This section is intended to support the applicant to compile all information necessary for the comprehensive safety portfolio (SORA Step #10). The remarks fields are intended for the applicant to explain their reasoning, e.g. why they have chosen a particular assessment or why they meet a particular requirement. Effectively, this template describes and documents all steps of the SORA process and is thus a pre-requisite for a successful application.

By having this questionnaire type template for the documentation of the risk assessment, applicants are encouraged to focus on the information that needs to be provided and to refrain from having unnecessary long explanations of how an operation works inside this documentation. The SORA is supposed to be a tool to analyze a ConOps, thus only information on the assumptions and links to the supporting evidence need to be given here.

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| **Step #1 Concept of Operations** |
| **#1 Short description of proposed operations** | **The applicant may use this field for a very brief summary of the intended operation that is described in the ConOps. It should be noted, that only the description in the referred ConOps (#1.2) is relevant for the approval of an operation.** |
| **#1.1 Type of operation** | ☐Visual line of sight (VLOS)☐Extended visual line of sight (EVLOS)☐Beyond visual line of sight (BVLOS) |
| #1.2 Reference to Concept of Operations file and relevant locations  | Give reference to the file name and revision number of the assessed ConOps:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Give reference to GPS coordinates for the operational volume and the the risk buffers as a separate file using either e.g. .txt, .kmz or .kml, if the location is not sufficiently described in the ConOps reference above:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Remarks***The applicant should make sure that the revision of the risk assessment and ConOps are compatible. An updated revision of the ConOps might or might not require an adapted revision of the SORA risk assessment depending on the type of change at the discretion of the Competent Authority.******This field may be used to inform the Competent Authority of operation specific applicant assumptions, references to similar already approved missions or whatever is appropriate to support the authority in its evaluation.*** |
| **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)** | ☐Controlled ground area☐Sparsely populated area☐Populated area ☐Over assemblies of people☐Actual density of ppl/km^2: \_\_\_\_\_\_\_\_\_\_ (if available) |
| **#2.3 maximum characteristic dimension** |  |
| **#2.4typical expected kinetic energy** |  |
| **#2.4.1 reference to the kinetic energy computation if applicable** | file reference and/or reference to the relevant part of the technical description in the ConOps |
| **#2.5 Specify the Intrinsic Ground Risk Class** |  |
| **Remarks/Reasoning for Step #2*****This field may be used to explain the derived risk class.**** ***How did the applicant choose the reference speed for the kinetic energy computation?***
* ***How can the applicant justify that the population density is assessed accurately (data source)?***

***How does the applicant verify that the outer limits of the ground risk buffer are used for the GRC assessment?******Please note: if the kinetic energy computation is simple, the applicant may also put it here.*** |
| **Step #3 Final GRC determination** |
| **#3.1 Specify the applied ground risk mitigations, if applicable** (tick one per mitigation) | M1 Strategic mitigations for ground riskSpecify the level of robustness: ☐None☐Low☐Medium☐HighM2 Effects of ground impact are reducedSpecify the level of robustness:☐Low/None☐Medium☐HighM3 An emergency response plan (ERP) is in place, the UASoperator is validated and effective Specify the level of robustness: ☐Low/None☐Medium☐High |
| **#3.2 Specify the Final Ground Risk Class** |  |
| **Remarks/Reasoning for Step #3**This field may be used to explain the underlying assumption of the applied mitigation, e.g.* Why is the used M2 method appropriate to lower the GRC?
* Which official did you coordinate the M3 ERP with if applicable?

*Why is the used M1 strategic mitigation method appropriate? Which sources were used for the assessment?* |
| **Step #4 Initial Air Risk Class** |
| **#4.1 Classification of the airspace where the operation is intended to be conducted (multiple answers possible)** | ☐A ☐B ☐C ☐D ☐E ☐F ☐G ☐Restricted area ☐Danger area  ☐TMZ ☐RMZ ☐ATZ |
| **#4.2 Specify the Initial Air Risk Class and the reasoning for choosing it (multiple answers possible)** | ☐ARC-a☐ARC-b☐ARC-c☐ARC-d |
| **Remarks/Reasoning for Step #4*****Explain what data source was used to determine the airspace classification.*** |
| **Step #5 Strategic air risk mitigations and final Air Risk Class** |
| **#5.1 Specify, if strategic mitigations of theAir Risk Class were applied** | ☐Yes☐No |
| #5.2 Type of strategic mitigation | ☐Boundary☐Chronology☐Time of exposure☐Common structures☐Common flight rules |
| **#5.3 Residual Air Risk Class** (after strategic mitigation) | ☐ARC-b☐ARC-c☐ARC-d |
| **Remarks/Reasoning for Step #5*** **This step must be repeated for all Initial ARC identified in Step #4 if they are Arc-c or Arc-d and strategic mitigations are available**
 |
| **Step #6 TMPR and robustness level** |
| **#6 Tactical Mitigations Performance Requirements (refer to Annex D)** | ☐VLOS ☐BVLOS ☐No requirement (ARC-a)☐Low (ARC-b)☐Medium (ARC-c)☐High (ARC-d) |
| **Remarks/Reasoning for Step #6*** **Explain the technology selected for the detect function and how the required performance is ensured**
 |
| **Step #7 SAIL determination!** |
| **#7 Specific Assurance and Integrity Level** | ☐SAIL I☐SAIL II☐SAIL III☐SAIL IV☐SAIL V☐SAIL VI |
| **Remarks for Step #7*** ***Usually no remarks are necessary unless the operator plans to deviate from the SAIL mapping table, which the authority might only allow in certain unusual boundary cases.***
 |
| **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 |
| **Remarks/Reasoning for Step #8** * *Compliance evidence with various OSOs needs inputs from Operator, UAS designer and manufacturer, depending on the required LOR and OSO category.*
* *Which sources have been used for the compliance for which OSO? Example: Some evidence supplied by an OEM, others by service providers, others by the operator itself. It may be useful to identify this work share at this stage in order to ease the Step #10.*
 |
| **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:☐ contain assemblies of people☐ are ARC-dIf the operational volume is in a populated area:☐ M1 mitigation was applied☐ The operating area is controlled ground area |
| **Remarks/Reasoning for Step #9*** Step #9 may be analysed and assessed together with OSO#10 and OSO#12 (single failure criterion, SW-HW methodology)
 |
| **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?☐Yes☐No |
|  |
| **Place, Date** | **Name and Signature** |

 **Step #10 Comprehensive Safety Portfolio**

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| **Ground Risk Mitigations – SORA Annex B** |
| **Mitigation** | **Level of robustness** | **Remarks** (e.g. competent authority design verification) | **Reference to documentation** |
| **M1 Strategic mitigation for ground risk** | ☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **M1 Tethered operation (fill in only if tethered operation)** | ☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **M2 Effects of ground impact are reduced (e.g. parachute)** | ☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **M3 An emergency response plan (ERP) is in place, the UAS operator is validated and effective** | ☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |

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| **Strategic Air Risk Mitigations – SORA Annex C** |
|  | **ARC reduction** | **Remarks** (e.g. competent authority design verification) | **Reference to documentation** |
| **Air Risk Class mitigation** | ☐ ARC-d (AEC 1 or 2) 🡪 ARC-c☐ ARC-d (AEC 1 or 2) 🡪 ARC-b☐ ARC-d (AEC 3) 🡪 ARC-c☐ ARC-d (AEC 3) 🡪 ARC-b☐ ARC-c (AEC 4) 🡪 ARC-b☐ ARC-c (AEC 5) 🡪 ARC-b☐ ARC-c (AEC 6,7,8) 🡪 ARC-b☐ ARC-c (AEC 9) 🡪 ARC-b |  | Document name:Chapter number:Page number: |

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| **Tactical Mitigations Performance Requirements – SORA Annex D** |
|  | **TMPR**  | **Remarks** (e.g. competent authority design verification) | **Reference to documentation** |
| **TMPR level** | ☐ VLOS☐ BVLOS☐ No requirement (ARC-a)☐ Low requirement (ARC-b)☐ Medium requirement (ARC-c)☐ 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: |

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| **Adjacent area/airspace considerations** |
|  | **Level of containment** | **Remarks** (e.g. competent authority design verification) | **Reference to documentation** |
| **Safety requirement** | ☐ Basic containment☐ Enhanced containment |  | Document name:Chapter number:Page number: |

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| **Operational Safety Objectives – SORA Annex E** |
|  | **Level of robustness**  | **Remarks** (e.g. competent authority design verification) | **Reference to documentation** |
| **OSO #01 Ensure that the UAS operator is competent and/or proven** | ☐ Optional☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #02UAS manufactured by competent and/or proven entity** | ☐ Optional☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #03UAS maintained by competent and/or proven entity** | ☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #04UAS developed to authority recognised design standards** | ☐ Optional☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #05UAS is designed considering system safety and reliability** | ☐ Optional☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #06C3 link characteristics are appropriate for the operation** | ☐ Optional☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #07Inspection of the UAS (product inspection) to ensure consistency with the ConOps** | ☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #08Operational procedures are defined, validated and adhered to** | ☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #09Remote crew trained and current and able to control the abnormal situation** | ☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #10Safe recovery from a technical issue** | ☐ Low ☐ Medium ☐ High |  | Document name:Chapter number:Page number: |
| **OSO #11Procedures are in-place to handle the deterioration of external systems supporting UAS operations** | ☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #12The UAS is designed to manage the deterioration of external systems supporting UAS operations** | ☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #13External services supporting UAS operations are adequate for the operation** | ☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #14Operational procedures are defined, validated and adhered to** | ☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #15Remote crew trained and current and able to control the abnormal situation** | ☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #16Multi-crew coordination** | ☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #17Remote crew is fit to operate** | ☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #18Automatic protection of the flight envelope from human error** | ☐ Optional☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #19Safe recovery from human error** | ☐ Optional☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #20A human factors evaluation has been performed and the human machine interface (HMI) found appropriate for the mission** | ☐ Optional☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #21Operational procedures are defined, validated and adhered to** | ☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #22The remote crew is trained to identify critical environmental conditions and to avoid them** | ☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number |
| **OSO #23Environmental conditions for safe operations are defined, measurable and adhered to** | ☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
| **OSO #24UAS is designed and qualified for adverse environmental conditions** | ☐ Optional☐ Low☐ Medium☐ High |  | Document name:Chapter number:Page number: |
|  |
| **Place, Date**  | **Name and Signature** |