it is often changed significantly through the legislative drafting process, which aims to achieve the desired policy effect.

Performance-Based and Future-Focused Regulation

Summary of responses: A number of respondents supported a regulatory framework that is performance-based, technology-neutral and adaptable to future developments. Contributors highlighted the rapid pace of innovation in areas such as electric propulsion, battery technologies, charging infrastructure, automation and advanced operating concepts, and emphasised the need for regulation to remain sufficiently flexible to accommodate future advances while maintaining safety.

CAA view: The CAA agrees that the regulatory framework should be capable of accommodating future technological developments while continuing to maintain appropriate levels of safety.

The CAA's intention is to establish a framework that is as adaptable and future-proof as reasonably practicable. In doing so, we will seek to apply performance-based requirements where these can effectively achieve the intended safety outcomes, whilst retaining prescriptive requirements where necessary to provide clarity, consistency, or confidence in the achievement of those outcomes.

We recognise that technologies and operating concepts associated with VTOL aircraft, including propulsion systems, energy storage, automation, and supporting infrastructure, are likely to continue evolving. The proposed framework has therefore been developed with the objective of accommodating future developments without requiring frequent fundamental changes to the regulatory structure.

Safety remains the CAA's primary consideration and underpins all regulatory decisions. The CAA recognises the importance of supporting innovation and enabling the introduction of new technologies into aviation. In developing this framework, the CAA has sought to balance flexibility and future adaptability with the need to ensure that new aircraft types and operations are supported by an appropriate level of safety assurance.

The CAA will continue to work closely with industry and other stakeholders as technologies and operational concepts mature. This collaborative approach will help ensure that the regulatory framework remains proportionate, evidence-based and adaptable, while continuing to maintain the high levels of safety expected within UK aviation.

The CAA recognises that the continued evolution of aviation may warrant the review of certain existing regulatory concepts and requirements. Examples may include the

definition and application of a Complex Motor-Powered Aircraft (CMPA), as well as the appropriateness of experience requirements based primarily on flight hours. The CAA intends to consider these matters as part of future regulatory review activities; however, they fall outside the scope of this rulemaking task, which is focused on the incorporation of new VTOL aircraft types into the regulatory framework. Any such review would be undertaken across the aviation sector as a whole, rather than being limited to new VTOL aircraft, to ensure a consistent and equitable regulatory approach that reflects developments across all areas of aviation.

Infrastructure and Operational Environment

Summary of responses: Some respondents raised concerns regarding the treatment of infrastructure that supports helicopters certified under SC-VTOL and powered-lift operations, particularly permanently installed urban landing facilities and building-integrated infrastructure. Contributors highlighted the importance of providing clear infrastructure requirements and ensuring alignment between aircraft operational requirements and infrastructure planning. Future consideration of operating sites, vertiports, noise management and broader urban air mobility infrastructure was also encouraged.

CAA view: We acknowledge the comments regarding infrastructure requirements for helicopters certified under SC-VTOL and powered-lift operations, including permanently installed operating sites and future vertiport developments.

The CAA notes that infrastructure intended to support routine aircraft operations would be considered within the context of the existing aerodrome regulatory framework. Any new operating site would be required to comply with the applicable regulatory requirements appropriate to its design, operation and intended use. The term "vertiport" is commonly used to describe infrastructure intended for operations with new types of VTOL; however, such facilities would be assessed against the relevant aerodrome requirements rather than through a separate standalone regulatory framework.

The purpose of this rulemaking task is to incorporate new VTOL aircraft types into the existing aviation regulatory framework and establish the requirements necessary for their safe certification and operation. Detailed infrastructure requirements, including those relating to aerodromes, operating sites and associated facilities, are therefore largely outside the scope of this consultation.

The CAA recognises the importance of ensuring that aircraft, operational and infrastructure requirements develop in a coordinated manner. A separate rulemaking task addressing heliports and vertiports is being progressed concurrently and is being undertaken in close collaboration with this rulemaking activity to help ensure a coherent and consistent regulatory approach across aircraft operations and supporting infrastructure.

Guidance, Clarity and Accessibility

Summary of responses: Several comments highlighted the value of additional supporting guidance to aid implementation of the framework. Suggestions included providing practical examples, templates, risk assessment guidance, visual aids, process maps, flowcharts and decision trees to help applicants understand regulatory pathways and the interaction between certification, licensing, airworthiness and operational requirements.

CAA view: The CAA acknowledges the comments regarding the potential value of additional guidance material, including practical examples, process maps, templates and other supporting information to assist applicants in understanding the regulatory framework.

The CAA recognises the importance of ensuring that regulatory requirements are clearly articulated and, where appropriate, supported by guidance material that promotes a consistent understanding of those requirements. The CAA will continue to consider whether additional guidance is necessary to support the implementation of the framework and to clarify areas where experience indicates this would provide benefit.

However, it remains the responsibility of organisations and individuals conducting regulated aviation activities to ensure they have access to the necessary knowledge, competence and expertise to understand, interpret and comply with the applicable regulatory requirements. The regulatory framework is designed to establish the standards that must be met, and organisations are expected to maintain suitably qualified and experienced personnel capable of demonstrating compliance with those standards.

Accordingly, whilst the CAA will continue to consider opportunities to improve the accessibility and clarity of its guidance material; the responsibility for achieving and maintaining compliance with regulatory requirements remains with the regulated organisation. The CAA believes this approach provides an appropriate balance between regulatory clarity, organisational accountability and the maintenance of high safety standards.

International Alignment

Summary of responses: Respondents generally supported maintaining alignment with established international regulatory frameworks where possible. Contributors noted that regulatory harmonisation can support certification, validation, operational consistency and international competitiveness, while any divergence should be clearly justified by specific operational or safety considerations.

CAA view: We acknowledge the comments regarding the importance of international harmonisation and agree that alignment with established international regulatory frameworks can support certification, validation activities, operational consistency and the competitiveness of the UK aviation sector.

In developing this framework, the CAA has sought to remain as compatible as reasonably practicable with internationally recognised regulatory approaches whilst ensuring that the

requirements are appropriate for the UK operating environment and support the safe development of this emerging sector. The CAA's objective has been to create a framework that enables innovation and operational flexibility without imposing unnecessary restrictions where an equivalent level of safety can be demonstrated.

Accordingly, the proposed framework is intended to facilitate the widest practical range of operations, subject to the certification basis of the aircraft, the operational approval held by the operator, and the privileges and qualifications of the flight crew.

The CAA notes that there are currently no ICAO Standards and Recommended Practices (SARPs) specifically applicable to new VTOL aircraft categories. The CAA is actively participating in international working groups contributing to the development of future standards and guidance in this area and remains committed to supporting international harmonisation wherever practicable.

In the absence of dedicated SARPs, the CAA has drawn upon relevant existing ICAO material and established aviation regulatory principles when developing these proposals. This has included consideration of ICAO Doc 10103, *Manual on the Approval of Tilt-Rotor Operations*, and ICAO Doc 10110, *Helicopter Code of Performance Development Manual*, together with experience gained from existing aircraft categories and operational frameworks. These documents have provided useful reference material in areas where operational and performance concepts are relevant to the safe integration of new VTOL aircraft.

As the UK regulatory framework is founded upon internationally recognised aviation principles, the CAA considers that the proposed approach maintains a high degree of compatibility with other mature aviation systems. At the same time, it provides sufficient flexibility to accommodate the unique characteristics of new types of VTOL aircraft and to support their integration into the wider aviation system.

The CAA will continue to monitor international developments and seek opportunities for further harmonisation where appropriate, whilst retaining the ability to address specific UK operational and safety considerations when justified. The CAA considers this approach provides an appropriate balance between international alignment, operational flexibility and the safe advancement of emerging aviation technologies.

Data Sharing and Evidence Development

Summary of responses: Some stakeholders proposed greater collaboration on data collection and evidence generation, including the use of shared modelling, simulation and digital twin approaches. It was suggested that anonymised operational and validation data could help improve certification processes, support regulatory assessments and reduce duplication of effort across the sector.

CAA view: The CAA acknowledges the comments regarding the potential benefits of greater collaboration on data collection and evidence generation.

The CAA recognises that operational experience, modelling, simulation and validation activities can help support the safe development of new technologies and inform future regulatory decision-making. However, much of the information generated during certification and operational activities is proprietary to the organisations concerned and may be commercially sensitive or subject to confidentiality obligations.

Accordingly, information provided to the CAA as part of certification or oversight activities cannot generally be shared with other organisations without an appropriate legal basis or the consent of the owner. Any future data-sharing initiatives would therefore need to balance the potential regulatory and safety benefits against confidentiality, intellectual property and commercial considerations.

The CAA will continue to engage with industry and other stakeholders to support evidence-based regulation whilst respecting the rights and obligations associated with proprietary information.

Operational Rulemaking Considerations

Summary of responses: A number of specific operational suggestions were made, including consideration of requirements for flight preparation, local operating exemptions and minimum safe altitude provisions for powered-lift aircraft. Respondents also encouraged the CAA to take account of lessons learned from aircraft currently undergoing testing and certification.

CAA view: We acknowledge the comments regarding flight preparation requirements, local operating exemptions, minimum safe altitude provisions and the importance of learning from aircraft currently undergoing development and certification.

The CAA's approach is to adapt existing operational requirements, where appropriate, to accommodate new VTOL aircraft types rather than develop an entirely separate regulatory framework. This allows established aviation safety principles to be retained while addressing the unique characteristics of powered-lift and other new types of VTOL aircraft. The CAA continues to monitor developments in aircraft design, certification and operational testing and will take relevant lessons learned into account as the regulatory framework evolves. This will help ensure that the requirements remain proportionate, practical and reflective of emerging operational experience while maintaining appropriate levels of safety.

Radio Altimeter requirements

Summary of responses: One respondent suggested that radio altimeters should not be required for VTOL aircraft, particularly those conducting urban air taxi operations. They contend that such aircraft operate in different environments from traditional helicopters, are equipped with advanced flight control and situational awareness systems, and that radio altimeters may provide limited benefit or generate nuisance alerts in urban settings.

CAA view: The CAA notes that the requirement in [CAT.IDE.H.145](#) is limited in scope and does not mandate a radio altimeter for all helicopter operations. The equipment is only required for specific higher-risk operations over water, namely when operating out of sight of land, at night, in visibility below 1 500 m, or at distances from land greater than three minutes' flying time at normal cruising speed.

The comment primarily addresses the suitability of radio altimeters for urban air taxi operations, whereas the purpose of [CAT.IDE.H.145](#) is to provide height-above-surface awareness during certain overwater operations where visual cues may be limited. Consequently, no change has been made to the proposed requirement.

Overall Feedback

Summary of responses: Overall, respondents were broadly supportive of the proposed framework and recognised the significant effort involved in its development. Common priorities included maintaining high levels of safety, supporting innovation, ensuring regulatory clarity, fostering international harmonisation and enabling the successful growth of the Advanced Air Mobility sector.

CAA view: The CAA welcomes the broad support expressed for the proposed framework and appreciate the constructive feedback received throughout the consultation process. The responses have helped inform the development of the final proposals and reinforce the importance of maintaining high standards of safety whilst providing a framework that supports innovation, regulatory clarity, international alignment and the growth of the Advanced Air Mobility sector. The CAA remains committed to working with industry and other stakeholders to deliver a proportionate and effective regulatory framework that enables the safe integration of new VTOL aircraft into the UK aviation system.

ANNEX 1

Abbreviations

AAM – Advanced Air Mobility

ACNS – Airborne Communications, Navigation and Surveillance

AIP – Aeronautical Information Publication

AMC – Alternative Means of Compliance

AOC – Air Operators Certificate

ARO – Authority Requirements for air Operations

ATM – Air Traffic Management

ATPL – Airline Transport Pilots license

CAMO – Continuing Airworthiness Management Organisations

CAA - Civil Aviation Authority

CAP - Civil Aviation Publication

CAT – Commercial Air Transport

CC - Cabin Crew

CS – Certification Standard

CMPA – Complex Motor-Powered Aircraft

CPL – Commercial Pilots License

CS FCD – Certification Specific Flight Crew Data

DEC - Declaration

DfT – Department for Transport

DG – Dangerous goods

Doc - Document

EASA – European Union Aviation Safety Agency

ED – Eurocae Document

EFB – Electronic Flight Bag

ETOPS - Extended range Operations with two-engined aeroplanes

FC – Flight Crew

FDM – Flight Data Monitoring

FDR – Flight Data Recorder

FTL – Flight and Duty Time Limitations

GEN - General Requirements

GM – Guidance Material

HEC – Human External cargo

HEMS – Helicopter Emergency Medical Service

HESLO – Helicopter External Sling Load Operations

HHO – Helicopter Hoist Operations

IAM - Innovative Air mobility

ICAO – International Civil Aviation Organisation

IFR – Instrument Flight Rules

IMC – Instrument Meteorological Conditions

ISMS – Information Security Management System

kg – kilogram(s)

LVO - Low Visibility Operations

MCC – Multi-Crew Cooperation

MCTOM – Maximum Certified Take-Off Mass

MLR – Manuals, Logs and Records

MNPS - Minimum Navigation Performance Specification

NAA - National Aviation Authorities

NASP – National Aviation Security Programme

NVIS – Night Vision Imaging systems

NCC – Non-Commercial Operations with Complex Motor-Powered Aircraft

NCO – Non-Commercial Operations with Non-Complex Motor-Powered Aircraft

OEM – Original Equipment Manufacturer

OSD – Operational Suitability Data

OLS – Obstacle Limitation Surfaces

OP – Operating Procedures

ORO- Organisation Requirements for air Operations

PBN – Performance Based Navigation

PPL – Private Pilot's License

RFFS – Rescue and Fire Fighting Service

RVSM – Reduced Vertical Separation Minima

SC – Special Condition

SEC – Security

SERT-IMC – Single Engine Turbine Aeroplane operations at night in IMC

SMS – Safety Management System

SPA – Specific Approvals

SPI – Safety Performance Indicator

SPO – Specialised operations

TCH – Type Certificate Holder

UAM – Urban Air Mobility

VFR – Visual Flight Rules

VTOL – Vertical Take-off and Landing

ANNEX 2

Summary of Questions

Question 1: Do you agree or disagree with the proposal to require all operators of aircraft certified under SC-VTOL that are required to be equipped with a Flight Data Recorder to have a flight data monitoring programme? Please explain your answer.

Question 2: Do you agree or disagree with the proposal to include powered-lift in the use of operating sites equitably with helicopters? Please explain your answer.

Question 3: Do you agree or disagree with the proposal to update the Commercial Air Transport fuel schemes to equitably accommodate new and emerging aircraft types, energy sources and propulsion systems? Please explain your answer.

Question 4: Do you agree or disagree with the proposed introduction of a definition for “special recharging, discharging or battery swapping”, aligned with the existing concept of special refuelling, and with placing responsibility on the operator to manage the associated risks through a risk assessment, procedures, and personnel training? Please explain your answer.

Question 5: Do you agree that existing helicopter overwater requirements, suitably adapted where necessary, should form the baseline regulatory framework for powered-lift and electrically powered helicopter overwater operations? Please explain your answer.

Question 6: Do you agree or disagree with the proposed regulatory framework for powered-lift aircraft in Section 2B, including the application of aeroplane-based provisions where aircraft are capable of wing-borne take-off and/or landing? Please explain your answer.

Question 7: Do you agree or disagree that take-off and landing profiles for powered-lift should be developed by the Type Certificate holder and incorporated by operators, in line with ICAO Doc 10110? Please explain your answer.

Question 8: Do you agree or disagree with the proposal to adapt Annex IV Subpart D section 2 to equitably accommodate new propulsion systems and energy types and that this approach provides an appropriate and proportionate framework, while maintaining clear accountability with Type Certificate holders for any aircraft-specific requirements? Please explain your answer.

Question 9: Do you agree or disagree with the proposal to create a dedicated powered-lift section derived from existing aeroplane and helicopter requirements, including the approach to selecting or combining requirements where differences exist, and that this approach provides an appropriate and proportionate framework, while maintaining clear

accountability with Type Certificate holders for any aircraft specific requirements? Please explain your answer.

Question 10: Do you agree or disagree that helicopters certified under SC-VTOL should be subject to the same Flight Data Recorder requirements as other types of helicopter of equivalent mass, with a mandatory lightweight flight recorder for those below the FDR threshold? Please explain your answer.

Question 11: Do you consider the proposed Flight Data Recorder and data-retention requirements for powered-lift aircraft to be appropriate, taking into account their unique design and operational profiles. Please explain your answer.

Question 12: Do you agree or disagree with the proposal that powered-lift aircraft should comply with all helicopter specific approval requirements for Performance-Based Navigation (PBN), including being subject to the helicopter approval requirements for the RNP 0.3 specification? Please explain your answer.

Question 13: Do you agree or disagree that helicopter NVIS regulations apply to helicopters certified under SC-VTOL and with the proposal to amend them to include powered-lift? Please explain your answer.

Question 14: Do you agree or disagree that Helicopter Hoist Operations regulations apply to helicopters certified under SC-VTOL and with the proposal to amend them to include powered-lift? Please explain your answer.

Question 15: Do you agree or disagree that Helicopter Emergency Medical Service regulations apply to helicopters certified under SC-VTOL and with the proposal to amend them to include powered-lift? Please explain your answer.

Question 16: Do you agree or disagree that Helicopter Offshore Operations regulations apply to helicopters certified under SC-VTOL and with the proposal to amend them to include powered-lift? Please explain your answer.

Question 17: Do you agree or disagree with the proposal to determine fuel or energy reserve requirements for powered-lift aircraft primarily on the intended landing mode, with final reserves aligned to helicopter or fixed-wing aeroplane requirements as appropriate? Please explain your answer.

Question 18: Do you agree or disagree with the proposal to adapt Annex VI Subpart D section 2 to equitably accommodate new propulsion systems and energy types and that this approach provides an appropriate and proportionate framework, while maintaining clear accountability with Type Certificate holders for any aircraft specific requirements? Please explain your answer.

Question 19: Do you agree or disagree with the proposal to create a dedicated powered-lift section derived from existing aeroplane and helicopter requirements, including the

approach to selecting or combining requirements where differences exist and that this approach provides an appropriate and proportionate framework, while maintaining clear accountability with Type Certificate holders for any aircraft-specific requirements? Please explain your answer.

Question 20: Do you agree or disagree with the proposal to adapt Annex VII Subpart D section 2 to equitably accommodate new propulsion systems and energy types and that this approach provides an appropriate and proportionate framework, while maintaining clear accountability with Type Certificate holders for any aircraft specific requirements? Please explain your answer.

Question 21: Do you agree or disagree with the proposal to create a dedicated powered-lift section derived from existing aeroplane and helicopter requirements, including the approach to selecting or combining requirements where differences exist and that this approach provides an appropriate and proportionate framework, while maintaining clear accountability with Type Certificate holders for any aircraft-specific requirements? Please explain your answer.

Question 22: Do you agree or disagree with the proposal to adapt Annex VIII Subpart D section 2 to equitably accommodate new propulsion systems and energy types and that this approach provides an appropriate and proportionate framework, while maintaining clear accountability with Type Certificate holders for any aircraft specific requirements? Please explain your answer.

Question 23: Do you agree or disagree with the proposal to create a dedicated powered-lift section derived from existing aeroplane and helicopter requirements, including the approach to selecting or combining requirements where differences exist and that this approach provides an appropriate and proportionate framework, while maintaining clear accountability with Type Certificate holders for any aircraft-specific requirements? Please explain your answer.

Question 24: Do you agree or disagree with the position that no changes are necessary to the sections identified, on the basis that they are already sufficiently flexible to accommodate new and emerging aircraft types and propulsion systems?

If you do not agree, please specify the relevant section(s), describe the changes you consider necessary, and provide the rationale for your alternative view.

Question 25: Do you have any further concerns with the content of this consultation that have not been addressed through other questions?