

Unmanned Aircraft System Operations Recognised Assessment Entity for Flightworthiness RAE(F) Policy

CAP 722J

First Edition (Consultation)

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¹ Revision History

² First Edition (Consultation)

August 2024

3 This is the first edition of this document published for consultation.

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⁵ Abbreviations and glossary of terms

6	CAA	UK Civil Aviation Authority
7	Crit.	Criterion
8	GM	Guidance Material
9	OA	Operational Authorisation
10	OAT	Outside Air Temperature
11	OSO	Operational Safety Objective
12	R	Requirement
13	RAE(F)	Recognised Assessment Entity for Flightworthiness
14	RPAS	Remotely Piloted Aircraft System
15	SAIL	Specific Assurance and Integrity Level
16	SORA	Specific Operations Risk Assessment
17	UAS	Unmanned Aircraft System
18	UK	United Kingdom
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20 21 22 23 24 25 26	Compliance basis	List of all SORA requirements which the OA Applicant must comply with to obtain an OA for their intended operation. The list includes requirements that are already complied with through a SAIL Mark certificate, and identifies such requirements as already complied with. The compliance basis takes the form of a spreadsheet called the 'compliance matrix', where each requirement is identified in a single row.

27 28 29 30 31 32 33 34 35 36 37	Compliance approach	A high level description of how the OA Applicant intends to comply with the SORA requirements. It is an extension of the compliance matrix (see definition for compliance basis) with added columns, where the OA Applicant provides against each requirement a brief statement of the compliance method (one sentence suffices) and the expected evidence documents (generic document titles suffice). The actual compliance data and documents are not required at this stage. Where a requirement is satisfied through a SAIL Mark certificate, the OA Applicant writes a simple statement such as "compliance demonstrated by the SAIL Mark verification report"*.
38 39 40 41	Compliance evidence	Documentary and physical evidence that X complies with one or more given requirements. Examples include: technical drawing, analysis report, flight test report, operational procedure, SAIL Mark, etc.
42 43	Designer	The natural or legal person responsible for the design of an Unmanned Aircraft System.
44 45	Entity	A natural or legal person that is or wishes to be approved as a Recognised Assessment Entity for Flightworthiness.
46 47 48	Flightworthiness	Flightworthiness is the process for technical assurance of a UAS in the Specific Category of Operation, such that it is in a condition for safe operation.
49 50	OA Applicant	Applicant for an operational authorisation granted by the CAA under Article 12 UK Reg. (EU) 2019/947.
51 52 53	UK SORA	The UK version of SORA that was originally developed by the Joint Authorities for Rulemaking on Unmanned Systems (JARUS).

⁵⁴ Foreword

⁵⁵ Aim

- This policy is intended for use by an entity that is, or wishes to be approved, as an RAE(F),
- to understand the requirements, administrative processes, instructions, and guidance
- related to the operation of an RAE(F) within the United Kingdom. This document also
- describes the technical assessments that are conducted by the RAE(F).
- 60 This policy should be used in conjunction with the UK Specific Operations Risk
- Assessment (SORA), set out within the Acceptable Means of Compliance and Guidance
- Material to Article 11 of Assimilated Regulation (EU) 2019/947¹.

63 How to use this document

- According to the AMC and GM¹ to Article 11 of Assimilated Regulation (EU) 2019/947 (UK
- Reg (EU) 2019/947) an OA Applicant may choose to use the UK SORA methodology to
- 66 conduct its risk assessment under that Article, and according to AMC and GM to Article
- 67 11(2)(d) of that Regulation ², an OA Applicant may choose to comply with that provision by
- relying on a UAS that has been granted a SAIL Mark certificate by the CAA.
- An RAE(F) may be approved in accordance with the RAE(F) policy to assist the CAA in
- 70 evaluating a risk assessment that has been carried out in accordance with the UK SORA,
- or in deciding whether to grant a SAIL Mark certificate, by carrying out the detailed
- 72 assessment of a specific UAS or a UAS configuration against UK SORA requirements.
- 73 The RAE(F) policy identifies Requirements (R) sections and Guidance Material (GM)
- 74 sections.

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- 'R' in a dark green box indicates a requirement that should be satisfied by the Applicant in order to obtain and maintain an RAE(F) approval. Numbering indicates sub-requirements (e.g. (a), (b), i, ii, etc); all sub-requirements must be complied with in order to satisfy the requirement 'R'.
- 'GM' in a lighter green box indicates guidance material to help the Applicant understand the information to be satisfied in the 'R' section. Numbering for GM relates to a specific Requirement in the section above.
- The purpose of this format is to make clear what information is required from the Applicant and what information is guidance.

¹ This document is, at the time of publication, open for consultation and can be found here.

² This AMC/GM has not yet been adopted, and is being consulted on in chapter 7 of this document.

- 84 This document applies the following editorial practices:
- **'Must'** indicates a requirement to be complied with to satisfy the intent of this policy.
- **'Should'** indicates a strong recommendation, where the Applicant would need to provide
- 87 clear justification to the UK Civil Aviation Authority (CAA) for not following the
- 88 recommendation.
- 89 'May' indicates discretion.
- Where references to other documents are provided, it is the Applicant's responsibility to
- 91 ensure that the latest revision is being used.

Policy and scope

93 This policy sets out:

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- the minimum criteria an entity must meet to be approved as an RAE(F);
- the process for applying to be approved as an RAE(F);
 - the role of an approved RAE(F);
 - the impacts for an OA Applicant of assessment by an RAE(F); and
 - the conditions an entity must comply with to maintain approval as an RAE(F), including its roles and responsibilities in relation to:
 - the technical assessment of an Unmanned Aircraft System (UAS) at the design stage, in accordance with the SAIL Mark policy;
 - the technical assessment of an individual UAS in relation to a given planned operation, for the purpose of a 'Specific' Category Operational Authorisation (OA) application.
- The CAA has the function of authorising operations in the 'Specific' category under Article
- 106 12 UK Reg (EU) 2019/947. To carry out this function, we must evaluate the risk
- assessment and the robustness of the mitigating measures proposed by an OA Applicant
- to keep the UAS operation safe in all phases of flight (Article 12(1)). This includes
- mitigation measures relating to the technical features of the UAS: we must establish
- whether these mitigation measures are sufficiently robust to keep the operation safe in
- view of the identified ground and air risks (Article 12(2)(b)).
- 112 To facilitate our performance of this function, we may seek assistance in assessing
- whether the proposed mitigation measures are sufficiently robust.
- To be approved for the purpose of providing such assistance, an entity must demonstrate
- to our satisfaction, on a continuing basis, that it meets the criteria and complies with
- 116 conditions for approval set out in this policy, including as to the competence and technical
- 117 expertise of its personnel and as to the appropriate processes and procedures for the

- 118 assessment of technical documents, components and standards; in this policy, these are
- 119 referred to as "requirements".
- 120 The CAA will retain full responsibility for the conclusions of any risk assessment evaluation
- and any decision to grant or withhold an operational authorisation (with or without
- 122 conditions) under Article 12 and any decision to grant or withhold a SAIL Mark certificate
- 123 under the SAIL Mark policy.
- The approval granted to an RAE(F) under this scheme will be valid only in UK airspace
- and will not confer any approval that is recognised outside the UK.

126 Context

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- 127 The CAA has contributed to, and further adapted, the methodology developed by the Joint
- 128 Authorities for Rulemaking on Unmanned Systems (JARUS) to establish criteria for
- assessing mitigation measures relating to the technical features of a UAS. These are listed
- in the UK Specific Operations Risk Assessment (UK SORA) methodology (on which we
- are consulting now: the consultation closes 6 September 2024).
- 132 UK SORA identifies a range of technical issues that could, if not adequately addressed,
- 133 endanger a UAS operation. It also identifies criteria that can be used to determine whether
- a given technical issue can be deemed to be mitigated to a low, medium or high level of
- robustness. These are referred to as "UK SORA requirements".3
- 136 UK SORA also sets out a clear methodology by which a UAS operator can assess ground
- and air risks for the planned operation and arrive at final ground and air risk scores. These
- 138 consolidated scores are combined to generate a Specific Assurance and Integrity Level
- 139 (SAIL), with SAIL I reflecting the lowest ground and air risk and SAIL VI the highest.
- 140 The UK SORA requirements are therefore mapped against each SAIL to identify the level
- of robustness necessary to conclude that mitigation measures relating to the relevant
- technical issues are appropriate to the level of ground and air risk in question.
- 143 Two pathways for assessing a UAS against the UK SORA requirements, are proposed:
 - 1. At the design stage: A person may choose to incorporate technical features associated with specific UK SORA requirements into the design of a UAS during its development phase. They may then request that the design be assessed to verify whether it meets those UK SORA requirements. Where the CAA is satisfied that a UAS in a given configuration complies with the UK SORA requirements associated with one or more given SAILs, a SAIL Mark certificate may be granted for that UAS configuration, which will be described as "SAIL Marked". The SAIL Mark certificate will indicate the highest

³ Note that these are not legal requirements, but rather the steps that are necessary in the specific context of the UK SORA methodology to enable the conclusion to be reached that a given objective has been met to a given standard

- SAIL for which that UAS meets the UK SORA requirements to the appropriate level of robustness.
- Where the CAA evaluates a risk assessment that includes a SAIL Marked UAS, it may be deemed (in the absence of evidence to the contrary) that the UAS has the minimum technical features considered necessary to reduce risk to an acceptable level in the

156 class of operations to which the SAIL Mark relates.

- In practical terms, the SAIL Mark will reflect the highest SAIL at which the CAA deems the UAS to be safe to operate.
 - 2. <u>During the process of applying for an operational authorisation (OA):</u> A person may include in their OA application a proposal to use a specific UAS. They must provide sufficient evidence alongside their risk assessment to satisfy us that the UAS has the technical features necessary to reduce the risks of the planned operation to an acceptable level. Where the CAA is satisfied that the particular UAS complies with the UK SORA requirements that relate to the ground and air risks identified in the risk assessment, the CAA will be satisfied that in relation to the technical features of the UAS the risks of the planned operation have been reduced to an acceptable level.

Role of an RAE(F)

- 168 An entity approved as an RAE(F) may carry out the detailed assessment of a UAS against
- 169 UK SORA requirements at either the design stage or the OA application stage, if
- 170 requested to do so by a UAS designer or an OA applicant.
- 171 The RAE(F) will then notify the CAA of the results of its assessment. This will reflect the
- 172 views of the RAE(F) as to whether the UAS complies with the relevant UK SORA
- 173 requirements.
- 174 The CAA will take the views of the RAE(F) into account:
 - when deciding whether the conditions for issuing a SAIL Mark certificate have been met (as set out in the SAIL Mark policy); or
 - when evaluating an OA Applicant's risk assessment and deciding whether the conditions for granting the operational authorisation have been met.

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Point of contact

182	Unless otherwise stated, all enquiries relating to this CAP should be made to:
183	FS&I RPAS Policy Team
184	Civil Aviation Authority

185 Safety and Airspace Regulation Group

186 Aviation House187 Beehive Ringroad

188 West Sussex

189 RH6 0YR

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191 E-mail: <u>uavenquiries@caa.co.uk</u>

192 Chapter 1 RAE(F) scheme

193 **Privileges** 1.1

- R An Entity that, upon application for approval as an RAE-F and on a continuing basis, satisfies the CAA of its ability to comply with all the requirements of the RAE(F) scheme may, within its terms of approval:
 - (a) Notify the CAA that a UAS Designer has demonstrated to its satisfaction, evidence of compliance with the requirements described in the SAIL Mark policy, such that the UAS may be issued a SAIL Mark certificate by the CAA.
 - (c) Notify the CAA that an OA Applicant has demonstrated to its satisfaction evidence of compliance with the UK SORA requirements specified in section 5.4.
 - (d) Submit a flightworthiness report to the CAA about an OA Applicant.
- **GM** (a) By approving an Entity as an RAE(F) under this scheme, the CAA indicates that it is satisfied that the Entity has adequate processes, personnel, and experience to assess whether the design, construction, and flying characteristics of a UAS comply with the SORA requirements that apply to that UAS configuration under the SAIL Mark policy. Where an RAE(F) conducts that assessment and is satisfied that compliance has been proved, it may recommend that the CAA grant a SAIL Mark to the Designer for that specific UAS configuration.
 - SAIL Mark is granted during the design phase, not as part of an OA application. But an OA Applicant may use a SAIL Mark as evidence of deemed compliance with some SORA requirements.
 - (c) The RAE(F) has assessed and verified that the design, construction and flying characteristics of the UAS comply with the applicable SORA requirements, and that the UAS is 'flightworthy' for the intended operation.

Terms of Approval 1.2

- (a) An Entity must comply with the Terms of Approval issued to it by the CAA and may only exercise the privileges under section 1.1 within the scope of its Terms of Approval.
- (b) An Entity must not exercise the privileges listed in section 1.1 for a UAS in relation to which it is the Designer

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(b) This prohibition is intended to avoid conflict of interest and ensure independent assessment of UAS flightworthiness.

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1.3 Validity

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- (a) An RAE(F) approval is valid for one year from the date of the approval. An RAE(F) approval may be extended, on application by an Entity or on the CAA's own initiative, if the CAA is satisfied that the Entity continues to comply with all the requirements of the RAE(F) scheme. An extended RAE(F) approval is valid for one year from the date of the extension.
- (b) The RAE(F) approval may be suspended or revoked at any time, including in but not limited to the following instances:
 - i. The organisation fails to demonstrate compliance with applicable regulations, requirements or any changes to the requirements, criteria or assessment standards that may subsequently be published by the CAA.
 - ii. The CAA is prevented from performing their duties by the organisation.
 - iii. There is evidence that the organisation cannot maintain satisfactory control of the activities under their RAE(F) approval.
 - iv. The organisation no longer meets the eligibility requirements for an RAE(F) approval.
 - v. The organisation surrenders their RAE(F) approval.
- (c) An Entity must not exercise the privileges in section 1.1 or hold itself out as an RAE(F) when its approval has expired, whether or not it has applied to renew that approval.
- (d) Upon surrender or revocation of an RAE(F) approval, an Entity must return to the CAA any RAE(F) approval that is in force and valid at the date of the surrender or revocation.

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- (a) The period of validity of an RAE(F) approval may be increased by the CAA per performance-based oversight (PBO) principles as the maturity of the organisation increases. More information on PBO can be found on the CAA website here.
- (c) The duration of validity of the RAE(F) approval is displayed on the approval certificate.

199 **1.4 Transferability**

- 200 An RAE(F) approval is not transferable, except as a result of a change in Entity ownership.
 - A change of ownership is considered significant and requires an application to the CAA as per section 2.7.

²⁰² Chapter 2 RAE(F) approval requirements

203 2.1 General approval requirements

- (a) An Entity must demonstrate to the CAA's satisfaction that it is able to comply with the requirements of this scheme on a continuing basis.
 - (b) An Entity must demonstrate to the CAA's satisfaction, based on the information submitted in its exposition and during ongoing oversight, that facilities, working conditions, equipment and tools, processes, number, and competence of personnel, general organisation and coordination are adequate to discharge the organisation's obligations under the requirements of this policy.
- (b) This includes the successful completion of any audits and inspections that may be required by the CAA as part of the application process.

2.2 Quality Management System

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- (a) An Entity must demonstrate to the CAA's satisfaction that it has established and is able to maintain on a continuing basis an adequate Quality Management System.
- (b) The Quality Management System must be relevant to the scope of activities of the organisation as an RAE-F.
- (c) The Quality Management System must enable the Entity:
 - i. To control and supervise the assessment tasks that it proposes to undertake as an RAE-F..
 - ii. To independently monitor the compliance with, and adequacy of, the documented procedures of the Quality Management System. This monitoring must include a feedback system to a person or a group of persons having the responsibility to ensure corrective actions.
- (d) An Entity must ensure that its quality assurance functions are independent from the functions they monitor, including as to lines of reporting, authority and access within the Entity, and that they are not dependent on the functions they monitor.

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(a) The CAA will verify on the basis of the exposition and by appropriate oversight that an Entity can fulfil the requirements relating to an adequate Quality Management System.

A Quality Management System is an organisational structure with responsibilities, procedures, processes and resources, which implements a management function to determine and enforce quality principles.

The Quality Management System should be documented in such a way that the documentation can be made easily available to personnel who need to use the material for performing their normal duties and to the CAA when performing its oversight functions. This means in particular that:

- Procedures, instructions, and data are available in writing and the updating process is clearly described.
- Relevant procedures are distributed to the staff in a controlled manner.
- Procedures which identify persons responsible for the prescribed actions are established.

The manager responsible for ensuring that the Quality Management System is implemented and maintained should be identified.

(b) Certain Quality Management System standards may contain sub-parts that are not applicable to RAE(F) activities; only those aspects which are applicable should be used.

Adequacy of procedures means that the Quality Management System, through the use of these procedures, is capable of meeting its objectives. To ensure this, the quality assurance function should include planned continuing and systematic evaluation or audits of factors that affect the quality of technical assessments and overall delivery of flightworthiness declaration and SAIL Mark.

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2.3 Organisation management

- (a) An Entity must nominate an accountable manager, to be accountable to the CAA.
- (b) The accountable manager must ensure that all tasks are performed to the required standards and that the Entity is continuously in compliance with the data and procedures identified in the exposition in 3.3.

- (c) Where a person or group of persons has been nominated to ensure the organisation complies with the requirements detailed in the exposition, they must be identified, together with the extent of their respective responsibilities. The nominated persons must act under the direct authority of the accountable manager.
- (d) Staff at all levels must be given appropriate authority to be able to discharge their allocated responsibilities, and there must be full and effective coordination within the organisation in respect to the tasks to be performed within the scope of this policy.
- (e) With regard to the staff authorised to sign the documents issued under the privileges of section 1.1:
 - i. The organisation maintains a record of the authorised staff, which must include the scope of their authorisation.
 - ii. The authorised staff must be provided with evidence of the scope of their authorisation.
- GM The requirements also apply to sub-contractors who participate in the RAE(F) activities.

2.4 Competence of staff

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- (a) The nominated persons who ensure that the organisation complies with the requirements detailed in the exposition must have the appropriate knowledge, background and experience to discharge their allocated responsibilities.
- (b) The staff authorised by the organisation to sign the documents issued under the privileges of section 1.1 must have the required knowledge, background (including other functions in the organisation) and experience appropriate to discharge their allocated responsibilities.
- (c) The assessment staff must meet the following requirements:
 - i. Sound technical and vocational training in the relevant subject area.
 - ii. Sound knowledge of SORA methodology and associated acceptable means of compliance and guidance material.
 - iii. Sound knowledge of methodologies to compile and present data to show compliance with technical requirements.
 - iv. The ability to interpret and assess technical information documents.
 - v. The ability to assess a design against technical standards.



- vi. The ability to administer the declarations, records and reports that demonstrate that the relevant assessments have been carried out and the conclusions of these assessments.
- Authorised and assessment staff should have experience in any or all of the following areas: manned aircraft development, UAS development, safety, manufacture, aircraft certification, aircraft maintenance, and associated industry standards.

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211 2.5 Impartiality of staff

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- (a) The staff must be free of any pressure that could affect their judgment or the outcome of their assessments.
- (b) The remuneration of the staff involved in the assessment activities must not depend on the number of assessments carried out or on the outcome of such assessments.
- These requirements are to ensure that the objectivity of the activities conducted under the RAE(F) approval is not called into question by the CAA.

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2.6 Training of staff

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- (a) All staff must receive sufficient training to perform their allocated tasks.
- (b) Training of staff must include the following aspects commensurate with the level of complexity:
 - i. Basic training received and standard attained.
 - ii. Specific training received and standard attained.
 - iii. Continued training received.
- (c) Training material and plans must be developed and provided to the staff, and an annual review performed to ensure they are kept up to the required standards due to changes in regulations and policies.
- (d) Training records must be kept and an annual review of the training needs of all staff must be performed to ensure that the staff is trained to the processes and procedures relevant to their allocated tasks.

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- (b) New staff may be trained by existing staff who are approved signatories. Training may take the form of:
 - Explanation of the processes involved.
 - Demonstration of the processes involved.
 - Allowing the trainee to carry out technical assessment under the supervision of the approved signatory, until the trainee becomes an authorised signatory.

Training may also include attendance to industry courses on manned aircraft or UAS design, safety, manufacture and industry standards.

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2.7 Changes to the organisation

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- (a) Upon issue of the RAE(F) approval, any change to the organisation that is significant to the assessment of compliance to SORA requirements, particularly changes to the quality system, must be approved by the CAA.
- (b) An application for a variation must be submitted to the CAA per 3.2 (d), and the organisation must demonstrate to the CAA before implementation of the change that it will continue to comply with the requirements of this policy after implementation.

GM

- (a) The following changes are considered significant and would require an approval by the CAA:
 - Change in organisation ownership.
 - Change of address.
 - Change in Accountable Manager.
 - Change in the scope of the RAE(F) approval.

The following changes would not typically be considered significant and would not require an approval by the CAA:

- Personnel amendments (excluding the Accountable Manager).
- Administrative updates to exposition and supporting documents.

²¹⁷ Chapter 3 RAE(F) application process

218 3.1 Eligibility

- R (a) Any na
 - (a) Any natural or legal person will be eligible as an organisation for an approval under the requirements of this policy.
 - (b) The Applicant must be at least 18 years of age.
 - (c) The RAE(F) approval is limited to persons or organisations whose primary place for conducting the RAE(F) activities defined in this policy is in the UK.
- (c) To enable the CAA audits, the facilities, personnel, processes, and other aspects of the organisation that are required to conduct the RAE(F) activities should be located in the UK.

220 3.2 Application

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- (a) Application for the approval as an RAE(F) must be made in a form and manner established by the CAA and include an outline of the terms of approval and associated privileges requested.
- (b) Initial application for approval as an RAE(F) must be made in writing to uavenquiries@caa.co.uk using Form SRG XXX⁴.
- (c) Renewal application for approval as an RAE(F) must be made in writing to uavenquiries@caa.co.uk using Form SRG XXX⁴, up to 90 days before the date of expiry of the current approval.
- (d) Variation application must be made in writing to uavenquiries@caa.co.uk using Form SRG XXX⁴.
- (e) The application must contain all documentation to satisfy the requirements in section 2 and section 3.
- (f) The Applicant must pay the required charges when applying.
- GM (a) The RAE(F) application is assessed by the CAA RPAS Sector Team in the following manner:

⁴ At the time of this consultation, these forms have not yet been developed.

- The application forms and relevant documents are examined for completeness and correctness – also known as a 'desktop assessment'.
- Once all documents have been assessed, initial feedback is provided electronically to the Applicant. This feedback may also contain an oversight report that will provide any findings and/or observations with a request to address these.
- When any initial findings or observations have been addressed satisfactorily and the desktop assessment has been completed, an on-site audit may be scheduled.
- Upon approval, an RAE(F) receives an approval.
- The Applicant is notified when an application is unsuccessful with associated feedback. Should the Applicant wish to apply again, a subsequent application will be presented as an initial application.
- (c) Applying for a renewal before the date of expiry of the current approval does not affect the period of validity of the current approval.
- (f) The application process will not begin until the necessary fees have been paid. The RAE(F) should refer to the CAA Scheme of Charges for the relevant application fees. Where the CAA requires additional hours to assess an application, the Applicant will be notified before any further charges are applied.

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3.3 Exposition

- (a) The Applicant must submit to the CAA an organisation exposition that contains the following minimum sections, which should be used as a template for the exposition document:
 - i. Compliance statement
 A statement signed by the accountable manager confirming that the exposition and any associated manuals that define the approved organisation's compliance with this policy will be complied with at all times.
 - ii. Scope of approval
 A description of the intended scope of the RAE(F) approval.
 - iii. Organisation
 - An organisational chart showing the chains of responsibility of the nominated personnel in accordance with requirement 2.3 R(a) and (c).
 - The title, name, duties, responsibilities, experience and competency of the nominated personnel in accordance with requirement 2.3 R(a) and (c), including matters on which they may deal directly with the CAA on behalf of the organisation.

- A list of the staff authorised by the organisation to sign the documents in accordance with requirement 2.3 R(e), including a description of their experience and competency.
- The procedures to maintain impartiality of the staff in accordance with section 2.5.
- A general description of personnel resources

iv. Facilities

A description of the facilities and locations that will be used to perform the RAE(F) tasks.

v. Change management

- The procedure for the notification of organisational changes to the CAA.
- The procedures for amending and distributing the exposition internally.

vi. Quality Management System

- A description of the quality system and associated processes and procedures in accordance with section 2.2.
- A description of internal assurance audit processes.

vii. Safety review

A description of the process for formal, periodic internal safety reviews. The process must include safety reviews as a result of reported occurrences.

- (b) The exposition and the documents to which it refers must be implemented and followed within the organisation.
- (c) The exposition must be amended as necessary to remain an up-to-date description of the organisation, and copies of any amendments must be supplied to the CAA.

3.4 Technical Procedures Manual (TPM)

- The RAE(F) must provide a Technical Procedures Manual which includes the following processes and procedures:
 - (a) Administration of an assessment to support an OA application and SAIL Mark.
 - (b) Review of the OA Applicant or Designer's compliance basis and approach.
 - (c) Verification of the OA Applicant or Designer's compliance to SORA requirements.
 - (d) Recurrent manufacturing auditing for SAIL V, VI per 5.5.

- (e) Data handling per 5.2.
- (f) Interfaces between parties per 5.3.
- (g) Delivery of the SAIL Mark per the SAIL Mark policy.
- (h) Declaration that the UAS is flightworthy per 5.1 and 5.6.
- The TPM may be presented to the CAA as a separate document or as part of the exposition submission. The TPM should include all document templates used as part of these processes and procedures.
 - (g) This should detail the information captured in the certificate and the means to deliver it to the Entity and the CAA.
 - (h) This should detail the flightworthiness report and the means to communicate the declaration to the Entity and the CAA.

²²⁶ Chapter 4 CAA oversight of the RAE(F)

²²⁷ 4.1 CAA oversight

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- (a) The RAE(F) must make arrangements to allow the CAA to undertake any oversight activities that are necessary to determine initial and continued compliance to the requirements of this policy.
- (b) The RAE(F) must allow the CAA to review any report, make any inspection and perform or witness any activities that is necessary to check the validity of the RAE(F)'s compliance to the requirements of this policy.
- (c) Upon receipt of an oversight report from the CAA, the RAE(F) must respond within the allocated timescale detailing the actions it intends to take to rectify any identified issues.
- (d) Upon receipt of a notification of a finding by the CAA, the holder of the RAE(F) approval must demonstrate corrective action to the satisfaction of the CAA within the allocated timescale.
- (e) If notified of a suspension or revocation, the RAE(F) approval holder must provide the CAA with written confirmation of receipt of the notice of suspension or revocation within two working days of receipt.

GM Audits

The CAA conduct a desktop audit annually when an RAE(F) has applied to renew its approval. In addition, an on-site audit is normally programmed to be carried out at regular intervals.

Depending on the complexity and output of the RAE(F), performance-based oversight principles dictate that the CAA's level of oversight is varied. This may mean more frequent audits or variations in scope and manpower employed to conduct the activity.

On-site audits are scheduled with the RAE(F), although the CAA reserve the right to conduct audits at 'no notice' if such action is considered necessary. Audits are conducted by the CAA RPAS Sector team and other specialist CAA personnel as required and should be carried out at one of the primary assessment sites to facilitate inspection of the facilities.

Any findings or observations are discussed during the audit and a timescale for their rectification is agreed.

An oversight report is distributed to the RAE(F) within 28 working days of completion of an audit. The RAE(F) is expected to respond within the allocated timescale detailing the actions it intends to take to rectify any identified issues. Further communication continues as considered necessary by the CAA until the oversight report and associated findings/observations are closed.

Findings and Observations

When objective evidence is found by the CAA during an audit or inspection that shows non-compliance with the applicable requirements, a finding is notified to the RAE(F) approval holder.

Findings are classified as follows:

- A level-one finding is any non-compliance with these requirements that could lead to uncontrolled non-compliances, and which could affect the safety of a UAS operation.
- A level-two finding is any non-compliance with these requirements that is not classified as level-one.

An observation may be raised where there is potential for future non-compliance if no action is taken, or where the CAA wishes to indicate an opportunity for safety improvement or indicate something that is not considered good practice.

Subsequent Actions

On receipt of a notification of a finding or an observation, the following actions are taken:

- In the case of a level-one finding, the holder of the RAE(F) approval demonstrates corrective action to the satisfaction of the CAA within a period of no more than 21 working days after written confirmation of the finding.
- In the case of a level-two finding, the corrective action period granted by the CAA is appropriate to the nature of the finding but is not normally more than six months. In certain circumstances and subject to the nature of the finding, the CAA may extend the six-month period subject to a satisfactory corrective action plan.
- In the case of an observation, corrective action is not obligatory, but an RAE(F) is expected to provide a sound reasoning as to why the observation is not being followed.

Suspensions and Revocations

In some cases, a level-one or level-two finding may result in a provisional, partial or full suspension of the RAE(F) approval, or a revocation.

If notified of a suspension or revocation, the RAE(F) approval holder provides the CAA with written confirmation of receipt of the notice of suspension or revocation within two working days of receipt.

- A provisional suspension means that an RAE(F)'s approval is suspended pending further investigation.
- A partial suspension means that only part of the RAE(F)'s approval is suspended pending corrective action.
- A full suspension means that the entire RAE(F)'s approval is suspended pending corrective action.

A revocation means that the organisation is no longer approved as an RAE(F) and may no longer exercise the privileges of an RAE(F) until a new application is made and an approval issued.

²²⁹ Chapter 5 Flightworthiness assessment for an OA

²³⁰ **5.1 Process**

- (a) An RAE(F) must confirm the provision of their services for the OA process and communicate it to both the OA Applicant and the CAA.
 - (b) If a UAS is SAIL Marked, an RAE(F) must confirm:
 - i. the validity of the SAIL Mark certificate;
 - ii. the SORA requirements that are deemed to be satisfied by virtue of the SAIL Mark certificate;
 - iii. whether the OA Applicant has made any changes to the UAS that amount to a modification as defined by the UAS modification policy (UK SORA).
 - (c) If an RAE(F) determines that a modification was made by the OA Applicant to a SAIL-Marked UAS, the RAE(F) must follow the process in 6.2.
 - (d) An RAE(F) must review and agree the proposed compliance basis and compliance approach with the OA Applicant for the SORA requirements identified in 5.4.
 - (e) An RAE(F) must assess and validate the OA Applicant's compliance to the SORA requirements identified in 5.4.
 - (f) Where an RAE(F) concludes as a result of its assessment that a UAS complies with the applicable UK SORA requirements, it must deliver a declaration of compliance to the CAA via a flightworthiness report per 5.6, and must communicate it to the OA Applicant via a signed electronic letter.
 - (g) Where an RAE(F) concludes as a result of its assessment that a UAS does not comply with the applicable UK SORA requirements, it must deliver a declaration of non-compliance to the OA Applicant and the CAA via a signed electronic letter detailing the reasons for its conclusions.
- GM (a) The OA Applicant selects and applies to an RAE(F) of their choice. The RAE(F) should communicate their acceptance of the application back to the OA Applicant and to the CAA through a signed electronic letter.
 - (b) The SORA requirements satisfied through the SAIL Mark are indicated on the certificate.
 - (d) The OA Applicant will need to provide their compliance basis and approach to the RAE(F), which includes identification of the SORA requirements complied

The RAE(F) reviews the proposed compliance basis and approach for correctness, taking into account the impact of any modification made to the UAS, such that corrections can be made early in the process before compliance data starts being developed.

- (e) Once the compliance basis and approach have been agreed, the OA Applicant provides their compliance evidence data and further populates their compliance matrix, which is assessed and verified by the RAE(F).
- (f) The SORA requirements are related to the design, construction, and flying characteristics of the UAS, therefore compliance to these requirements is interpreted as the UAS being 'flightworthy' for the intended operation.

5.2 Data handling and retention

- R (a) The RAE(F) must access the OA Applicant's data via the CAA online platform.
 - (b) The RAE(F) must provide secure storage for the OA Applicant's data and for their own data to ensure that no damage to, or tampering of, records can occur.
 - (c) The RAE(F) must not share the OA Applicant's data with any third party other than the CAA, unless they have been instructed to do so by either the CAA or the OA Applicant.
 - (d) The RAE(F) must keep the OA Applicant's data that they have on record in their database for 3 months after the OA has been granted and must delete all records of the OA Applicant's data from their database after that.
 - (e) The RAE(F) must submit their flightworthiness report to the CAA...
 - (f) The RAE(F) must keep a record of their assessment data for as long as the assessed UAS remains in service, which includes:
 - i. Assessment report of Operator manual.
 - ii. Assessment report of ground risk mitigation means.
 - iii. Assessment report of air risk mitigation means.
 - iv. Assessment report of compliance to Operational Safety Objectives (OSO).
 - v. Assessment report of compliance to containment requirements.
 - vi. Test witnessing reports.

- vii. Flightworthiness report.
- viii. Corrective actions by the OA Applicant to achieve compliance to SORA requirements.
- (g) Data records listed in (f) must include details of any standards used by the RAE(F) to conduct the assessments.
- (h) The RAE(F) must provide access to, or copies of any data specified in this section to the CAA upon request, within the notified timescale.
- (i) An Entity whose RAE(F) approval is surrendered or revoked must provide to the CAA as soon as reasonably practicable the data specified in (f) in relation to every OA and SAIL Mark assessment performed by the Entity up to the date of the surrender or revocation of the RAE(F) approval].
- GM
- (a) The OA Applicant uploads their compliance data to the CAA online platform accessible to the RAE(F). Access to the OA Applicant's data is limited to the OA Applicant, the selected RAE(F) and the CAA. Privilege-based access ensures that intellectual property data is only accessed on a need-to-know basis and controlled.
- (b) The RAE(F) may create copies of the OA Applicant's data in their own database for convenience, in which case they should ensure that the data is always kept secured and only the latest version of the documents is being used.
- (c) The OA Applicant may instruct the RAE(F) to liaise with a third party contracted by the OA Applicant for the assessment of certain documents.

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5.3 Interfaces between parties

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- (a) The RAE(F) must communicate with the OA Applicant as and when necessary, as set out within the RAE(F) procedures.
- The OA Applicant should not normally need to communicate with the CAA on matters that involve the RAE(F), other than for the purpose of 5.1 (a), (f) and (g).
 - (a) The RAE(F) should communicate with the OA Applicant as required to progress the compliance assessment; this may be done via e-mails, phone, video calls, face-to-face meetings, etc.
 - The RAE(F) is expected to possess the required means and knowledge to assess the OA Applicant's compliance without intervention from the CAA. The



RAE(F) would therefore not normally communicate with the CAA about its assessment of a UAS, except to notify the CAA that the UAS is flightworthy.

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5.4 SORA requirements to be assessed

The RAE(F) must assess the OA Applicant's compliance to the following SORA requirements:

SORA Annex B:

- (a) M2 Criterion 1 (if applicable).
- (b) M2 Criterion 2 (if applicable).

SORA Annex D:

(c) Tactical mitigation (if applicable): TMPR using BVLOS.

SORA Annex E:

- (d) OSO 02.
- (e) OSO 03 Criterion 1.
- (f) OSO 04.
- (g) OSO 05.
- (h) OSO 06.
- (i) OSO 07 Criterion 1.
- (k) OSO 16 Criterion 3.
- (I) OSO 18.
- (m) OSO 19.
- (n) OSO 20.
- (o) OSO 23.
- (p) OSO 24
- (q) Containment requirements.

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The RAE(F) may require further updates to the existing compliance evidence, or the development of new evidence if they determine that the evidence provided is insufficient to demonstrate compliance to the SORA requirements.



The RAE(F) may elect to witness any test.

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5.5 Recurrent manufacturing auditing for SAIL V, VI

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Where a high level of assurance is required for OSO 02, the RAE(F) must inform the CAA that this is the case, so that recurring audit plan with the OA Applicant can be established, to verify that the manufacturing procedures satisfy the SORA requirements and verifies that the UAS conforms to its design and specification on an on-going basis.

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5.6 Flightworthiness report

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- (a) The flightworthiness report must include:
 - i. The OA application number.
 - ii. A declaration by the RAE(F) that the UAS design meets the relevant SORA requirements.
 - iii. The list of SORA requirements complied with.
 - iv. A summary of the assessment's outcome of the OA Applicant's data, with references to separate assessment reports as applicable.
 - v. Corrective actions and updates by the OA Applicant to achieve compliance.
- (b) The flightworthiness report and all documents referred to in it are uniquely identified and signed at the appropriate authority level within the organisation.
- (c) SRG Form XXX must be used as the template to draft the flightworthiness report.⁵

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(a) Examples of separate assessment reports are identified in section 5.2 (f). These reports are not required to be delivered with the flightworthiness report to the CAA.

⁵ At the time of publishing for consultation, this has not been drafted. This will be created and updated at the time of final publication.

²⁴² Chapter 6 SAIL Mark Policy

²⁴³ 6.1 Application of the SAIL Mark Policy

- Where an RAE(F) is carrying out activities that fall within the SAIL Mark policy (CAP 722K), it must comply with the requirements of that policy in so far as they relate to the roles and responsibilities of an RAE(F).
- The SAIL Mark policy (CAP 722K) sets out requirements that apply to the Designer applying for a SAIL Mark as well as requirements that apply to the RAE(F) assessing the UAS in accordance with that policy. The conditions an entity must comply with to maintain approval as an RAE(F) include the RAE(F) requirements set out in the SAIL Mark policy.

6.2 Modification of a SAIL Marked UAS by the OA Applicant

- (a) An RAE(F) must notify the CAA of any change it has determined to be a UAS modification and must treat the modified UAS as not having a SAIL Mark certificate.
 - (b) An RAE(F) must consider what if any impact the modification has on the OA Applicant's proposed compliance basis and agree a revised compliance basis and approach with the OA Applicant that ensures the UAS, as modified, complies with the applicable UK SORA requirements as identified in 5.4.
 - (c) Where an RAE(F) has agreed a revised compliance basis and approach, it must continue to follow the process in 5.1 from (e) onwards.
- (c) A modification to a SAIL Marked UAS may invalidate its compliance with UK SORA requirements as confirmed by the Designer through the SAIL Mark certificate process. The OA Applicant will have previously considered this in their compliance basis and approach provided to the RAE(F). In such case, the SAIL Mark can no longer be relied on as evidence of compliance with the UK SORA requirements, and the OA Applicant will be required to provide new compliance evidence.

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247 Chapter 7 AMC and GM to Article 11 UK Reg (EU) 2019/947 248 249 This section contains proposed additional AMC and GM to Article 11, which will be 250 inserted alongside the UK SORA (at the time of publishing, under separate consultation). 251 252 7.1 AMC - Article 11 253 The UK SORA methodology is one acceptable means of compliance with Article 11 of 254 Assimilated Regulation (EU) 2019/947. This may include describing the technical features 255 of the UAS by relying on a UAS configuration that has been granted a SAIL mark 256 certificate by the CAA at the design stage, or by reference to the UK SORA requirements 257 in so far as they apply to a specific UAS. 258 An operational authorisation is granted by the CAA on the basis of its evaluation of the OA 259 Applicant's risk assessment. 260 261 7.2 **GM** - Article 11 262 An RAE(F) approved by the CAA in accordance with the RAE(F) policy (CAP 722J) may 263 carry out the detailed assessment of a UAS against UK SORA requirements for the

- 264 purpose of assisting the CAA in considering whether to issue SAIL mark certificate or
- 265 whether the technical features of a specific UAS are consistent with the UK SORA
- requirements that apply in relation to a given planned operation.
- The process and criteria for becoming an RAE(F) are set out in the RAE(F) policy.
- ²⁶⁹ 7.3 GM Article 11 (2)(d)
- 270 An RAE(F) approved by the CAA in accordance with the RAE(F) policy (CAP 722J) may
- 271 assess a UAS configuration against the criteria in the SAIL Mark policy (CAP 722K) for the
- 272 purpose of assisting the CAA to decide whether to issue a SAIL Mark certificate in
- 273 accordance with that policy.
- 274 The process and criteria for becoming an approved RAE(F) are set out in the RAE(F)
- 275 policy.