CHECKLIST

AusSORA application

Instructions

1. The documentation submitted must follow the level of robustness (levels of integrity and assurance) identified when applying the Australian specific operations risk assessment (AusSORA) methodology. Do not send more documentation than required by the applicable level of robustness (low, medium, high). CASA will not review any out-of-scope documentation and its content will remain solely under the responsibility of the applicant/operator.
2. Further substantiation or documentation might be required upon request by CASA.

Applicant details			
Applicant name		**Applicant ARN**	

1. SORA Step 1 – Concept of Operations (ConOps)

Criteria	Description
Location(s) Please provide a separate KML file for: 1. the operational volume (flight geography (FG) and contingency volume (CV)) 2. the ground risk buffer (GRB) 3. the air risk buffer (if required). The KML must depict the contingency volume and risk buffers when applied to higher populated areas within the operational volume.	
Provide a short description of proposed operations: *e.g. We intend to operate the fixed wing RPA to conduct aerial survey task up to 400ft AGL during day and night operations.* *e.g. We intend to operate a multi-rotor RPA at 1000ft AGL over forest land to identify new species using thermal imagery. We intend to operate at night and only within 2km from the landing / take-off area.*	

2. SORA Step 2 – Intrinsic Ground Risk Class (iGRC)

Criteria	Description
Max dimension / Speed If the multirotor trade-off table is being applied, do not complete this section.	☐ 1m / 25 m/s ☐ 3m / 35 m/s ☐ 3m / 75 m/s ☐ 20m / 120 m/s ☐ 40m / 200 m/s
Type of operational areas on the ground (including FG, CV and GRB) If the multirotor trade-off table is being applied, do not complete this section	☐ Controlled ground area ☐ Isolated environment (<0.5ppl/km^2) ☐ Scarcely populated environment (<5ppl/km^2) ☐ Lightly populated environment (<50ppl/km^2) ☐ Sparsely populated environment (<500ppl/km^2) ☐ Suburban / low density metropolitan environment (<5,000ppl/km^2) ☐ High density metropolitan environment (<50,000ppl/km^2) ☐ Assemblies of people (>50,000ppl/km^2)
Multirotor trade-off table - Max dimension / speed (if applicable)	☐ 2m / 20 m/s ☐ 6m / 35 m/s
Multirotor trade-off table - Type of operational areas on the ground (including FG, CV and GRB) (if applicable)	☐ <2.5ppl/km^2 ☐ <25ppl/km^2 ☐ <250ppl/km^2 ☐ <2,500ppl/km^2 ☐ <25,000ppl/km^2 ☐ >25,000ppl/km^2
Operational type	☐ VLOS ☐ BVLOS
Resulting iGRC (for VLOS iGRC, deduct one (1) point from iGRC table, except for controlled ground area or where the iGRC is already one (1))	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 1 - Micro RPA
Information sources used in determination of iGRC	☐ ABS data ☐ LandScan ☐ On-site assessment ☐ Other – please specify:

Remarks / Justification for determination

Include information relating to the qualitative assessment of the ground area and what population densities you identified within the operational area. The highest population within a 1km grid square should be identified.

3. SORA Step 3 – Final Ground Risk Class (fGRC)

3.1 Ground Risk Mitigations – SORA Annex B

Mitigations	Robustness	Remarks	Reference to documentation (insert document ID, chapter/section and page number)
M1 Strategic mitigations for ground risk	☐ None (0) ☐ Low (-1) ☐ Medium (-2) ☐ High (-3)		
M2 Effects of ground impact are reduced (e.g. parachute)	☐ None/Low (0) ☐ Medium (-1) ☐ High (-2)		

Note: An emergency response plan is now required for all applications and will not affect the ground risk class score.

Final GRC

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

Note: Final GRC ≥7 cannot be assessed using SORA.

4. SORA Step 4 – Initial Air Risk Class (iARC)

Criteria	Description
Classification of the airspace where the operation is intended to be conducted (select all that apply)	☐ A ☐ C ☐ D ☐ E ☐ G ☐ Restricted Airspace ☐ Military Operating Area ☐ Danger Area ☐ Airport Environment ☐ Atypical
Operating heights	☐ <500ft AGL ☐ >500ft AGL but less than FL600
Specify the initial Air Risk Class (of the Operational Volume)	☐ ARC-a ☐ ARC-b ☐ ARC-c ☐ ARC-d

5. SORA Step 5 – Strategic air risk mitigations and residual Air Risk Class (Optional)

Only complete this section if you are claiming the application of strategic mitigations to reduce the initial Airspace Risk Class. If not, go to step 6.

Criteria	Description
Claimed Residual Air Risk Class (after strategic mitigation)	☐ ARC-a ☐ ARC-b ☐ ARC-c ☐ ARC-d

If strategic mitigations are applied, provide remarks / justification against each applied mitigation.

Note : Completion of this section is mandatory.

Remarks	Reference to documentation (insert document ID, chapter/section and page number)

6. SORA Step 6 – Tactical Mitigations Performance Requirements (TMPR) – SORA Annex D

6.1 TMPR level

Criteria	Description
TMPR level required	☐ VLOS (not required) ☐ BVLOS, requirement: ☐ ARC-a (The completion of this section is optional when operating in ARC-A) ☐ Low / ARC-b ☐ Medium / ARC-c ☐ High / ARC-d

6.2 TMPR functions

TMPR functions	Remarks (describe how integrity and assurance requirements are met for each function)	Reference to documentation (insert document ID, chapter/section and page number)
Detect		
Decide		

TMPR functions	Remarks (describe how integrity and assurance requirements are met for each function)	Reference to documentation (insert document ID, chapter/section and page number)
Command		
Execute		
Feedback loop		

7. SORA Step 7 – SAIL Determination

Criteria	Description
Claimed Specific Assurance and Integrity Level (SAIL)	☐ SAIL I ☐ SAIL II ☐ SAIL III ☐ SAIL IV ☐ SAIL V ☐ SAIL VI

8. SORA Step 8 – Operational Safety Objectives – SORA Annex E

Note: Some OSOs are grouped according to Annex E.

OSO	Robustness	Remarks	Reference to documentation (insert document ID, chapter/section and page number)
#01 Ensure that the UAS operator is competent and/or proven	☐ Optional ☐ Low ☐ Medium ☐ High		
#02 UAS manufactured by competent and/or proven entity	☐ Optional ☐ Low ☐ Medium ☐ High		
#03 UAS maintained by competent and/or proven entity	☐ Low ☐ Medium ☐ High		
#04 UAS developed to authority recognised design standards	☐ Optional ☐ Low ☐ Medium ☐ High		

OSO	Robustness	Remarks	Reference to documentation (insert document ID, chapter/section and page number)
#05 UAS is designed considering system safety and reliability	☐ Optional ☐ Low ☐ Medium ☐ High		
#06 C3 link characteristics are appropriate for the operation	☐ Optional ☐ Low ☐ Medium ☐ High		
#07 Inspection of the UAS to ensure consistency with the ConOps	☐ Low ☐ Medium ☐ High		
#08 Operational procedures	☐ Low ☐ Medium ☐ High		
#09 Remote crew training	☐ Low ☐ Medium ☐ High		
#13 External services supporting UAS operations are adequate for the operation	☐ Low ☐ Medium ☐ High		

OSO	Robustness	Remarks	Reference to documentation (insert document ID, chapter/section and page number)
#16 Multi-crew coordination	☐ Low ☐ Medium ☐ High		
#17 Remote crew is fit to operate	☐ Low ☐ Medium ☐ High		
#18 Automatic protection of the flight envelope from human errors	☐ Optional ☐ Low ☐ Medium ☐ High		
#19 Safe recovery from human error	☐ Optional ☐ Low ☐ Medium ☐ High		
#20 A human factors evaluation has been performed and the human machine interface (HMI) found appropriate for the mission	☐ Optional ☐ Low ☐ Medium ☐ High		

OSO	Robustness	Remarks	Reference to documentation (insert document ID, chapter/section and page number)
#23 Environmental conditions for safe operations are defined, measurable and adhered to	☐ Low ☐ Medium ☐ High		
#24 UAS is designed and qualified for adverse environmental conditions	☐ Optional ☐ Medium ☐ High		

9. SORA Step 9 – Containment determination

CASA will assess containment requirements prior to raising a fee estimate. If further evidence is required, CASA will notify the applicant.

Criteria	Description
Stated range of the RPA(s). (Use the maximum range of the RPA documented from the manufacturer/designer. If there is no documented maximum range, use the cruise speed (e.g. 75% of the maximum speed) and standard endurance to calculate range)	
Have you identified take-off location(s)?	☐ Yes ☐ No If yes, please provide in KML file
Is the RPA equipped with a Parachute recovery system or independent flight termination system?	☐ Yes ☐ No If yes, please provide additional details

10. Reference Documents

Example: Emergency response plan.

No.	Title
1	
2	
3	
4	
5	
6	
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