Australian Government
Civil Aviation Safety Authority

TEMPORARY MANAGEMENT INSTRUCTION

RPAS Operations Authorisation assessment methodology - TMI 2025-02

July 2025

Acknowledgement of Country

The Civil Aviation Safety Authority (CASA) respectfully acknowledges the Traditional Custodians of the lands on which our offices are located and the places to which we travel for work. We also acknowledge the Traditional Custodians' continuing connection to land, water and community. We pay our respects to Elders, past and present.

Artwork: James Baban.

References

Acronyms

The acronyms and abbreviations used in this Temporary Management Instruction (TMI) are listed in the table below.

Table 1. Acronyms

Acronym and abbreviation	Description
ARC	air risk classification
CASA	Civil Aviation Safety Authority
GRC	ground risk classification
iGRC	intrinsic ground risk classification
JARUS	Joint Authorities on Rulemaking for Unmanned Systems
OSO	operational safety objective
RPA	remotely piloted aircraft
RPAS	remotely piloted aircraft system
SAIL	Specific Assurance and Integrity Level
SORA	Specific Operations Risk Assessment
TLOS	target level of safety
TMI	Temporary Management Instruction

Reference material

The reference material used in this TMI are listed in the table below.

Table 2. Reference material

Document type	Title
TMI	RPA Operations over or near people 2024-01
TMI	SORA 2.0 ground risk assessment – requirements and alternate criteria 2024-03

Revision history

This TMI is approved by the National Manager, Emerging Technologies and Regulatory Change.

Revisions to this TMI are recorded below in order of the most recent first.

Table 3. Revision history

Version number	Date	Parts and sections	Details
1.0	31 July 2025	All	Initial issue

1 Introduction

1.1 Purpose

This TMI provides instruction to CASA officers, and guidance to industry, on CASA's use of the Joint Authorities for Rulemaking on Unmanned Systems (JARUS) Specific Operations Risk Assessment (SORA) methodology for assessing remotely piloted aircraft systems (RPAS) operations in Australia. It is intended to provide greater clarity about CASA's use of the SORA methodology, given the time and costs involved in the assessment of complex applications, which are often novel to both industry and CASA.

While SORA is the primary methodology for assessment of complex RPAS operations, CASA retains the flexibility to use alternative assessment methods where appropriate.

The TMI supports our implementation of a consistent, transparent, and efficient regulatory assessment framework that is aligned to Australia's environment and conditions. The implementation transitions CASA from the current framework incorporating elements of both versions 2.0 and 2.5 of SORA. The final state under this TMI will be to implement SORA version 2.5 modified for Australian purposes.

Our goal is to not require that every operator be a SORA expert – but rather, build the elements of SORA into the application and assessment process and operating profile in particular for lower risk operations, reducing the requirements and burden on operators, and ultimately creating an efficient assessment process for applicants.

1.2 Background

The SORA methodology developed by JARUS is a structured framework to assess the operational safety of certain RPAS operations. It is designed to ensure a level of safety is achieved, equivalent to that expected of conventionally piloted aircraft. CASA currently uses a modified hybrid of SORA elements from both SORA 2.0 and 2.5 versions.

SORA is designed to assess the air and ground risk of a specific RPA operation; SORA imposes set risk treatments to achieve an aligned target level of safety to persons on the ground and in the air, to that of general aviation and commercial air transport.

To determine the required risk mitigators for RPA operations, SORA sets a Specific Assurance and Integrity Level (SAIL) ranging from 1 to 6. The SAIL is a number based on assessment and consideration of both the air risk classification (ARC) and ground risk classification (GRC) of the operation. Generally, the higher the SAIL, the more complex the operation is and a higher level of risk mitigators are required.

SORA introduces risk mitigators through Operational Safety Objectives (OSOs) which are requirements or controls that mitigate risk to meet a target level of safety. When risk levels of an operation increase, the number, and complexity of OSOs also increase, which may require further justification and assurance evidence from the RPAS operator.

SORA also considers risk to areas that are adjacent to the intended operational area and requires certain controls to be in place The required level of these controls is dependent on the difference in risk between the operational area and the adjacent area.

CASA has already incorporated one of the most significant elements of SORA version 2.5 into the alternate criteria in TMI-2024-03. TMI-2024-03 contains an amended ground risk table and qualitative area descriptors, which align with SORA version 2.5 population densities, and can be used for all SORA based applications.

The amended population densities provide a wider range of qualitative and quantitative population descriptors that better represent Australia's populated areas, enabling operators to more accurately assess the ground risk and required controls appropriate to the operation and risk profile.

The SORA methodology as modified is suitable and appropriate for informing regulatory decisions in line with CASA's statutory functions.

1.3 Applies to

This TMI applies to staff whose role or delegation supports the assessment and approval of RPAS operations, in particular CASA staff in the Emerging Technologies and Regulatory Change, RPAS Operations, and Airworthiness and Engineering teams.

1.4 Instruction

CASA officers should use SORA as the preferred risk assessment methodology for RPAS operations as detailed in CASA assessment practices and protocols and may use alternative methodologies when appropriate. Use of alternate methodologies should be discussed in advance with Emerging Technologies and Regulatory Change Branch.

This approach provides CASA with the flexibility to assess novel or highly specialised RPAS operations that may not fit within the scope of the SORA model or, where an operation application does not require the rigor of the SORA methodology.

CASA officers should ensure they remain up to date with CASA's SORA guidance, including informing industry on CASA assessment requirements and practices when these are amended, released, and communicated.

1.5 Implementation

To ensure a fit-for-purpose approach, CASA will continue the phased adoption of elements of SORA version 2.5 through the publication of guidance.

CASA anticipates the release of communication material and advice on the implementation of SORA version 2.5 elements by the third quarter of 2025 and is working towards publishing an updated TMI 2024-03 by the end of 2025.

Full implementation of CASA's modified SORA version 2.5 methodology is planned for the end of the second quarter of 2026. This will include industry guidance material, internal training, systems integration, operational templates, and general communication and stakeholder engagement.

Industry may continue to use SORA version 2.0 and TMI 2024-03 until CASA formally advises application assessment using version 2.0 has ceased.

The ground risk assessment method and applicable ground risk mitigations in TMI 2024-03 are to remain and are not expected to change as these already incorporate SORA version 2.5 elements and have been validated by CASA.

OSO applicability, micro RPA iGRC application, adjacent area calculation and containment requirement elements of SORA version 2.5 will continue to be reviewed and validated, and subsequent guidance developed through until late 2025. CASA communications to industry will be released when revisions to the TMI are published.

General advice, updates and timeframes on CASA's implementation of the modified SORA version 2.5 will be published on the CASA website and shared through CASA subscribed mailing lists.