

OFFICIAL
Uncontrolled If Printed



Australian Government

Defence

AUSTRALIAN NAVAL CLASSIFICATION AUTHORITY MANUAL (VOLUME 2)

DIVISION 5: REMOTE AND AUTONOMOUS SYSTEMS

SECTION 0: GENERAL

CHAPTER 03: HOST PLATFORM INTEGRATION

PART 1: ANC RULES



This document is issued for use by Defence and Defence Industry personnel and is effective forthwith.

A handwritten signature in black ink, appearing to read 'CN Dagg'.

CN Dagg, CSC
Assistant Secretary
Australian Naval Classification Authority
Department of Defence
CANBERRA ACT 2600
May 2024 Edition

OFFICIAL
Uncontrolled If Printed

© Commonwealth of Australia 2024

This work is copyright. Apart from any use as permitted under the [Copyright Act 1968](#)¹, no part may be reproduced by any process without prior written permission from the Department of Defence.

All classified Defence information is protected from unauthorised disclosure and it is an offence to release classified information under the [Criminal Code Act 1995](#)² and the [Privacy Act 1988](#)³. Information contained in Defence publications may only be released in accordance with the [Defence Security Principles Framework](#)⁴.

ANCA Manual (Volume 2)

Division 5: Remote and Autonomous Systems, Section 0: General, Chapter 03: Host Platform Integration, Part 1: ANC Rules, May 2024 Edition

Developer:

Australian Naval Classification Authority

¹ <https://www.legislation.gov.au/Series/C1968A00063>

² <https://www.legislation.gov.au/Series/C2004A04868>

³ <https://www.legislation.gov.au/Series/C2004A03712>

⁴ <http://drnet/AssociateSecretary/security/policy/Pages/dspf.aspx>

AUSTRALIAN NAVAL CLASSIFICATION RULES

First issued	May 2024
Reissue date	N/A
Issued by	CN Dagg, CSC, AS ANCA
Document management	This volume will be reviewed periodically from the date of issue, but sooner if necessitated by business requirements, and to ensure it continues to meet the intent of Defence policy.
Availability	The latest version of this volume is only available from the Defence Australia website. Its currency cannot be guaranteed if sourced from other locations. It is available for public release.
Policy domain	Defence Seaworthiness
Accountable Officer	Australian Naval Classification Authority
Publication Owner	Defence Seaworthiness Authority (DSwA)
Policy contact	anca.communications@defence.gov.au
Structure	see Contents ⁵
Cancellation	N/A
Definitions	Definitions that apply to this volume are located in the Division 1, Part 1 Annex A.

⁵ <https://www.defence.gov.au/business-industry/industry-governance/australian-naval-classification-authority/australian-naval-classification-rules>

AMENDMENTS

Proposals for amendments to the ANCA Manual (Volume 2) may be sent to:

Australian Naval Classification Authority

Mail to: anca.correspondence@defence.gov.au

EDITIONS

Edition	Edition	Amendment type	Effective
May 2024	Original issue		May 2024

Division 5: Remote and Autonomous Systems (RAS) Rules

Part 1: ANC Rules

Chapter 03: Host Platform Integration

Contents

Rule 0.	Scope and Application	2
Rule 1.	RAS Compartments	2
Rule 2.	RAS Storage Areas	2
Rule 3.	Launch and Recovery Systems	3
Rule 4.	RAS Services	4
Rule 5.	RAS Fire Safety.....	5

Australian Naval Classification Rules

Rule 0. Scope and Application

- 0.1 This Chapter outlines the host platform requirements for integrating RAS vessels.
- 0.2 This Chapter does not cover the integration of uncrewed aerial vehicles. Platforms required to host uncrewed aerial vehicles shall refer to Defence Aviation Safety Authority publications.

Rule 1. RAS Compartments

Functional Objective

- 1.1 The host platform shall provide or support modular RAS compartments to enable RAS maintenance and RAS operations to take place.
 - 1.1.1 RAS compartments include control rooms, maintenance areas, equipment storage compartments, RAS-associated offices, RAS-associated server rooms etc. RAS compartments may be independent, adjacent or incorporated in LARS systems/storage areas.

Performance Requirements

- 1.2 The host platform shall provide or support modular:
 - 1.2.1 RAS maintenance, co-ordination and equipment repair areas in accordance with the OSI;
 - 1.2.2 When fitted to the RAS, an area for explosive routing, preparation, and stowage in accordance with the requirements of the host platform's Rules for Dangerous Goods; and
 - 1.2.3 RAS Control Station(s) for end users to monitor and control RAS operations.
- 1.3 Access to the RAS Control Station(s) shall be via controllable recognised routes in accordance with the host platform's Rules for Escape, Evacuation and Rescue.

Rule 2. RAS Storage Areas

Functional Objective

- 2.1 The host platform shall provide, or support modular, RAS Storage Area(s) for safe stowage of the RAS and allow maintenance to be undertaken. RAS storage areas may be part of a Launch and Recovery System (LARS) or independent, such as cradles, storage racks/harnesses, trolleys, etc. For example:
 - 2.1.1 Independent RAS storage area example: Three Autonomous Underwater Vehicles (AUV) are stored on the upper deck, in three adjacent cradles. A crane is used to transfer each AUV to a single stern-mounted LARS, from which the AUVs are launched, one by one. In this example the cradles are the RAS storage area, and the independent LARS is only used for launch and recovery.
 - 2.1.2 Integrated RAS storage/LARS area example: An AUV is stored on a davit when not deployed and the davit is used for LAR. The RAS storage is considered part of the LARS.

Performance Requirements

- 2.2 The host platform shall provide, or support a modular, facility to allow stowage of the RAS as defined in the Operating and Support Intent (OSI).
- 2.3 A facility shall be provided to enable the necessary levels of maintenance and servicing to be carried out, including weapon prep and stowage, as defined in the OSI.
- 2.4 The RAS Storage Area shall be capable of accepting the static and moving weight of the RAS detailed in the OSI.
- 2.5 The RAS Storage Area shall conform to the requirements of the LARS, without the consideration of launching and recovering criteria.
- 2.6 If the RAS Storage Area is fitted with doors it shall comprise the following features, in addition to the host platform's Rules for Structural Design:
 - 2.6.1 If power operated, it shall also be able to operate manually;
 - 2.6.2 Capable of being opened and closed in operational wind speeds (as defined in the OSI), without distortion at all opening positions; and
 - 2.6.3 Capable of withstanding 'green sea' conditions.
- 2.7 If required by the OSI, an area for safe transit and shelter of personnel shall be provided.
- 2.8 The RAS Storage Area shall be provided with suitable lighting to permit the conduct of RAS(s) vessel maintenance and servicing.
- 2.9 The RAS Storage Area shall provide heating and ventilation to meet the equipment operating conditions.

Rule 3. Launch and Recovery Systems

Functional Objective

- 3.1 The host platform shall provide, or support a permanent, semi-permanent or modular system, from which RAS are safely launched, recovered, manoeuvred, and/or stored.

Performance Requirements

- 3.2 The host platform LARS shall provide or support the following functions for all embarked RAS vessels listed in the host platform OSI:
 - 3.2.1 Launch;
 - 3.2.2 Recovery;
 - 3.2.3 Secure RAS vessels and associated RAS equipment to the host platform;
 - 3.2.4 Manoeuvre RAS and associated equipment; and
 - 3.2.5 Storage of RAS and associated equipment.
- 3.3 The host platform LARS shall be such that it will meet the dynamic effects, including dynamic response, limits of the RAS and RAS securing requirements as specified in the OSI.

- 3.4 LARS drainage shall be provided to prevent the accumulation of fluids not within designed fluid storage areas.
- 3.5 Access to the LARS shall be via controllable recognised routes in accordance with the host platform's Rules for Escape, Evacuation and Rescue.
- 3.6 There shall be a system or means to safely move the RAS vessel(s) between the LARS and RAS Storage Area where required.
- 3.7 The host platform shall secure RAS vessels such that neither the RAS nor the host platform suffers damage.
- 3.8 The LARS location shall minimise interaction between the RAS vessel and excessive wake and turbulence generated by the host platform, So Far As Reasonably Practicable (SFARP).
- 3.9 The host platform shall provide appropriate lighting to facilitate personnel to prepare and secure the RAS before and after LARS operations.
- 3.10 As required, the host platform shall provide services (as detailed in Rule 4) to the RAS while located in the LARS in accordance with the OSI.
- 3.11 The host platform shall provide LARS aids such as fenders and guides to assist in the safe launch, operation and recovery of RAS vessels.
- 3.12 The host platform shall provide an emergency means of launch and recovery for RAS(s), in case of primary LARS failure, in accordance with the OSI.

Rule 4. RAS Services

Functional Objective

- 4.1 Services shall be provided to support RAS operations and all RAS related maintenance activities.

Performance Requirements

- 4.2 The level of host platform services required shall be defined within the OSI, these may include:
 - 4.2.1 Fresh water for the operation and/or cleaning of the RAS and its components;
 - 4.2.2 Materiel handling equipment for the safe handling of RAS and related equipment;
 - 4.2.3 Appropriate means for auxiliary service (such as compressed air and hydraulics);
 - 4.2.4 Fuel and fuelling services to support the RAS and its components; and
 - 4.2.5 Support for RAS communications equipment and systems, which may be below or above the designed waterline of the host platform.
- 4.3 Communications or other sensors that are required to be installed or fitted to the host platform to support RAS operations shall be placed and designed to minimise interference with other sensors or systems fitted to the host platform.
- 4.4 Integration of host system information and management with RAS control station shall be provided in accordance with the OSI.

Note: The RAS Information and Management System includes those systems required for RAS mission support and operational planning.

- 4.5 The host platform shall provide stowage for RAS servicing fluids in accordance with the OSI.
- 4.6 Power to support the RAS shall be available at each starting and servicing position.
- 4.7 Heating, Ventilation and Air Conditioning (HVAC) services, or support for independent HVAC services, shall be provided in accordance with the OSI.

Rule 5. RAS Fire Safety

Functional Objective

- 5.1 The host platform shall provide, or support a permanent, semi-permanent or modular fire safety facilities to all areas of RAS in accordance with the OSI.

Note: This rule should be read in conjunction with the host platform's Rules for Fire Safety.

Performance Requirements

- 5.2 Fire detection capabilities, suitable for the RAS and RAS equipment shall be provided or supported by the host platform in accordance with the OSI.
- 5.3 Firefighting equipment suitable for the RAS and RAS equipment requirements shall be provided or supported by the host platform in accordance with the OSI.
- 5.4 The host platform shall provide clean-up facilities for post fire-fighting procedures in accordance with the OSI.