

Framework for the evaluation of aviation activities for payment based on Safety Standards and Consent

CAP 1396



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Section 1

Executive summary

- 1.1 The United Kingdom Civil Aviation Authority (CAA) is entrusted by Parliament and the British public with certain duties. Among these duties, ensuring aviation safety is of primary importance. In enhancing safety, the CAA uses its regulatory authority and engages with industry stakeholders to ensure that risks to safety are mitigated to deliver the high level of safety expected by most aviation participants and the general public.
- 1.2 To this end, an effective structure of safety compliance has been developed and in operation for decades to ensure that paying passengers on commercial flights enjoy such high levels of safety. In this compliance-based system in which a commercial operator is granted an Air Operator Certificate (AOC), CAA and industry resources are employed to mitigate known risks to achieve such high levels of safety by establishing standards for both the aircraft and the operator which must be met in order for the operator to charge fees to those passengers carried aboard flights operated under an AOC.
- 1.3 The CAA recognises, however, that compliance with these standards creates costs, and that when the same standard used for commercial transport is applied to other types of flights, such costs may lead to certain activities becoming unaffordable, unviable, and in certain situations such as those involving ex-military aircraft, impossible.

We also recognise that our oversight authority must be exercised to achieve the desired safety outcomes of both aviation participants and non-participants alike, ensuring that the actual level of risk meets the expectations of all parties involved.

Certain activities such as commercial aviation involve higher expectations of safety outcomes because the activities have become integrated into the pursuit of everyday economic or social activity. In these circumstances, both the public and the paying participants have a legitimate expectation of very high levels of safety mitigation, and the safety standards required to maintain an AOC are appropriate.

However, there are activities, such as those of an adventurous nature, for which there is a higher acceptance of personal risk. This is because the purpose of the activity is primarily for the recreational value. In addition, the level of risk to other airspace users and to third parties on the ground

is low. Using the AOC compliance standards for these types of flights imposes a burden on both the aviators and the CAA which does not best employ the resources of either, and which we do not think is necessary to achieve the safety expectations of the participants or the public.

However, although members of the public are currently permitted to fly on board many types of flights, they are not currently permitted to pay to do so unless the flight is operated under an AOC. This imposes safety standards without consideration of whether or not they are desired by the participant. The standards are simply imposed because he/she is paying the operator for the flight. These standards also deter and in some cases, prohibit aviators from offering such flights to members of the public seeking to take them.

The CAA seeks to match the burden of compliance to the expectations of the participants and the public. We seek to permit economic activity where we have already determined that the underlying conduct is safe enough for the expectations of the public. We now seek to allow members of the public to pay for flights which they have been already been allowed to take, but have not yet been allowed to pay for. The level of oversight will be higher than the level which applies to carriage for free, but lower than the oversight used for commercial transport on routine flights.

- 1.4 This document establishes a framework by which the CAA may evaluate how and whether to allow aviation activities to be conducted using a consent-based means of compliance, provided that:
- The participants are informed of the risks involved with participating in the activity
 - The participants are able and willing to consent to assume the risks involved with participating in the activity, and give such consent
 - The level of risk to the public at large is not increased beyond a margin which is acceptable to the CAA and the public at large.
- 1.5 The framework which the CAA will use for evaluating an aviation activity for purposes of allowing non-AOC operators to be compensated is summarised in the following five steps, the details of which are given in sections 2 through 5 of this document:

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- i) Make a preliminary determination as to whether the activity is suitable for applying this framework, these three questions must be answered affirmatively:
- Would the risk to third parties, if any, be at an acceptable level?
 - Would the individual paying participants be capable of making an informed decision on consenting to the level of risk?
 - Does the United Kingdom have the legal authority to permit the activity?
- ii) The characteristics of the particular aviation activity being evaluated must then be distinguished from those of similar activities, with the objective of eliminating any ambiguity regarding whom or what is to be subject to oversight under the proposed model. Distinguishing characteristics are to be decided by the project team applying the framework, but might include:
- Aircraft models
 - Purpose for which aircraft was originally built (e.g. military)
 - Class of licence held by operator
 - Weight of aircraft
 - Maximum number of participants
- iii) Conduct a thorough and proportionate evidence-based risk assessment for the activity. Identify the levels of risk involved to the participants, other airspace users (both commercial and non-commercial), third parties on the ground, and other affected individuals and organisations.
- iv) The CAA must develop the following, with input from stakeholders and other organisations as deemed appropriate by the project team:
- The format for delivery of information regarding risks to the affected participants
 - The procedure by which prospective paying participants are to be required to give consent to assuming such risks, including the risk of flying on a non-AOC operator and, if applicable, an aircraft which does not hold a certificate of airworthiness
 - The means by which compliance with both of these shall be verified.

- These must be developed in direct proportion to the level of risk ascertained through the evidence-based risk assessment. Activities with higher levels of risk will require a more engaged method of delivering information regarding risks, such as a video briefing as opposed to a pamphlet. Such activities will also require a greater level of objective indication that the individual consents to assuming such risk and is able to give such consent, such as a witnessed signature stating that the individual understands and consents to the risks as opposed to an un-witnessed signature stating that he/she received a pamphlet.

In developing the above, the project team should be evaluating what the best option would be to ensure that a verifiable means is developed to ensure the CAA and the public that the participants consent to the level of risk associated with the activity. The costs associated with verification must be taken into consideration in determining which option is best.

- v) Present the proposal to the CAA Executive Committee, who will then determine whether the levels of risk are acceptable, whether the proposal should be implemented, and whether public consultation is warranted. The project team should inform the Executive Committee regarding any legislative changes which will be necessary.

- 1.6 Any project team applying this framework must include both of the following during all stages of the project:
- A member of the CAA Legal Department to be designated by the CAA General Counsel. Such project member shall ensure that all legal requirements are met, all necessary legislative changes are proposed, and the CAA's legal functions are carried out effectively
 - A member of the Policy Programmes Team to be designated by the Group Director for Regulatory Policy or the Head of Policy. Such project member shall be responsible for ensuring that this framework

is applied correctly and shall assess what changes should be made to the framework based on challenges which confront the project team

The project team leader shall choose other members of the project team based on the capabilities required for establishing the activity parameters and performing the risk assessment.

Section 2

Activity parameters

- 1.7 As stated in the Executive Summary in paragraph 1.5, the following questions must be answered affirmatively before proceeding to apply this framework to any aviation activity:
- Would the risk to third parties, if any, be at or below an acceptable level?
 - Would the individual paying participants be capable of making an informed decision on consenting to the level of risk?
 - Does the United Kingdom have the legal authority to permit the activity?
- 1.8 When establishing the parameters of an aviation activity for purposes of applying consent principles, the specific types of aviation activities to be grouped together into a class must involve highly similar levels of risk in order that the level of oversight be proportionate with the level of risk involved.
- 1.9 It may be advantageous or desirable to establish parameters of an activity based on already-existing structures, such as industry associations, recognised categories of types of aircraft, classes of operator licence, etc., provided that objective evidence demonstrates that the levels of risk are highly similar across the already-existing structure.
- 1.10 Providing clarity and avoiding confusion is essential. Objective and measurable criteria must be used to establish inclusion or exclusion from the class of aviation activity for these purposes. In addition, members of the project team must always remain aware of similar activities which are not intended to be included, and must ensure that clear distinctions are made between included and excluded activities in order to avoid ambiguity or confusion.

Section 3

Risk assessment

- 1.11 Risk is a calculation of the probability of an undesired occurrence combined with the level of severity if such an occurrence were to occur. Therefore, the most relevant data regarding risk is objective evidence which demonstrates the probability and severity of each occurrence. In performing an objective, evidence-based risk assessment, data regarding risks of occurrences should include all available objective data from all available sources which have substantial relevance to the probability and severity of an occurrence involving the proposed activity.
- 1.12 All data obtained must be weighed based on relevance to the characteristics of the proposed activity. The most relevant evidence regarding levels of risk is to be given the highest consideration. In evaluating data obtained from activities conducted abroad, cultural considerations regarding safety are to be taken into consideration.
- 1.13 The risks to be assessed include:
- Safety risk to the paying participants
 - Safety risk to other non-commercial airspace users
 - Safety risk to commercial airspace users
 - Safety risk to third parties on the ground
- 1.14 The following tables, obtained from the Joint Aviation Requirements, establish the criteria by which probability and severity are to be measured.

Description	Qualitative	Quantitative
Probable	Anticipated to occur one or more times during the entire system/operational life of an item	Probability of occurrence per operational hour is greater than 1×10^{-5}

Occasional	Foreseeable to occur one or more times during the entire system/operational life of an item	Probability of occurrence per operational hour is less than 1×10^{-5} , but greater than 1×10^{-6}
Remote	Unlikely to occur to each item during its total life. May occur several times in the life of an entire system or fleet	Probability of occurrence per operational hour is less than 1×10^{-6} , but greater than 1×10^{-7}
Extremely Remote	Not anticipated to occur to each item during its total life. May occur a few times in the life of an entire system or fleet	Probability of occurrence per operational hour is less than 1×10^{-7} but greater than 1×10^{-9}
Extremely Improbable	So unlikely that it is not anticipated to occur during the entire operational life of an entire system or fleet	Probability of occurrence per operational hour is less than 1×10^{-9}

Hazard classification	Hazard severity
Catastrophic	Multiple deaths, usually with loss of aircraft
Hazardous	Large reduction in safety margins <ul style="list-style-type: none"> ▪ Crew extended because of workload or environmental conditions ▪ Serious or fatal injury to small number of occupants
Major	Significant reduction in safety margins

	<ul style="list-style-type: none"> ▪ Difficulty for crew to cope with adverse conditions ▪ Passenger injuries
Minor	Operating limitations <ul style="list-style-type: none"> ▪ Emergency procedures ▪ Nuisance
Negligible	Any other mandatory reportable event not falling within the above categories

1.15 The following table shows EASA/ICAO levels of acceptability of risk. These levels are to be applied to the specific risks outlined in section 3.3. In order for an activity to be allowed to proceed, the level of risk posed to all categories of third parties must not be in the unacceptable/red category. However, the safety risk to the participants must not be in the probable/catastrophic range.

	Severity of occurrence				
Probability of occurrence	Negligible	Minor	Major	Hazardous	Catastrophic
Extremely improbable					
Extremely remote					
Remote					
Occasional					
Probable					

Risk index	Significance	Description
	High	Unacceptable
	Medium	Tolerable based on risk mitigation
	Low	Acceptable, monitoring required

- 1.16 At this stage, the following factors must also be evaluated and considered:
- The impact, both probable and potential, which the approval of the proposed activity would have on the overall current system of regulation. The parameters of the activity established pursuant to Section 2, and particularly the consideration given to similar activities in Section 2.4 should be looked at closely. Current holders of an AOC may choose to modify their characteristics in order to fall within the parameters of this new aviation activity. Costs of maintaining an AOC as compared to costs associated with the proposed activity are highly relevant evidence to be considered in determining probability and extent of the impact on the overall current system of regulation, including the impact on the CAA budget.
 - The impact, both probable and potential, which approval of the proposed activity for remuneration would have on all of the Strategic Objectives of the CAA. The impact on consumer protection and the environment should be particularly evaluated because the impact on these is not evaluated elsewhere during this process.
 - The risk of liability to the CAA. The project member designated by the CAA General Counsel shall be responsible for this assessment. The duty of care outlined in Annex 6 of ICAO shall provide a guideline for this part of the assessment.
 - The impact which an increase in risk levels (whether to the participants or third parties) will have in terms of redistributing residual risk to other parties (e.g. NHS treating more injuries or

insurance companies paying more claims). Whether such parties are able to bear this increase in the level of risk or whether it is appropriate for them to do so must be analysed and clearly explained.

- 1.17 Upon calculation of the levels of risk outlined above, actions to be taken to mitigate such identified risks should be taken where possible. Any affect which such mitigation would have on the identified risk must be based on relevant objective evidence and must not be unduly burdensome so as to encourage non-compliance or create an excessive regulatory structure to ensure compliance.
- 1.18 Upon completion of the risk assessments prescribed above, the difference in the level of each of these types of risk, taking into account the mitigation to be implemented, is to be calculated and explained. The benchmark for calculating the difference in the level of risk is to be the level of risk associated with operators holding an Air Operator Certificate who perform similar types of flights. It must always be made clear that the level of risk is not what one would expect when flying commercially.

Section 4

Format for delivery of information and procedure for consent regarding risks

- 1.19 Development of the format for the delivery of risk information and the procedure for obtaining consent regarding risks is to be led by the project team member.
- 1.20 The format for delivery of risk information and the procedure for obtaining consent of the participant must be developed in direct proportion to the increase in risk to participants identified in Section 3.8. The delivery of risk information must always be made clearly, must be in a commonly understood format, and must address the expectations which a reasonable person would have regarding information about levels of safety risk, using the level of risk associated with flying on a carrier holding an Air Operator Certificate for similar activities as the benchmark for calculating the increase in level of risk. Due care must be taken to address the expectations of the reasonably minded individual, including life insurance coverage concerns.
- 1.21 The level of engagement between the deliverer of information and the prospective participant in the subject activity shall be directly affected by the level of risk and level of acceptability of risk determined in Section 3.5. Higher levels of identified risk and lower levels of acceptability will necessitate higher levels of engagement between the party delivering information and the prospective participant.
- 1.22 The project team must then determine how the CAA will be able to effectively verify that operators are complying with the requirements. The project team must have the objective of designing a programme that verifies compliance without imposing an unnecessary regulatory burden or prohibitive costs.
- 1.23 The project team may choose to consult with industry to develop both the format for the delivery of information, the procedure for obtaining consent, and the method of oversight. The CAA, and specifically the project member appointed by CAA General Counsel will, however, retain authority over these matters.
- 1.24 In situations in which the risks involved with an adventurous aviation activity are not well known, caution should initially be exercised by delivering information regarding the highest probable level of risk in a

more-engaged manner. After the activity has been permitted, more data regarding risks to the participants will become available, and the oversight of the activity may be altered accordingly with approval of the CAA Legal Department.

- 1.25 When obtaining consent from a prospective participant, it must always be clearly understood and indicated that the consent being obtained pertains only to acknowledging that basic safety standards apply as opposed to AOC standards, and that there may be an increased level of risk involved with the activity as opposed to the level of risk associated with flying with an operator holding an Air Operator Certificate. The consent being obtained for this purpose does not exempt the operator from legal duties of care and does not establish an absolute defence against commercial liability of the operator to the participant. It is not within the authority of, nor is it the intent of the CAA to instruct courts on how to rule regarding legal liability issues.
- 1.26 Available options for delivery of risk information, sorted by level of engagement, include:
- Information pamphlets developed by individual stakeholders to be distributed to prospective participants
 - Information pamphlet developed by industry associations to be distributed to prospective participants
 - Information pamphlet developed by CAA to be distributed to prospective participants
 - Codes of practice to be developed by the CAA establishing criteria by which stakeholders and/or industry associations present the information either visually or orally
 - CAA developed recorded audio briefings to be presented by the operator
 - CAA developed recorded audio briefings to be presented by the CAA
 - CAA developed visual briefings to be presented by the operator
 - CAA developed recorded visual briefings to be presented by the CAA

- Available options for the procedure for obtaining consent include:
- Obtaining signature of prospective participant giving consent
- Obtaining witnessed signature of participant giving consent
- Obtaining written statement of participant giving consent
- Verbal acknowledgement giving consent in addition to any of the above

Chapter 2

Approval, proposal of necessary changes to legislation and consultation

- 2.1 Upon completion of the development of the format for delivery of risk information and the procedure for obtaining the consent of prospective participants, the proposal for oversight of the relevant adventurous activity must then be presented to the CAA Executive Committee for approval.
- 2.2 It shall be the responsibility of the member of the project team designated by the CAA General Counsel and the project team member from the Policy Programmes Team to determine what legislative changes are needed, and propose the necessary changes through the appropriate channels or mechanisms for approval, and then assist as necessary to ensure that all necessary approvals are received.
- 2.3 Whether or not legislative changes are necessary, CAA consultation with the public shall be required at the discretion of the CAA Executive Committee in order to determine societal acceptance of the increase in risk associated with the proposed activity. In assisting the CAA Executive Committee with determining whether consultation is appropriate, the project team must clearly state the probable and potential increases in risk as determined in Section 3 of this framework.
- 2.4 Only in accordance with the foregoing procedures shall the CAA grant regulatory approval for members of the public to make payment for flights which are conducted without the operator being required to hold an AOC.