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AUSTRALIAN NAVAL CLASSIFICATION AUTHORITY MANUAL (VOLUME 2)

DIVISION 3: SHIP RULES

CHAPTER 15: HEALTH FACILITIES

PART 2: SOLUTIONS TO THE ANC RULES

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

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AUSTRALIAN NAVAL CLASSIFICATION RULES

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Division 3: Ship Rules
Part 2: Solutions to the ANC Rules

Chapter 15: Health Facilities

Contents

Solutions to the ANC Rules

Rule 0. Goal

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

Rule 1. General

1.1 The Naval Vessel Operator 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

1.2 Health facilities on Naval Vessels shall comply with the Australasian Health Facility Guidelines (AusHFG) as applicable to the health facilities required to meet the OSI. Acceptable deviations from, and additions to, the AusHFG are given in this Chapter.

1.2.1 Where the AusHFG requires special considerations for patient types not typically treated on a naval vessel nor generally compatible with sea service, these are not required for naval vessels unless specified in the OSI.

1.2.2 AusHFG requirements specific to land based hospitals, such as public access and child play areas, are not required for naval vessels.

1.3 The arrangement of spaces and compartments in the health facilities shall enable a smooth workflow for single and, where required by the OSI, multiple or mass casualty events.

1.4 Naval Vessels shall comply with the material guidance given in the AusHFG Part D *Infection Prevention and Control*, as applicable to the health facilities required to meet the OSI.

1.4.1 The following AusHFG Part D *Infection Prevention and Control* principles shall be applied in all health facility spaces:

1.4.1.1 The recommended hand hygiene materials and equipment shall be provided according to the AusHFG hand hygiene classification of the space (routine, aseptic procedures, surgical procedures);

1.4.1.2 The air conditioning, ventilation and water system guidelines shall be followed;

Note: the isolation room guidelines need not be applied unless isolation rooms are specified in the OSI.

1.4.1.3 Design shall allow for separation of clean and dirty workflows in health facilities, however the guidelines for the contaminated sections and processing area are only required to be followed for vessels with Role 2 facilities;

1.4.1.4 The storage and linen handling guidelines shall be followed to the extent applicable to the health facility;

1.4.1.5 The waste management guidelines shall be followed and aligned with the requirements of Chapter 14 *Environmental Protection* Rule 4 *Garbage Management*;

1.4.1.6 The surfaces and finishes guidelines shall be followed using materials that meet the requirements of Chapter 06 *Fire Safety*;

1.4.2 Brittle materials that may become a fragmented projectile hazard under shock or blast conditions, such as porcelain and glass, shall be avoided.

1.5 All applicable medical devices shall be compliant with the Australian Therapeutics Goods Act and be on the Therapeutic Goods Register.

1.6 The location of the health facilities shall be justified considering the following:

1.6.1 Escape time of stretcher cases from the facility to evacuation stations based on the escape and evacuation analysis and timing required by Chapter 07 *Escape, Evacuation and Rescue* Rule 3 *Escape and Evacuation Analysis and Demonstration*.

1.6.2 Ready access for stretcher cases to the Flight Deck or Transfer station for aero-medical evacuation. In ships with personnel lifts designed for a stretcher, this access may be via the lift. For other ships, this should be on the same deck.

1.6.3 Reduced motion induced interruptions (MII) and motion sickness incidence (MSI) at the facility compared to the zone average based on the seakeeping analysis required by Chapter 03 *Buoyancy and Stability* Rule 6 *Safety of Embarked Persons and Seakeeping*.

1.6.4 Reduced noise and vibration at the facility compared to the zone average based on the analysis required by Chapter 12 *Habitability* Rule 3 *Noise and Vibration*.

1.6.5 Separation from high fire and toxic risk compartments based on the hazard identification required by Division 2 Chapter 01 *Core Design Rules* Rule 3 *System Safety*.

1.6.6 Protection from extreme threats to the extent required by Chapter 01 *Integrated Platform Survivability* Rule 2 *Post Damage Capability*.

1.7 In addition to paragraph 1.4.1.2, engineering systems shall comply with the requirements of Chapter 04 *Engineering Systems* with the following additional requirements:

1.7.1 Power supplies to health facilities are an essential electrical service and shall comply with the associated power and redundancy requirements of Chapter 04 *Engineering Systems* Rule 10 *Electrical Generation and Power Supplies*.

1.7.2 Power distribution in health facilities shall comply with AS/NZS 3003 *Electrical installations - Patient areas*.

1.7.2.1 Body protected and cardiac protected electrical areas shall be defined as per AS/NZS 2500 *Guide to the safe use of electricity in patient care* and considering the AusHFG Standard Component Room Data Sheets for the space.

1.7.2.2 Power outlets shall be provided in each facility at least to the quantity required by the AusHFG Standard Component Room Data Sheets for the space.

1.7.3 Health facilities shall be provided with primary, secondary, tertiary and transitional lighting in accordance with the requirements of Chapter 04 *Engineering Systems* Rule 14 *Lighting*.

1.7.3.1 In addition to fixed lighting, all health facilities shall be provided with battery operated floodlights.

1.7.4 Medical diagnostic and procedural light fittings shall be:

1.7.4.1 Compliant with AS/NZS IEC 60601.2.41 *Medical electrical equipment Particular requirements for the basic safety and essential performance of surgical luminaires and luminaires for diagnosis*, where applicable; and

1.7.4.2 Provided with securing points to secure the light in the operational position when in use and when not in use.

1.8 All fixed furniture fittings shall be manufactured, fitted and positioned in a way that reduces the displacement of contents and compliments ship movement.

1.9 All medical equipment or furniture with a wheel base, or is otherwise portable, shall be securable in operation and in stowage locations to withstand ship movement.

1.10 Medical gas supply shall be provided to the extent necessary to meet the OSI.

Note: Medical gas storage and distribution shall comply with the applicable requirements of Chapter 04 *Engineering Systems* and Chapter 06 *Fire Safety* in addition to this Chapter.

1.10.1 No more than the equivalent water capacity of two 'G' size cylinders as per AS 4332 *The storage and handling of gases in cylinders*, may be fitted within a First Aid Post, primary or secondary health facility compartment and shall:

1.10.1.1 Be secured against ship motions with quick release to allow for jettisoning in case of fire;

1.10.1.2 Be fitted with a pin-indexed valve in accordance with AS 2473.3 *Valves for compressed gas cylinders Part 3: Outlet connections for medical gases (including pin-indexed yoke connections)*.

Note: As a guide for this Rule, approximate cylinder sizes and capacities are given below (actual sizes to be confirmed during approval process):

'C' 2-3 litres water capacity, 490 litres free gas stored at 165 bar

'E' 22-24 litres water capacity, 4000 litres free gas stored at 165 bar

'G' 48-50 litres water capacity, 8300 litres free gas stored at 165 bar

1.10.2 Be compliant with AS 4484 *Gas cylinders for industrial, scientific, medical and refrigerant use-Labelling and colour coding.*

1.10.3 Where bulk medical gases are provided, an additional compartment shall support the fitted medical gas delivery infrastructure and stored bulk medical gases (i.e. gas cylinders) for primary health facilities.

Note: Bulk medical gases in ANC Rules refers to the storage in one compartment of more than the equivalent water capacity of two 'G' size cylinders as per AS 4332 *The storage and handling of gases in cylinders*.

1.10.4 Any bulk medical gas compartment shall:

1.10.4.1 have direct access to the open deck (in ships with a CBRN citadel, deck access may be through a decontamination station);

1.10.4.2 minimise manual handling of bulk medical gas cylinders;

1.10.4.3 be fitted with brackets to secure all medical gas cylinders in the maritime environment with quick release to allow jettisoning in case of fire.

1.10.4.4 If not open to the deck, be provided with effective power ventilation sufficient to give at least 10 air changes per hour exhausting to outside.

Note: The fire safety requirements for a bulk medical gas compartment are given in Chapter 06 *Fire Safety*.

1.10.5 Bulk medical gas delivery infrastructure shall be provided with status, pressure and flow indicators and alarms both in the primary health facility and to a continuously manned control station.

1.10.6 The medical gas delivery infrastructure shall meet ISO 7396 *Medical gas pipeline systems*.

1.10.7 A medical gas detection system shall be fitted in spaces containing hazardous medical gas storage or outlets and shall:

Note: Hazardous medical gases in this context are particularly those that may produce oxidizing, asphyxiation or toxicity hazards.

1.10.7.1 detect those hazardous medical gases stored or used in the space;

1.10.7.2 comply with AS/NZS 4641 *Electrical equipment for detection of oxygen and other gases and vapours at toxic levels - General requirements and test methods*;

1.10.7.3 alarm locally and at a continuously manned control station.

1.11 Medicines and medical equipment shall be provided in accordance with AMSA's *Medical Carriage Requirements*, as amended, supplemented by the following:

1.11.1 The ship's OSI shall determine the vessel category for the application of the *Medical Carriage Requirements*;

1.11.2 AMSA requirements for variation approval, reporting, inspection and certification requirements are replaced by Defence policy and procedures for Defence flag ships;

1.11.3 Fixed storage within the primary health facility shall be provided for the medicines and medical equipment;

1.11.4 A secure drug safe shall be:

1.11.4.1 Provided in the primary health facility or in the Commanding Officer's compartment;

1.11.4.2 Sized to accommodate 100% of the controlled drugs for the vessel.

1.12 Bulk medical stores, where required by the OSI, shall meet the requirements of Chapter 12 *Habitability* Rule 7 *Stores* and the following:

1.12.1 Shall be provided with heating, ventilation and air conditioning and maintained within the temperature and humidity ranges specified by the OSI;

1.12.2 Where required by the OSI, shall be provided with refrigerated stores for specified medicines, blood products and sterilised equipment and shall be provided with temperature monitoring and alarm at a permanently manned control station;

1.12.3 Shall be secured against unauthorised access;

1.12.4 In CBRN capable ships, shall be located inside the citadel;

1.12.5 Shall retain the stored items in place in all foreseeable operating conditions.

1.13 CBRN Defence capable ships shall provide health facilities and layout to satisfy the materiel aspects of NATO AMedP-7.1 *Medical Management of CBRN Casualties* as applicable to the ship's OSI.

Rule 2. Provision of operational information

2.1 The Naval Vessel Operator 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 Robust operation, maintenance and inspection guidance to support equipment used in health facilities shall be provided. In writing such guidance the qualifications and experience of the target operators and maintainers shall be considered and guidance provided at a level which can be easily understood by that audience.

2.3 Guidance shall be derived in whole or in part from the technical documentation provided by the original equipment manufacturer.

Note: It is also likely that the original equipment manufacturers technical documentation will require reauthoring for the target audience.

2.4 Operational information guidance shall be published in a common chapter structure and format allowing operators and maintainers to easily move between guidance documents while being presented with the required information in an expected format.

2.5 Operational information shall contain precautions, limitations and equipment requirements including, but not limited to:

2.5.1 The effect of heavy weather and limits for normal operation.

2.5.2 The level of Qualification and Experience required by personnel for safe operation and maintenance of the equipment.

2.6 Operational information shall include maintenance, inspection and testing schedules for the equipment, which shall be incorporated into the ship's maintenance plan.

Rule 3. Casualty first response facilities

3.1 The Naval Vessel Operator 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

3.2 All ships shall have First Aid facilities and equipment appropriate to meet the OSI for casualty first response. These include, but are not limited to:

3.2.1 Emergency Shower and Eye Wash Stations;

3.2.2 First Aid Posts (FAPs);

3.2.3 First aid boxes; and

3.2.4 Automatic External Defibrillators (AEDs).

3.3 Casualty first response facilities stowages

3.3.1 Stowages shall keep stored health items protected and secure against ship motions.

3.3.2 Any health items not stowed in a locker, including stretchers, shall be provided with envelope covers manufactured from a suitable light, fire retardant material.

3.3.3 Lockers and covers shall be appropriately marked in accordance with survivability doctrine.

Emergency Shower and Eye Wash Stations

3.4 Fixed and fitted emergency shower equipment shall be provided in the vicinity of spaces where there is a risk of:

3.4.1 exposure to hazardous chemicals resulting in skin absorption or contamination from infectious substances, such as battery workshops, replenishment areas or diver recovery areas; and

3.4.2 serious burns to a large area of the face or body, including chemical or electrical burns or burns that are deep, in sensitive areas or larger than 30mm diameter.

3.5 Fixed and fitted emergency eye wash equipment shall be provided where there is a risk of hazardous chemicals or infectious substances causing eye injuries.

3.6 Emergency shower and eye wash equipment shall comply with AS 4775 *Emergency eyewash and shower equipment*, as amended.

First Aid Posts (FAPs)

3.7 **Location**. FAPs shall be located where casualties can be collected, resuscitated, stabilised and, if necessary, retained during incidents.

Note: Examples may be larger spaces such as messes, recreation spaces, or wide lobbies.

3.7.1 The number of FAPs and the areas covered by a FAP shall be determined from a risk-based assessment of locations based on likelihood and numbers of casualties.

3.7.2 The location shall have space such that personnel awaiting treatment or retained after treatment during incidents at an FAP, including those on stretchers, do not cause congestion or interfere with the Damage Control effort.

3.7.3 FAPs shall be located within the provided portable radio range of the Medical Damage Control Command Post.

3.8 **FAP facilities**. Each FAP shall have the following:

3.8.1 adequate working space for the provision of life-saving first aid to casualties;

3.8.2 accessibility from quarters without obstructing other traffic;

3.8.3 easy access for stretchers;

3.8.4 close proximity to hot and cold fresh water supplies, including an emergency supply of potable and medical water;

3.8.5 good ventilation with temperature and humidity control for patient care and equipment storage;

3.8.6 sufficient power capacity, including emergency power, and outlets for 120% of the assigned medical equipment;

3.8.7 communications over a dedicated medical circuit and normal Damage Control communications in compliance with Chapter 8 *Safety Communications* Rule 6 *Internal Communications;*

3.8.8 suitable outfitting and furniture adaptable for FAP purposes and meeting the design principles of the AusHFG Part D *Infection Prevention and Control*;

3.8.9 first aid cabinet secured to the bulkhead;

3.8.10 each FAP shall have the following stowages:

3.8.10.1 stowage with quick access for emergency medical equipment and consumables;

3.8.10.2 stowage for medical gas cylinders;

3.8.10.3 stowage for additional stretchers. Stretchers, bearing brackets and attachment supports for stretchers shall follow standards defined by AMedP-2.1 *Allied Medical Doctrine for Stretchers, Bearing Brackets and Attachment Supports* (STANAG 2040);

3.8.10.4 stowage for training stores; and

3.8.10.5 stowage for equipment to provide enroute care during casualty transfer between on-board health facilities or in case of evacuation.

3.9 **Marking**. The approaches to all FAPs shall be clearly marked by a red cross within a broken red direction arrow.

First Aid Boxes

3.10 First Aid Boxes shall be distributed throughout the platform in convenient positions such as weapon compartments, bridge control positions, and machinery spaces.

3.11 The contents of First Aid Boxes shall be appropriate to the injury risks of the spaces they are serving.

3.12 First Aid Boxes shall be corrosion resistant, waterproof, white in colour marked with a red medical cross, and secured appropriately.

3.13 First Aid Box in a Survival Craft shall meet the requirement of Chapter 7 *Escape, Evacuation and Rescue* Rule 24 *Survival Craft.*

Automatic External Defibrillators

3.14 Platforms shall be provided with Automatic External Defibrillators (AEDs).

3.15 The number of AEDs and the areas covered by AED shall be determined from a risk-based assessment of locations based on likelihood and numbers of casualties.

Note: Common locations include the communications centre, bridge and gangway.

3.16 The location of the AEDs shall be indicated by first aid signs compliant with AS 1319 *Safety Signs for the Occupational Environment*.

Rule 4. Primary health facilities (Role 1)

4.1 The Naval Vessel Operator 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

4.2 All ships shall carry a medical text book library as specified by the NVO, which shall include the ILO/IMO/WHO *International Medical Guide for Ships* (IMGS), as amended, to assist in the diagnosis and treatment of sick and injured seafarers.

4.3 Ships carrying materials covered by the International Maritime Dangerous Goods Code (IMDG Code) shall carry a copy of the IMO/WHO/ILO *Medical First Aid Guide for Use in Accidents involving Dangerous Goods* (MFAG), as amended, and the equipment and medicines recommended therein for the specific Dangerous Goods carried.

4.4 The primary health facilities shall be located:

4.4.1 On or above the Damage Control Deck defined in Chapter 03 *Buoyancy and Stability* Rule 2 *Watertight Integrity*.

4.4.2 Where motion induced interruptions (MII) and motion sickness incidence (MSI) are reduced compared to the rest of the ship based on the seakeeping analysis required by Chapter 03 *Buoyancy and Stability* Rule 6 *Safety of Embarked Persons and Seakeeping*.

4.4.3 Where noise and vibration are reduced compared to the rest of the ship based on the analysis required by Chapter 12 *Habitability* Rule 3 *Noise and Vibration*.

4.5 Primary Health Facilities shall follow the principles given in AusHFG Part C - *Design for Access, Mobility, Safety and Security* as applicable to the OSI, supplemented by the following:

4.5.1 Where the Building Code of Australia (BCA) is referenced, the requirements of the Solutions selected to satisfy the other Chapters of these Rules take precedence;

4.5.2 Dimensions specified may be adapted for naval vessel design where justified to the satisfaction of the ANC Authority, provided corridors and doorways are wide enough to allow stretchered casualty access to the facility and applicable examination and treatment spaces within the facility;

4.5.3 Means shall be provided to prevent, or control to the extent necessary, the movement of equipment, furniture and other potentially mobile items in all foreseeable operating conditions;

4.5.4 External views and natural light are not required for health facilities on naval vessels.

4.6 A workstation space shall be provided within the primary health facility for medical administration, reference and communications.

4.7 The primary healthcare consultation space in the primary health facility shall comply with the AusHFG Standard Component for a Consult Room with the following exceptions:

4.7.1 The floor area may be reduced to a minimum of $6m^2$ and number of visitor chairs reduced to one provided the performance requirements of this Rule can be effectively met.

4.7.2 Data connectivity hardware shall meet the networking standard applied to the ship.

4.7.3 Items marked optional in the AusHFG Standard Component Room Data Sheet are not required unless necessary to meet the OSI.

4.8 Furniture with a medical use shall be approved by the Therapeutic Goods Administration.

4.9 Working space for clinical examination and procedures shall be provided. A trolley may be considered provided suitable tie down points are fitted at each location a procedure may be carried out.

4.10 Temperature and humidity control for patient care, medicine and equipment storage (e.g. sterile equipment) shall be provided.

4.10.1 HVAC systems for patient areas shall either exhaust directly outside or shall first pass through HEPA filters before recirculating.

4.11 The primary health facility shall have direct lines of communication to the ship's key command and control areas and shall be capable of communication with shore and other platforms.

4.11.1 Communications equipment shall be bulkhead mounted to maximise space.

4.12 The primary health facility shall have data connectivity to the ship's and Defence networks.

4.13 Video telehealth capability shall be installed at the clinical examination bed.

4.14 Infrastructure, bulkhead mounted so far as practicable, shall be provided within the compartment for:

4.14.1 personal hygiene practices, including a sink for hand washing in patient treatment areas and sanitary napkin disposal;

4.14.2 personal protective equipment;

4.14.3 handling and disposing of sharps;

4.14.4 management of medical waste (including hospital-grade disinfectant and chemical disposal and its impact on waste water systems);

4.14.5 clean linen storage, soiled linen receptacles and laundering of linen.

4.15 The primary health facility shall be fitted with patient bays or rooms which comply with the AusHFG Standard Components for the acuity and number of beds specified in the OSI. The following exceptions to the AusHFG Standard Components are permitted:

4.15.1 The floor area may be reduced provided the performance requirements of this Rule can be effectively met;

4.15.2 All beds shall:

4.15.2.1 be manufactured, fitted and positioned, with due regard to the functions they have to perform;

4.15.2.2 oriented fore and aft (ideally with head facing forward and feet aft);

4.15.2.3 be fitted with tie downs to prevent movement in heavy weather;

a. tie downs on wheeled beds shall be provided with a secure quick release mechanism.

4.15.3 The beds, except any dedicated low dependency beds, shall:

4.15.3.1 have at least 600 mm clearance around the sides and feet end of each bed (i.e. 1200 mm between beds if side by side) to allow multiple medical personnel to work on each patient at the same time;

4.15.3.2 have sufficient clearance on one side to transfer patient to or from a trolley or stretcher.

4.15.3.3 where the bed is intended to be used for resuscitation, be positioned off the bulkhead by at least 800mm to facilitate access to manage the patient's airway;

4.15.3.4 be provided with ceiling mounted corrosion resistant hooks installed at all four corners of each bed to hang intravenous fluids;

a. Each hook shall be capable of holding a minimum of three kilograms;

4.15.4 Dedicated low dependency beds, where fitted, shall have a clearance of at least 600mm on at least one side.

4.15.5 Data connectivity hardware shall meet the networking standard applied to the ship;

4.15.6 The nurse call system should signal within the facility and, where the facility may not be permanently manned by medical staff, to a continually manned control station;

4.15.7 Items marked optional in the AusHFG Standard Component Room Data Sheet are not required unless necessary to meet the OSI.

4.16 A minimum of one ward bed shall be fitted out to provide inpatient care (separate to the clinical examination bed).

4.16.1 The number and acuity of the ward bed(s) and the associated access and workspace around it shall be determined from the OSI.

4.16.2 The ward bed(s) shall have accessories to support activities of daily living (i.e. over bed table for meals, reading light).

4.17 All other fixed furniture fittings shall be manufactured, fitted and positioned in a way that reduces the displacement of contents and compliments ship motions.

4.18 All health equipment with a wheel base, or is otherwise portable, shall be securable in operation and in stowage locations to withstand platform movement.

4.19 Systems shall be provided for reprocessing of reusable equipment and instruments.

4.20 An emergency potable water gravity tank mounted at deckhead level in the services compartment or in a suitable compartment above the primary health facility.

4.21 Where a medical suction system is provided, it shall meet ISO 7396 *Medical gas pipeline systems*.

4.22 Medical diagnostic and procedural light fittings shall be:

4.22.1 Compliant with AS/NZS IEC 60601.2.41 *Medical electrical equipment Particular requirements for the basic safety and essential performance of surgical luminaires and luminaires for diagnosis*, where applicable;

4.22.2 Fitted with an emergency redundancy power; and

4.22.3 Provided with securing points to secure the light in the operational position when in use and when not in use.

4.23 Primary health facilities which monitor multiple patients concurrently shall be provided with centralised monitoring of automatic defibrillator alarms.

4.24 Privacy of the patient shall be ensured including, as a minimum:

4.24.1 Main primary health facility doors shall not be fitted with viewing windows and should provide privacy to prevent a breach of medical confidentiality.

4.24.2 A curtain track shall be installed around clinical examination locations to provide privacy during clinical care.

4.25 A lockable Pharmaceutical Data Analysis and Recording (DAR) refrigeration and freezer solution shall be provided for storage of temperature sensitive medications and blood materials where specified in the OSI. Refrigeration shall comply with the applicable requirements of the RACGP *Standards for general practices* and the Department of Health *National Vaccine Storage Guidelines*.

4.25.1 Where blood products are required to be stored on board in accordance with the OSI, storage shall be in accordance with AS 3864.1 *Medical refrigeration equipment – For the storage of blood and blood products Manufacturing requirements*.

4.25.2 All medical DAR refrigeration and freezers shall be:

4.25.2.1 Locally and centrally monitored (to a continuously monitored command and control point) with centralised and local alarms; and

4.25.2.2 On an emergency redundancy power system to maintain viability of temperature sensitive drugs held in the event of a loss of power.

4.26 Sanitary facilities within the primary health facility shall be sufficient in number to meet the OSI and include:

4.26.1 A minimum of one toilet, one flexible hand held shower and one hand basin suitable for use by incapacitated patients;

4.26.2 Grab rails at the shower and toilet;

4.26.3 A hinged seat fitted to the bulkhead adjacent to the shower outlet; and

4.26.4 Access suitable for incapacitated patients, including wheelchair access.

4.27 Where required by the OSI, a secondary health facility shall be provided remote from the primary health facility and compliant with the requirements of an Emergency Operating Station (EOS) given in paragraphs 5.20 to 5.22.

Rule 5. Casualty surgical facilities (Role 2)

5.1 The Naval Vessel Operator 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

5.2 The arrangement of the casualty surgical facility compartments shall enable efficient work flow.

5.3 Casualty surgical facilities shall follow the principles given in AusHFG Part C - *Design for Access, Mobility, Safety and Security* as applicable to the OSI, supplemented similarly as described in 4.5.1 to 4.5.4 for Primary health facilities

5.4 Casualty surgical facilities shall provide materials to meet the recommendations given in Australian Guidelines for the Prevention and Control of Infection in Healthcare section 3.5.3 *Surgical Procedures*, as amended, as applicable to the OSI.

5.5 The Primary health facility and the Casualty surgical facility shall share the same compartment or be adjacent to optimise space and workflow, unless specified otherwise in the OSI. These facilities may:

5.5.1 have common space for medical equipment storage, medicine storage, emergency potable water, sanitary facilities, medical waste management, medical gas storage and laundry;

5.5.2 share data connections and communication equipment.

Note: Where the OSI has specified the Primary health facility and the Casualty surgical facility do not share common space, the solution specified for similar provisions in the Primary health facility shall also be applicable for the Casualty surgical facility, unless specified otherwise in this Rule.

5.6 The Casualty surgical facility, if required by the OSI, shall have a limited intensive care space in order to provide post-operative critical care.

5.7 The operating room and intensive care space in the Casualty Surgical Facility shall comply with the AusHFG Standard Components for Operating Room – General and Patient Bay - Intensive Care with the following exceptions:

5.7.1 reduced floor area and minimum critical dimension may be accepted by the ANC Authority provided the performance requirements of this Rule can be effectively met;

5.7.2 specialist operating rooms, as defined in the AusHFG, are not required unless specified in the OSI;

5.7.3 natural light is not required unless specified in the OSI;

5.7.4 Role 2 specific items marked optional in the AusHFG Standard Component Room Data Sheet are not required unless necessary to meet the OSI;

5.7.5 data connectivity hardware shall meet the networking standard applied to the ship.

5.8 Furniture used for interventions shall be approved by the Therapeutic Goods Administration.

5.9 Video telehealth capability shall be installed both at the operating room and intensive care space.

5.10 Infrastructure, bulkhead mounted so far as practicable, shall be provided for mask and protective eyewear along with hand washing, sanitary napkin disposal, PPE, handling and disposing of surgical sharps.

5.11 The Casualty surgical facility shall be fitted with patient bays or rooms which comply with the AusHFG standard components for the acuity and number of beds specified in the OSI.

5.12 Permitted exceptions to the AusHFG Standard components are same as specified in 4.15 for the Primary health facility supplemented by:

5.12.1 The beds shall have sufficient space to enable safe and efficient use of electrical health equipment required before, during and after the surgical interventions.

5.12.2 Where the bed is intended to be used for intensive care, it shall be positioned off the bulkhead at least 800 mm to facilitate access to manage the patient's airway.

5.13 Medical procedural light fittings shall be:

5.13.1 Compliant with AS/NZS IEC 60601.2.41 *Medical electrical equipment Particular requirements for the basic safety and essential performance of surgical luminaries*;

5.13.2 Dimmable LED (or functionally equivalent) lighting;

5.13.3 Supplied with emergency redundancy power;

5.13.4 Provided with securing points to secure the light in the operational position when in use and when not in use;

5.14 Artificial lighting shall take into account facility layout and the occupational health and safety requirements of staff.

5.15 The casualty surgical facility laundry shall be capable of compliance with Australian Standard AS 3789.2 *Textiles for Health Care Facilities and Institutions* Part 2: *Theatre linen and pre-packs* and AS/NZS 4146 *Laundry Practice*.

Sterilisation

5.16 The sterilisation method chosen shall be compatible with the item to be sterilised to avoid damaging the instrument.

5.16.1 If steam sterilisation is chosen, steam should be provided in accordance with the requirements of AS 1410 *Sterilisers steam pre vacuum.*

5.16.2 Low temperature sterilisation is suggested for items that are unable to withstand temperatures above 60°C and shall follow the guidelines in AS 4187 *Cleaning, disinfecting and sterilising reusable medical and surgical instruments and equipment, and maintenance of associated environments in health care facilities.*

5.17 The operating room shall have ready internal access to the sterile stock store used for surgical interventions.

5.18 The sterile stock store for surgical interventions shall be clearly marked and stored in separate shelves if stored along with other stores.

Anaesthesia systems

5.19 Casualty surgical facilities shall be fitted with an anaesthetic workstation complying with ISO 80601-2-13 *Medical electrical equipment - Part 2-13: Particular requirements for basic safety and essential performance of an anaesthetic workstation* and its sub-ordinate standards.

5.20 The anaesthetic gas scavenging system (AGSS) shall comply with ISO 9170-2 *Terminal units for medical gas pipeline systems - Part 2: Terminal units for anaesthetic gas scavenging systems*, ISO 8835-3 *Inhalational anaesthesia systems - Part 3: Transfer and receiving systems of active anaesthetic gas scavenging systems* and ISO 7396-2 *Medical gas pipeline systems – Part 2: Anaesthetic gas scavenging disposal systems*.

Emergency Operating Space (EOS)

5.21 **Applicability**. Ships fitted with Primary health facilities shall have an additional designated space known as the EOS. The EOS need not be a space solely dedicated to medical use.

5.22 **Location**. The EOS shall be remote from the Primary health facility, so loss of the Primary health facility does not result in loss of the EOS prior to whole ship evacuation. The EOS should have sufficient space for medical personnel to deliver health care to casualties.

Note: Remote in this case will typically mean in a separate Damage Control Zone not adjoining the Primary health facility.

5.23 **EOS Facilities**. The EOS shall provide the capability specified in the OSI. The EOS shall be fitted with the facilities required by paragraph 3.8 *FAP Facilities*, and the following:

5.23.1 deck fittings and stowage space for the emergency operating table;

5.23.2 hinged tables for medical instruments and equipment;

5.23.3 direct access to hot and cold fresh water supplies;

5.23.4 airtight lockers for stowage of dressings;

5.23.5 main and secondary lighting including an overhead fitting above the operating table;

5.23.5.1 medical diagnostic and procedural light fittings shall be:

a. Compliant with AS/NZS IEC 60601.2.41 *Medical electrical equipment Particular requirements for the basic safety and essential performance of surgical luminaires and luminaires for diagnosis*, where applicable; and

b. provided with securing points to secure the light in the operational position when in use and when not in use.

5.23.6 emergency potable water gravity tank mounted at deckhead level in the services compartment or in a suitable compartment above the medical compartment;

5.23.7 power supplies for medical equipment and non-slip shelves for medical equipment stowages;

5.23.8 adequate forced-ventilation, (supply and exhaust) with an exhaust intake close to the operating table position;

5.23.9 radiators or other forms of auxiliary compartment heating;

5.23.10 telephone communications;

5.23.11 a fitted washbasin or portable equivalent; and

5.23.12 curtains for screening purposes.

Rule 6. Enhancing modules for health facilities

6.1 The Naval Vessel Operator 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

6.2 Where enhancing modules are added to a Role 1 or Role 2 health facility, they shall:

6.2.1 Meet the Part 1 Performance Requirements;

6.2.2 Comply with the AusHFG Part B Standard Components and the material requirements of the AusHFG Part B Health Planning Unit relevant to the enhancing module and adapted for naval vessel design. Adaptations shall be justified and agreed with the ANC Authority.

Note: Typical enhancing modules are given in NATO AMedP-9.1 *Modular Approach for Multinational Medical Facilities (MTF)*.

6.3 Where X-Ray facilities are provided, radiation shielding shall be applied in accordance with Division 2 Chapter 01 *Core Design Rules* Rule 7 *Hazardous Areas*.

Rule 7. Mortuary facilities

7.1 The Naval Vessel Operator 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

7.2 Mortuary facilities shall be in designated spaces, separated from the primary health facility, which follow the AusHFG Part D Infection Prevention and Control principles described in paragraph 1.4.

7.3 The ventilation system for the designated mortuary space shall minimize the spread of airborne pathogens by being isolated from other ventilation systems. Where, exceptionally, ventilation systems are not isolated, exhausted air shall be directed through HEPA filters.

7.4 The mortuary facility shall be located and arranged to allow manoeuvring of a stretcher into and out of, and within, the space in all Foreseeable Operating Conditions.

7.5 The mortuary facility shall have a centrally monitored security system which prevents access by unauthorized persons.

7.6 Refrigerated mortuary facilities shall:

7.6.1 comply with the AusHFG Standard Component for a Mortuary – Body Holding;

7.6.2 have a temperature range of + 2°C to + 6°C;

7.6.3 be fitted with a local and centrally monitored temperature alarm system; and

7.6.4 be on an emergency redundancy power system to maintain temperature in the event of a loss of power.

7.7 Where the designated mortuary space is unrefrigerated, the space shall be located remotely from heat sources and maintained at or below the external ambient temperature.

7.8 Storage shall be provided for mortuary stores.

7.9 Storage shall be provided for evidence and preservation of the chain of custody.