UK Civil Aviation Authority

Consultation:

Proposed Amendments to UK Acceptable Means of Compliance and Guidance Material for UK Regulation (EU) 2019/947 and UK Regulation (EU) 2019/945

CAP 3170

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Enquiries regarding the content of this publication should be emailed to uavenquiries@caa.co.uk , marked for the attention of the RPAS Policy Team, although all responses should be made via the Citizen space web page.

The latest version of this document is available in electronic format at: www.caa.co.uk

Forward

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This consultation forms part of the UK Civil Aviation Authority's (CAA) ongoing work to enable Unmanned Aircraft System operations in UK Airspace in the Specific Category. A key component of the CAA Future of Flight Programme.

The regulatory review of the Open Category is in its final stages with new regulations due to come into force on the 1st of January 2026. This is an important and exciting time for the Open category which is set to reach its full potential with the implementation of class markings.

The CAA has published a suite of UAS policies designed to deliver our Future of Flight target to scale up UAS operations. We are working hard to accelerate the introduction of new means of compliance, simplifying policy, and implementing feedback from industry. This update includes a number of new means of compliance for ground risk mitigations and containment as well as other important updates.

The feedback provided to this consultation will be essential to enable the CAA to develop policy that supports the UAS industry. I encourage you to take this opportunity to help shape the future of UAS policy.

Contents

List of Abbreviations

The definitive list of abbreviations and terms / definitions that are relevant to UAS operations within the UK are centralised within CAP 722D UAS Definitions and Glossary. A link to CAP 722D can be found here.

Chapter 1
Introduction

Document Summary

This consultation takes the following structure:

- Chapter 1 explains the CAA's approach to this consultation which contains proposed updates to a range of UAS AMC and GM.
- Chapters 2 to 6 set out a summary of specific updates, and where appropriate consultation questions.

Responding to this Consultation

The consultation process is an integral part of CAA and government's policy development approach, allowing us to understand the impact of policy changes on stakeholders. We welcome responses to the consultation from any stakeholder impacted by these proposals, including recreational and commercial UAS remote pilots/operators, UAS manufacturers, and UAS service providers, amongst others.

The consultation is open until 16th November. Responses can be provided via Citizen Space.

Once the consultation has closed and we have considered feedback, we will publish our consultation reply. This will summarise the feedback and set out our final proposed policy positions.

Using this Document

(1) This document, CAP 3170 outlines the proposed changes and additions to the AMC and GM associated with UK Regulation (EU) 2019/947 (the Implementing Regulation) and 2019/945 (the Delegated Regulation). Significant changes have been summarised in this document alongside specific questions to improve accessibility for respondents.

(2) A separate document, CAP 3171 -*Proposed Amendments to UK Acceptable Means of Compliance and Guidance Material for UK Regulation (EU) 2019/945 and 2019/947*, contains detailed amendments to the AMC and GM.

(3) Changes are indicated by:

- Proposed new text highlighted Grey
- Proposed text to be deleted ~~struck through~~

(4) Proposed changes to the AMC and GM as they relate to Regulatory Review in the Open Category are recommended on the basis of relevant changes to the regulations, however these have not yet been finalised and may be subject to change.
(5) Questions to obtain feedback on the changes are included throughout the document, please answer via the online response tool Citizen Space.

This consultation includes AMC/GM proposals for the following topics. The detailed drafting for these proposals can be found in the corresponding sections, in the AMC consultation - CAP 3171.

Chapter	Consultation Topic	AMC/GM reference
2	Updates to operating conditions – Subcategory names (2019/947)	• AMC1 UAS.OPEN.020 • UAS.OPEN.030 • UAS.OPEN.040
	A1 – Overflight of uninvolved people (2019/947)	• AMC1 UAS.OPEN.020(1) (2) – Operational limitations
	A2 – Minimum horizontal distance (2019/947)	• AMC1 UAS.OPEN.030(1) – Safe horizontal distance from uninvolved persons
	A3 – Distances from people and areas (2019/947)	• GM1 UAS.OPEN.040(2) – Residential, commercial, industrial, recreational areas
	Open category training threshold (2019/947)	• AMC1 UAS.OPEN.020(4) (b) • .030(2)(a) • .040(3)
	Acceptance of EU class-marked UAS (2019/947)	• AMC1 Article 20(a) – Use of EU class-marked UAS in the UK
	Remote ID – general requirement (2019/947)	• AMC1 UAS.OPEN.060(1)(d) – Responsibilities of the Remote Pilot • GM1 UAS.SPEC.050(1)(L)
3	RPC framework – phase out GVC (2019/947)	• AMC to Article 8 (Appendix – Remote Pilot Competence)
	RPC framework – remove Level 4 (2019/947)	• AMC to Article 8 – Competence structure
	RPC-L1 – include BVLOS VM (2019/947)	• AMC to Article 8 – RPC-L1 theory & assessment

	RPC – simplify categories & admin (2019/947)	• AMC to Article 8
4	Article 11- Annex A – updates to guidance for submission of evidence (2019/947)	• GM1 Article 11 Annex A – Guidance for submission of compliance evidence
	Ground risk mitigation M1A – sheltering (2019/947)	• AMC1/GM1 Article 11 Annex B – M1A (sheltering)
	Ground risk mitigation M1C – ground observations (2019/947)	• AMC1/GM1 Article 11 Annex B – M1C (tactical)
	Ground risk mitigation M2 – impact dynamics (2019/947)	• AMC1 Article 11 Annex B – M2
	Containment – quantified levels & adjacent area (2019/947)	• AMC1 Article 11 Annex E – Containment + UK SORA updates
	UK SORA – minor improvements IR (2019/947)	• AMC1 to Article 11 – Main body (definitions & tables)
5	Market Surveillance Authority (MSA) – terminology & roles (2019/945)	• Articles 4-10, • 18 • 36 • 38 • 39 – AMC/GM
6	Dangerous Goods – scope, procedures, training (2019/947)	• GM1 Art 2(11) • AMC1 Art 5(2) • AMC1 Art 6(1) (b)(iii) • AMC2 Art 11(1)(c) • GM3 Art 11(1)(c) • AMC2 11(2)(d) • AMC3 Art 1(6) • AMC2 UAS.SPEC.050 (1)(a)(i) • GM2 UAS.SPEC.050 (1)(a)(i) • AMC2 UAS.SPEC.050(1) (d) and (e) • GM2 UAS.SPEC.050(1) (d) and (e)

Chapter 2

Updates to Open Category AMC and GM – Regulatory Review

Introduction

The Department for Transport (DfT) has sponsored the CAA to review regulation for (UAS) in the UK, to identify and recommend improvements to the regulatory framework.

In August 2023, the CAA published a Call for Input (CAP 2569) that set out 15 opportunities to improve UAS regulation. The Call for Input received 2,629 responses, which validated our view that there are opportunities to improve UAS regulation. However, feedback also provided support for some of the key foundations of regulation we have retained from EU legislation, such as operational categories and class-marking. We therefore developed proposals to maintain existing regulatory structures, and to address targeted safety, security or user concerns.

In November 2023, the CAA published our Review of UK Unmanned Aircraft Systems (UAS) Regulations consultation (CAP 2610). The consultation set out proposals to simplify regulation, deliver greater education for UAS users, improve safety and security, and support the UAS sector transition to new regulations. The consultation closed in January 2024 and received 3,499 responses.

In May 2025, we set out our final policy recommendations in our Review of UK UAS Regulation, Consultation Reply (CAP 3105) (opens in a new tab).

Alongside the publication of our consultation reply, we submitted our formal Opinion and Instruction Document to the DfT.

Our policy recommendations aim to support the UAS sector to grow by simplifying regulations, enabling innovation through UK class marking, and ensuring a smooth transition to new requirements. We aim to reduce red tape, allow continued use of existing devices, and create a world-leading regulatory framework that balances safety and security with industry growth.

In Autumn 2025, the Department for Transport are planning on implementing the changes to the relevant regulations through a statutory instrument.

Updates to Operating conditions

Allow C1/UK1 UAS (class-marked UAS weighing 900g or less) to overfly uninvolved people in the A1 sub-category (for flying over people).

Enable the use of legacy UAS (non-class marked UAS placed on the market before 1st January 2026) in the A2 sub-category after 1st January 2026, under the same restrictions

as today if the remote pilot has A2 Certificate of Competency, the UAS weighs <2kg and is flown a minimum horizontal distance of 50m from uninvolved people.

UAS operating in the A3 sub-category to keep a minimum distance of 50 metres horizontally from uninvolved persons. To keep a minimum distance of 150m to residential, commercial, industrial or recreational areas. Individual buildings separated by at least 50m from other buildings that are not considered to be an area. The minimum horizontal distance to individual buildings shall be at least 50m.

References to the new operating conditions have been made throughout the AMC and GM.

Question 1. Is there any feedback you would like to provide in relation to the draft AMC and GM?

(a) Yes/No
(b) If YES, please provide more detail

Remote ID

Introduce a requirement that UAS must be remotely identifiable during flight, by requiring active and up to date Direct Remote ID functionality (the requirement for a UAS to locally communicate identification and location information during flight) for UK0 weighing 100g or more with a camera, UK1 to UK3, UK5 and UK6 class-marked UAS.

In the Specific Category, operators should have active and up to date direct Remote ID functionality, unless exempted under an Operational Authorisation issued by the CAA under Article 12 of UK Regulation (EU) 2019/947.

From 1st January 2026, the Direct Remote ID requirement should be implemented by operators in respect of UK1, UK2, UK3, UK5 and UK6 UAS.

From 1st January 2028, the Direct Remote ID requirement should be implemented by operators in respect of UK0 UAS weighing 100g or more with a camera, model aircraft unless exempted through an Article 16 authorisation, privately built UAS weighing 100g or more with a camera, and legacy UAS weighing 100g or more with a camera.

Question 2. Is there any feedback you would like to provide in relation to the draft AMC and GM?

(a) Yes/No
(b) If YES, please provide more detail

Use of EU class-marked UAS in the UK

Enable UAS that have been class-marked under EU regulations to be used in the Open category, in the same sub-categories as UAS with equivalent class-marking under UK regulations until 1st January 2028. UAS that are class-marked according to the European Union and that comply with the requirements of EU Regulation 2019/945, Annex Parts 1-5 and bearing a class label C0, C1, C2, C3, or C4 can be used in the UK under the following conditions before 1 January 2028:

- In the Open category, subcategory 'Over People (A1)', following the requirements of UK Regulation 2019/947 Part A, point UAS.OPEN.020, if the UAS is marked with a C0 or C1 class label.
- In the Open category, subcategory 'Near People (A2)', following the requirements of UK Regulation 2019/947 Part A, point UAS.OPEN.030, if the UAS is marked with a C2 class label.
- In the Open category, subcategory 'Far from People (A3)', following the requirements of UK Regulation 2019/947 Part A, point UAS.OPEN.040, if the UAS is marked with a C2, C3 or C4 class label.

From 1 January 2028, these UAS fall under the category of legacy UAS if not retrofitted with a UK class label and have to follow requirements and provisions of UK Regulation 2019/947 Article 20.

Question 3. Is there any feedback you would like to provide in relation to the draft AMC and GM?

(a) Yes/No
(b) If YES, please provide more detail

Completion of Open Category online training

The 'Flyer ID' online training course and test must be completed by Remote Pilots of UA with a mass of 100g or more operating in the Open category. This training will help UA operators better understand and comply with the regulations.

Question 4. Is there any feedback you would like to provide in relation to the draft AMC and GM?

(a) Yes/No
(b) If YES, please provide more detail

Rename operational sub-categories

Operational sub-categories will be renamed to reflect the key operational differences between each sub-category and help users better understand UAS regulations. The new sub-categories will be renamed to:

- Over People (A1)
- Near People (A2)
- Far from People (A3)

References to the new subcategory titles have been made throughout the AMC and GM.

Question 5. Is there any feedback you would like to provide in relation to the draft AMC and GM?

(a) Yes/No
(b) If YES, please provide more detail

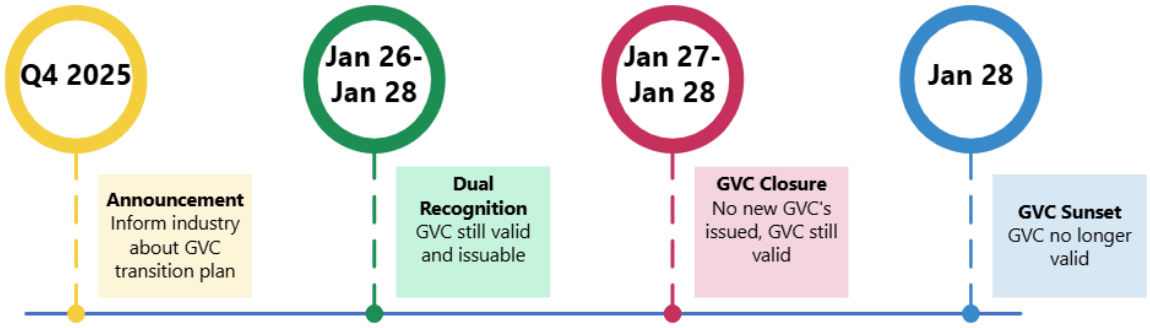
Chapter 3

Updates to AMC and GM to Article 8 – Remote Pilot Competence

Phasing Out the General VLOS Certificate (GVC)

To support the introduction of the Remote Pilot Competence (RPC) framework, the CAA proposes a phased withdrawal of the General VLOS Certificate (GVC) over a 24-month transition period. This dual track approach is intended to provide industry stakeholders, including Recognised Assessment Entities (RAEs) and remote pilots, with sufficient time to adapt to the new framework without operational disruption. During this period, both the GVC and RPC frameworks will remain valid, enabling operators to transition at a pace that reflects their operational needs and readiness. As adoption of the RPC framework increases, reliance on the GVC is expected to decline organically. This measured transition is designed to maintain safety standards, support industry continuity, and mitigate risks associated with a sudden regulatory change.

The proposed transition timeline is illustrated below to provide clarity on the key milestones and expected progression over the 24-month period.



Question 6. Using the scale below, please indicate if you agree or disagree with our proposal to implement a 24-month transition period for the removal of the GVC without disruption.

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

Removal of RPC Level 4 in Favour of ICAO-Compliant RPL

The CAA proposes to remove the RPC Level 4 certificate from the Remote Pilot Competence framework. This decision reflects the alignment of RPC Level 4 privileges with those defined under ICAO Annex 1, including access to controlled airspace and international operations. The CAA intends to develop and implement a Remote Pilot Licence (RPL) framework in future, in accordance with ICAO Annex 1, to support operations requiring higher levels of competence and international recognition.

Question 7. Using the scale below, please indicate if you agree or disagree with our proposal to remove RPC Level 4 from the RPC framework.

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

Inclusion of BVLOS Visual Mitigation (BVLOS VM) in RPC Level 1 Syllabus

To align the RPC framework with the SORA Air risk model, the CAA proposes to incorporate BVLOS VM training into the RPC Level 1 syllabus. This addition reflects the increasing relevance of BVLOS operations within the Specific category and supports the development of pilot competence in managing air risk under the CAA's airspace encounter models. In conjunction with theoretical instruction, a practical assessment of BVLOS VM application would be introduced to ensure remote pilots can demonstrate operational proficiency in applying visual mitigation strategies.

Question 8. Using the scale below, please indicate if you agree or disagree with our proposal to incorporate BVLOS VM training and practical assessment into the RPC Level 1 syllabus.

Response options:

(f) Strongly agree
(g) Agree
(h) Neither agree nor disagree
(i) Disagree
(j) Strongly disagree

Please explain your answer and provide any other general comments.

Simplification of UAS Category Training within the RPC Framework

To support a more coherent and proportionate training structure, the CAA proposes consolidating rotorcraft and fixed-wing competencies into a single certificate per RPC level for RPC-L2 and RPC-L3. This reflects the operational reality that most UAS operating at these levels rely on highly automated systems, where manual control distinctions between aircraft types are significantly reduced. By aligning RPC-L2 and RPC-L3 with automation level rather than platform type, the framework ensures that training remains risk-based, scalable, and reflective of contemporary operational practices.

This approach is intended to reduce duplication in training and assessment, provide greater clarity for Recognised Assessment Entities (RAEs), and support remote pilot mobility across platforms, while maintaining the integrity of safety and competence standards. In addition, we are proposing to make minor consequential amendments where necessary to make switching between UA categories easier.

Transitional measures are not required at this stage, as there are currently no remote pilots holding RPC-L2(A/R) or RPC-L3(A/R) certificates.

Question 9. Using the scale below, please indicate if you agree or disagree with our proposal to consolidate rotorcraft and fixed-wing competencies into a single certificate per RPC level (RPC-L2 and RPC-L3), aligning certification with automation level rather than platform type.

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

Minor Policy Updates for Clarity

To improve the usability and clarity of the RPC framework, the CAA is proposing to introduce a few minor updates. These changes aim to support RAEs, reduce ambiguity, and ensure alignment with operational expectations.

- **Oral Questions During Assessment**
  We propose to amend the policy to clarify that oral questioning during the assessment stage is not limited to emergency procedures. Assessors may ask oral questions covering any aspect of UAS operations. This will ensure a more comprehensive evaluation of a candidate's competence and readiness to operate safely.
- **Alignment of GVC and RPC-L1 Theory**
  Theoretical content for GVC and RPC-L1 is proposed to be aligned to ensure that RPC-L1 holders are equipped to operate safely under PDRA-01 approvals.
- **Changing RAEs Mid-Process**
  New guidance is proposed to support applicants who wish to switch RAEs during certification, outlining how to transfer documentation and maintain assessment continuity. The aim is to provide flexibility for applicants while preserving standardisation and oversight.
- **Renaming RPC-L1 Categories**
  We propose to amend the policy to clarify the naming conventions for RPC-L1 categories. RPC-L1(R) will be renamed to RPC-L1 Rotorcraft, and RPC-L1(A) will be renamed to RPC-L1 Fixed Wing. This proposal is intended to support continuity and consistent terminology.

Question 10. Is there any feedback you would like to provide in relation to these proposals?

(a) Yes/No
(b) If YES, please provide more detail

Chapter 4

Updates to Article 11 Annex A – Guidance for the submission of compliance material, updates to AMC and GM to Article 11 for Ground Risk Mitigations (Annex B – AMC1 Strategic Mitigations for Ground Risk), Containment (AMC1 Article 11 Annex E – Containment requirements) and minor changes to UK SORA (AMC1 to Article 11 Conducting a UK Specific Operation Risk Assessment)

In the following sections, we propose to simplify and provide more clarity to applicants on how to meet some of the requirements in UK SORA. The principles we have proposed to adopt are to minimise the burden of evidence for operations that are low risk and add additional requirements and evidence for higher risk operations. We propose to provide multiple options through which applicants can fulfil the requirements and ability to use consensus industry standards wherever applicable. We also propose to carve out some UA and/or operations that are deemed compliant with certain ground risk mitigations and containment requirements in UK SORA, and only require a declaration from the applicant. We have also proposed to move away from general guidance from JARUS to targeted detailed guidance material providing further calculation methods. We propose to provide applicants with various calculators for ease of use in the future. We have proposed to replace some of the placeholders for industry standards and suggest consensus industry standards that applicants could use for compliance. We are proposing to provide clarity and requirements on the level of injury a UA crash could result in.

GM1 Article 11 Annex A. Guidance for the submission of compliance

The proposed updates to GM1 Article 11 Annex A, aim to improve clarity, consistency, and standardisation of submissions for UK SORA applications. We have added new guidance on how applicants should document and present compliance evidence, particularly in relation to operational volumes, maximum Visual Line-of-Sight (VLOS) distances, and operational speed limitations.

Guidance material has been developed to assist applicants on the correct way to submit compliance evidence in the form of separate, clearly referenced standalone documents for each individual requirement or finding and where information exists in high-level

documents, only the relevant excerpts should be submitted. This approach is intended to reduce duplication and help streamline the assessment process.

For submission of operational volumes, the new guidance provides a clear framework for documenting and presenting evidence and guides operators on how to describe and visualise 3D flight areas and how to accurately calculate the volume dimensions.

The guidance also explains how to determine maximum VLOS and BVLOS boundary distances using both Attitude Line of Sight (ALOS) and Detection Line of Sight (DLOS) values and also ground visibility limitations and UA characteristics. Specific calculation formulas and tables are provided for multi-rotor and fixed-wing UA, as well as visibility-dependent scenarios.

The guidance also introduces procedures on how UAS operators may reduce the intrinsic Ground Risk Class (iGRC) by limiting the maximum operational speed of the UA using software-enforced speed limitations or by mechanical restriction. This flexibility supports a more proportionate approach to safety while enabling a wider range of lower-risk operations.

These updates seek to promote a more consistent approach to compliance evidence, enabling more efficient assessment by the CAA and better alignment with safety objectives set out in the UK SORA framework.

Question 11. Using the scale below, please indicate if you agree or disagree agree with the proposed updates to the guidance material?

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

AMC and GM: AMC1 Article 11 Annex B. M1A Strategic mitigation – sheltering

To comply with ground risk mitigation M1A, it is necessary to assess the penetration hazard when sheltering is applied. The proposed AMC provides methods to conduct a penetration analysis. UA with a Kinetic energy of below 175J at terminal velocity and max operating weight do not require any penetration hazard analysis and are deemed not to penetrate any structures. For UA with a kinetic energy between 175J and 7000J, only a simple penetration hazard analysis is required. This involves identifying the type of buildings in their operational volume and performing a simple calculation to determine if their UA will penetrate those structures. We have proposed a list of structures commonly found in the UK and suggested an appropriate structural absorbed energy to be used. We propose that UA with a kinetic energy of more than 7000J should conduct both the simple penetration hazard analysis and conduct further assessments to ensure battery integrity, payload integrity, and prevent secondary fires when impacting a structure. These three methods propose to divide the penetration hazard analysis into different risk categories. Additional guidance is proposed in GM1 Article 11 Annex B. M1A Strategic mitigation – sheltering.

Question 12. Using the scale below, please indicate if you agree or disagree with the proposal to provide applicants different methods (penetration analysis) of varying complexity to satisfy penetration hazard?

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

Question 13. Using the scale below, please indicate if you agree or disagree with the proposal to provide applicants different types of buildings in the UK and their impact on penetration hazard?

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

Question 14. Using the scale below, please indicate if you agree or disagree with the proposal of providing prescriptive means of compliance with detailed information to enable ease of fulfilling M1A mitigation?

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

Question 15. Using the scale below, please indicate if you agree or disagree with the proposal of a UA with a kinetic energy greater than 7000 Joules at its terminal velocity and maximum operating weight requiring an enhanced penetration analysis?

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

AMC and GM: AMC1 Article 11 Annex B. M1C Tactical Mitigations – Ground observations

To comply with M1C ground risk mitigation, the applicant may use technical means to observe and detect uninvolved people. The proposed AMC provides consensus industry standards that applicants should use if ground observation is carried out using a camera, optical sensor or LiDAR sensor. It proposes some guidance on the level of resolution needed to detect a human and the various environmental factors that affect the resolution. It proposes to allow the use of automotive grade LiDAR sensors to fulfil the requirement provided it can detect humans from the operating height. It also proposes additional guidance in GM1 Article 11 Annex B. M1C Tactical Mitigations – Ground observation on maintenance and operational checks for these sensors.

Question 16. Using the scale below, please indicate if you agree or disagree with the proposal to enable use of camera/optical sensors or LiDAR sensors or other sensors to detect uninvolved people?

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

Question 17. Using the scale below, please indicate if you agree or disagree agree with the proposal to recognise automotive grade equipment to detect uninvolved people?

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

Question 18. Using the scale below, please indicate if you agree or disagree agree with the proposal to use consensus industry standards as means of compliance for technical observation?

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

AMC and GM: AMC1 Article 11 Annex B. M2 Effects of UA impact dynamics are reduced

Ground risk mitigation M2 ensures that in case of UA crash there is minimal impact on uninvolved people on ground. The proposal is to add a new requirement which quantifies what the impact to uninvolved people must be. We propose that a UA crash can only have a 30% likelihood of causing an injury greater than or equal to AIS 3 to uninvolved persons. AIS is the Abbreviated Injury Scale, commonly used in the automotive industry. An AIS3+ injury would require hospitalisation and/or cause human to lose consciousness. This proposal adds enhances the effectiveness of the M2 mitigation (if claimed) by reducing the consequence of a collision with an uninvolved person.

We have also proposed the evidence the applicant would need to provide for demonstrating reduction of impact dynamics and/or post impact hazards.

In addition, there is detailed AMC proposed on how to reduce post impact hazards with use of consensus industry standards to meet the requirements.

UA with a kinetic energy <= 175J are deemed to be compliant with M2 mitigation. For UA <= 25kg using a parachute to reduce impact dynamics, we have proposed industry standards to meet M2 mitigation requirement. For UA <=25kg and <3m wingspan, compliance with industry standards proposes to meet M2 mitigation medium/high. To reduce post impact hazards, we have proposed industry standard crashworthiness requirements as means of compliance.

We are proposing to allow a multitude of approaches an applicant can take to meet M2 mitigation including the use of critical area reduction. We are also proposing to recognise using a flight Termination system (FTS) designed to an industry standard as acceptable. We also propose compliance with low robustness containment as adequate to fulfil some parts of M2 mitigation. These proposals aim to allow industry to use similar evidence for different parts of UK SORA.

To conduct a safety analysis for identifying failures that would prevent M2 mitigations from working, we have proposed conducting safety hazard and/or failure analysis using consensus industry standards and proposed exemptions for SAIL 1 to not require a safety analysis.

Question 19. Using the scale below, please indicate if you agree or disagree agree with the proposal to quantify the maximum injury a UA can cause if it has a ground impact?

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree

(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

Question 20. Using the scale below, please indicate if you agree or disagree agree with the multiple options and specific carve outs proposed to applicants to meet M2 mitigation?

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

Question 21. Using the scale below, please indicate if you agree or disagree agree with the prescriptive AMC and detailed guidance proposed to applicants to meet M2 mitigation?

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

Question 22. Using the scale below, please indicate if you agree or disagree agree with the proposed use of consensus industry standards as means of compliance for M2 mitigation?

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

AMC and GM: AMC1 Article 11 Annex E. Containment requirements

Containment requirements ensure that the UA is safe outside its operational volume in the adjacent area. We are proposing to quantify the targets necessary to achieve low/medium/high containment. The requirements propose to divide containment requirement targets depending on the risk the adjacent area poses. For adjacent areas with low population densities, the containment targets are proposed to be lenient. We also propose to give lower targets to applicants who use mitigations which maybe applicable in the adjacent area. The use of applicable mitigations proposes further leniency in containment requirements. We have also proposed consensus industry standards to design containment measures and ensured that our containment approach proposal is similar to other national aviation authorities.

For SAIL III and above, we have proposed to change the containment requirement targets based on its inherent target level of safety.

We appreciate that this approach may seem more complex than a generalised approach, however by approaching containment in a more granular way, we are able to apply more lenient requirements in some cases, rather than applying more onerous requirements to all operations.

For all containment levels, we have proposed to change the evidence the applicant is required to submit proportional to the risk. For some low containment requirements, we are proposing that the applicant only needs to submit a declaration stating compliance to integrity requirements. This would enable faster processing of OA applications.

Question 23. In general, would you prefer a simpler approach to meeting UK SORA requirements which may apply more stringent requirements in some cases but is easy to interpret, or a more complex approach that would allow you to only apply more lenient requirements in some cases?

Response options:

(a) Simpler framework but more stringent requirements in some cases
(b) Complex framework but more lenient requirements in some cases
(c) Unsure

Please explain your answer and provide any other general comments.

Question 24. Using the scale below, please indicate if you agree or disagree with the proposal to divide the containment requirements and provide leniency when the adjacent area risk is low and/or the UA has relevant mitigations?

Response options:

(d) Strongly agree
(e) Agree
(f) Neither agree nor disagree
(g) Disagree
(h) Strongly disagree

Please explain your answer and provide any other general comments.

Question 25. Using the scale below, please indicate if you agree or disagree with the proposal to quantify the containment requirements in detail?

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

Question 26. Using the scale below, please indicate if you agree or disagree with the prescriptive AMC and detailed guidance proposed to applicants to meet containment requirements?

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

Minor Changes: AMC1 to Article 11 Conducting a UK Specific Operation Risk Assessment

In UK SORA (AMC1 to Article 11 Conducting a UK Specific Operation Risk Assessment) we are proposing the following minor improvements:

- Update to the definition of adjacent area and adjacent airspace with the aim of providing clarity to applicants. We are proposing that the UA may crash in the adjacent area only under extraordinary circumstances.
- Under loss of control (LOC) of operation, we are proposing minor change in the LOC state under 1.38.
- Under determining the UA characteristics (1.61), we are proposing additional definitions such as maximum operational speed, maximum operational weight.
- Under Step 3, Final ground risk class determination (1.93), we are proposing that acceptable mitigations reduce the risk of uninvolved person on ground being significantly injured (30% chance of AIS3+) due to impact of a UA. In 1.98, we are proposing that when all mitigations are applied, the final GRC may not be reduced to value lower than lowest value in Table 3.
- We are also proposing to remove different containment tables for sheltering in Step #10 of UK SORA (1.158) and incorporate sheltering for all UA in the integrity and assurance requirements. This will improve clarity to applicants and allow a uniform application of sheltering mitigations in containment assessment
- Under containment requirements for adjacent airspace (1.168), we are proposing to add that the CAA may apply containment requirements at a higher robustness level for some adjacent airspaces ensuring proportionality to the risk.
- Under 1.177 BVLOS operations, we are proposing to modify to ‘’identifying applicable tactical mitigations’’ for the residual ARC.

Question 27. Using the scale below, please indicate if you agree or disagree with these minor changes in UK SORA main body (AMC1 to Article 11 Conducting a UK Specific Operation Risk Assessment)?

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

Chapter 5

Updates to AMC and GM to UK Regulation (EU) 2019/945 – Market Surveillance Authority (MSA)

Introduction

Since its introduction in January 2020, the UAS regulation has contained the provision for an authority or authorities to be appointed a Market Surveillance Authority (MSA). The following chapter relates to AMC and GM that supports the existing MSA regulation.

MSA Framework Summary

This document provides AMC and GM for UK Regulation (EU) 2019/945, specifically addressing the **Market Surveillance Authority (MSA)** framework. It explains the roles and obligations of economic operators (manufacturers, authorised representatives, importers, and distributors) and outlines compliance requirements for unmanned aircraft systems (UAS) and related products.

Key Sections:

- **Roles & Responsibilities:** Details obligations for manufacturers, importers, distributors, and authorised representatives.
- **Compliance Requirements:** Covers product marking, technical documentation, conformity assessment, and post-market monitoring.
- **Risk Management:** Provides procedures for handling non-conforming products, recalls, and corrective actions.
- **Approval of Conformity Assessment Bodies (CABs):** Sets out criteria and processes for CAB approval.
- **Articles Covered:** Articles 4–10, 18, 36, 38, and 39, with corresponding AMC/GM guidance.

AMC and GM Updates

- Terminology Updates:
    - Replaced references to “market surveillance authorities” with **“market surveillance authority”** (singular) throughout.
    - Replaced “Secretary of State” with **“market surveillance authority”** in Article 18 and related provisions.

- Article 4:
    - Removed reference to toys.
- Article 6(9):
    - Changed “authorities” to **“authority”** in reporting obligations.
- Article 7, 8, 9:
    - Similar singularisation of “authority” in obligations for authorised representatives, importers, and distributors.
- Article 18:
    - Authority for approving CABs shifted from Secretary of State to **MSA**.
- Article 36 & 38:
    - Singularised references to the authority and clarified enforcement responsibilities.
- Article 39:
    - Same authority terminology updates.

Question 28. Is there any feedback you would like to provide in relation to these proposals?

a) Yes/No
b) If YES, please provide more detail

Chapter 6

Updates to AMC and GM – Carriage of Dangerous Goods

Introduction

This section includes proposed updates and amendments to the Acceptable Means of Compliance (AMC) and Guidance Material (GM), in relation to the transport of Dangerous Goods by UAS. These updates are intended to clarify regulatory expectations, align policy with established safety objectives, and provide operators with appropriate means to demonstrate compliance when transporting dangerous goods in both the Specific and Certified categories.

The proposals provide guidance on the articles and substances that may be considered “Dangerous Goods” for the purposes of UAS operations, by referencing the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air. This reference is intended to ensure consistency with international standards and assist operators in identifying articles and substances that may present a risk to the operation of the UAS or third parties.

For Specific category operations, the proposed AMC considers the risks associated with the carriage of Dangerous Goods are sufficiently mitigated where such transport is conducted in accordance with the Technical Instructions. This includes adherence to relevant provisions on packaging, labelling, documentation, emergency procedures, and operator training. Importantly, compliance with the Technical Instructions does not remove the requirement to conduct a full operational risk assessment in accordance with Article 11. The AMC defines the additional considerations required in that risk assessment when dangerous goods are involved, such as the nature and quantity of goods, environmental considerations, containment systems, and mitigation of risks to third parties.

Where the level of safety risk is considered high, either due to the operational context or the nature of the Dangerous Goods being carried, the operation may be required to take place under the Certified category. The AMC and GM provides guidance on when this threshold may be met and include reference to the use of crash-protected containers (CPCs) as a suitable mitigation in some cases.

Additional proposals cover the requirement for a Dangerous Goods Procedures Manual, incorporating procedures, responsibilities, communications, safety data reporting, and training policies. Training standards are also addressed in detail, with reference to competency-based training principles as outlined in the Technical Instructions and ICAO

Doc 10147. Training should be function-specific and applicable to all staff involved in the transport of dangerous goods, whether directly or indirectly. The proposals also confirm that such training programmes will be subject to CAA approval.

Finally, the AMC proposes that all UAS operators intending to transport dangerous goods must develop and implement an Emergency Response Plan (ERP), covering a range of scenarios and identifying key contacts and resources for incident response. Operators must also have robust procedures in place to ensure that undeclared or mis-declared dangerous goods are identified and reported.

These amendments reflect the CAA's policy objective to enable safe and proportionate integration of the carriage of Dangerous Goods within the unmanned aircraft sector, while ensuring appropriate levels of safety, transparency, and regulatory oversight. We invite views from operators, manufacturers, training providers, and other stakeholders on the suitability of these proposals and their implementation.

Summary of Proposed Updates and Amendments

These proposals are intended to enhance regulatory clarity, improve safety assurance, and provide industry with a more comprehensive framework for managing operations involving Dangerous Goods.

- **GM1 Article 2 (11) Definitions - Definition of Dangerous Goods**:
  Operators should also consider articles and substances that fall within the scope of the ICAO Technical Instructions when conducting risk assessments.
- **AMC1 Article 5 (2) 'Specific' category of UAS operations – Carriage of Dangerous Goods:**
  Risks associated with Dangerous Goods operations are sufficiently mitigated in the Specific category when conducted in accordance with the Technical Instructions.
- **AMC1 Article 6(1)(b)(iii) Certified Category of Operations – Carriage of Dangerous Goods**:
  Dangerous Goods must be carried in the Certified category if a high risk to third parties is identified. Use of crash-protected containers may be required.
- **AMC2 Article 11 (1)(c) Rules for conducting an Operational Risk Assessment – Specific Risk Assessment and Emergency Response:**
  A detailed risk assessment must address hazards to people, environment, containment, emergency procedures, and confidence in the supply chain. Operators must also develop an Emergency Response Plan (ERP) and update it regularly.

- **GM3 Article 11 (1)(c) Rules for conducting an Operational Risk Assessment – Operational Risk Assessment for the carriage of Dangerous Goods:**

  Provides guidance on circumstances where full compliance with the Technical Instructions may not be appropriate for UAS operations.

  Permits alternative mitigating measures where equivalence in safety can be demonstrated.

- **AMC2 Article 11 (2)(d) Rules for conducting an Operational Risk Assessment – Carriage of Dangerous Goods, Excepted Items:**

  Items such as fuel and batteries required for UAS operation are exempt from the Technical Instructions but must be addressed through the UAS design and manufacturing processes.

- **AMC3 Article 11 (6) Rules for conducting an Operational Risk Assessment – Carriage of Dangerous Goods:**

  Operators must mitigate risk to third parties through the use of crash-protected containers, operational changes, or compliance with the Technical Instructions.

- **AMC2 / GM2 UAS.SPEC.050 (1)(a)(i) Responsibilities of the UAS Operator – Dangerous Goods Procedures Manual**:

  The requirement for operators to develop and maintain a Dangerous Goods Procedures Manual, covering responsibilities, communication protocols, training, and reporting.

- **AMC2 / GM2 UAS.SPEC.050(1)(d) and (e) Responsibilities of the UAS Operator – Training and Competency**:
  A competency-based training programme must be in place for all personnel involved in Dangerous Goods operations. Requirements include initial, recurrent, and role-specific training aligned with ICAO Doc 10147.

Question 29. Using the scale below, please indicate if you agree or disagree with the overall approach taken in the proposed AMC and GM regarding the safe transport of Dangerous Goods by unmanned aircraft?

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

Question 30. Using the scale below, please indicate if you agree or disagree with the proposed amendments are proportionate to the level of risk presented by UAS operations involving dangerous goods?

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

Question 31. Using the scale below, please indicate if you agree or disagree with the proposed AMC and GM will support industry growth while maintaining an appropriate level of safety?

Response options:

(a) Strongly agree
(b) Agree
(c) Neither agree nor disagree
(d) Disagree
(e) Strongly disagree

Please explain your answer and provide any other general comments.

How to respond and next steps

How to respond to this consultation

Please respond to this consultation using the CAA Citizen Space digital consultation tool. A link to the consultation can be found here.

Next steps

Once the deadline for consultation responses has passed, we will assess all the responses we have received and make any necessary amendments.