

Operational Risk Analysis Overview for Operations in the Specific Category according to AMC1 to Article 11 IR (EU) 2019/947

| 1. Data of authorised UAS and operation | |
|--|--|
| 1.1 Manufacturer or Type Certificate holder | |
| 1.2 Model name | |
| 1.3 Type of UAS configuration | <input type="checkbox"/> Conventional Airplane <input type="checkbox"/> Helicopter <input type="checkbox"/> Multirotor <input type="checkbox"/> Hybrid/VTOL <input type="checkbox"/> Lighter than air <input type="checkbox"/> Other, please specify: |
| 1.4 Is the UAS tethered during the operation? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 1.5 Maximum characteristic dimensions (including propellers) | |
| 1.6 Maximum take-off mass | |
| 1.7 Maximum speed | |
| 1.8 Type of propulsion system | <input type="checkbox"/> Electric <input type="checkbox"/> Combustion <input type="checkbox"/> Hybrid, specify type: <input type="checkbox"/> Other, please specify: |
| 1.9 Number of type certificate or design verification report (if available) | |
| 1.10 Certificate of airworthiness (if available) | |
| 1.11 Number of noise certificate (if available) | |
| 1.12 Transport of dangerous goods | <input type="checkbox"/> Yes Please specify reference to Operations manual (ConOps): _____ <input type="checkbox"/> No |
| 1.13 Type of operation | <input type="checkbox"/> Visual line of sight (VLOS) <input type="checkbox"/> Extended visual line of sight (EVLOS) <input type="checkbox"/> Beyond visual line of sight (BVLOS) |

| 2. Specific Operations Risk Analysis | |
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| Step #1 Operations Manual (ConOps) | |
| #1 Description of proposed operations including the locations | <p>Please provide the GPS coordinates for the operational volume (flight geography and contingency volume), the ground risk buffer and the air risk buffer (if available) as a separate file using either .txt; .kmz or .kml.</p> <p>Give reference to the file name: _____</p> |
| Short description of proposed operations | |
| Step #2 UAS intrinsic Ground Risk Class | |
| #2.1 Type of operational areas on the ground (including flight geography, contingency volume and ground risk buffer) | <input type="checkbox"/> Controlled ground area <input type="checkbox"/> Sparsely populated area <input type="checkbox"/> Populated area <input type="checkbox"/> Over assemblies of people |
| #2.3 Specify the Intrinsic Ground Risk Class | |
| Remarks/Reasoning for Step #2 | |
| Step #3 Final GRC determination | |
| #3.1 Specify the applied ground risk mitigations, if applicable (tick only if mitigations are applied) | <p>M1 Strategic mitigations for ground risk Specify the level of robustness</p> <input type="checkbox"/> None <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High |
| | <p>M2 Effects of ground impact are reduced Specify the level of robustness</p> <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High |
| | <p>M3 An emergency response plan (ERP) is in place, the UAS operator is validated and effective Specify the level of robustness</p> <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High |

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| #3.2 Specify the Final Ground Risk Class | |
| Remarks/Reasoning for Step #3 | |
| Step #4 Initial Air Risk Class | |
| #4.1 Classification of the airspace where the operation is intended to be conducted (multiple answers possible) | <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G <input type="checkbox"/> Restricted area (ED-R) <input type="checkbox"/> Danger area (ED-D) <input type="checkbox"/> TMZ <input type="checkbox"/> RMZ <input type="checkbox"/> ATZ |
| #4.2 Specify the Initial Air Risk Class and the reasoning for choosing it (refer to Figure 4 of AMC 1 to Article 11 of IR (EU) 2019/947) | <input type="checkbox"/> ARC-a <input type="checkbox"/> ARC-b <input type="checkbox"/> ARC-c <input type="checkbox"/> ARC-d |
| Remarks/Reasoning for Step #4 | |
| Step #5 Strategic air risk mitigations and final Air Risk Class | |
| #5.1 Specify, if strategic mitigations of the Air Risk Class were applied | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| #5.2 Residual Air Risk Class (after strategic mitigation) | <input type="checkbox"/> ARC-a <input type="checkbox"/> ARC-b <input type="checkbox"/> ARC-c <input type="checkbox"/> ARC-d |
| Remarks/Reasoning for Step #5 | |
| Step #6 TMRP and robustness level | |
| #6 Tactical Mitigations Performance Requirements (refer to Annex D to AMC 1 to Article 12 of IR (EU) 2019/947) | <input type="checkbox"/> VLOS <input type="checkbox"/> BVLOS <input type="checkbox"/> No requirement (ARC-a) <input type="checkbox"/> Low (ARC-b) <input type="checkbox"/> Medium (ARC-c) <input type="checkbox"/> High (ARC-d) |
| Remarks/Reasoning for Step #6 | |

| Step #7 SAIL determination | |
|---|---|
| #7 Specific Assurance and Integrity Level | <input type="checkbox"/> SAIL I <input type="checkbox"/> SAIL II <input type="checkbox"/> SAIL III <input type="checkbox"/> SAIL IV <input type="checkbox"/> SAIL V <input type="checkbox"/> SAIL VI |
| Step #8 Identification of Operational Safety Objectives | |
| #8 Operational Safety Objectives | As per identified SAIL from Step #7 and 2.5.2 of AMC1 to Article 11 (Table 6) of RG (EU) 2019/947 |
| Step #9 Adjacent area / airspace considerations | |
| #9 Safety requirement for containment (if one of the checkboxes is ticked, enhanced containment measures apply) | Please specify: The adjacent areas: <input type="checkbox"/> contain assemblies of people <input type="checkbox"/> are ARC-d If the operational volume is in a populated area: <input type="checkbox"/> M1 mitigation was applied <input type="checkbox"/> The operating area is controlled ground area |
| Remarks/Reasoning for Step #9 | |
| Step #10 Comprehensive safety portfolio | |
| #10 Compliance matrix for safety requirements | Please completely fill in the compliance matrix for SORA Step #10 that can be found on the next page. Have all safety requirements been described and met? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Place, Date | Name and Signature |

Step #10 Comprehensive Safety Portfolio

| Ground Risk Mitigations | | | |
|---|--|---|---|
| Mitigation | Level of robustness | Remarks (e.g. EASA design verification) | Reference to documentation |
| M1 Strategic mitigation for ground risk | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| M1 Tethered operation (fill in only if tethered operation) | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| M2 Effects of ground impact are reduced (e.g. parachute) | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| M3 An emergency response plan (ERP) is in place, the UAS operator is validated and effective | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |

| Strategic Air Risk Mitigations | | | |
|----------------------------------|--|---|---|
| Mitigation | ARC reduction | Remarks (e.g. EASA design verification) | Reference to documentation |
| Air Risk Class mitigation | <input type="checkbox"/> ARC-d (AEC 1 or 2) → ARC-c <input type="checkbox"/> ARC-d (AEC 1 or 2) → ARC-b <input type="checkbox"/> ARC-d (AEC 3) → ARC-c <input type="checkbox"/> ARC-d (AEC 3) → ARC-b <input type="checkbox"/> ARC-c (AEC 4) → ARC-b <input type="checkbox"/> ARC-c (AEC 5) → ARC-b <input type="checkbox"/> ARC-c (AEC 6,7,8) → ARC-b <input type="checkbox"/> ARC-c (AEC 9) → ARC-b | | Document name: Chapter number: Page number: |

| Tactical Mitigations Performance Requirements | | | |
|---|--|---|---|
| | TMPR | Remarks (e.g. EASA design verification) | Reference to documentation |
| TMPR level | <input type="checkbox"/> VLOS <input type="checkbox"/> BVLOS <input type="checkbox"/> No requirement (ARC-a) <input type="checkbox"/> Low requirement (ARC-b) <input type="checkbox"/> Medium requirement (ARC-c) <input type="checkbox"/> High requirement (ARC-d) | | Document name: Chapter number: Page number: |
| TMPR function | Detect | | Document name: Chapter number: Page number: |
| | Decide | | Document name: Chapter number: Page number: |
| | Command | | Document name: Chapter number: Page number: |
| | Execute | | Document name: Chapter number: Page number: |
| | Feedback loop | | Document name: Chapter number: Page number: |
| TMPR robustness | TMPR integrity and assurance objectives | | Document name: Chapter number: Page number: |

| Adjacent area/airspace considerations | | | |
|---------------------------------------|---|---|---|
| | Level of containment | Remarks (e.g. EASA design verification) | Reference to documentation |
| Safety requirement | <input type="checkbox"/> Basic containment <input type="checkbox"/> Enhanced containment | | Document name: Chapter number: Page number: |

| Operational Safety Objectives | | | |
|---|---|---|---|
| | Level of robustness | Remarks (e.g. EASA design verification) | Reference to documentation |
| OSO #01 Ensure that the UAS operator is competent and/or proven | <input type="checkbox"/> Optional <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #02 UAS manufactured by competent and/or proven entity | <input type="checkbox"/> Optional <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #03 UAS maintained by competent and/or proven entity | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #04 UAS developed to authority recognised design standards | <input type="checkbox"/> Optional <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #05 UAS is designed considering system safety and reliability | <input type="checkbox"/> Optional <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |

| Operational Safety Objectives | | | |
|--|---|---|---|
| | Level of robustness | Remarks (e.g. EASA design verification) | Reference to documentation |
| OSO #06 C3 link characteristics are appropriate for the operation | <input type="checkbox"/> Optional <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #07 Inspection of the UAS (product inspection) to ensure consistency with the ConOps | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #08 Operational procedures are defined, validated and adhered to | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #09 Remote crew trained and current and able to control the abnormal situation | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #10 Safe recovery from a technical issue | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #11 Procedures are in-place to handle the deterioration of external systems supporting UAS operations | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #12 The UAS is designed to manage the deterioration of external systems supporting UAS operations | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #13 External services supporting UAS operations are adequate for the operation | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |

| Operational Safety Objectives | | | |
|---|---|---|---|
| | Level of robustness | Remarks (e.g. EASA design verification) | Reference to documentation |
| OSO #14 Operational procedures are defined, validated and adhered to | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #15 Remote crew trained and current and able to control the abnormal situation | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #16 Multi-crew coordination | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #17 Remote crew is fit to operate | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #18 Automatic protection of the flight envelope from human error | <input type="checkbox"/> Optional <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #19 Safe recovery from human error | <input type="checkbox"/> Optional <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #20 A human factors evaluation has been performed and the human machine interface (HMI) found appropriate for the mission | <input type="checkbox"/> Optional <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #21 Operational procedures are defined, | <input type="checkbox"/> Low <input type="checkbox"/> Medium | | Document name: Chapter number: |

| Operational Safety Objectives | | | |
|--|---|---|---|
| | Level of robustness | Remarks (e.g. EASA design verification) | Reference to documentation |
| validated and adhered to | <input type="checkbox"/> High | | Page number: |
| OSO #22 The remote crew is trained to identify critical environmental conditions and to avoid them | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number |
| OSO #23 Environmental conditions for safe operations are defined, measurable and adhered to | <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| OSO #24 UAS is designed and qualified for adverse environmental conditions | <input type="checkbox"/> Optional <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High | | Document name: Chapter number: Page number: |
| Place, Date | | Name and Signature | |