

Unmanned Aircraft Systems

Specific Category Operations - Pre-defined Risk Assessment Requirements, Guidance & Policy

CAP 722H

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First edition of CAP 722H - December 2022

Second Edition of CAP 722H - August 2023

The latest version of this document is available in electronic format at www.caa.co.uk/CAP722H

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Revision history

First edition

December 2022

This is the first edition of this document. Content has been removed from CAP 722, and updated, for inclusion within this stand-alone document.

Second edition

August 2023

This second edition of CAP 722H is to reflect the update to the risk assessment methodology contained within CAP 722A, provide assurance explanations to the identified mitigations and administrative amendments.

Foreword

Purpose

The purpose of this document is to describe the concept of a pre-defined risk assessment, and to set out each PDRA available in the UK to UAS Operators for use in the Specific category only. This subject was originally covered in CAP 722 Annex B, and has now been moved to this document.

This document lays out the conditions and limitations for any PDRA developed and published by the CAA.

Scope

This document applies only to Specific Category Operations.

Note 1: *PDRAs published by JARUS, EASA or any other body are currently not recognised within the UK.*

Note 2: Further PDRAs are under development and will be published in future revisions of CAP 722H.

Availability

The latest version of CAP 722H can be located within the publications section of the CAA website.

Updated information can be found within the UAS webpages latest updates section of the CAA websites.

The CAA also provides a more general aviation update service via the SkyWise system, which can be filtered by subject matter for relevant UAS-related information.

Structure

Chapter 1 describes the policy and general requirements that relate to PDRAs;

Chapter 2 describes individual PDRAs, published by the CAA;

Chapter 3 provides supporting information to the PDRAs described in Chapter 2.

CAP 722H is part of the CAP 722 suite of UAS guidance and policy and can be found on the CAA website .

Editorial practices

In this document the following editorial practices apply:

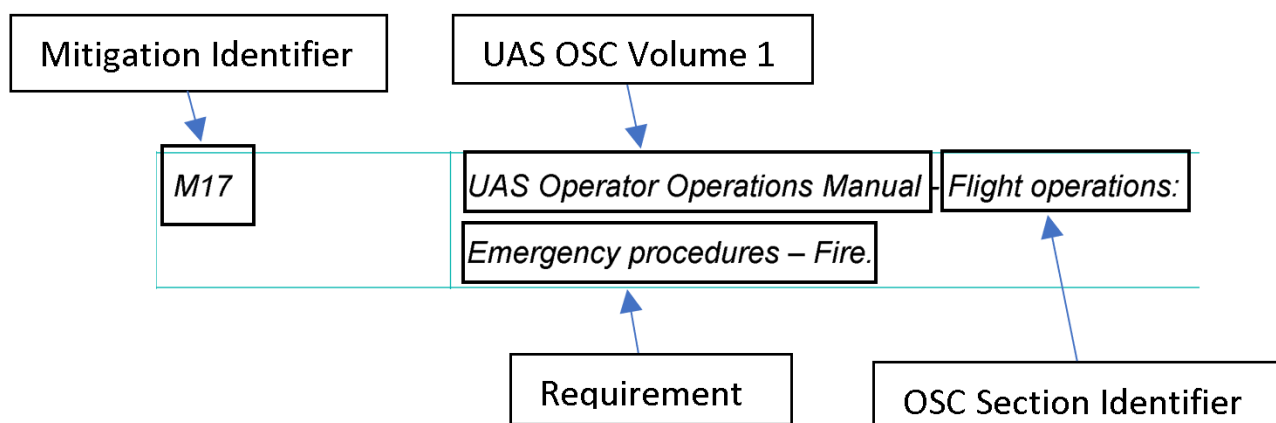
‘Must’ / ‘must not’ or ‘shall’ indicates a mandatory requirement.

‘Should’ indicates a strong obligation (in other words, a person would need to provide clear justification for not complying with the recommendation).

‘May’ indicates discretion.

‘Describe’ / ‘explain’ indicates the provision of logical argument and any available evidence that justifies a situation, choice, or action.

The information contained within Chapter 3 (mitigations) is displayed in the following format:



Not every mitigation will contain a link to the UAS OSC Operations manual and may only contain a requirement.

Requirements are set out within blue boxes within each chapter.

Regulatory references, which support the requirement listed above, are included below in italics.

Point of contact

Unless otherwise stated, all enquiries relating to CAP 722H must be made to:

GA and RPAS Unit
CAA
Safety and Airspace Regulation Group
Aviation House
Beehive Ring Road
Crawley
West Sussex
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E-mail: uavenquiries@caa.co.uk

Abbreviations and glossary of terms

The definitive list of abbreviations and terms / definitions that are relevant to UAS operations within the UK and for the whole CAP 722 series of documents are centralised within CAP 722D UAS Definitions and Glossary.

Chapter 1| GENERAL INTRODUCTION

1.1 Regulatory Requirements

The risk associated with any UAS operation carried out within the specific category **must** be evaluated by the CAA, by means of a suitable risk assessment.

Article 12(1) of Implementing Regulation (EU) 2019/947 as retained (and amended in UK domestic law) Under the European Union (Withdrawal) Act 2018

The CAA **must** be satisfied that the level of risk has been mitigated to an acceptable level, before an Operational Authorisation may be issued.

Article 12(2) of UK Regulation (EU) 2019/947

PDRAs are used to satisfy the regulatory requirements above and facilitate certain, repeatable low risk, operations in the Specific category. This reduces the volume of evidence required, and administrative burden to both the operator and the CAA.

It is the UAS Operator's responsibility to ensure safe conduct of every flight. This includes flights conducted under a PDRA. Operators still own and manage the associated risk and must carry out any dynamic risk assessment required, as per their operational procedures within Volume 1 of their operations manual. It is the operator's responsibility to ensure that all risks identified are tolerable and 'as low as reasonably practicable' (ALARP) prior to conducting any operations under a PDRA.

The CAA will carry out the static risk assessment for operations covered under a PDRA. It will then publish the operation and its associated mitigations as a set of conditions and limitations in CAP 722H.

CAA risk assessments are based on the heat map methodology described within CAP 722A. This is the current acceptable method to ensure compliance with UK Regulation (EU) 2019/947 Article 11: *Rules for conducting an operational risk assessment*. This methodology is used to assess the overall risk picture of the type of operation being performed.

The operator is responsible for managing and mitigating any additional risks that are identified as part of the operation.

This process then creates a set of standard operating conditions and limitations as well as any technical requirements that will become part of the operational authorisation. The operation must be conducted within the conditions and limitations of the operational authorisation at all times.

Following a successful application, this will result in a standardised operational authorisation being issued by the CAA to the operator. No deviation or variation is possible

to the conditions or limitations of a PDRA. Operations outside these limitations will require a separate application to the CAA, following the requirements and guidance set out in CAP 722A.

Regulatory requirements set out within the UK Regulation (EU) 2019/947, or within any other applicable regulation, must also be complied with in addition to those conditions and limitations set out within the operational authorisation that relate specifically to a PDRA.

1.2 Application

Application for a PDRA authorisation **must** be made through the Specific Category application form, [here](#).

Refer to CAP 722 Chapter 2 for guidance

The documentation that is required is set out within individual PDRAs.

Applications made for a PDRA operational authorisation are subject to a separate fee as set out in the CAA Scheme of Charges.

1.3 Management of Changes to PDRAs

The CAA may make updates to the requirements, conditions, and limitations of a PDRA, at any time, by updating CAP 722H. When a PDRA is updated, any operator who holds a current operational authorisation based on an old PDRA may continue to operate to the conditions and limitations within the operational authorisation. This will be updated to reflect the new PDRA upon renewal.

If the CAA issues any Safety Notice or Directive, it is the operator's responsibility to implement any changes necessary to their operation, procedures or aircraft prior to recommencing operations.

Note:

Operators are responsible for the safe conduct of any flight. It is the applicant's responsibility to monitor CAP 722H via the CAA website for any changes that may impact the conditions and limitations of their operational authorisation and to make any changes to their operations as required for renewal of their operational authorisation.

Chapter 2 | PRE-DEFINED RISK ASSESSMENTS

This chapter sets out each PDRA produced by the CAA in the following pages. Where necessary, supporting information can be found in Chapter 3 for individual PDRAs.

Chapter 2 Contents

PDRA Number	Description
UKPDRA01	VLOS Operations within 150 metres of any Residential, Commercial, Industrial or Recreational Areas for UAS with a Maximum Take-Off Mass of less than 25kg

Table 1- Summary of PDRAs

2.1 UKPDRA01



PRE-DEFINED RISK ASSESSMENT – UKPDRA01

VLOS Operations within 150 metres of any Residential, Commercial, Industrial or Recreational Areas for UAS with a Maximum Take-Off Mass of less than 25kg

Summary

This PDRA is designed to enable VLOS operations with UAS in areas that are likely to be more congested than the areas where subcategory A3 operations are permitted.

Operational Conditions and Limitations

UKPDRA01 is subject to the following operational conditions:

Section of the OA	Operational and Technical Conditions/Limitations
3.2 Model	Any (rotary wing and/or fixed wing) Unmanned Aircraft with an MTOM /flying weight of less than 25kg .
4.2 Operating times/periods	24 hrs. Night operations must be carried out in accordance with the procedures in the OM.
4.4 Airspace	a) Flights must not be conducted within the Flight Restriction Zone (FRZ) of a protected aerodrome, or within any Restricted, Prohibited, or Danger Area, unless the appropriate clearance or permission to enter has been obtained. b) Remote Pilots must ensure ANSP notification is completed in accordance with the procedures in the OM.
4.5 Operating heights/altitudes/levels	a) The unmanned aircraft must be maintained within 120 metres (400ft) from the closest point of the surface of the earth. b) Obstacles taller than 105m may be overflown by a maximum of 15m under the following conditions: <ol style="list-style-type: none"> The person in charge of the obstacle must have requested this; and, The unmanned aircraft must not be flown more than 50m horizontally from the obstruction.

<p>4.6 Maximum operating range</p>	<p>a) Flights must be conducted within VLOS as per the definition given in UK Regulation (EU) No. 2019/947, Article 2(7) and must not exceed 500m from the Remote Pilot.</p> <p>b) When operating within VLOS as defined in UK Regulation (EU) 2019/947, Article 2(7), the Remote Pilot may be assisted by a competent observer who must be co-located with the Remote Pilot and able to communicate with them clearly and effectively. If present, the observer must maintain VLOS as per the definition given in UK Regulation (EU) 2019/947, Article 2(7) at all times.</p> <p>c) In order to remain within VLOS, as defined in UK Regulation (EU) 2019/947, Article 2(7), the Remote Pilot may only change location during the flight, if still able to maintain control of the UA at all times, and maintain situational awareness and orientation, as set out in the VLOS definition. This must be described within the operations manual procedures, if required.</p>
<p>4.7 Separation from uninvolved persons</p>	<p>a) Flights must not be carried out within 50m of uninvolved persons, except during take-off and landing, where this separation may be reduced to 30m.</p> <p>b) Any overflight of uninvolved people must be kept to a minimum.</p> <p>c) Flights must not be carried out within 50m horizontal separation of assemblies of people. Any overflight of assemblies of people must not be conducted.</p> <p>i. Lone Remote Pilots must have an appropriately set maximum allowed distance from launch/pilot and an appropriately set minimum Return To Home (RTH) battery level.</p> <p>d) Horizontal separation between the Unmanned Aircraft and assemblies of people must not be less than the height of the Unmanned Aircraft (i.e., the 1:1 rule).</p>
<p>4.8 Security of loads/equipment</p>	<p>a) The remote pilot must ensure that any load carried by, or equipment on, the unmanned aircraft is properly secured and that the aircraft is in a safe condition for the specific flight.</p> <p>b) Articles must not be dropped.</p> <p>c) Dangerous Goods must not be carried.</p>

4.9 Remote pilot requirements	a) Remote Pilots must : <ul style="list-style-type: none">i. Be employed or contracted by the UAS Operator,ii. Hold a valid UK Flyer ID,iii. Hold a valid GVC or, until the 1st of January 2024, hold an NQE 'full recommendation' obtained prior to the 31st of December 2020,iv. Follow the requirements of UK Regulation (EU) No 2019/947, point UAS.SPEC.060, andv. Be qualified as per the requirements of the OM.
4.10 UAS operator requirements	a) The UAS Operator must : <ul style="list-style-type: none">i. Comply with the responsibilities set out in UK Regulation (EU) No. 2019/947, point UAS.SPEC.050,ii. Maintain records of each flight made under the Operational Authorisation, andiii. Make such records available to the Civil Aviation Authority on request as per UK Regulation (EU) No. 2019/947, point UAS.SPEC.090.
4.11 Occurrence reporting requirements	a) Any occurrences that take place while operating under this authorisation must be reported in accordance with UK Regulation (EU) No 376/2014 and the requirements set out in CAP 722 section 2.7. b) Any accidents that take place while operating under this authorisation must be reported in accordance with UK Regulation (EU) No. 996/2010 to the UK AAIB.
4.12 Insurance	Insurance cover meeting the requirements of UK Regulation (EU) No. 785/2004 must be held.

4.13 Relevant/Other comments	<p>a) The Unmanned Aircraft must be equipped with a mechanism that will cause it to land in the event of a disruption to, or a failure of, any of its control systems, including the C2 Link.</p> <p>b) The Remote Pilot must ensure that this mechanism is in working order before any flight is commenced.</p> <p>c) The UAS Operator must ensure that the radio spectrum used for the C2 Link and for any payload communications complies with the relevant Ofcom requirements and that any licences required for its operation have been obtained.</p> <p>d) The UAS Operator must ensure high energy devices are appropriately stored and transported.</p> <p>e) The UAS Operator ID listed at section 2.1 must be displayed on every aircraft flown under an Operational Authorisation.</p> <p>f) Flights may be conducted within 150m of any Residential, Commercial, Industrial, and/or Recreational Areas.</p> <p>g) The Remote Pilot must not be operating a moving vehicle whilst operating the Unmanned Aircraft. If the Remote Pilot operates the Unmanned Aircraft from a moving vehicle as a passenger, the speed and stability of the vehicle must be sufficient for the Remote Pilot to maintain VLOS and control of the Unmanned Aircraft at all times.</p>
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DOCUMENTS TO BE INCLUDED IN THE APPLICATION

- Operations Manual, including technical information described in section 2.2 below.
- Copy of GVC for all remote pilots intending to fly under the operational authorisation.
- Copy of any supporting UAS Operator Flight Records. Generally, only for renewal applications.

2.2 PDRA01- Technical Characteristics of the System

Although PDRA01 only requires volume 1 of the Operations manual to be produced and submitted, any applicant for a Specific category authorisation **must** include certain technical information on the UAS, within their application. This form has been produced to meet this requirement, without the need for a full volume 2 to be produced. This can be incorporated as an Annex within Volume 1

Article 11(2)(d) of the UK Regulation (EU) 2019/947

Explain in detail the performance and technical characteristics (design flight envelope) of the unmanned aircraft using the table below. If applicants use more than one type of UAS for this PDRA, then this process must be completed for all platform types to be used.

Guidance Note: *This information could be extracted from the data sheet supplied by the manufacturer of the UAS to complete this requirement. Only fill in what is relevant and provided.*

Mass	Empty Mass	(Unit to be used Kg)
	Maximum Take-Off Mass (MTOM)	(This includes payloads and fuel)
Dimensions for Fixed-Wing	Wingspan	
	Fuselage Length	
	Fuselage Diameter	
Dimensions for Rotorcraft / Multirotor	Length of aircraft body	
	Width of aircraft body	
	Height of aircraft body	
	Propeller Dimensions	
	Propeller Configuration	
Centre of Gravity (CG)		(if applicable)

Flight Duration / Endurance	
Maximum Range	
Maximum Operating Height (Service Ceiling)	
Maximum Airspeed	
Environmental / Weather Limitations	
Any other relevant information	

Fuel Type	
Status Indicators / Alert Messages	
Hazardous Substances	(if applicable)
Any other relevant information	

Batteries	Quantity	
	Type	
	Arrangement	
Electrical Loads		
Any other relevant information		

Engines	Type	
	Quantity	
	Propeller Type	
Any other relevant information		

Sensors (These are sensors that assist in the safe flight of the UA, and not the payload)	Type	
	Quantity	
Backup Means of Navigation and Guidance		(if fitted)
Automatic Flight Control Functions		(If fitted)
Geo-awareness Functions		(If fitted)
Any other relevant information		

C2 Link	Range	
Transceivers / Modems	Power Levels	
Operating Frequencies Used		
Third Party Link Service Provider		(If applicable)
Data Rates		
Latencies		
Any other relevant information		

Chapter 3 | SUPPORTING INFORMATION

3.1 PDRA01 Risk Assessment

Risk Assessment Assumptions:

- *Most realistic worst-case scenario used for severity scores using the highest mass UA.*
- *Initial likelihood scores are scored without any mitigations being in place.*
- *Risk assessment likelihood values are aggregated across the industry per annum and not on a per flight basis.*
- *It would be disproportionate to list all possible failures.*

Unique No	Identified Hazard	Unmitigated Failures	Consequence	Initial Safety Risk Level (Severity, Likelihood)	Mitigations	Tolerable Y/N	ALARP Y/N	Final Safety Risk Level (Severity, Likelihood)
1a	Loss of Control in flight (due to RPAS technical malfunction)	<u>Failure mode:</u> Airframe failure <u>Failures:</u> Chassis failure Fixings failure	Mid Air Collision	Review (5,1)	M1, M4, M5, M7, M10, M11 M12, M13, M14, M15, M19, M20, M22, M24, M26, M27, M28, M29, M55	Y	Y	Review (5,1)
1b			Collision with Uninvolved Person	Unacceptable (5,3)	M1, M4, M5, M8, M11 M12, M13, M14, M15, M16, M17, M19, M20, M22, M24, M25, M26, M27, M28, M29, M55	Y	Y	Review (5,2)
1c			Collision with Assembly of people	Unacceptable (5,3)	M1, M4, M5, M8, M9, M11 M12, M13, M14, M15, M17, M19, M20, M22, M23, M24, M26, M27, M28, M29, M55	Y	Y	Review (5,1)

Unique No	Identified Hazard	Unmitigated Failures	Consequence	Initial Safety Risk Level (Severity, Likelihood)	Mitigations	Tolerable Y/N	ALARP Y/N	Final Risk Level (Severity, Likelihood)
1d	Loss of Control in flight (due to RPAS technical malfunction)	<u>Failure mode:</u> Avionics failure	Mid Air Collision	Unacceptable (5,3)	M1, M4, M5, M7, M10, M11 M12, M13, M14, M18, M19, M20, M22, M26, M27, M29, M55	Y	Y	Review (5,2)
1e		<u>Failures:</u> GNSS failure IMU Failure Flight Control System Failure Software expected result failure Other component failure	Collision with Uninvolved person	Unacceptable (5,3)	M1, M4, M5, M8, M11 M12, M13, M14, M15, M16, M17, M19, M20, M22, M24, M25, M26, M27, M29, M55	Y	Y	Review (5,2)
1f			Collision with Assembly of people	Unacceptable (5,3)	M1, M4, M5, M9, M11 M12, M13, M14, M15, M17, M19, M20, M22, M23, M24, M26, M27, M29, M55	Y	Y	Review (5,1)

Unique No	Identified Hazard	Unmitigated Failures	Consequence	Initial Safety Risk Level (Severity, Likelihood)	Mitigations	Tolerable Y/N	ALARP Y/N	Final Risk Level (Severity, Likelihood)
1g	Loss of Control in flight (due to RPAS technical malfunction)	<u>Failure mode:</u> Propulsion failure	Mid Air Collision	Review (5,1)	M1, M4, M5, M7, M10, M11 M12, M13, M14, M15, M18, M19, M20, M22, M24, M26, M27, M28, M29, M55	Y	Y	Review (5,1)
1h		<u>Failures:</u> Motor failure Propeller Failure	Collision with Uninvolved person	Unacceptable (5,4)	M1, M4, M5, M8, M10, M11 M12, M13, M14, M15, M16, M17, M19, M20, M21, M22, M24, M25, M26, M27, M28, M29, M55	Y	Y	Review (5,2)
		Battery Failure ESC Failure Power Distribution Failure						
1i			Collision with Assembly of people	Unacceptable (5,4)	M1, M4, M5, M9, M11 M12, M13, M14, M15, M17, M19, M20, M21, M22, M23, M24, M26, M27, M28, M29, M55	Y	Y	Review (5,1)

Unique No	Identified Hazard	Unmitigated Failures	Consequence	Initial Safety Risk Level (Severity, Likelihood)	Mitigations	Tolerable Y/N	ALARP Y/N	Final Risk Level (Severity, Likelihood)
1j	Loss of Control in flight (due to RPAS technical malfunction)	<u>Failure mode:</u> Command Unit (CU) failure <u>Failures:</u> CU power failure Other component failure	Mid Air Collision	Review (5,2)	M1, M5, M7, M11, M10 M12, M13, M14, M18, M19, M20, M22, M24, M26, M27, M29, M55	Y	Y	Review (5,2)
1k			Collision with Uninvolved person	Review (5,2)	M1, M5, M8, M11 M12, M13, M14, M19, M20, M22, M24, M25, M26, M27, M29, M55	Y	Y	Review (5,2)
1l			Collision with Assembly of people	Review (5,2)	M1, M5, M9, M11 M12, M13, M14, M15, M17, M19, M20, M22, M23, M24, M26, M27, M29, M55	Y	Y	Review (5,1)

Unique No	Identified Hazard	Unmitigated Failures	Consequence	Initial Safety Risk Level (Severity, Likelihood)	Mitigations	Tolerable Y/N	ALARP Y/N	Final Risk Level (Severity, Likelihood)
2a	Loss of Control in flight (due to Degradation of Pilot/ Remote Crew Performance)	<u>Failure mode:</u> Pilot Incapacitation <u>Failures:</u> Fatigue ill-health Intoxication	Mid Air Collision	Unacceptable (5,3)	M2, M6, M7, M10, M53 M12, M18, M20, M22, M26, M30, M31, M32, M33, M34	Y	Y	Review (5,1)
2b			Collision with Uninvolved person	Unacceptable (5,3)	M2, M6, M8, M53 M12, M20, M22, M26, M30, M31, M32, M33, M34	Y	Y	Review (5,1)
2c			Collision with Assembly of people	Unacceptable (5,3)	M2, M6, M9, M53 M12, M20, M22, M23, M26, M30, M31, M32, M33, M34	Y	Y	Review (5,1)

Unique No	Identified Hazard	Unmitigated Failures	Consequence	Initial Safety Risk Level (Severity, Likelihood)	Mitigations	Tolerable Y/N	ALARP Y/N	Final Risk Level (Severity, Likelihood)
2d	Loss of Control in flight (due to Degradation of Pilot/ Remote Crew Performance)	<u>Failure mode:</u> Loss of situational Awareness <u>Failures:</u> Distractions Workplace Stress Mental Capacity Overload Ineffective Communications	Mid Air Collision	Unacceptable (5,4)	M2, M4, M6, M7, M10, M53 M12, M20, M22, M31, M32, M34, M36, M37, M55	Y	Y	Review (5,2)
2e			Collision with Uninvolved person	Unacceptable (5,4)	M2, M4, M6, M8, M53 M12, M20, M22, M31, M32, M34, M36, M37, M43, M50, M52, M55	Y	Y	Review (5,2)
2f			Collision with Assembly of people	Unacceptable (5,4)	M2, M4, M6, M9, M53 M12, M20, M22, M23, M31, M32, M34, M36, M37, M43, M50, M52, M55	Y	Y	Review (5,1)

Unique No	Identified Hazard	Unmitigated Failures	Consequence	Initial Safety Risk Level (Severity, Likelihood)	Mitigations	Tolerable Y/N	ALARP Y/N	Final Risk Level (Severity, Likelihood)
2g	Loss of Control in flight (due to Degradation of Pilot/ Remote Crew Performance)	<u>Failure modes:</u> C2 link degradation GNSS degradation UAS environmental limitation exceedance <u>Failure:</u> Incorrect assessment of the Operational Volume	Mid Air Collision	Unacceptable (5,4)	M3, M4, M5, M6, M7, M10 M12, M18, M20, M22, M24, M26, M27, M34, M35, M37, M38, M39, M40, M41, M42, M43, M44, M45, M46, M47, M48, M51, M55	Y	Y	Review (5,2)
2h			Collision with Uninvolved person	Unacceptable (5,4)	M3, M4, M5, M6, M8 M12, M16, M20, M22, M24, M26, M27, M34, M35, M37, M38, M39, M40, M41, M42, M43, M44, M45, M50, M51, M52, M55	Y	Y	Review (5,2)
2i			Collision with Assembly of people	Unacceptable (5,4)	M3, M4, M5, M6, M9 M12, M20, M22, M23, M24, M26, M27, M34, M35, M37, M38, M39, M40, M41, M43, M44, M45, M50, M51, M52, M55	Y	Y	Review (5,1)

Unique No	Identified Hazard	Unmitigated Failures	Consequence	Initial Safety Risk Level (Severity, Likelihood)	Mitigations	Tolerable Y/N	ALARP Y/N	Final Risk Level (Severity, Likelihood)
3a	Loss of airborne separation (due to airspace incursion)	<u>Failure mode:</u> Failure to deconflict Operational Volume (airspace) <u>Failures:</u> Ineffective airspace monitoring (in real-time) Loss of VLOS	Mid Air Collision	Unacceptable (5,4)	M3, M4, M4, M6, M7, M10, M54 M12, M14, M20, M22, M38, M46, M47, M48, M49, M55	Y	Y	Review (5,2)
3b			Collision with Uninvolved person	Review (5,2)	Same as above mid-air collision: Mitigations to prevent mid-air collision will inherently mitigate resulting collisions with persons on the ground.	Y	Y	Review (5,2)
3c			Collision with Assembly of people	Review (5,2)	Same as above mid-air collision: Mitigations to prevent mid-air collision will inherently mitigate resulting collisions with persons on the ground.	Y	Y	Review (5,2)

Unique No	Identified Hazard	Unmitigated Failures	Consequence	Initial Safety Risk Level (Severity, Likelihood)	Mitigations	Tolerable Y/N	ALARP Y/N	Final Risk Level (Severity, Likelihood)
4a	Loss of ground separation (due to ground incursion)	<u>Failure mode:</u> Failure to deconflict Operational Volume (ground) <u>Failures:</u> Ineffective ground monitoring (in real-time) Ineffective communications	Collision with Uninvolved person	Unacceptable (5,4)	M3, M4, M6 M8 M12, M14, M16, M20, M22, M25, M50, M51, M52, M55	Y	Y	Review (5,2)
4b			Collision with Assembly of people	Unacceptable (5,4)	M3, M4, M6, M9 M12, M14, M16, M20, M22, M25, M50, M51, M52, M55	Y	Y	Review (5,1)

Mitigation Identifier	Mitigation Description	
M1	Mitigation	<i>Remote Pilot Competence: The remote pilot has completed the DMARES test and obtained a Flyer ID (test covers UAS General Knowledge).</i>
	Assurance	<p>The DMARES learning material requires a remote pilot to gain a basic level of knowledge of their aircraft and guides the remote pilot to understand their aircraft prior to flight. The learning material guides a remote pilot to check the performance limitations of the aircraft, assess the battery levels, and if the software status of the UAS is appropriate. This reduces the likelihood of an unmanned aircraft being flown in an unsafe state.</p> <p>The adoption of a UK-wide flyer registration system is in place therefore providing a remote pilot with a unique flyer-ID.</p> <p>An online 40-question test is required to be completed and passed by a remote pilot therefore confirming the learning of the remote pilot.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures.</p>
M2	Mitigation	<i>Remote Pilot Competence: The remote pilot has completed the DMARES test and obtained a Flyer ID (test covers human performance limitations).</i>
	Assurance	<p>The DMARES learning material requires a remote pilot to gain a basic level of knowledge of their fitness to fly safely. The learning material contains guidance regarding not flying when under the influence of alcohol, drugs, when tired, unwell, or while distracted. This reduces the likelihood of the remote pilot being in an unsafe state to fly and treats the risk that actions are performed incorrectly.</p> <p>The adoption of a UK-wide flyer registration system is in place therefore providing a remote pilot with a unique flyer-ID.</p> <p>An online 40-question test is required to be completed and passed by a remote pilot therefore confirming the learning of the remote pilot.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures.</p>

M3	Mitigation	<i>Remote Pilot Competence: The remote pilot has completed the DMARES test and obtained a Flyer ID (test contains subjects; air safety, airspace restrictions and aviation regulation, operating procedures).</i>
	Assurance	<p>The DMARES learning material requires a remote pilot to learn where they can fly their aircraft safely. The teaching material covers the height limit of 120m (400ft), flights in the vicinity of aerodromes, certain airspace restrictions, and operations in and around congested areas and people. This reduces the likelihood that the unmanned aircraft will encounter a manned aircraft and an understanding of flights around people.</p> <p>The adoption of a UK-wide flyer registration system is in place therefore providing a remote pilot with a unique flyer-ID.</p> <p>An online 40-question test is required to be completed and passed by a remote pilot therefore confirming the learning of the remote pilot.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures.</p>
M4	Mitigation	<i>Remote Pilot Competence: The remote pilot must have the ability to maintain control of the unmanned aircraft, except in the case of a lost C2 link.</i>
	Assurance	<p>The remote pilot must have the ability to maintain control of the unmanned aircraft to avoid collisions. This includes maintaining control of the UA in line with procedures set out in M36.</p> <p>When mobile (e.g., walking behind the unmanned aircraft on land or on a boat/ vessel if over water) additional considerations must be made for degradations in situational awareness, ability to maintain VLOS and perform manual intervention due to the dynamic environment. This therefore reduces the likelihood of a collision.</p> <p>A remote pilot will assess their capability to maintain control of the unmanned aircraft prior to take-off.</p> <p>A pre-flight check performed by the remote pilot prior to take-off therefore providing assurance that control will be maintained.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures.</p>

M5	Mitigation	<p><i>Remote Pilot Competence:</i> <i>Flights must only be performed by a remote pilot who has read and understood the instruction manual provided by the manufacturer of the UAS and maintains awareness of manufacturer updates.</i></p>
	Assurance	<p>A remote pilot who understands the performance limitations and functions of the unmanned aircraft can operate the unmanned aircraft effectively and reduce the likelihood of a loss of control.</p> <p>The remote pilot is required to read the instructions manual and familiarise themselves with the unmanned aircraft and not perform flights within adverse operational volumes or environmental conditions.</p> <p>The functions and features, including the use of inbuilt safety systems of the unmanned aircraft, will be known to the remote pilot.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to being unfamiliar with the aircraft.</p>
M6	Mitigation	<p><i>Remote Pilot Competence:</i> <i>The Remote Pilot is competent to establish what the maximum VLOS distance is for any given operation, based on the definition in UK Regulation (EU) 2019/947 Article 2(7) and the supporting AMC/GM. The remote pilot shall discontinue the flight if the operation poses a risk to other aircraft, people, animals, environment, or property.</i> <i>Remote pilots may be assisted by an unmanned aircraft observer positioned alongside the remote pilot, who, by unaided visual observation of the unmanned aircraft, assists the remote pilot in keeping the unmanned aircraft in VLOS and safely conducting the flight.</i></p>
	Assurance	<p>The remote pilot can deconflict the operational volume by maintaining the unmanned aircraft within VLOS therefore avoiding collisions in the air and on the ground.</p> <p>The remote pilot or unmanned aircraft observer must maintain VLOS of the unmanned aircraft and manage the separation distance between the remote pilot or unmanned aircraft observer considering the operational volume, aircraft size, and visual conspicuity in light of the environmental conditions.</p> <p>The UAS operator shall maintain records of the flights conducted, including any VLOS considerations prior to the operation commencing for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures.</p>

M7	Mitigation	<i>UAS Operator Responsibilities (SPEC.050 1(f) Responsibilities of the UAS operator): The unmanned aircraft is no more than 120 metres or 400ft from the closest point of the surface of the earth.</i>
	Assurance	<p>This is below the height at which the majority of other, routine, airspace users operate. This lowers the probability of a collision with a manned aircraft.</p> <p>A remote pilot shall identify the maximum distance from the surface within the operational volume and maintain the aircraft within this by setting an appropriate maximum height within the command unit if available, or by manually controlling the height if command unit functionality to limit maximum height is non-existent.</p> <p>The UAS operator shall maintain records of the flights conducted, including operational volume topography and likelihood of encountering low flying manned aircraft prior to the operation commencing for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where an unmanned aircraft has caused or has the potential to cause a mid-air collision.</p> <p>Note: This maximum height may have to be reduced, by the VLOS requirement, described in M6.</p>

M8	Mitigation	<p><i>Remote Pilot Competence:</i></p> <p><i>Remote pilots must reasonably expect that uninvolved persons will not be intentionally overflown.</i></p> <p><i>However, any intentional overflight of uninvolved people must be assessed to be tolerable and ALARP by the UAS operator whilst conducting any additional on-site risk assessments. The overflight of uninvolved people should always be minimised where possible, to reduce the risk of a collision with them, following a loss of control.</i></p> <p><i>In the event of unexpected overflight of uninvolved persons, the remote pilot shall reduce as much as possible the time during which the unmanned aircraft overflies those persons.</i></p>
	Assurance	<p>The overflight of an uninvolved person must be kept to an absolute minimum and must not be performed if the technical malfunction of an aircraft could reasonably lead to a collision. This therefore reduces the likelihood of a collision.</p> <p>The remote pilot must assess and record the risk of a collision due to overflight of an uninvolved person. The risk must be assessed during pre-deployment and/or on the on-site risk assessments prior to flight, and not be performed if the risk of a collision is not tolerable and ALARP. The guidance in CAP 722 (section 2.1.5.1) must be followed, within the volume 1 operational procedures.</p> <p>The remote pilot must maintain records of flights, including any pre-flight risk assessments for intentional overflight (if any) and unintentional overflight for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures.</p>

M9	Mitigation	<i>UAS Operator Responsibilities (SPEC.050 1(f) Responsibilities of the UAS operator):</i> <i>Remote pilot must not perform overflight of assemblies of people. A minimum of 50m horizontal distance must be maintained between an assembly of people and the unmanned aircraft and the horizontal distance shall be no less than the height (The 1:1 rule).</i>
	Assurance	<p>The overflight of an assembly of people must not be performed as any failure in the unmanned aircraft system will lead to a collision. The minimum horizontal separation in combination with the 1:1 rule reduces the likelihood that the aircraft will collide with an assembly of people.</p> <p>The remote pilot must identify the assemblies of people within their operational volume and plan the flight path of the unmanned aircraft accordingly.</p> <p>The UAS operator shall maintain records of the flights conducted, including operational volume identification of assemblies of people for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions caused or has the potential to cause a collision with an assembly of people.</p>
M10	Mitigation	<i>Permission for flights that are over or near aerodromes (ANO Article 94A)</i> <i>The UAS operator must obtain permission for a flight, or a part of a flight by a UAS in the FRZ of a protected aerodrome.</i>
	Assurance	<p>A restriction that separates unmanned aircraft from manned aircraft but does not prohibit unmanned aircraft from operating within a protected aerodrome environment allows for the risk of a collision to be managed.</p> <p>The remote pilot must identify the protected aerodrome within their operational volume. Permission must be obtained, and aerodrome instructions must be adhered to if any part of the flight path enters an FRZ.</p> <p>The remote pilot must maintain records of the flights conducted, including permissions obtained for flights within FRZs for a minimum of three years.</p> <p>An RSMS is in place which monitors intelligence sources where an unmanned aircraft enters and/or loses safe separation within an FRZ and takes appropriate actions to treat the risk.</p>

M11	Mitigation	<p><i>Remote Pilot Responsibilities (UAS.SPEC.060 Responsibilities of the remote pilot):</i></p> <p><i>The remote pilot shall ensure that the UAS is in a condition to safely complete the intended flight safely.</i></p>
	Assurance	<p>The confirmation of the aircraft safe state is obtained prior to commencing operations therefore reducing the likelihood of a technical failure risk.</p> <p>A pre-flight check of the aircraft is performed prior to the flight being commenced, along with an assessment of the aircraft control functions.</p> <p>The UAS operator shall maintain records of the flights conducted, including pre-flight assessments and functionality assessments for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where an unmanned aircraft has caused or has the potential to cause a mid-air collision.</p>
M12	Mitigation	<p><i>GVC Course – Theoretical Syllabus</i></p> <p><i>The remote pilot has received training on the following subjects as part of the GVC: Air Law/Responsibilities, UAS Airspace Operating Principles, Human performance Limitations, Meteorology, Navigation / Charts, Airmanship and Aviation Safety, UAS General Knowledge, Operator Responsibilities & Operating Procedures (Areas to be covered detailed in CAP722B).</i></p>
	Assurance	<p>The CAP722B GVC learning material requires a remote pilot to increase their knowledge so that they may operate safely. The theoretical learning element of the course requires that a remote pilot holds a sufficient level of understanding of the safety related areas to be covered so that they can determine the intent, the methods of compliance, and how this relates to their own intended operation. This provides assurance that the remote pilot can safely and competently perform their duties.</p> <p>A remote pilot has attended a GVC course delivered by a UK RAE or attended a legacy NQE course delivered by a NQE approval holder and completes a theoretical exam of at least 40 questions therefore confirming their knowledge.</p> <p>A valid certificate of competency is held by the remote pilot. The RAE also provides the CAA with a list of issued certificates on a monthly basis. NQE full recommendations will no longer be a recognised qualification after 01 January 2024.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to a lack of training.</p>

M13	Mitigation	<i>GVC Course - 'UAS Operator Responsibilities':</i> <i>The UAS operator maintenance regime shall include maintenance procedures (e.g., manufacturer recommended maintenance, user maintenance checklist, and maintenance frequency), safe handling procedures, transportation and storage procedures, and procedures regarding (monitoring) firmware releases from the manufacturer.</i>
	Assurance	<p>A remote pilot who holds a valid GVC or NQE recommendation is sufficiently trained to understand the UAS operator responsibilities in relation to maintenance procedures.</p> <p>A remote pilot has attended a GVC course delivered by a UK RAE or attended a legacy NQE course delivered by a NQE approval holder where they developed an understanding of UAS operator responsibilities in relation to maintenance procedures.</p> <p>A valid certificate of competency is held by the remote pilot and is presented to the CAA during the application process course recommending the issue of an operational authorisation. The RAE also provides the CAA with a list of issued certificates on a monthly basis. NQE full recommendations will no longer be a recognised qualification after 01 January 2024.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to a lack of training.</p>

M14	Mitigation	<p><i>GVC Course - Practical Flight Test:</i></p> <p><i>The remote pilot has passed the GVC practical flight test. This includes demonstrating flight procedures and normal procedures for operational volume defined by VLOS and up to 500m horizontally from the remote pilot and 400ft above surface level for multirotor and/or fixed-wing unmanned aircraft.</i></p>
	Assurance	<p>A remote pilot must undertake a practical flight test provided by an RAE or previously an NQE therefore providing assurance that the remote pilot can safely undertake a wide range of VLOS activities.</p> <p>A remote pilot has attended a GVC course delivered by a UK RAE or attended a legacy NQE course delivered by a NQE approval holder where the remote pilot was tested against the assessment criteria contained within CAP722B.</p> <p>A valid certificate of competency is held by the remote pilot and is presented to the CAA during the application process course recommending the issue of an operational authorisation. The RAE also provides the CAA with a list of issued certificates on a monthly basis. NQE full recommendations will no longer be a recognised qualification after 01 January 2024.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures.</p>
M15	Mitigation	<p><i>GVC Course - Practical Flight Test:</i></p> <p><i>The remote pilot has passed the GVC practical flight test including demonstrating effective use of UAS operator pre- and post-flight checks, visual inspection of aircraft structure and security (use of checklists)</i></p>
	Assurance	<p>A remote pilot must undertake a practical flight test provided by an RAE or previously an NQE therefore providing assurance that the remote pilot can safely and competently inspect the unmanned aircraft prior to flight.</p> <p>A remote pilot has attended a GVC course delivered by a UK RAE or attended a legacy NQE course delivered by a NQE approval holder where the remote pilot was tested against the assessment criteria contained within CAP722B.</p> <p>A valid certificate of competency is held by the remote pilot and is presented to the CAA during the application process course recommending the issue of an operational authorisation. The RAE also provides the CAA with a list of issued certificates on a monthly basis. NQE full recommendations will no longer be a recognised qualification after 01 January 2024.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures.</p>

M16	Mitigation	<i>UAS Operator's Operations Manual – On-site Procedures for Site survey: The UAS operator's operations manual details guidance on the selection of alternate operating sites and cordon procedures with third-party management.</i>
	Assurance	<p>The operations manual details how to safely undertake procedures that put in place mitigations to reduce the likelihood of a collision with an uninvolved person.</p> <p>The remote pilot must identify alternate operating sites within their operational volume and establish an appropriate site-specific cordon.</p> <p>The UAS operator shall maintain records of the flights conducted, including alternate site selection and details of cordon for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions caused or has the potential to cause a collision an uninvolved person.</p>
M17	Mitigation	<i>UAS Operator's Operations Manual - Flight operations: The UAS operator's operations manual includes emergency fire procedures.</i>
	Assurance	<p>The operations manual details the procedures to be performed in case of an emergency therefore reducing the likelihood of injury to an uninvolved person.</p> <p>The operations manual contains a set of instructions that must be performed in the case of a fire in the air or on the ground.</p> <p>An operations manual is presented to the CAA during the application process which must contain appropriate procedures.</p> <p>An RSMS is in place which monitors occurrences of unmanned aircraft fire.</p>

M18	Mitigation	<i>UAS Operator's Operations Manual – Flight operations: The UAS operator's operations manual includes emergency flyaway procedures</i>
	Assurance	<p>The operations manual details the procedures to be performed in case of an emergency therefore reducing the likelihood of injury to an uninvolved person.</p> <p>The operations manual contains a set of instructions that must be performed in the case of a flyaway.</p> <p>An operations manual is presented to the CAA during the application process which must contain appropriate procedures.</p> <p>An RSMS is in place which monitors occurrences of unmanned aircraft flyaway.</p>
M19	Mitigation	<i>UAS Operator - Logs and records: The maintenance activities that have been conducted on UAS.</i>
	Assurance	<p>Logging of maintenance activities allows for technical issues to be detected and prevented prior to flight therefore reducing the likelihood of a technical malfunction.</p> <p>The UAS operator is responsible for recording the maintenance activities performed on the unmanned aircraft.</p> <p>The aircraft maintenance logs are presented to the CAA during the application.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential for technical failures.</p>

M20	Mitigation	<i>Remote Pilot Responsibilities (UAS.SPEC.060 Responsibilities of the remote pilot): The remote pilot shall comply with the UAS operator's procedures.</i>
	Assurance	<p>The UAS operator operations manual contains the procedures and guidance on how a remote pilot performs flights safely therefore reducing the likelihood of a collision.</p> <p>The remote pilot complies with the UAS operator's procedures whereas UAS operator ensures that the remote pilot follows their procedures.</p> <p>An operations manual is presented to the CAA during the application process which must contain appropriate procedures and the UAS operators ensures that any required documentation is available to the CAA.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures. The CAA also has a whistleblowing policy (see CAA website) where all complaints will be investigated in an appropriate manner.</p>
M21	Mitigation	<i>UAS Operator's Operations Manual - Flight operations: The UAS operator's operations manual includes on-site procedures for refuelling including changing, charging of batteries and/or replenishment of liquid fuels.</i>
	Assurance	<p>The operations manual details how to safely and correctly refuel the unmanned aircraft therefore reducing the likelihood of a battery or fuel failure that could lead to a collision with an uninvolved person.</p> <p>The remote pilot performs the procedures in accordance with the UAS operator's operations manual.</p> <p>An operations manual is presented to the CAA during the application process which must contain appropriate procedures.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to ineffective procedures.</p>

M22	Mitigation	<i>UAS Operator's Responsibilities (UAS.SPEC.050 Responsibilities of the UAS operator): The UAS operator's operations manual establishes procedures and limitations adapted to the type of the intended operation and the risk involved</i>
	Assurance	<p>The type of operation performed by the unmanned aircraft presents different types of risks including aircraft and payload therefore the associated procedures must be adapted in order to manage these risks.</p> <p>The UAS operator adapts their operations manual to safely perform the intended type of operations.</p> <p>An operations manual is presented to the CAA during the application process which must contain appropriate procedures.</p> <p>An RSMS is in place along with a whistle blowing process. The CAA auditing team conduct audits on operational authorisation holders to ensure compliance.</p>

M23	Mitigation	<p><i>UAS Operator's Operations Manual – Flight operations:</i></p> <p><i>When operating near assemblies of uninvolved people the Unmanned Aircraft must have an appropriately set maximum allowed distance from the remote pilot (Geo-awareness).</i></p> <p><i>When operating as a lone Remote Pilot (no observer / payload operator) and near assemblies of uninvolved people the aircraft must have an appropriately set minimum RTH battery level. Any automatic recovery system (e.g. RTH) function must not permit return flight over or within 50m of an assembly of uninvolved people.</i></p>
	Assurance	<p>A technical means to mitigate against an unmanned aircraft overflying an assembly of people reduces the likelihood of a collision with an uninvolved person. A remote pilot with no additional crew does not have the means to initiate any automatic recovery system once incapacitated. The aircraft automatic recovery system function must be configured so as to initiate at an appropriate battery level. The remote pilot must plan its return flight path as to not overfly assemblies of people. This therefore reduces the likelihood of a collision with an assembly of people.</p> <p>The remote pilot must identify any assemblies of people within their operational volume and establish an appropriately set distance from the boundary of the assembly, using the aircraft geo-awareness function, its return to home path, and the RTH battery level.</p> <p>The UAS operator shall maintain records of the flights conducted, including appropriate measure taken when the operational volume contains assemblies of people for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions caused or has the potential to cause a collision with an assembly of people.</p>

M24	Mitigation	<i>UAS Operator's Operations Manual - Flight operations:</i> <i>The UAS operator's operations manual includes a statement that the remote pilot will remain within manufacturer recommended performance envelopes of the UAS at all times.</i>
	Assurance	<p>A remote pilot understands their responsibility to ensure the aircraft remains within its recommended performance envelope providing assurance that the remote pilot understands the performance envelope and their safety responsibilities during each flight.</p> <p>The remote pilot is required to read the instructions manual and familiarise themselves with the unmanned aircraft. They shall also understand and discharge their responsibilities to maintain the aircraft within its envelope.</p> <p>An operations manual is presented to the CAA during the application process which must contain a statement.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures. The CAA also has a whistleblowing policy (see CAA website) where all complaints will be investigated in an appropriate manner.</p>

M25	Mitigation	<p><i>UAS Operator's Operations Manual – Flight operations:</i></p> <p>The UAS operator's operations manual details the scope of the flight operations for all types of unmanned aircraft (e.g., multirotor and fixed-wing). This includes limitations during normal procedures, during take-off and landing (i.e., 30m separation from third-parties), and whilst inflight (i.e., 50m separation from third-parties with any overflight of people kept to a minimum).</p>
	Assurance	<p>The operations manual details the limitations of the operational authorisation and how to safely undertake procedures to maintain safe separation therefore reduce the likelihood of a collision with an uninvolved person.</p> <p>The UAS operator describes the limitations within their operations manual and the procedures that enables the pilot to safely perform the intended type of operations.</p> <p>An operations manual is presented to the CAA during the application process which must contain appropriate limitations.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to ineffective procedures.</p>
M26	Mitigation	<p><i>Unmanned Aircraft Technical Requirement</i></p> <p><i>The UAS must be equipped with a mechanism that will cause it to land in the event of a disruption to, or a failure of, any of its control systems.</i></p>
	Assurance	<p>A technical mitigation that enables the unmanned aircraft to land if in the event of a disruption to, or a failure of, any of its control systems. This therefore reduces the likelihood of a collision.</p> <p>The UAS operator only utilises aircraft that have the capability to recognise a control system failure and to land automatically.</p> <p>The UAS operator must hold details of the technical characteristics of the system, specifically including the mechanism.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions caused or has the potential to cause a collision an uninvolved person.</p>

M27	Mitigation	<p><i>UAS Operator's Operations Manual - Flight operations:</i></p> <p>The UAS operator's operations manual contains functionality checks prior to flight (e.g., pilot assessment of controller responses and software functionality), take-off procedures, and an automatic recovery system test procedure before operation commences.</p>
	Assurance	<p>The implementation of a procedure that a remote pilot must follow to gain assurance that the aircraft is in a safe state to perform the flight and that the recovery system is configured appropriately in case of an emergency.</p> <p>The UAS operator has implemented a procedure within their operations manual appropriate to the aircraft type.</p> <p>The UAS operator shall maintain records of the flights conducted, including the pre-flight procedures conducted prior to the operation commencing, for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to ineffective procedures.</p>
M28	Mitigation	<p><i>UAS Operator's Operations Manual - Flight operations:</i></p> <p><i>The UAS operator's operations manual describes the pre and post-flight checks to be conducted. These should include a visual inspection of the unmanned aircraft structure to ensure security of objects such as access panels, engines / motors, propellers / rotors, landing gear and external loads using a checklist. A visual inspection of the battery installation to ensure secure battery installation as per manufacturer guidance and ensure battery or liquid fuel level is sufficient for flight should be conducted before each flight.</i></p>
	Assurance	<p>The implementation of appropriate pre and post-flight procedures ensures that the remote pilot is assured that the unmanned aircraft is in a safe state to fly prior to commencing each operation. This therefore reduces the likelihood of a technical failure.</p> <p>The UAS operator has implemented appropriate procedures within their operations manual specific to the aircraft type.</p> <p>The UAS operator shall maintain records of the flights conducted, including the check conducted, prior to the operation commencing for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to ineffective procedures.</p>

M29	Mitigation	<p><i>UAS Operator's Operations Manual - Flight operations:</i></p> <p><i>UAS operator maintenance regime shall include - Maintenance</i> procedures (e.g., manufacturer recommended maintenance, user maintenance checklist, and maintenance frequency), safe handling procedures, transportation and storage procedures, and procedures regarding (monitoring) firmware releases from the manufacturer.</p>
	Assurance	<p>The implementation of maintenance activities through maintenance procedures which follow manufacturer recommendations reduces the likelihood of aircraft technical failures. This therefore reduces the likelihood of a technical failure.</p> <p>The UAS operator has implemented appropriate procedures within their operations manual specific to the aircraft type.</p> <p>An operations manual is presented to the CAA during the application process which must detail the maintenance procedures which are appropriate to each aircraft. The UAS operator shall maintain records of the maintenance activities conducted, including battery logs and firmware updates, for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of technical failure due to ineffective procedures.</p>
M30	Mitigation	<p><i>Remote Pilot Competence:</i></p> <p><i>The Remote Pilot shall conduct a self-appraisal of health and ability to perform safely prior to flying. Other support staff shall have the ability to perform their roles safely.</i></p>
	Assurance	<p>The ability to perform a self-appraisal of personal health and ability, prior to flight provides assurance that the remote pilot and support staff can safely perform the intended flight. This therefore reduces the likelihood of degradation in pilot and remote crew performance.</p> <p>The remote pilot and any support personnel are required to assess and record their fitness and capability prior to conducting planned operations.</p> <p>An operations manual is presented to the CAA during the application process which must detail the crew health requirements, and the UAS operator shall maintain records of the flights conducted including the pre-flight fitness assessment for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures.</p>

M31	Mitigation	<p><i>UAS Operator's Operations Manual - Flight operations:</i></p> <p>The UAS operator's operations manual contains guidance including a crew health policy on maximum working periods or duty hours, managing societal and commercial pressure, and substance abuse.</p>
	Assurance	<p>The provision of guidance and policies on crew health enables the remote pilot and any support personnel to maintain their fitness and capability whilst providing assurance that a degradation in crew performance should not occur due to poor health.</p> <p>The UAS operator has implemented guidance and policies within their operations manual appropriate to the type of operations being performed.</p> <p>An operations manual is presented to the CAA during the application process which must detail the crew health requirements.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to ineffective procedures.</p>
M32	Mitigation	<p><i>UAS Operator's Operations Manual - Flight operations:</i></p> <p><i>The UAS operator's operations manual shall include an alcohol and psychoactive substances limitations policy.</i></p>
	Assurance	<p>The implementation of policies and procedures to gain assurance that the crew is fit and capable to conduct planned operations reduces the likelihood of a degradation in pilot and remote crew performance.</p> <p>The UAS operator has implemented an alcohol and psychoactive substances limitations policy within their operations manual.</p> <p>An operations manual is presented to the CAA during the application process which must detail the crew health requirements including an alcohol and psychoactive substances limitations.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to ineffective policies.</p>

M33	Mitigation	<p><i>UAS Operator's Operations Manual – Flight operations:</i> <i>The UAS operator's operations manual shall include an emergency procedure for pilot incapacitation and the correct configuration of the automatic recovery system.</i></p>
	Assurance	<p>The implementation of a procedure to be performed in case of an emergency therefore reducing likelihood of injury to an uninvolved person.</p> <p>The UAS operator has implemented a set of instructions that must be performed in the case of remote pilot incapacitation including the appropriate set up of the automatic recovery system when conducting lone remote pilot operations.</p> <p>An operations manual is presented to the CAA during the application process which must contain appropriate procedures.</p> <p>An RSMS is in place which monitors occurrences of pilot incapacitation.</p>
M34	Mitigation	<p><i>UAS Operator's Operations Manual – Flight operations:</i> <i>The UAS operator's operations manual contains normal procedures (multirotor and fixed-wing) for operational volume defined by VLOS and up to 500m horizontally from the remote pilot and up to 400ft above surface, note difference between single and multi-crew operations.</i></p> <p><i>Situations where the remote pilot is situated on a moving vehicle, and the vehicle may need to deviate from the intended flight path of the UA, such that VLOS is not able to be maintained, would place the operation outside the scope of PDRA01.</i></p>
	Assurance	<p>The implementation of normal procedures details how to safely perform operations and what is expected to be within the operational volume therefore reducing the likelihood of human error.</p> <p>The UAS operator has implemented normal operating procedures and expected operational volume details within their operations manual for the pilot to safely perform the intended type of operations.</p> <p>An operations manual is presented to the CAA during the application process which must contain appropriate procedures.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to ineffective procedures.</p>

M35	Mitigation	<i>UAS Operator's Operations Manual – Flight operations: The UAS operator's operations manual contains procedures for VLOS operations at night –and shall include daylight reconnaissance and site safety assessment of the surrounding area, identification and recording of any hazards, restrictions and obstacles, illumination of the launch site, aircraft lighting / illumination requirements, and weather limitations for operation.</i>
	Assurance	<p>The implementation of procedures on how to safely perform night operations including the additional operational and technical requirements reduces the likelihood of human error.</p> <p>The UAS Operator has implemented procedures to operate at night including, but not limited to, conducting a daylight reconnaissance and site survey of the surround area, conducting an onsite risk assessment which records potential hazards and their associated mitigations, and lighting requirements.</p> <p>An operations manual is presented to the CAA during the application process which must contain appropriate procedures.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to ineffective procedures.</p>

M36	Mitigation	<p><i>UAS Operator's Operations Manual – Flight operations:</i></p> <p><i>The UAS operator's operations manual contains onsite procedures including, but not limited to, crew briefing (e.g., site awareness and self-positioning), use of cordon control measures, and location of crew relative to the take-off and landing point. This includes instances where the remote pilot may change position during the flight. (for situations where the remote pilot or unmanned aircraft observer are mobile e.g. walking or on a moving vehicle).</i></p> <p><i>The Remote Pilot must not be operating a moving vehicle whilst operating the Unmanned Aircraft. If the Remote Pilot operates the Unmanned Aircraft from a moving vehicle as a passenger, the speed and stability of the vehicle must be sufficient for the Remote Pilot to maintain VLOS and control of the Unmanned Aircraft at all times.</i></p>
	Assurance	<p>The onsite procedures detail how a pilot and crew shall safely perform operations with considerations on crew positioning, setting up a cordon, and any safety briefings therefore reducing the likelihood of human error.</p> <p>The UAS operator has implemented on-site procedures within their operations manual for the crew to safely perform the intended type of operations including how changing the position of the remote pilot during flight is carried out safely.</p> <p>An operations manual is presented to the CAA during the application process which must contain appropriate procedures.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to ineffective procedures.</p>

M37	Mitigation	<i>UAS Operator's Operations Manual - Flight operations:</i> <i>The UAS operator's operations manual shall include pre-flight checks specifically for the correct set up of automatic recovery system (e.g. RTH).</i>
	Assurance	<p>The implementation of a procedure that a remote pilot must follow for the correct set up of the automatic recovery system reduces the risk of a harmful consequence resulting from the hazard.</p> <p>The UAS operator has implemented a set of instructions that must be performed to set up the automatic recovery system with considerations to the type of operation being performed and the operational volume.</p> <p>The UAS operator shall maintain records of the flights conducted, including the checks conducted, prior to the operation commencing for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to ineffective procedures.</p>

M38	Mitigation	<i>Remote Pilot Competence:</i> <i>The remote pilot is competent to conduct weather system monitoring including the ability to detect aircraft path deviation due to wind conditions, understanding of aircraft design flight envelope.</i>
	Assurance	<p>The remote pilot's ability to maintain the aircraft within the operational volume and its design flight envelope for changing weather conditions, reduces the likelihood of a harmful consequence resulting from the hazard.</p> <p>A remote pilot has attended a GVC course delivered by a UK RAE or attended a legacy NQE course delivered by a NQE approval holder where they developed an understanding of the effects of weather and are tested against the assessment criteria contained within CAP722B.</p> <p>A valid course recommendation certificate is held by the remote pilot and is presented to the CAA during the application process. The RAE also provides the CAA with a list of issued certificates recommendations on a monthly basis. NQE full recommendations will no longer be a recognised qualification after 01 January 2024.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures.</p>

M39	Mitigation	<p><i>UAS Operator's Operations Manual - Flight operations:</i></p> <p><i>The UAS operator's operations manual shall contain pre-flight checks for obtaining weather forecast, local weather conditions and applicable UAS operating limitations (wind and water ingress resistance, UAS design flight envelope) prior to flight.</i></p>
	Assurance	<p>The implementation of a procedure to assess the environmental conditions of the operational volume with regards to the aircraft design flight envelope reduces the likelihood that the aircraft will exceed its environmental limitations.</p> <p>The UAS operator has implemented policies and procedures that must be performed in order to assess the environmental conditions of the operational volume prior to commencing operations.</p> <p>The UAS operator shall maintain records of the flights conducted, including the checks conducted, prior to the operation commencing for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to ineffective procedures.</p>
M40	Mitigation	<p><i>UAS Operator's Operations Manual - Flight operations:</i></p> <p>The UAS operator's operations manual shall contain emergency procedures (e.g., abnormal environmental conditions such as C2 Link Loss, sudden increase in wind speed, or decrease in visibility).</p>
	Assurance	<p>The implementation of a procedure to be performed in case of an emergency therefore reducing likelihood of injury to an uninvolved person.</p> <p>The UAS operator has implemented a set of instructions that must be performed in the case of abnormal environmental conditions.</p> <p>An operations manual is presented to the CAA during the application process which must contain appropriate procedures.</p> <p>An RSMS is in place which monitors abnormal environmental related occurrences.</p>

M41	Mitigation	<i>Remote Pilot Competence:</i> <i>The remote pilot has been trained to recognise and manage client, peer, and company pressure to perform in inappropriate meteorological conditions.</i>
	Assurance	<p>The remote pilot's ability to recognise and not perform a flight if the environmental conditions are outside of the aircraft design flight envelope reduces the likelihood that the aircraft will exceed its environmental limitations.</p> <p>A remote pilot has attended a GVC course delivered by a UK RAE or attended a legacy NQE course delivered by a NQE approval holder where they developed an understanding of the effects of stress/ pressure from 'customers' and are tested against the assessment criteria contained within CAP722B.</p> <p>A valid course recommendation certificate or GVC is held by the remote pilot and is presented to the CAA during the application process. The RAE also provides the CAA with a list of issued certificates recommendations on a monthly basis. NQE full recommendations will no longer be a recognised qualification after 01 January 2024.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to a lack of training.</p>

M42	Mitigation	<i>GVC Course - Practical Flight Test: The remote pilot has passed the GVC practical flight test including: flight handling capability around ground-based objects with knowledge of vortexing around structures /terrain and in-flight awareness of UAS position in operational volume, ability to use flight telemetry distance indicator and appropriate site survey to gauge distances to visible objects in operating volume, understanding of aircraft design flight envelope and maintenance of suitable safe boundaries around object.</i>
	Assurance	<p>A remote pilot must undertake a practical flight test provided by an RAE or previously an NQE therefore, providing assurance that the remote pilot can safely and competently mission plan (to include meteorological checks), airspace considerations, and site risk-assessment and maintain situational awareness of the intended operation.</p> <p>A remote pilot has attended a GVC course delivered by a UK RAE or attended a legacy NQE course delivered by a NQE approval holder where the remote pilot was tested against the assessment criteria contained within CAP722B.</p> <p>A valid certificate of competency is held by the remote pilot and is presented to the CAA during the application process course recommending the issue of an operational authorisation. The RAE also provides the CAA with a list of issued certificates on a monthly basis. NQE full recommendations will no longer be a recognised qualification after 01 January 2024.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures.</p>

M43	Mitigation	<i>UAS Operator's Operations Manual - Flight operations: The UAS operator's operations manual shall contain on-site procedures for site survey identifying hazards (e.g., proximity to third parties, roads, animals, traffic, aeronautical activities, and danger areas) and conducting additional risk assessments (e.g., appropriate choice of remote pilot and proposed crew operating location to avoid slips, trips, and falls).</i>
	Assurance	<p>The on-site procedures detail how a remote pilot and crew shall perform the on-site survey and implement additional mitigations prior to flight therefore reducing the likelihood of human error.</p> <p>The UAS operator has implemented on-site procedures within their operations manual for the crew to safely perform the intended type of operations.</p> <p>An operations manual is presented to the CAA during the application process which must contain appropriate procedures.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to ineffective procedures.</p>
M44	Mitigation	<i>UAS Operator's Operations Manual - Flight operations: The UAS operator's operations manual contains operating procedures including antenna directionality and effective range, GNSS signal susceptibility to ferrous structures and avoidance of harmful interference e.g. proximity to HIRF reflectance and shadowing. Understanding of aircraft design flight envelope and maintenance of suitable safe boundaries around object.</i>
	Assurance	<p>The implementation of procedures to select and configure the unmanned aircraft and plan the aircraft flight path with awareness of the operational ground volume for sources of interference. This therefore reduces the likelihood that the unmanned aircraft C2 link will degrade due to sources of ground-based interference.</p> <p>The UAS operator has implemented procedures for the identification of sources of interference within the potential operating area prior to commencing operations.</p> <p>The UAS operator shall maintain records of the flights conducted, including ground-based sources of interference, prior to the operation commencing for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to ineffective procedures.</p>

M45	Mitigation	<p><i>UAS Operator's Operations Manual - Flight operations:</i></p> <p><i>The UAS operator's operations manual shall contain procedures for determining the intended task feasibility and site assessment, for efficient use of radio spectrum, Awareness of solar weather state, awareness of OFCOM nationally allowed power outputs, and to ensure sufficient satellites in range before commencing flight.</i></p>
	Assurance	<p>The implementation of procedures to assess the RF environmental conditions for the operational volume with regards to the aircraft design flight envelope. This therefore reduces the likelihood that the unmanned aircraft C2 link will degrade due to sources of environmental interference.</p> <p>The UAS operator has implemented policies and procedures for the assessment of the RF conditions of the potential operating area prior to commencing operations.</p> <p>The UAS operator shall maintain records of the flights conducted, including the RF assessment, prior to the operation commencing for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to ineffective procedures.</p>
M46	Mitigation	<p><i>UAS Operator's Operations Manual - Flight operations:</i></p> <p><i>The UAS operator's operations manual shall contain procedures for determining the intended task feasibility, Site assessment for airspace classification and airspace restrictions.</i></p>
	Assurance	<p>The implementation of procedures for the assessment of the air environment within the intended operational volume for airspace classifications, restrictions, and the potential to encounter other aircraft reduces the likelihood of a mid-air collision.</p> <p>The UAS operator has implemented procedures for the assessment of the air environment in the operational volume prior to commencing operations.</p> <p>The UAS operator shall maintain records of the flights conducted, including the air environment assessment, prior to the operation commencing for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to ineffective procedures.</p>

M47	Mitigation	<p><i>UAS Operator's Operations Manual - Flight operations:</i></p> <p><i>The UAS operator's operations manual contains procedures for pre-notification to third parties (e.g., FRZ permission, restricted airspace access and NOTAM) and any local aviation stakeholders.</i></p>
	Assurance	<p>The implementation of procedures to notify and gain permissions to operate within certain air environments reduces the likelihood of a mid-air collision.</p> <p>The UAS operator has implemented procedures to notify and gain permission relevant aviation stakeholders in the operational volume prior to commencing operations.</p> <p>The UAS operator shall maintain records of the flights conducted, including any notifications and permissions, prior to the operation commencing for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to ineffective procedures.</p>
M48	Mitigation	<p><i>UAS Operator's Operations Manual - Flight operations:</i></p> <p><i>The UAS Operator's operations manual contains procedures, if required, to communicate with ANSPs or other organisations responsible for the management of airspace.</i></p> <p><i>Procedures are also contained for the notification of the operational volume to other airspace users, as necessary, as described in AIP ENR section 1.1 – 4.1.8.</i></p>
	Assurance	<p>The implementation of procedures to communicate the operational volume to other aircraft and ANSPs reduces the likelihood of a mid-air collision.</p> <p>The UAS operator has implemented methods of communication in the operational volume prior to commencing operations.</p> <p>The UAS operator shall maintain records of the flights conducted, including communication methodologies between other UAS operators, prior to the operation commencing for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to ineffective procedures.</p>

M49	Mitigation	<i>UAS Operator's Operations Manual - Flight operations:</i> <i>The UAS operator's operations manual contains emergency procedures to avoid and manage airspace incursions.</i>
	Assurance	<p>The implementation of a procedure to be performed in case of an emergency therefore reducing the likelihood of injury to an uninvolved person.</p> <p>The UAS operator has implemented a set of instructions that must be performed in the case of airspace incursion.</p> <p>An operations manual is presented to the CAA during the application process which must contain appropriate procedures.</p> <p>An RSMS is in place which monitors occurrences of aircraft incursions.</p>
M50	Mitigation	<i>UAS Operator's Operations Manual - Flight operations:</i> Flight path adjustment to accommodate unexpected movement of third parties (including third-party aggression) and to avoid breaching the 50m separation from uninvolved persons. The flight path adjustment should also prioritise safety of people over state of UAS and utilise any additional information (e.g., first-person video feed and/or crew communications).
	Assurance	<p>The implementation of procedures to monitor the ground environment within the operational volume and adjustments to the aircraft flight path to deconflict the aircraft reduces the likelihood of a collision with an uninvolved person.</p> <p>The UAS operator has implemented policies and procedures to deconflict the aircraft to make use of additional crew and/or video feeds.</p> <p>The UAS operator shall maintain records of the flights conducted, including any methods of monitoring the ground environment, prior to the operation commencing for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures.</p>

M51	Mitigation	<i>UAS Operator's Operations Manual - Flight operations: The UAS operator's operations manual contains procedures for determining the intended task feasibility, site permissions (landowners' permission), site assessment for extraordinary restrictions e.g. habitation, recreational activities and public access.</i>
	Assurance	<p>The implementation of procedures to assess the ground environment within the operational volume for restrictions and areas where an uninvolved person could be at an increased risk of collision will assist in planning a flight safely and reduce the likelihood of a collision with an uninvolved person.</p> <p>The UAS operator has implemented procedures for the assessment of the ground environment within operational volume prior to commencing operations.</p> <p>The UAS operator shall maintain records of the flights conducted, including the ground environment assessment, prior to the operation commencing for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures due to ineffective procedures.</p>
M52	Mitigation	<i>UAS Operator's Operations Manual - Flight operations: The UAS operator's operations manual emergency procedures - loss of separation distances to uninvolved third parties (emergency landing procedures).</i>
	Assurance	<p>The implementation of a procedure to be performed in case of an emergency therefore reducing the likelihood of injury to an uninvolved person.</p> <p>The UAS operator includes a set of instructions that must be performed in the case of ground incursion.</p> <p>An operations manual is presented to the CAA during the application process which must contain appropriate procedures.</p> <p>An RSMS is in place therefore monitoring occurrences of ground incursion.</p>

M53	Mitigation	<i>Remote Pilot Responsibilities (SPEC.060 Responsibilities of the remote pilot):</i> <i>Remote Pilot must not perform duties under the influence of psychoactive substances or alcohol or when they are unfit to perform their tasks due to injury, fatigue, medication, sickness or other causes.</i>
	Assurance	The remote pilot being appropriately fit to fly provides assurance that a degradation of human performance or failure should not occur. The remote pilot is competent to self-assess prior to conducting planned operations. An operations manual is presented to the CAA during the application process which must detail the crew health requirements. An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures.
M54	Mitigation	<i>Remote Pilot Competence:</i> <i>When flying an unmanned aircraft within a horizontal distance of 50 metres from an artificial obstacle taller than 105 metres, the maximum height of the UAS operation may be increased up to 15 metres above the height of the obstacle at the request of the entity responsible for the obstacle.</i>
	Assurance	Flights in close proximity to artificial obstacles presents an environment that limits the opportunity for a manned aircraft to be present therefore reducing the likelihood of a mid-air collision. A remote pilot shall identify the maximum distance from the surface within the operational volume and maintain the aircraft within this and/or by setting the appropriate maximum height within the command unit. The UAS operator shall maintain records of the flights conducted, including the identification of artificial obstacles within the operational volume, prior to the operation commencing for a minimum of three years. An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures.

M55	Mitigation	<i>Remote Pilot Competence:</i> <i>Pilot currency on similar and / or equivalent aircraft make and model (2 hours in 3 months).</i>
	Assurance	<p>A remote pilot who is able to maintain key skills through training/practice and simulated emergencies is able to execute their duties effectively and reduce the likelihood of human error.</p> <p>A remote pilot is required to maintain currency through live task and simulated operations including emergency operations training/practice utilising similar and/ or equivalent aircraft.</p> <p>The UAS operator shall maintain records of the flights conducted, including training/practice flights for a minimum of three years.</p> <p>An RSMS is in place which monitors occurrences where a pilot's key skills and actions were not an effective mitigation for reducing the potential of human factors-related failures.</p>