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**AUSTRALIAN NAVAL CLASSIFICATION AUTHORITY MANUAL
(VOLUME 2)**

DIVISION 3: SHIP RULES

CHAPTER 14: ENVIRONMENTAL PROTECTION

PART 2: SOLUTIONS TO THE ANC RULES



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

Handwritten signature of CN Dagg, CSC.

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May 2024 Edition

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Division 3: Ship Rules, Chapter 14: Environmental Protection, Part 2: Solutions to the ANC Rules, May 2024 Edition

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AUSTRALIAN NAVAL CLASSIFICATION RULES

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Division 3: Ship Rules
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Chapter 14: Environmental Protection

Contents

Rule 0. Goal.....	2
Rule 1. General.....	2
Rule 2. Oil Pollution Prevention.....	2
Rule 3. Wastewater Pollution Prevention.....	3
Rule 4. Garbage Pollution Prevention.....	5
Rule 5. Emissions from Ozone Depleting Substances and Synthetic Greenhouse Gases.....	5
Rule 6. Emissions from Marine Engines.....	6
Rule 7. Emissions from Shipboard Incinerators.....	6
Rule 8. Ship Energy Efficiency.....	7
Rule 9. Ballast Water Management.....	7
Rule 10. Biofouling Management.....	8
Rule 11. Ship Recycling.....	8

Solutions to the ANC Rules**Rule 0. Goal**

0.1 The Goal for this Chapter is contained in Part 1.

Rule 1. General**Solutions**

- 1.1 The Naval Vessel Operator (NVO) shall present and justify a Solution for demonstrating compliance to Part 1 of the ANC Rules. In the presentation and justification of a solution, the following shall be considered.
- 1.2 Solutions to the general performance requirements of this Rule shall be selected as an integral element of the Solutions to Rules 2 to 11 of this Chapter, which shall be assessed to ensure they meet the requirements of Part 1.
- 1.3 All Conventions, Rules, Regulations, Codes and Standards used shall be the latest versions as amended at the time of approving the ANC Basis unless a specific version date is specified in the text.
- 1.4 In applying solutions to this chapter, the NVO shall take into account IMO's Unified Interpretations of MARPOL.
- 1.5 Electronic record books can be used if:
- 1.5.1 provides a reliable means of maintaining the integrity of the information it stores, and
- 1.5.2 is readily accessible for subsequent reference, and
- 1.5.3 is approved by the ANC Authority.

Rule 2. Oil Pollution Prevention

2.1 The NVO shall present and justify a Solution for demonstrating compliance to Part 1 of the ANC Rules. In the presentation and justification of a solution, the following shall be considered.

Solutions

- 2.2 Ships shall meet the requirements of MARPOL 73/78 Annex I *Regulations for the prevention of pollution by Oil from ships*, supplemented by the following.
- 2.3 Ships shall minimise the loss of oil and shall contain any spills by:
- 2.3.1 the provision of drip trays or coamings with sufficient depth on:
- 2.3.1.1 the loading or discharge connections and vent pipes/overflows associated with fuel oils, lubricating oils, hydraulic oils and other oils
- 2.3.1.2 equipment that utilises oil such as diesel engines, burners, pumps, heaters, coolers, filters and tanks.
- 2.3.1.3 equipment that utilises oil such as pumps, heaters, coolers, filters, tanks, condensers and boilers.

- 2.3.2 Fuel oil storage, settling and service tanks being fitted with high level alarms and/or acceptable overflow systems.
- 2.3.3 No ballast water being carried in any fuel tank.
- 2.3.4 No oil being carried in a forepeak tank or a tank forward of the collision bulkhead.
- 2.4 Ships shall be provided with the machinery spaces arrangements as defined by MARPOL Annex I Regulations 12 *Tanks for oil residues (sludge)* & 13 *Standard Discharge Connection*.
- 2.5 Ships with aggregate oil fuel capacity 600m³ and above shall assess the need to protect oil fuel tanks in accordance with MARPOL Annex I Regulation 12A. The use of protected fuel tanks shall be further assessed for any impact on stability, and justification provided for fuel tanks arrangement for approval by the ANC Authority.
- 2.6 Ships shall be provided with oil filtering equipment as defined by MARPOL Annex I Regulation 14, approved by ANC Authority, taking into account the latest published guidelines from the IMO contained in IMO Resolution MEPC.107(49) *Revised Guidelines and Specifications for Pollution Prevention Equipment for Machinery Space Bilges of Ships*.
- 2.7 Ships with the Special Function of Bulk Fuel Carriage shall comply with MARPOL Annex I Chapter 4 *Requirements for the Cargo Area of Oil Tankers*.
- 2.8 Ships shall be provided with Oil Discharge Monitoring and Control Systems defined by MARPOL Annex I Regulation 31, approved by ANC Authority, taking into account the latest published guidelines from the IMO contained in IMO Resolution MEPC.108(49) *Revised Guidelines and Specifications for Oil Discharge Monitoring and Control Systems for Oil Tankers*.
- 2.9 Oil Record Book shall comply with the format consistent with Appendix III of Annex I of MARPOL.
- 2.10 The Oil Record Book Part I shall be completed on each occasion, on a tank-to-tank basis if appropriate, whenever any of the following machinery space operations defined by MARPOL Annex I regulation 17 takes place in the ship.
- 2.11 Ships with Special Function of Bulk Fuel Carriage shall be provided with an Oil Record Book Part II for Cargo / Ballast Operations.
- 2.12 The Oil Record Book Part II shall be completed on each occasion, on a tank-to-tank basis if appropriate, whenever any of the following cargo/ballast operations defined by MARPOL Annex I regulation 36 take place in the ship.
- 2.13 A ship specific Shipboard Oil Pollution Emergency Plan (SOPEP) shall be developed by the NVO and approved by the ANC Authority, taking into account the latest published guidelines from the IMO contained in Guidelines for the development of shipboard oil pollution emergency plans adopted by the Organization by resolution MEPC.54(32) as amended by resolution MEPC.86(44).
- 2.14 Ships with Special Function of Bulk Fuel Carriage shall be enrolled into an emergency response service approved by the ANC Authority.

Rule 3. Wastewater Pollution Prevention

- 3.1 The NVO shall present and justify the Solution for demonstrating compliance with Part 1 of the ANC Rules. In the presentation and justification of a solution, the following shall be considered.

Solutions

- 3.2 Ships shall meet the requirements of MARPOL 73/78 Annex IV *Regulations for the prevention of pollution by Sewage from ships*, supplemented by the following.
- 3.3 Wastewater system and holding tanks shall be provided and sized in accordance with Division 2 Chapter 01 *General Requirements* Rule 13 *Ship Range and Endurance* for the period of endurance required by the Operating and Support Intent (OSI).

Note: Part 3 provides the estimated wastewater generation rates including system surge capacity.

- 3.4 Holding tanks shall;
- 3.4.1 not mix untreated sewage and grey water,
- 3.4.2 be fitted with a means to open the tank for inspection and cleaning,
- 3.4.3 be fitted with a means to verify visually the contents of the tank,
- 3.4.4 be fitted with a high level alarm.
- 3.4.5 be provided with means to aerate the tanks to prevent the development of anaerobic conditions.
- 3.4.6 be fitted with an individual ventilation pipe independent of other ventilation systems.
- 3.4.7 be fitted with ventilation piping that prevents ingress internally to the ship.
- 3.5 Wastewater systems shall be designed in accordance with the latest published guidelines from the IMO contained in MSC/Circular.648 *Guidelines for the Operation, Inspection and Maintenance of Ship Sewage Systems*, and approved by the ANC Authority.
- 3.6 A Standard Discharge Connection shall be fitted;
- 3.6.1 as defined by MARPOL Annex IV Regulation 10, and
- 3.6.2 shall be accessible from both Port and Starboard sides of the ship.
- 3.7 Each Wastewater Treatment Plant installed shall be approved by the ANC Authority, taking into account the latest published guidelines from the IMO contained in 2012 *Guidelines on Implementation of Effluent Standards and Performance Tests for Sewage Treatment Plants – Resolution MEPC.227(64)*.
- 3.8 Each sewage comminuting and disinfecting system shall be approved by the ANC Authority.
- 3.9 Each ship shall be provided with information approved by ANC Authority on the maximum rate of untreated sewage taking into account the latest IMO contained in Resolution MEPC.157(55) *Recommendation on Standards for the Rate of Discharge of Untreated Sewage from Ships*.
- 3.10 Wastewater Record Book shall be able to record the following information:
- 3.10.1 the date, location and quantity of wastewater discharged from the holding tank(s) either ashore or at sea;
- 3.10.2 rate of discharge of untreated wastewater;
- 3.10.3 distance from land and ship's speed, when untreated wastewater is discharged to sea.
- 3.11 Each discharge into the sea or ashore shall be promptly recorded in the Wastewater Record

Book.

Rule 4. Garbage Pollution Prevention

- 4.1 The NVO shall present and justify the Solution for demonstrating compliance with Part 1 of the ANC Rules. In the presentation and justification of a solution, the following shall be considered.

Solutions

- 4.2 Ships shall meet the requirements of MARPOL 73/78 Annex V Regulations for the prevention of pollution by garbage from ships, supplemented by the following.
- 4.3 Garbage facilities & stowage shall be provided and sized in accordance with Division 2 Chapter 01 *General Requirements* Rule 13 *Ship Range and Endurance* for the period of endurance required by the OSI.

Note: Part 3 provides the estimated shipborne garbage generation rates.

- 4.4 A ship specific Garbage Management Plan shall be developed by the NVO and reviewed by the ANC Authority, taking into account the latest published guidelines from the IMO contained in:
- 4.4.1 IMO Resolution MEPC.220(63) *Guidelines for the development of Garbage Management Plans*, adopted 2 March 2012.
- 4.4.2 IMO Resolution MEPC.295(71) - 2017 *Guidelines for the Implementation of MARPOL Annex V* - (adopted on 7 July 2017)
- 4.5 Specifically, the Garbage Management Plan shall document:
- 4.5.1 Garbage facilities, processing and stowage arrangements; equipment, location, sizing and discharge arrangements,
- 4.5.2 Arrangements to manage putrescible garbage items,
- 4.5.3 Arrangements to retain and stow hazardous waste
- 4.6 Garbage Placards shall comply with the format consistent with the Regulation 10 of Annex V of MARPOL.
- 4.7 Garbage Record Book shall comply with the format consistent with Appendix II of Annex V of MARPOL.
- 4.8 Each discharge into the sea or ashore, or a completed incineration shall be promptly recorded in the Garbage Record Book.

Rule 5. Emissions from Ozone Depleting Substances and Synthetic Greenhouse Gases

- 5.1 The NVO shall present and justify the Solution for demonstrating compliance with Part 1 of the ANC Rules. In the presentation and justification of a solution, the following shall be considered.

Solutions

- 5.2 Ozone Depleting Substances shall meet the requirements of MARPOL 73/78 Annex VI

Regulations for the prevention of air pollution from ships, Chapter 3, Regulation 12, supplemented by the following.

- 5.3 An inventory record, listing scheduled ODS & SGS installed prior to prohibition dates shall be provided.
- 5.4 Compressors are to be capable of evacuating a system charge into a liquid receiver. Additionally, recovery units are to be provided to evacuate a system either into the existing liquid receiver or into cylinders dedicated to this purpose. The number of cylinders is to be sufficient to contain the complete charge between points of isolation in the system.
- 5.5 Procedures shall be developed for refrigerant and extinguishing agent management including adding and recovering charge, system isolation controls, leak detection system, qualification requirements for personnel and associated records (log book and inventory record).
- 5.6 Refrigerants and extinguishing agents log book with the format consistent with MARPOL Annex VI Regulation 12.7.
- 5.7 The Refrigerants and extinguishing agents log book shall be completed without delay on each occasion as defined by MARPOL Annex VI, Chapter 3, Regulation 12.

Rule 6. Emissions from Marine Engines

- 6.1 The NVO shall present and justify the Solution for demonstrating compliance with Part 1 of the ANC Rules. In the presentation and justification of a solution, the following shall be considered.

Solutions

- 6.2 Marine Diesel Engines shall meet the requirements of MARPOL 73/78 Annex VI Regulations for the prevention of air pollution from ships, Chapter 3, Regulation 13, supplemented by the following.
- 6.3 Each marine diesel engine installed shall be issued with a NOx Technical File, in accordance with the IMO *Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines* (NOx Technical Code 2008).
- 6.4 The sulphur content of fuel used or carried for use on board shall not exceed the limits defined in MARPOL 73/78 Annex VI *Regulations for the prevention of air pollution from ships*, Chapter 3, Regulation 14.
- 6.5 Fuel supplied to the ship for use on board shall be provided with a Bunker Delivery Note.
- 6.6 A sample shall be retained of fuel supplied for use on board.
- 6.7 Fuel change-over and / or activation of exhaust gas cleaning system procedures are to be provided to the Ship.

Rule 7. Emissions from Shipboard Incinerators

- 7.1 The NVO shall present and justify the Solution for demonstrating compliance with Part 1 of the ANC Rules. In the presentation and justification of a solution, the following shall be considered.

Solutions

- 7.2 Ships shall meet the requirements of MARPOL 73/78 Annex VI *Regulations for the prevention*

of air pollution from ships, Chapter 3, Regulation 16, supplemented by the following.

- 7.3 Each shipboard incinerator installed shall be approved by the ANC Authority, taking into account the latest published guidelines from the IMO contained in IMO 2014 *Standard specification for shipboard incinerators* (resolution MEPC 244(66)).
- 7.4 Fire Protection arrangements for spaces containing a shipboard incinerator shall comply with Chapter 06 *Fire Safety*.
- 7.5 Means to disconnected power and fuel supply shall be located outside of the compartment.
- 7.6 Means to cut off the fuel supply and activate alarms shall be provided in the event of;
- 7.6.1 High combustion and/or flue gas temperature,
- 7.6.2 Loss of negative pressure in the combustion chamber,
- 7.6.3 Ignition and/or flame failure,
- 7.6.4 Low oil pressure.

Rule 8. Ship Energy Efficiency

- 8.1 The NVO shall present and justify the Solution for demonstrating compliance with Part 1 of the ANC Rules. In the presentation and justification of a solution, the following shall be considered.

Solutions

- 8.2 Ship Energy Efficiency Management Plan (SEEMP) shall be developed by the NVO and approved by ANC Authority, taking into account the latest published guidelines from the IMO contained in IMO Resolution MEPC.346(78) 2022 *Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)*.

Rule 9. Ballast Water Management

- 9.1 The NVO shall present and justify the Solution for demonstrating compliance with Part 1 of the ANC Rules. In the presentation and justification of a solution, the following shall be considered.

Solutions

- 9.2 Ships shall meet the requirements of the *International Convention for the Control and Management of Ships' Ballast Water and Sediments*, 2004 and the *Australian Ballast Water Management Requirements*, supplemented by the following.
- 9.3 Ballast Water Treatment Systems shall be approved by the ANC Authority, taking into account the latest published guidelines from the IMO contained in the *Code for Approval of Ballast Water Management Systems* - IMO Resolution MEPC.300(72).
- 9.4 Where it is proposed to discharge ballast water to an approved facility. The ballast water reception facility shall be approved by the Director of Biosecurity in accordance with the *G5 Guidelines of the Ballast Water Convention* and the *Australian Ballast Water Management Requirements*.
- 9.5 Ballast Water Treatment Systems shall be commissioned, taking into account the latest published guidelines from the IMO contained in the *Code for Approval of Ballast Water*

Management Systems - IMO Resolution MEPC.300(72).

- 9.6 Ballast Water Management Plan shall be developed by the NVO and approved by ANC Authority, taking into account the latest published guidelines from the IMO contained in *Resolution MEPC.127(53) - Guidelines for ballast water management and development of ballast water management plans (G4)*.
- 9.7 Ballast Water Record Book shall comply with the format consistent with Appendix II of International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004.
- 9.8 Each operation concerning Ballast Water shall be fully recorded without delay in the Ballast Water Record Book.

Rule 10. Biofouling Management

- 10.1 The NVO shall present and justify a Solution for demonstrating compliance to Part 1 of the ANC Rules. In the presentation and justification of a solution, the following shall be considered.

Solutions

- 10.2 Ships shall meet the requirements of *the International Convention on the Control of Harmful Anti-fouling Systems on Ships, 2001* and the Department of Agriculture, Water and the Environment latest published *Australian Ballast Water Management Requirements*, supplemented by the following.
- 10.3 Surveys of Anti-fouling Systems shall be conducted in accordance with IMO Resolution MEPC.358(78) 2022 *Guidelines for survey and certification of anti-fouling systems on ships*, adopted by on 10 June 2022.
- 10.4 Biofouling Management Plan should be developed by the NVO and approved by the ANC Authority, taking into account the latest published guidelines from the IMO contained in Resolution MEPC.207(62) – 2011 *Guidelines for the Control and Management of Ships' Biofouling to minimize the transfer of invasive Aquatic Species* – (Adopted on 15 July 2011).
- 10.5 Biofouling Record Book should comply with the format consistent with Appendix 2 of IMO Resolution MEPC.207(62) – 2011 *Guidelines for the Control and Management of Ships' Biofouling to minimize the transfer of invasive Aquatic Species*.
- 10.6 All biofouling inspections and management measures undertaken on the ship should be recorded in the Biofouling Record Book.

Rule 11. Ship Recycling

- 11.1 The NVO shall present and justify a Solution for demonstrating compliance to Part 1 of the ANC Rules. In the presentation and justification of a solution, the following shall be considered.

Solutions

- 11.2 Ships should meet the requirements of *Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009*, supplemented by the following.
- 11.3 Inventory of Hazardous Materials should be developed by the NVO and approved by the ANC Authority, taking into account the latest published guidelines from the IMO contained in Resolution MEPC.269(68) – 2015 *Guidelines for the Development of the Inventory of*

Hazardous Materials.

- 11.4 The Inventory of Hazardous materials should be properly maintained and updated through the operational life of the ship, reflecting new installations containing Hazardous materials and relevant changes in ship structure and equipment.
- 11.5 Ships shall be issued with an Asbestos-free declaration.

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