Australian Government

Defence

DEFENCE SEAWORTHINESS REGULATORY SYSTEM PUBLICATION 100 – SYSTEM DESIGN AND REQUIREMENTS

This document is issued for use within the Defence maritime domain and is effective on promulgation of the Defence Seaworthiness Management System Policy.

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

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

FOREWORD

Operating innovatively and flexibly is crucial if Defence Groups and Services are to prosper in contemporary society. The Defence Seaworthiness Management System (DSwMS) supports the Defence organisation to do just that.

The DSwMS requires:

a. Capability Managers to define how they will deliver the required operational outcome, what they need to deliver it, and the information needed to make decisions on the seaworthiness of their mission systems across the Capability Life Cycle

b. a systematic approach to the management of seaworthiness and justified confidence that maritime mission systems are able to respond to government tasking and operational activities while the hazards to our personnel, the public and the environment are risk managed.

The system defines accountabilities and introduces independent layers of assurance between the Capability Manager and the Seaworthiness Regulator to provide the DSwA with confidence in the seaworthiness of all registered Defence Vessels.

The DSwRSP 100 series publications support the Defence Instruction Military Command Support Provision 1 (MCS1) and its subordinate Defence Seaworthiness Management System Policy. The publications describe the DSwMS framework, directions, policies and procedures that guide all Defence and Industry personnel to deliver a lethal seaworthy Defence maritime capability.

The first three publications in the series are a direct replacement for the DSwMSMAN i.e.:

- DSwRSP 100 describes the intent and rationale for various elements of the DSwMS – including regulatory and risk management and assurance frameworks and operating model requirements
- DSwRSP 101 sets out regulatory controls for the Defence seaworthiness community. It describes Governance and Management Compliance Obligations (GMCOs), Activity and Condition-Based Compliance Obligations (ACCOs) and unifying requirements
- DSwRSP 102 describes the Independent Seaworthiness Management Review (ISwMR) mechanism that provides independent advice on the governance and management of the DSwMS.

Other publications in the 100 series will be produced as required to ensure the DSwMS remains fit for purpose in a fast changing Defence capability environment.

AMENDMENTS

Proposals for amendment of the DSwRSP 100 may be sent to:

Office of the Defence Seaworthiness Regulator (ODSwR)
Regulation and Advocacy
Navy Headquarters
Department of Defence
Canberra ACT 2600

Amendment number	Amendment	Amendment type	Effective date

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CHAPTER 1

INTRODUCTION

1.1 The Defence Seaworthiness Management System (DSwMS) comprises three complementary and aligned components:

a. The **DSwMS Regulatory Framework**, which articulates compliance obligations expressed as outcomes with associated function and performance requirements, and which must be satisfied to build confidence that hazards and risks to the Seaworthiness Outcome are being controlled. This framework consists of regulations of two types:

(1) An enterprise type that controls risks inherent in governance and management activities[5] as they relate to achieving the Seaworthiness Outcome. Regulations of this type are referred to as 'Governance and Management Compliance Obligations' (GMCOs). These regulations are contained in DSwRSP 101.

(2) A type specific to a maritime mission system and its enabling support system. This type controls hazards and risks inherent in specific mission and enabling support systems. Regulations of this type are referred to as 'Activity and Condition Based Compliance Obligations' (ACCOs). These regulations are also contained in DSwRSP 101.

b. The **DSwMS Risk Management and Assurance Framework**, which describes the enterprise risk management context, establishes clear accountabilities for compliance with the obligations, and through assurance provides supporting evidence to justify confidence that hazards and risks to the Seaworthiness Outcome are being effectively managed.

The Framework is based on the enterprise risk governance concept of three lines of defence, which provides a formal structure to support risk- based decision making and oversight in complex enterprises/undertakings. Organisations are aligned along three lines where risk ownership is clearly identified, and functionally independent levels of risk oversight and assurance are provided i.e.:

(1) The first line comprises the business and operations management where risks are managed on a day-to-day basis.

(2) The second line comprises the systems of control which act on the first line (including provision of supporting systems).

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[5] For example risk exists where governance and management activities: (a) are not suitable (not aligned, or do not produce the outcome to the specified performance requirement); (b) are suitable but are not followed (not available/not aware, training and competency inadequate etc.); (c) are suitable but not adequately resourced.

(3) The third line comprises enterprise-wide controls in response to objectives and outcomes required by the enterprise, related government direction and legislation.

The Risk Management and Assurance Framework is discussed in Chapter 4.

c. The **DSwMS Operating Model**, which ensures the frameworks are developed, maintained and applied in a mindful and systematic manner through a series of core processes conducted by both the Defence Seaworthiness Regulator (DSwR - the single regulator of the DSwMS) and the regulated.

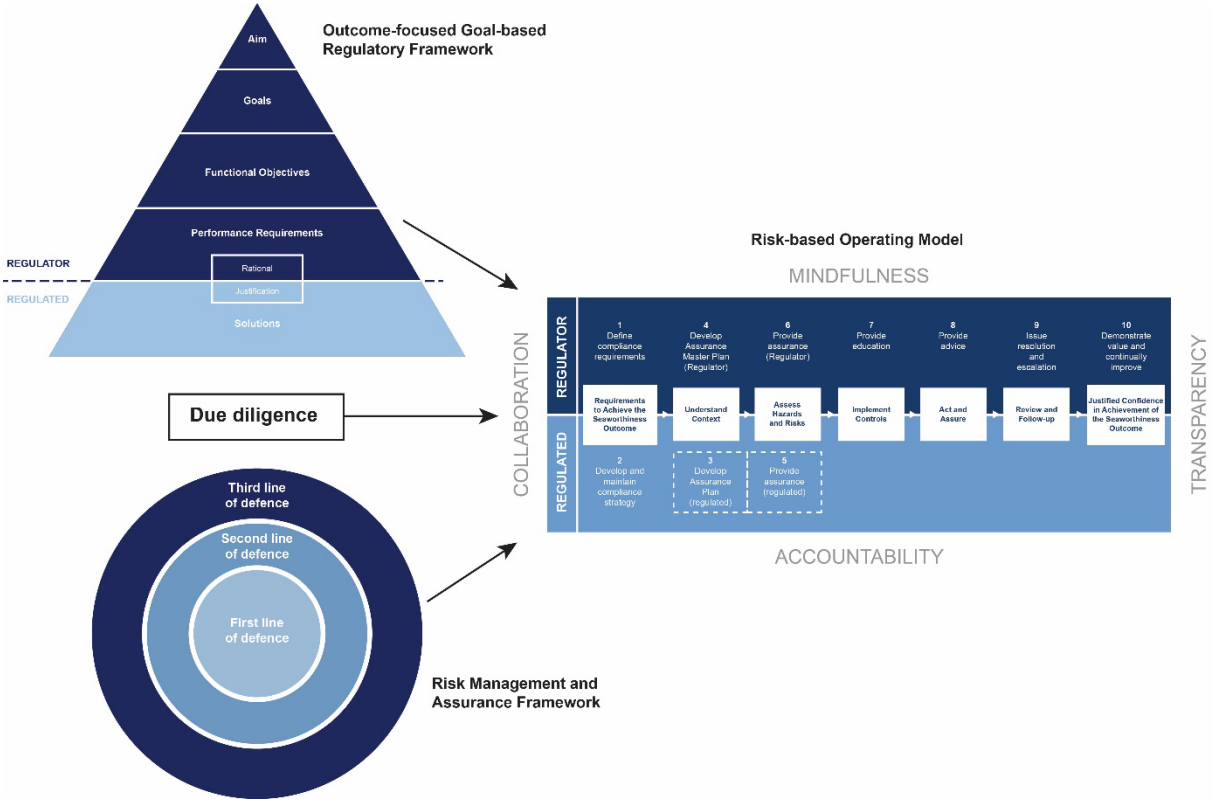
(1) The Regulatory Framework is enacted by the Regulator through process 1 of the Operating Model. This provides the means for the regulator to assess the requirement for and development of regulatory controls.

(2) The regulated community respond to the regulations through the development of a compliance strategy as articulated in process 2 of the Operating Model. Assurances of compliance against the regulations are provided through processes three to six.

(3) The remaining processes ensure that the system as a whole remains coherent, and improves as necessary over time. The Operating Model is discussed in Chapter 5.

1.2 Collectively, these components create an enterprise wide system for control, through regulation, of hazards and risks to the Seaworthiness Outcome throughout the Capability Life Cycle (CLC).

Figure 1–1: Defence Seaworthiness Management System components



Glossary

1.3 Definitions, acronyms and abbreviations relevant to the DSwRSP series are detailed in the Glossary at the end of this publication.

DEFENCE SEAWORTHINESS MANAGEMENT SYSTEM POLICY

1.4 The Seaworthiness Outcome is articulated through the Defence Instruction (Military Command Support Provision 1 (MCS1)) and its subordinate Defence Seaworthiness Management System Policy (DSwMS Policy). Both documents are available via the Defence intranet.

1.5 In essence, the DSwMS aims to ensure that the operation of a maritime mission system, in accordance with its Capability Manager's operating and support intent and enabled by its support system:

a. maximises the likelihood of achieving the specified operational effect for the defined tasking, where

b. efforts have been made to eliminate or minimise so far as is reasonably practicable (SFARP), hazards/risks[6] to personnel, the public and the environment.

1.6 Consistent with the conditions as articulated through the DSwMS Policy statement, the maximum likelihood of a realised system being able to achieve the specified tasking occurs where the operating and support intent (OSI) is clearly understood and articulated, hazards and risks are eliminated or minimised in context of the OSI, and the system is operated as intended.[7] Where these conditions are satisfied, the Seaworthiness Outcome has been achieved.

1.7 Note that achievement of the Seaworthiness Outcome is not achievement of the specified operational effect. The latter is the role and responsibility of capability management and operations.

1.8 Moreover, it is the case that circumstances may arise where the actual requirement to undertake a task does not eventuate (e.g. actual use of a weapon system in anger). However, maximising the likelihood that the operational effect can be achieved when required is the prime consideration and objective of the DSwMS.

1.9 The concepts above are described in detail through a graphical representation later in this chapter.

THE SEAWORTHINESS ARGUMENT

1.10 The DSwMS uses formal claims, arguments and evidence to make the case that the Seaworthiness Outcome is achieved for both specific mission systems and across the enterprise as a whole. The Seaworthiness Argument is expressed at the top level as follows:

If:

a. the specified operational effect is interpreted, defined and formally articulated by the Capability Manager through an OSI

b. **and** the design and OSI remain aligned and understood throughout the CLC

c. **and** a maritime mission system and its enabling support system are realised consistent with the design such that hazards/risks to personnel, the public and the environment are eliminated or minimised SFARP[8]

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[6] Risks to safety and the environment, and the management of them, are defined and contextualised by both the undertaking and applicable legislation.

[7] This is consistent with the notion of a system being ‘Fit for the Intended Purpose’.

[8] Elimination, or minimisation so far as reasonably practicable, of hazards and risks is achieved by the implementation of controls.

d. **and** all defined tasks can occur within the boundaries of the OSI (i.e. within the boundaries of realised systems when operated and supported as intended)

then the likelihood of achieving the specified operational effect is maximised for the defined tasking(s) and hazards and risks to personnel, the public and the environment are eliminated or, where elimination is not practicable, minimised SFARP (i.e. the Seaworthiness Outcome is achieved).

1.11 The DSwMS components in Figure 1–1 collectively act with the aim to ensure the conditions articulated in the Seaworthiness Argument above are satisfied; and that sufficient evidence exists against the argument to support the claim with justified confidence. In this context the 'Argument' is provided through development of compliance strategies as articulated in process 2 of the Operating Model. The assurance requirements are planned, and evidence collected through processes 3 to 6 of the Operating Model. A case for seaworthiness is made once the evidence from assurance is presented in the context of the compliance strategy and, where required, necessary actions for remediation are taken.

1.12 By defining the OSI based on the full range of operational effects required during the in-service phase of the CLC, the Capability Manager has articulated what needs to be achieved by the ideal solution.

1.13 The OSI is not one document, but is a collective term that refers to the evolution of both the operating intent and the support intent throughout the CLC. As more information becomes available, the OSI will evolve. For example, an operational concept along with a broad logistics support concept might constitute an OSI in an early phase of the CLC. As more information becomes available, constraints are better understood and requirements are more formally defined; a functional performance specification along with a logistics support plan, workforce plan and training plan might constitute the OSI. Further evolution of the OSI might lead to a formal statement of operating intent with a supportability statement, which becomes a baselined set of documents prior to transition to in-service. The maritime mission system is then expected to operate within this OSI throughout its in-service phase.

1.14 To meet the OSI, a solution must satisfy certain preconditions in order to perform activities that are required to achieve the defined taskings (for example, conditions such as hull integrity, speed, manoeuvrability and stability). The activities, and the systems required to accomplish them, present hazards and risks to personnel, the public and the environment. To maximise the likelihood that a solution will achieve the specified operational effect for the defined tasking, the activities and systems must function and perform as required. This includes ensuring that the associated hazards and risks are controlled SFARP. On realisation of a maritime mission system, where it is delivered complete with hazard and risk controls in effect, and on use as intended; the Seaworthiness Argument will be satisfied. Therefore it is reasonable to expect that the Seaworthiness Outcome will be met.

1.15 The management of hazards and risks is effected through the application of controls.[9] The DSwMS therefore regulates to ensure appropriate controls are applied throughout the CLC to assure the Seaworthiness Outcome.

1.16 In all cases it is expected that the Capability Manager will understand what is expected of a maritime mission system, what the design can actually achieve, and any gaps between the two that must be managed. Without a thorough understanding of what is expected, sufficient context cannot be established to identify the appropriate hazard and risk controls.

APPLICATION OF DEFENCE SEAWORTHINESS MANAGEMENT SYSTEM COMPLIANCE OBLIGATIONS – GRAPHICAL REPRESENTATION

1.17 The concepts described above are simple in nature, and may be summarised as:

a. know what you want a mission system to do and how you intend to support it (taking account of hazards and risks to safety of personnel, the public and the environment, in this context)

b. ensure the mission system design can deliver functions and performance aligned with the operating and support intent

c. ensure the mission system is built or acquired (realised) to the designed functional and performance specifications

d. operate the mission system within the designed functional and performance specifications.

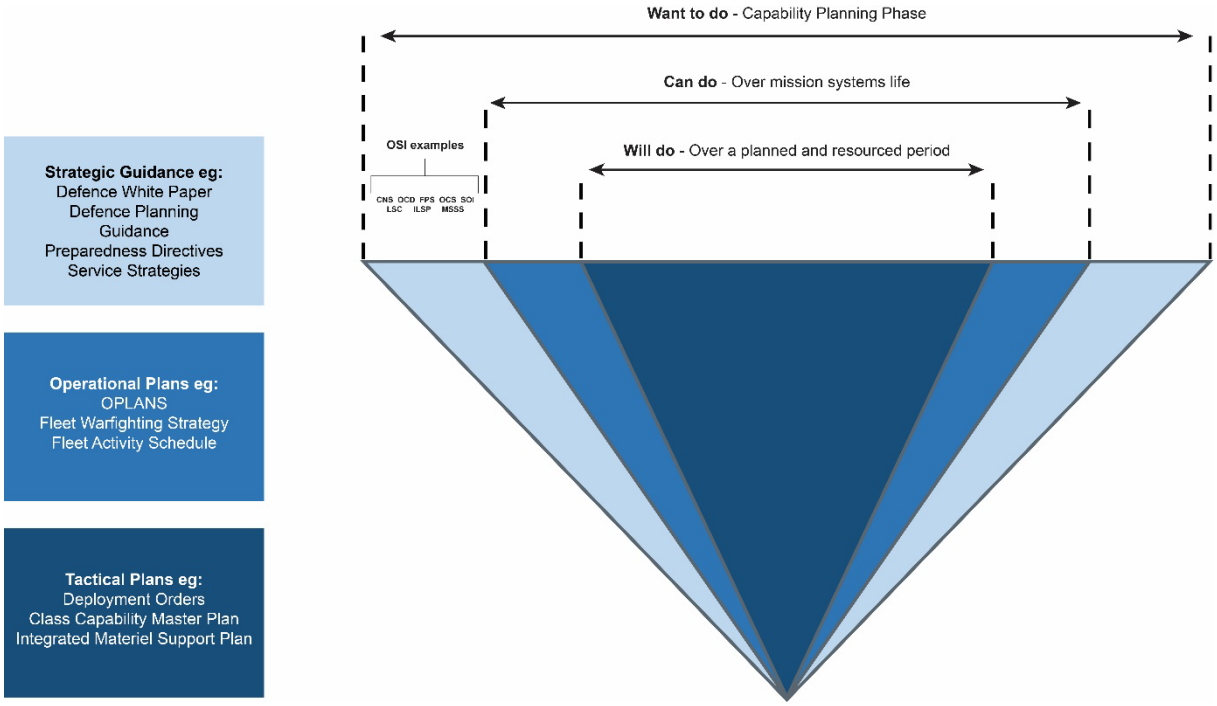
1.18 In the context of the paragraph above, a mission system and enabling support system comprise all fundamental inputs to capability elements necessary to satisfy the OSI. Functions and performance refers to all contributing elements.

1.19 The concepts are described graphically below in Figure 1–2 in the Defence context.

1.20 Figure 1–2 provides a graphical basis for a discussion of how this policy statement applies in the context of seaworthiness management; it is further expanded upon in the later figures and descriptive paragraphs.

[9] Controls can, for example, be: (a) inherent in the system design (engineered solutions); (b) in the associated safe systems of work (training and competencies, orders, instructions and publications); (c) applied through local risk management arrangements and systems.

Figure 1–2: Context for Seaworthiness Management



Note: This diagram presents conceptual components of an OSI. In no way does it presuppose solutions that a Capability Manager may present as the OSI in any particular life cycle phase. In this example the abbreviations stand for:

- CNS – Capability Needs Statement
- OCD – Operational Concept Document
- FPS – Functional and Performance Specification
- OCS – Operational Concept Statement
- LSC – Logistic Support Concept
- ILSP – Integrated Logistics Support Plan
- SOI – Statement of Operating Intent
- MSSS – Mission System Supportability Statement

OPERATIONAL EFFECT AND THE OPERATING AND SUPPORT INTENT

Operational effect and the operating intent

1.21 The operating intent is generated from a strategic view of the operational effect(s) a maritime mission system may need to achieve, or contribute to, throughout its in-service phase. It is an articulation of what Defence expects, or ‘wants’, a maritime mission system to be able to do.

1.22 The specified operational effects, and the related capability need, come from the Capability Manager's interpretation of strategic guidance. Examples of strategic guidance include, but are not limited to:

a. Defence white paper/Defence planning guidance

b. Chief of the Defence Force preparedness directives

c. Service strategies (e.g. the Chief of Navy's strategy)

d. Government-directed capability solutions – e.g. a particular type of ship, or choice of manufacturer/design.

The support intent

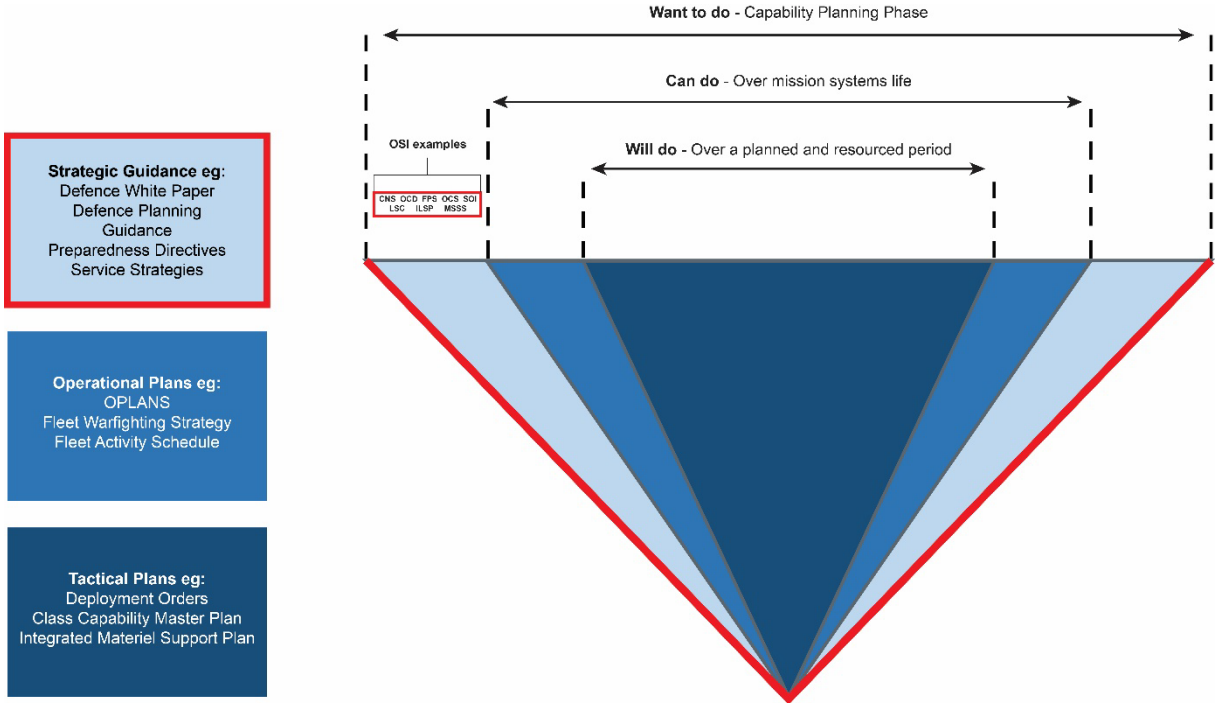
1.23 The support intent is the Capability Manager's definition of what is required to support the achievement of the operating intent and must evolve, in concert with the operating intent, throughout the CLC. A maritime mission system is enabled through its support system, which is defined and resourced throughout the CLC. Without a suitable, maintained support system, the likelihood of achieving the specified operational effect is significantly reduced (i.e. is not maximised).

The Capability Manager's Operating and Support Intent (OSI)

1.24 The operating intent and support intent are collectively referred to as the Capability Manager's OSI.

1.25 The preceding discussion is highlighted in Figure 1–3.

Figure 1–3: Operational effect and the operating and support intent



BASELINING OF THE OPERATING AND SUPPORT INTENT

1.26 Throughout the acquisition phase of the CLC, trade-offs are made for reasons including, but not limited to:

a. procurement method/acquisition strategy (e.g. military off-the-shelf/commercial off-the-shelf)

b. government direction, including directed solutions

c. resource constraints

d. limited availability of solutions/technology

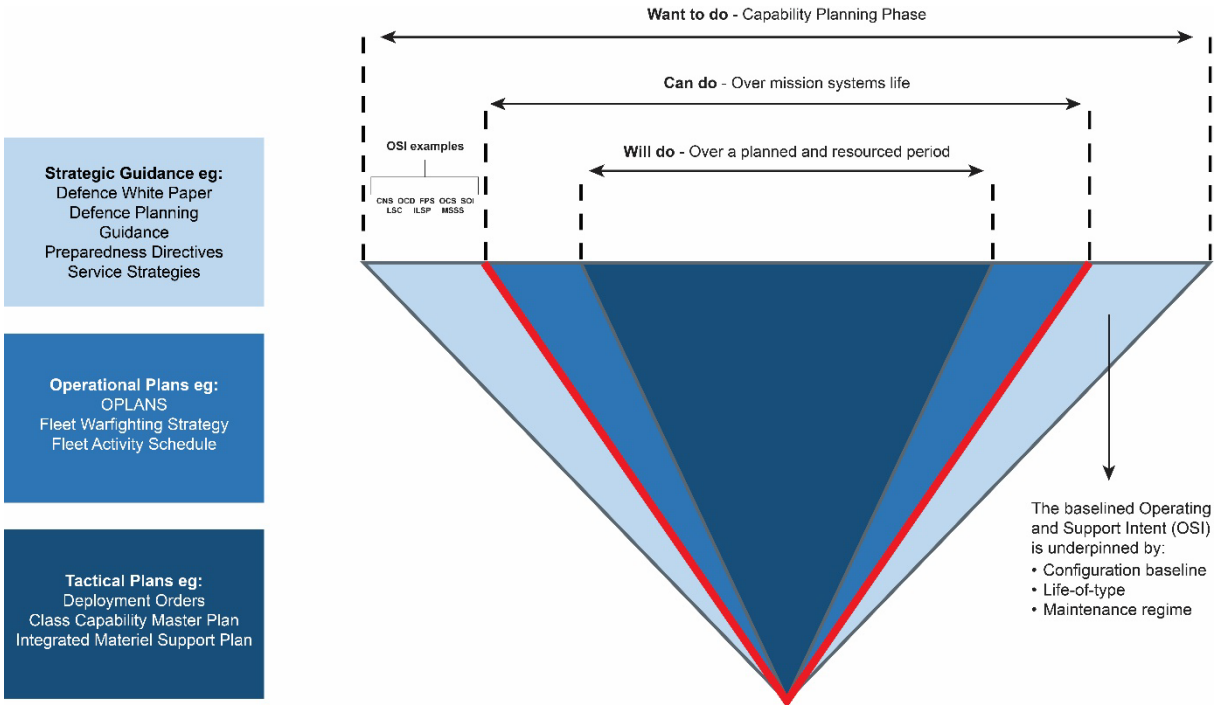
e. inability of the contractor to deliver to specification

f. system integration/interoperability shortcomings.

1.27 There is a need to consider and understand the impacts to the Seaworthiness Outcome of these trade-offs and manage hazards and risks to the achievement of the Seaworthiness Outcome accordingly.

1.28 As the resulting post trade-offs solution (a maritime mission system) enters service, its OSI is ‘baselined’. This constitutes the ‘left and right of arc’ of what the mission system ‘can do’ at that point in time (i.e. actual functions and performance) and is highlighted in Figure 1–4.

Figure 1–4: Baselined operating and support intent



1.29 Once a maritime mission system enters service, its OSI is underpinned by the:

a. configuration baseline

b. life-of-type

c. maintenance and support regime.

1.30 Ongoing review of the OSI by the Capability Manager must continue until the eventual disposal of the maritime mission system, with the OSI evolving to reflect necessary changes in a timely manner. All such changes must be effectively communicated to all affected stakeholders.

DEFINED TASKING

1.31 Strategic requirements are translated into operational and tactical plans that govern what a maritime mission system ‘will do’ over the immediate time horizon (generally two years). This constitutes the defined tasking.

1.32 The Seaworthiness Outcome is achieved where the defined tasking is within the boundaries of the extant OSI; refer to Figure 1–4.

1.33 If what a maritime mission system ‘will do’ (defined tasking) exceeds what it ‘can do’ (extant OSI):

a. In the case of a discrete activity, the activity must be deliberately risk-managed in accordance with seaworthiness risk management policy. These circumstances should be an exception, rather than the rule, under the DSwMS.

b. In all cases consideration must be given to any long-term implications and the requirement for formal change to any or all of the:

(1) configuration baseline

(2) life-of-type

(3) maintenance and support regime

(4) extant OSI.

1.34 Examples of what a maritime mission system ‘will do’ exceeding what it ‘can do’ include:

a. configuration baseline:

(1) supporting an operation that requires a maritime mission system to have anti-ship missile defence capability it does not possess, thus entailing a configuration change

(2) being required to provide temporary mortuary facilities, when such facilities are not part of the configuration baseline

(3) an emergent requirement to routinely provide carriage for additional personnel, where accommodation, hotel services, etc. were never intended for such purposes

(4) non-compliance with emergent requirements as articulated in new regulation (e.g. emission standards)

b. life-of-type:

(1) a maritime mission system intended to deliver 150 sea days annually subsequently required to deliver 300

(2) the life-of-type of a maritime mission system is extended from the intended 20 years to 30 years

c. maintenance and support regime:

(1) a maritime mission system designed for operation in a sea surface temperature (SST) above 6 degrees celsius required to operate in the vicinity of Heard Island (SST 3 degrees celsius) may require an adjustment to the hull survey frequency

(2) usage of associated subsystems for purposes for which they were not initially intended, or at a rate of usage other than that expected – for example the use of targeting radars for navigational purposes

d. extant OSI:

(1) key personnel routinely required to exceed fatigue boundaries

(2) ship routinely sails with personnel / billet pre-requisite (BPR) shortfalls.

1.35 Duty holders must be mindful of how the considerations above may be interdependent. Extending the life-of-type, for example, will require review of the maintenance and support regime; it may also:

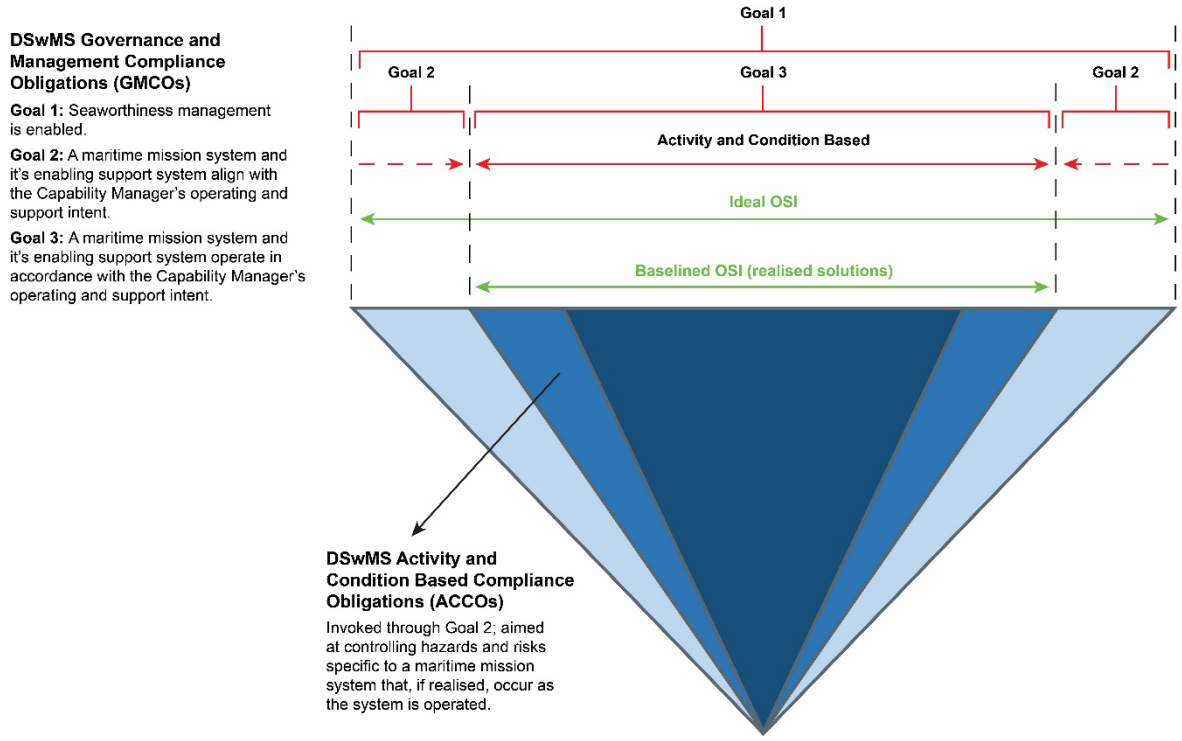
a. require a review of management of the configuration baseline going forward

b. necessitate changes to the extant OSI.

1.36 Specific examples of defined taskings exceeding the extant OSI (i.e. ‘will do’ exceeding ‘can do’) are at the DSwMS website. In each case, a range of potential implications is described.

1.37 The DSwMS compliance obligations centre on the requirement to enable, develop, maintain and operate in accordance with the baselined OSI – ie the OSI is the principal point of reference for Defence seaworthiness management. The application of the DSwMS compliance obligations with respect to these concepts is described in Figure 1–5 below.

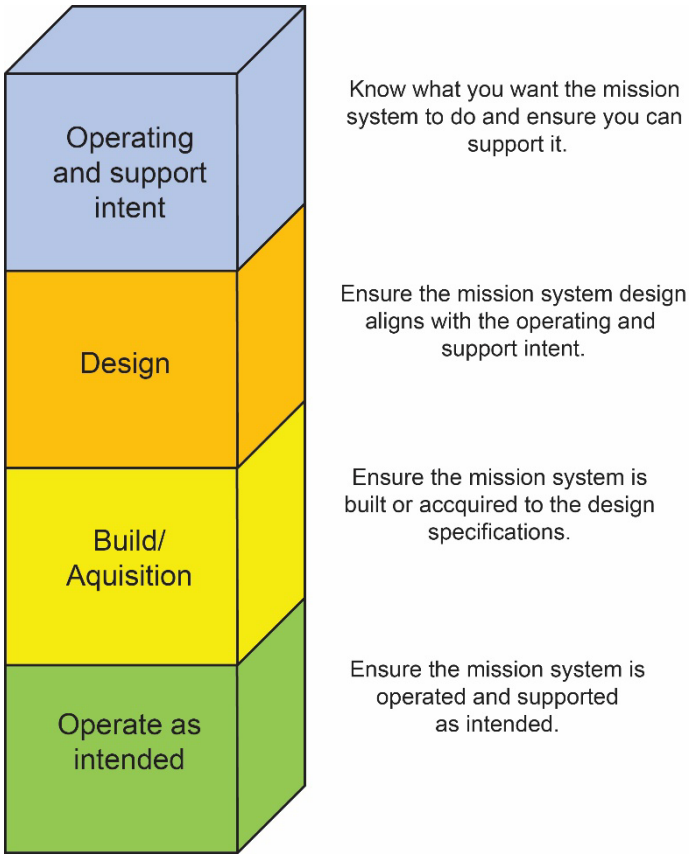
Figure 1–5: General application of the Defence Seaworthiness regulations



1.38 Goal 1 establishes the required governance and management conditions to enable seaworthiness management.

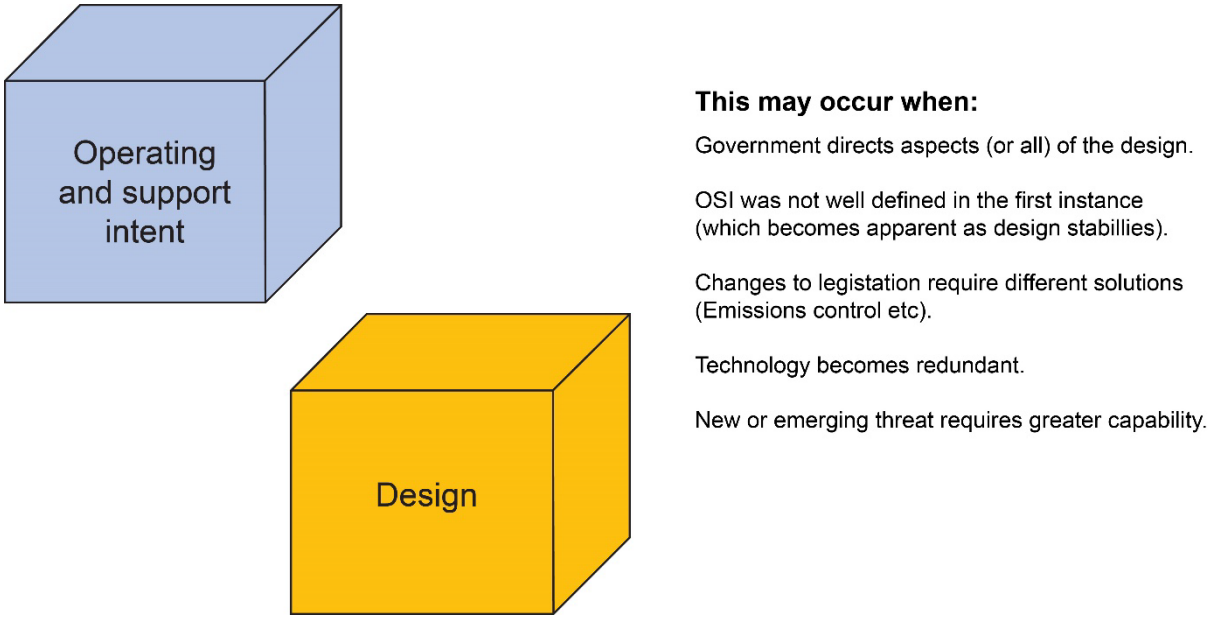
1.39 Goals 2 and 3 ensure that maritime mission systems and enabling support systems are acquired, operated and supported in accordance with Capability Manager's operating and support intent such that alignment is always maintained between the Capability Manager's requirements, the design, utilisation and support of a maritime mission system. This is specifically represented in Figure 1–6.

Figure 1–6: Systems fit for purpose and operated as intended



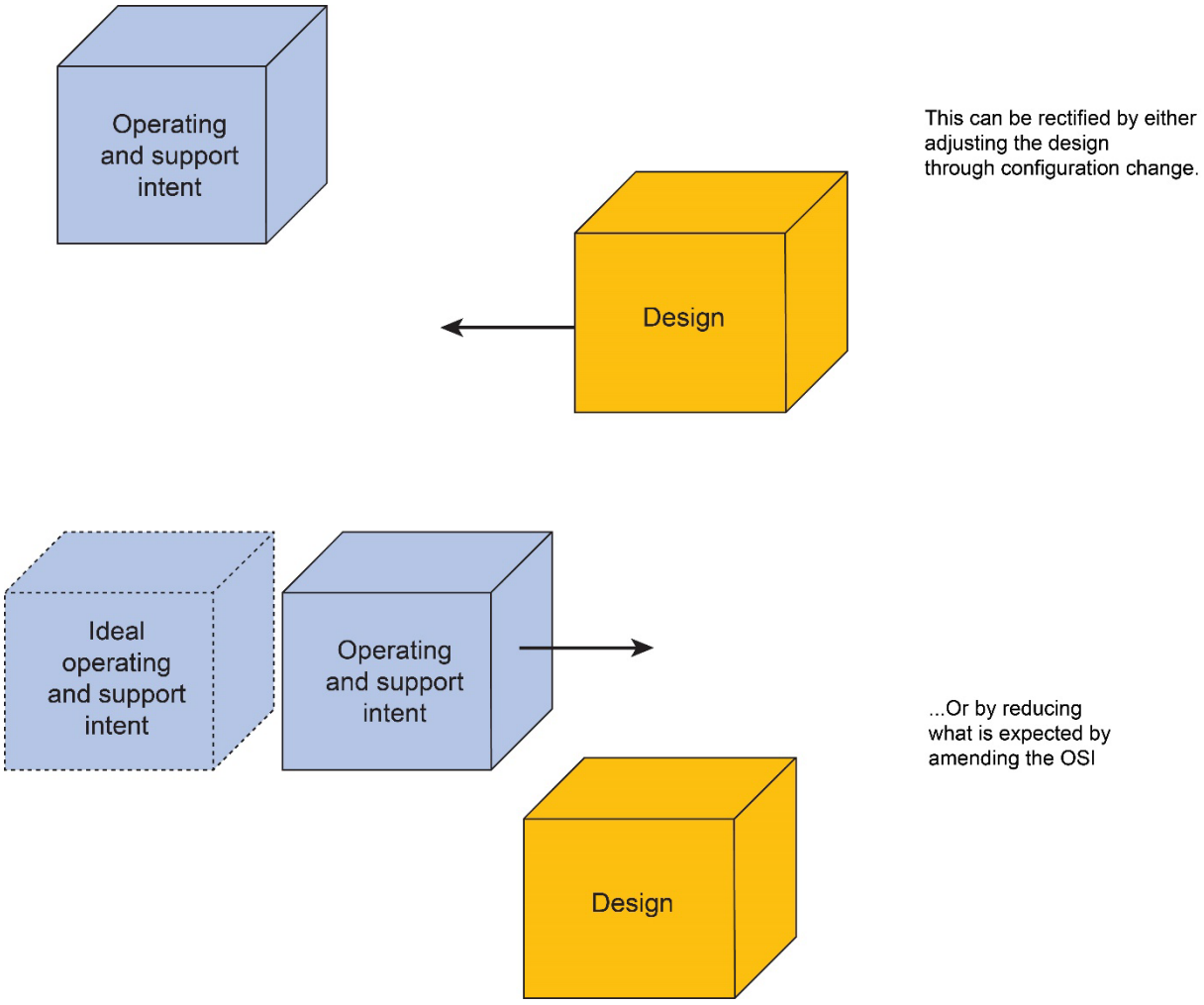
1.40 Circumstances may arise where the design does not align with the OSI as depicted in Figure 1–7.

Figure 1–7: The operating and support intent may not align with design



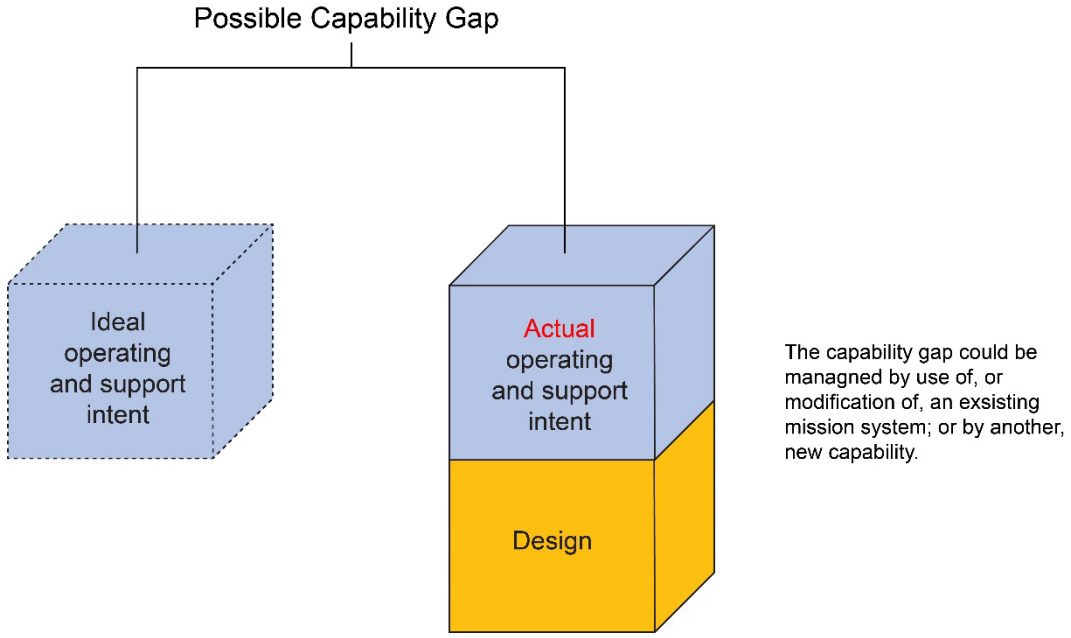
1.41 The DSwMS regulations with respect to Goal 2 require that these are aligned as described in Figure 1–8.

Figure 1–8: The operating and support intent must be made to align



1.42 Where the OSI is reduced to align with the design, this may create a capability gap that may require management as depicted in Figure 1–9.

Figure 1–9: Amending the operating and support intent could introduce a capability gap



DEFENCE SEAWORTHINESS MANAGEMENT SYSTEM AND CAPABILITY MANAGEMENT

1.43 Managing for the Seaworthiness Outcome (seaworthiness management) as described above, is a core aspect of capability management. By design, the DSwMS ensures those whose responsibilities and accountabilities require them to make seaworthiness-related judgements and decisions can do so with justified confidence that those decisions contribute to the achievement of the Seaworthiness Outcome.

CHAPTER 2

DEFENCE SEAWORTHINESS MANAGEMENT SYSTEM GOVERNANCE ARRANGEMENTS

INTRODUCTION

References:

A. Defence Instruction - Military Command Support Provision 1 (MCS1)

B. Defence Seaworthiness Management System Policy

2.1 In accordance with Reference A, the Defence Seaworthiness Authority (DSwA) is responsible for establishing, managing and reviewing the efficacy of the Defence Seaworthiness Management System (DSwMS) in achieving the Seaworthiness Outcome.

2.2 The DSwA therefore has responsibilities to assure good governance of Defence seaworthiness arrangements, that support Capability Managers in achieving the Seaworthiness Outcome. Capability Managers must comply with the DSwA's direction for governance and management for the Seaworthiness Outcome[10].

2.3 All duty holders, in the context of the DSwMS, are also bound by the requirements of relevant Commonwealth and state/territory legislation, inclusive of that relating to health, safety and the environment.

2.4 This chapter addresses governance in the context of Defence seaworthiness and describes the principles and arrangements for good governance of Defence seaworthiness.

SEAWORTHINESS GOVERNANCE

2.5 The Australian Defence Glossary defines 'governance' as:

The principles, values, practices and processes by which an organisation is led, managed and held to account.[11]

2.6 Seaworthiness governance seeks to align decision-making throughout Defence so as to most effectively achieve the Seaworthiness Outcome for the

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[10] DSwMS Governance and Management Compliance Obligation (GMCO) 1.1 is specific to the requirement for Capability Managers, and enablers on whom they depend, to ensure that appropriate governance arrangements are in place for the effective management of seaworthiness.

[11] 'Governance' in this context includes organisational culture and values, key principles of accountability and stewardship, and review functions which provide confidence about both performance and conformance.

enterprise as a whole. It is therefore concerned with managing hazards and risks to the Seaworthiness Outcome, as distinct from managing capability.

2.7 The governance of seaworthiness is achieved through:

a. The three components of the DSwMS:

(1) Regulatory Framework

(2) Risk Management and Assurance Framework

(3) Operating Model.

b. a set of governance principles that guide seaworthiness decision making and reinforce seaworthiness culture and values

c. a governance structure defining the relationships between the Regulator and the regulated

d. decision rights and accountabilities by which seaworthiness authority is exercised and controlled

e. mechanisms for holding duty holders to account including, but not limited to, issue resolution (escalation) and enforcement.

PRINCIPLES FOR GOVERNANCE OF SEAWORTHINESS

2.8 The governance principles seek to guide decision-making and communication at all levels within the DSwMS and provide a common basis for assessing the appropriateness of decisions. They also reinforce the cultural values and behaviours required for the sustained success of the DSwMS.

2.9 The seaworthiness governance principles require that seaworthiness decisions are made:

a. **mindfully** – decisions are more effective and less likely to have unintended consequences when they are made with a thorough understanding of the context, the required outcome, the options available, and their implications now and in the future

b. **collaboratively** – obtaining input from all stakeholders and engaging in joint problem-solving results in better decisions (bearing in mind that collaboration does not necessarily require consensus)

c. **accountably** – decisions only become effective when people take accountability for making them happen

d. **transparently** – decisions are more effective when everyone understands what has been decided and why.

2.10 These principles are embedded in and reinforced through the three components of the DSwMS. The extent to which they are demonstrated in the culture of Defence is also monitored and measured through the DSwMS Operating Model.

GOVERNANCE MODEL FOR SEAWORTHINESS

2.11 The seaworthiness governance model recognises that the Secretary of Defence and Chief of Defence Force (CDF):

a. are accountable for Defence outcomes to government

b. require accountable duty holders to discharge governance responsibilities and give them assurance against these requirements.

2.12 The seaworthiness governance model is structured around the three lines of defence construct, which is consistent with good governance practice for risk-based decision making:

a. The **first line of defence** comprises duty holders who are best placed to act on hazards and risks to the achievement of the seaworthiness outcome as they relate to day-to-day capability management, operation and support of a mission system across the Capability Life Cycle (CLC).

b. The **second line of defence** comprises duty holders who provide systems of control to the first line and conduct assurance over the activities of the first line.

c. The **third line of defence** comprises duty holders who are independent of the chain of command applicable to the first and second lines and can therefore provide an independent and more strategic view across the enterprise.

2.13 The three lines of defence is a risk governance and management hierarchy in that risk-based decision rights escalate from the tactical in the first line to the strategic in the third line, but this should not be confused with the military chain of command or organisational management hierarchies.

2.14 In the context of seaworthiness governance, the duty holder in the third line of defence is the Defence Seaworthiness Regulator (DSwR). Duty holders in the first and second lines of defence constitute the regulated.

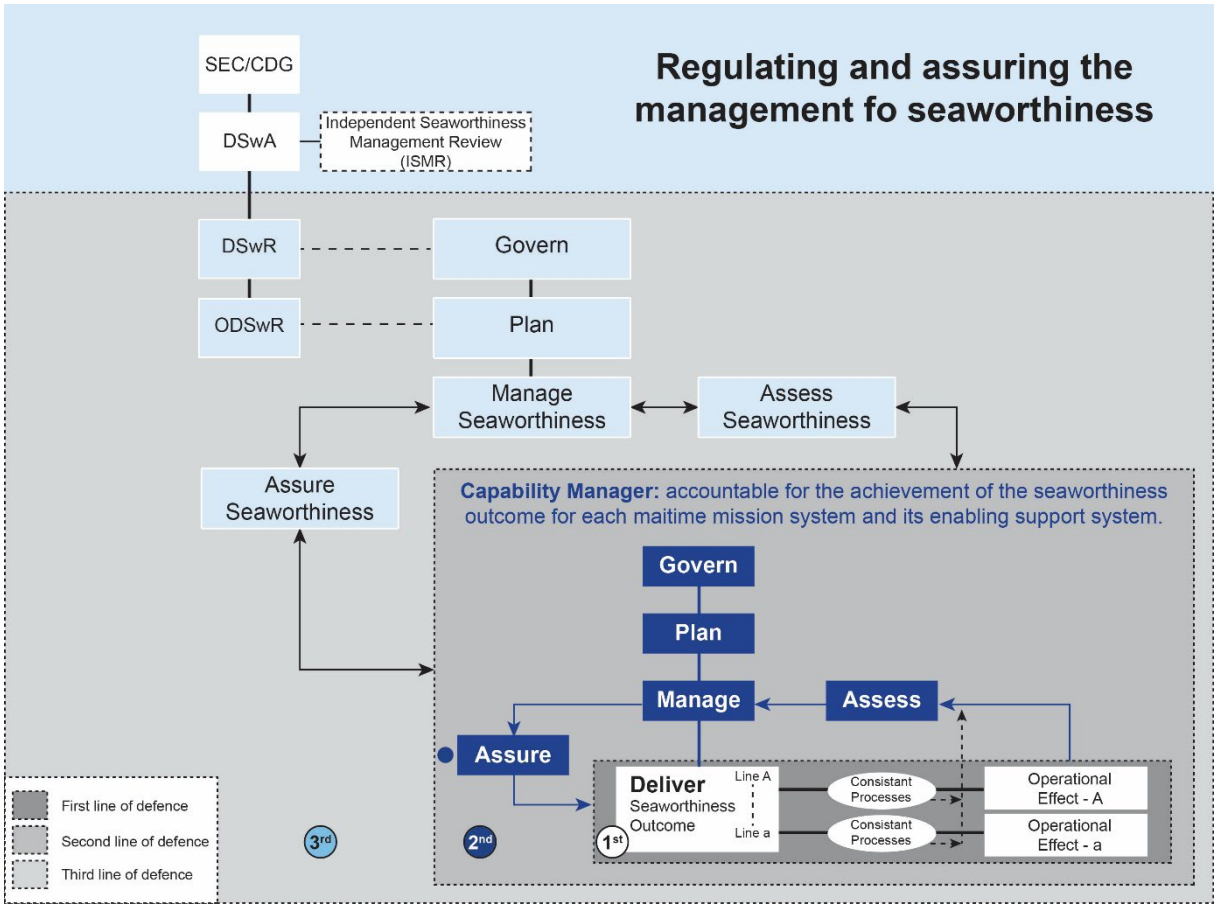
2.15 DSwR is not the only third line of defence regulator within Defence and there are also multiple regulators within the broader Australian and international regulatory environment. For example, under the International Maritime Organisation (IMO) Convention for Safety of Life at Sea 1974 (SOLAS), the Government of the Nation State whose flag a ship is entitled to fly, is referred to as the ‘Administration’. Furthermore, the United Nations Convention on Law of the Sea (UNCLOS) defines the functions of an Administration. In the Australian context, these functions have been delegated across multiple departments and agencies through the Administrative Arrangements Orders. Further guidance on how the ‘Administration’ is represented in Defence, and the role of DSwMS in this context, is located at the DSwMS website.

2.16 The DSwR is accountable to provide the Defence interface with those other regulators impacting the DSwMS regulatory framework, as well as with international bodies with whom Defence has a shared interest. The DSwR’s role with respect to

these other regulators is to interpret their requirements and where appropriate apply them to the seaworthiness context.

2.17 The seaworthiness governance model is depicted in Figure 2–1. Further details on the model and its underpinnings are available in the guidance on the DSwMS website.

Figure 2–1: Seaworthiness governance in context of three lines of defence



DECISION RIGHTS AND ACCOUNTABILITIES FOR SEAWORTHINESS

Regulator

2.18 The appointed regulatory authorities within the DSwMS are the DSwA and the DSwR.

2.19 The DSwA is accountable for assuring justified confidence in the achievement of the Seaworthiness Outcome, at the third line of defence, on behalf of the Secretary and CDF. In order to provide an independent advisory pathway to the DSwA in accordance with contemporary governance practice, the DSwMS design provides for an Independent Seaworthiness Management Review (ISwMR) Panel. The role of the ISwMR Panel is to provide advice to the DSwA on:

a. the ability of the DSwMS to deliver the Seaworthiness Outcome[12]

b. the correctness of seaworthiness management practice in accordance with DSwMS policy publications

c. the effectiveness of the management of seaworthiness of ADF maritime mission systems, both Force-in-Being and Future Force.[13]

2.20 The DSwA has appointed the DSwR as the single Defence Seaworthiness Regulator, responsible for establishing, managing and continually improving a system (known as the DSwMS) to regulate and assure the management of seaworthiness.

2.21 The DSwR is not a 'permissioning authority'. The DSwR develops regulations as a framework to aid the Capability Managers and other duty holders in assessing hazards and risks to the achievement of the Seaworthiness Outcome, but this in no way absolves any duty holder of their accountability in managing hazards and risks to seaworthiness in their mission systems and enabling support systems.

2.22 The DSwR is supported by the Office of the Defence Seaworthiness Regulator (ODSwR), which is headed by the Executive Director Office of Defence Seaworthiness Regulator (ED ODSwR) and includes three DSwMS directors:

a. The ED ODSwR leads and manages the ODSwR, with accountability for:

(1) priorities

(2) resource allocation

(3) performance metrics

(4) performance management

(5) issuing of Defence Seaworthiness Corrective Actions (SCAs) at the strategic level on behalf of DSwR

(6) resolution of issues spanning multiple processes

(7) advocacy with other regulators (internal and external to Defence).

b. DSwMS directors manage specific DSwMS Operating Model processes and are accountable for:

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[12] Thereby requiring it to review the suitability of the system's regulatory framework, Risk Management and Assurance Framework, and the Operating Model as well as the activities and practices of the Defence Seaworthiness Regulator (DSwR) and Capability Managers.

[13] The DSwA will gain confidence in the seaworthiness of mission systems from the DSwR and Capability Managers via assurance activities that accord with the three lines of defence Risk Management and Assurance Framework.

(1) developing regulations

(2) assessing adequacy of hazard and risk assessment

(3) assessing adequacy of means of compliance

(4) providing education and advice on the DSwMS

(5) conducting assurance

(6) managing the issuing of SCAs to the operational and tactical levels of the regulated

(7) reporting on the achievement of the Seaworthiness Outcome across Defence

(8) improving the performance of the DSwMS.

Regulated

2.23 Within the regulated community, the key governance and management roles with respect to seaworthiness management are:

a. duty holders accountable for the performance of DSwMS functions as defined through compliance with Governance and Management Compliance Obligation (GMCO) 1.1 and GMCO 1.4

b. the Capability Manager, who is a duty holder with specific accountabilities to specify and deliver capabilities to required levels of preparedness.

2.24 Capability Managers are accountable for the achievement of the Seaworthiness Outcome in the first and second lines of defence, for the maritime mission systems under their control. This accountability extends to requirements associated with enabling support systems, noting that these support systems may be controlled by other elements of the Defence Enterprise.

2.25 To fulfil this accountability, Capability Managers integrate contributions of other duty holders, and where necessary designate duty holders, and enact policies in accordance with the requirements of the GMCOs and Activity and Condition Based Compliance Obligations.

2.26 The over-arching accountability of Capability Managers for achieving the Seaworthiness Outcome reinforces the centrality of the Capability Manager in the management of mission systems and their enabling support systems across the CLC. Seaworthiness management is a critical and necessary component of capability management.

2.27 To achieve the Seaworthiness Outcome, Capability Managers will often need to hold to account parties that they have no direct control over. This is one of the features that distinguish seaworthiness governance, as a hierarchy of control for risk management, from chain of command or line management hierarchies. It is also one of the challenges that the GMCOs have been designed to address.

2.28 The separation of authorities between the DSwA and the Capability Managers is an important distinction. The Capability Managers and other duty holders in the regulated are accountable for the achievement of the Seaworthiness Outcome. This requires that they:

a. establish and maintain a general understanding of the hazards and risks in the context of their business

b. apply suitably resourced systems of control

c. ensure that those systems of control are being adhered to.

2.29 The DSwA is accountable for the independent assurance of the adequacy of the design and effectiveness of the seaworthiness risk management system across the Defence Enterprise.

ACCOUNTABILITY MANAGEMENT FOR SEAWORTHINESS

Accountabilities

2.30 Whenever possible, accountability for seaworthiness decisions is to be devolved to duty holders at the lowest authorised level. This usually results in better decisions as people closer to the issues usually have the best understanding of the immediate context and risks. It reinforces the need for duty holders and practitioners to be mindful and to manage their own risks. It also helps avoid unwanted ‘upward delegation’ of decisions that can undermine seaworthiness accountabilities and lead to decision ‘bottlenecks’.

Issue resolution and escalation

2.31 However, where hazards or risks to the achievement of the Seaworthiness Outcome, or issues arising from those hazards/risks, meet established materiality criteria, decisions are to be escalated in accordance with those criteria.

2.32 The DSwR defines materiality criteria for the DSwMS, consistent with the Defence risk materiality thresholds, and publishes them on the DSwMS website.

2.33 The Regulator (DSwA, DSwR or ODSwR) or the regulated may also instigate the requirement for escalation to resolve specific issues, in accordance with the issue resolution and escalation process defined in the DSwMS Operating Model.

2.34 The DSwA utilises the Seaworthiness Corrective Action (SCA) process as a mechanism to resolve issues or escalate as required. SCAs are a mechanism that can be used by the DSwA to provide notice to the regulated community to:

a. Rectify a specific non-compliance with the DSwMS.

b. Rectify or improve a means of compliance (MOC) where it has been proven less effective than anticipated. The requirement for this type of SCA will typically be identified through assurance and trend analysis. This type of SCA is provided to assist the regulated community in the improvement of hazard and risk controls in the context of the Seaworthiness Outcome.

2.35 Issues requiring a SCA may be identified through the analysis of data conducted by the DSwR or recommendations from the ISwMR Panel after the conduct of an Independent Seaworthiness Management Review.

2.36 Depending on the issue identified, there are three levels of SCAs that can be issued with differing requirements. These levels are:

a. **SCA Level 1 – Critical SCA.** Critical SCAs are issued when non-compliance poses significant risk to the seaworthiness of a system. Action must be taken immediately to rectify the non-compliance and rectification must be reported to DSwR. The DSwA will determine the appropriate reporting requirements for each SCA Level 1. Non rectification of Level 1 SCAs will be the subject of a separate report to the DSwA.

b. **SCA Level 2 – SCA.** SCAs are issued when non-compliance represents a risk to the seaworthiness of a system and requires rectification. A due date will be set for when the SCA is required to be rectified along with any associated reporting requirements. SCAs will be reviewed periodically as determined by the DSwA, for progress towards closure.

c. **SCA Level 3 – Improvement Notice.** An Improvement Notice (IN) is issued to notify an area that requires improvement within the capability's compliance strategy. INs will be reviewed during surveillance and assurance activities to note any progress. If an IN is not addressed during normal business processes then it may be escalated to a SCA Level 1 or 2.

2.37 **SCA Management.** SCA management will be undertaken by the ODSwR. The ODSwR will track and report to the DSwR and DSwA on open SCAs and log associated correspondence regarding the SCA and its actions.

2.38 **SCA Issue.** Where the recommendation to raise a SCA is proposed, the relevant evidence is to be provided to the DSwR and DSwA for determination. If warranted, the DSwA will decide the appropriate SCA level and issue the SCA to the relevant Capability Manager (e.g. CA, CN, Chief Defence Scientist) for action. The Capability Manager is to acknowledge the receipt of the SCA and close out requirements. On receipt of a SCA, the Capability Manager is required to delegate appropriate authorities to determine and implement required actions in order to rectify the identified issue.

2.39 **SCA Close-out.** The Capability Manager is required to provide a minute to the DSwR detailing the request for closure and evidence to support this request. When the DSwR has reviewed the evidence a recommendation for closure will be submitted to the DSwA. The Capability Manager will then be notified of the decision and any required actions.

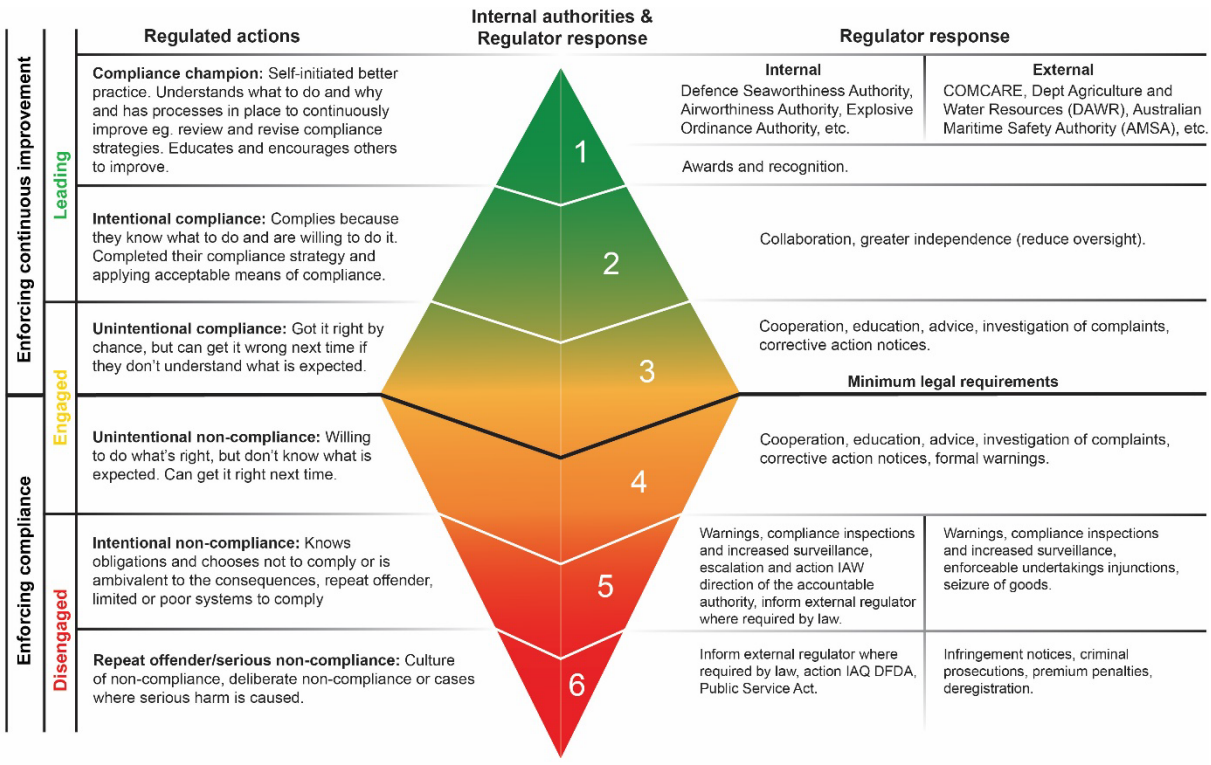
2.40 Close-out dates will be assigned to the SCAs based on the risk posed to seaworthiness. Action authorities will be required to provide updates on their progress towards closure of their relevant SCAs as directed by DSwA. Provision of information of outstanding and overdue SCAs will be provided to the DSwA and may be reported further.

Enforcement

2.41 The primary objective of DSwMS is to achieve voluntary compliance, where it is recognised that compliance with the regulations is in the best interest of the enterprise. However, situations may arise where enforcement action is required. Accountabilities to exercise enforcement under DSwMS are shared between internal authorities (e.g. summary authorities, service tribunals, the DSwR etc.) and external regulators (e.g. Comcare etc.). These authorities work in parallel to ensure compliance to DSwMS. In general, enforcement mechanisms and who has accountability to enforce them are set out in applicable legislative instruments.[14]

2.42 Figure 2–2 represents the DSwMS enforcement framework diamond and shows how the relevant authorities relate to each other. Across the middle of the diamond are the minimum legal requirements. The DSwMS processes are designed to increase the regulated's voluntary compliance. As the regulated work toward the top of the diamond they become champions of better practice. Regulators and peers can learn from the regulated's actions at this level.

Figure 2–2: DSwMS Enforcement Framework Diamond



[14] These include accountable officials identified for the purposes of the Public Governance, Performance and Accountability Act 2013 and Public Service Act 1999 (PS Act); Service Tribunals and summary authorities appointed under the Defence Force Discipline Act 1982 (DFD Act); any person with authority to direct or instruct a person to do something, military or civilian under the Defence Act 1903, DFD Act and PS Act, and DSwA and DSwR under DSwMS policy publications.

2.43 The regulated's action and behaviour below the middle line requires increasingly responsive and commensurate enforcement action from both internal and external regulators. At the very bottom of the diamond is the most severe response to a breach of compliance (e.g. dismissal and imprisonment).

2.44 Most of DSwR's interaction with the regulated occurs in the middle sections of the diamond. Education and assistance from the ODSwR is always preferred to enforcement. The DSwR does however reserve the right to take other such action as deemed appropriate in order to manage hazards and risks to the achievement of the Seaworthiness Outcome. Coercive powers within the DSwMS governance and regulatory framework exist to address those occasions where issuing advice, sharing information and cooperation has failed to assure the management and achievement of the Seaworthiness Outcome. Such action may include, but is not limited to:

a. escalating an issue under process 9 which results in the accountable official halting a project at a gate review until specified conditions have been satisfied

b. advising an accountable official to, for example, defer sea trials until specified conditions have been satisfied

c. issuing a SCA which recommends the accountable official restrict the operation of a maritime mission system, or elements of its support system, until specified conditions have been satisfied.

2.45 The DSwA or DSwR, as appropriate, will determine the enforcement modes in each case on the merits of its particular context and circumstances. Consistent with the principle that the DSwR is not a permissioning authority, the exercise of enforcement powers will need to be judicious and the exception under DSwMS.

CHAPTER 3

DEFENCE SEAWORTHINESS MANAGEMENT SYSTEM REGULATORY FRAMEWORK

INTRODUCTION

3.1 The Defence Seaworthiness Management System (DSwMS) comprises a Regulatory Framework, a Risk Management and Assurance Framework and an Operating Model as described in Chapter 1. This chapter describes the DSwMS Regulatory Framework, which articulates the DSwMS compliance obligations (the regulations). Each compliance obligation is expressed as a functional objective, an outcome, rationale and associated requirements. The requirements must be satisfied to build confidence that hazards and risks to the achievement of the Seaworthiness Outcome are being controlled.

3.2 The following paragraphs describe the design rationale and specific role of the DSwMS Regulatory Framework in managing hazards and risks to the achievement of the Seaworthiness Outcome. They explain how duty holders must interact with, and respond to, the DSwMS compliance obligations.

DEFENCE SEAWORTHINESS MANAGEMENT SYSTEM REGULATORY FRAMEWORK – PURPOSE

3.3 The purpose of the DSwMS Regulatory Framework is to articulate, through the DSwMS compliance obligations, regulatory controls derived through analysis of hazards and risks to the achievement of the Seaworthiness Outcome. These regulatory controls also form a basis for the conduct of DSwMS assurance.

3.4 The DSwMS compliance obligations specify functional objectives, outcomes, rationale and associated requirements, for:

a. governance arrangements, management systems and activities as they relate to the achievement of the Seaworthiness Outcome

b. controls relating to hazards and risks inherent in maritime mission systems and their enabling support systems.

3.5 It is through compliance with DSwMS compliance obligations that hazards and risks to the achievement of the Seaworthiness Outcome are controlled in a manner that is:

a. coherent[15]

[15] A manner which addresses the conditions of, and is traceable to, the Seaworthiness Argument (see Volume 1, Part 1, Chapter 1) and which, if satisfied, makes it reasonable to expect that the Seaworthiness Outcome will be met

b. proportional

c. aligned to roles, responsibilities and accountabilities

d. compliant with legislative requirements.

DEFENCE SEAWORTHINESS MANAGEMENT SYSTEM REGULATORY FRAMEWORK – DESIGN CONCEPT

3.6 To govern and manage risks to the Seaworthiness Outcome, it is necessary to have a comprehensive understanding of the risk management context. To do so, the DSwMS uses two contextual aids: the Risk Management and Assurance Framework and a risk management taxonomy, both of which are described in detail in Chapter 4. The DSwMS aligns hazards, risks, systems of control[16], roles, responsibilities and accountabilities as they relate to the achievement of the Seaworthiness Outcome through these contextual aids. The DSwMS regulatory framework is aligned accordingly and provides enterprise level direction and regulatory control for management of hazards and risks to the Seaworthiness Outcome.

Outcome-focused and goal-based regulation

3.7 The DSwMS Regulatory Framework is outcome-focused and goal-based. The rationale for this design approach is the need for a regulatory solution that can function efficiently; and produce sensible, practicable and effective risk management controls (solutions), in a highly complex and dynamic environment. Compliance obligations are defined through an explicit articulation of the overarching aim; and logically associated goals, functional objectives, outcomes, rationale and requirements. The advantages of this approach are:

a. The rationale and the underlying intent for the outcomes and associated requirements is known, stated and understood; and aligned to the enterprise aims and objectives.

b. With outcome as the focus, the problem of managing risks from the perspective of functionally independent silos is avoided. Taking a particular functional view independently can lead to the ‘function trap’ where risk is only considered in the context of the specified functional area, and may become disconnected from the enterprise aims and objectives (see Chapter 4 for further discussion).

c. Solutions to meet the compliance obligations are not developed by the regulator. Rather, the solutions are proposed by those who own, and are best placed to manage, the hazard or risk in their circumstances (i.e. solutions can be optimised for the context by those who are best placed to do so). This ensures:

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[16] Refer Annex 3C for further information on ‘systems of control’.

(1) ownership of the hazard or risk, and accountability for ensuring the requirement is met, stays with those best placed to manage the hazard or risk

(2) constraints on solutions are minimised and innovative and alternative solutions are encouraged (solutions are constrained only where absolutely necessary, or where prescribed by legislation).

3.8 Adopting this approach to regulatory design avoids the issues typically associated with regulations that prescribe solutions. These issues may include:

a. A perception by the regulated community that the regulator is accountable for the control of the risk and that all that is necessary on their part is compliance. This undermines the need for mindfulness on the part of the regulated community, who are the ones best placed and accountable for managing the risk. Furthermore, it may create a culture of dependency by the regulated community on the regulator.

b. Control solutions which are inappropriate in the circumstances (not suitable in the context) and may result in unintended consequences, including increased risk exposure or an inability to conduct or achieve the defined task. Examples may include:

(1) a one-size-fits-all approach such as prescribing a means for navigation appropriate for a major combatant but which does not fit the context for a small craft; or forcing a military mode of operating on a system designed for a civilian context

(2) a prescribed solution that cannot be implemented such as civil diving regulations, which may require a clear column of water above the diver but which is not compatible with clearance and Naval ship diving activities

(3) a new technology that is adopted, which brings risks not envisaged previously.

3.9 For the DSwMS, the guiding principles for the development and authorisation for use of a DSwMS compliance obligation are that:

a. risk is always considered in context of an outcome

b. it must take a performance-based perspective with respect to systems[17] of control (systems of control are discussed further in Annex 3C)

c. the rationale and intent must be readily available

[17] It will, where appropriate, look to the functions and performance of systems (which may comprise physical, personnel, command, control and management elements) and regulate for the performance of those systems with respect to their ability to control hazards and risks to the Seaworthiness Outcome.

d. the response (i.e. the solutions) must be justified.

3.10 Consistent with the paragraph above, the DSwMS aims to regulate through a performance-based approach for systems of hazard and risk control. It does not aim to exercise direct control over discrete hazards and risks. This would be both impracticable and inappropriate, as neither the risk nor the accountability is the DSwR's.

3.11 The DSwMS compliance obligations do not replace the requirement that duty holders exercise mindfulness in knowledge of their accountability for the management of hazards and risks as they relate to the achievement of the Seaworthiness Outcome. The DSwR does not, therefore, perform a 'permissioning' role – ie does not authorise, licence or otherwise certify artefacts owned by Capability Managers or their representatives for the purpose of providing permission to operate. The DSwR is, however, accountable for issuing of policy and compliance obligations through which duty holders, on compliance, can reasonably expect to:

a. achieve the Seaworthiness Outcome

b. satisfy legal duties as they relate to the achievement of the Seaworthiness Outcome.

3.12 In addition, the DSwR will support duty holders in their compliance efforts through the development of a compliance strategy required by the DSwMS Operating Model and through a risk-based approach, perform assurance activity against outputs and outcomes to verify the performance of systems of control.

3.13 Annex 3A provides details regarding the elements of 'goal-based' regulation and the relationships between those elements.

Detailed structure of the defence seaworthiness management system regulatory framework

3.14 The DSwMS Regulatory Framework consists of regulations of two types:

a. **Governance and Management Compliance Obligations.** These are regulatory controls specifically directed at governance and management functions and activities[18] across the Capability Life Cycle (CLC). Governance and Management Compliance Obligations (GMCOs) aim to ensure the functions and activities are performed in a manner that is systematic, coordinated and aligned with achievement of the seaworthiness outcome.

b. **Activity and Condition Based Compliance Obligations.** These are regulatory controls specifically directed at mission and enabling support

[18] For example, in context of the Seaworthiness Argument, risks to the seaworthiness outcome are introduced where governance and management functions and activities: (a) are not suitable (are not aligned to the functional objectives of the compliance obligation, or not performed to the specified standard); (b) are suitable, but not adequately resourced or implemented; (c) are suitable and implemented, but are not followed.

systems. Activity and Condition Based Compliance Obligations (ACCOs) aim to ensure hazards and risks inherent in those systems are also controlled in a manner that is systematic, coordinated and aligned with achievement of the Seaworthiness Outcome.[19]

Governance and Management Compliance Obligations

3.15 DSwMS GMCOs comprise three goals and related compliance obligations derived through analysis of the hazards and risks to the Seaworthiness Outcome associated with governing and managing capability across the CLC.

3.16 Goal 1 (Enable Seaworthiness Management) addresses the requirement to have governance arrangements, management systems and processes in place to support the activities and manage the outputs relating to Goals 2 (Maritime Mission System and Enabling Support System Align with Capability Manager's Authorised Operating and Support Intent (OSI)) and 3 (Systems are Operated as Intended).

3.17 Specifically, Goal 1 comprises a series of governance and management objectives, presented in a logical cycle (see Annex 3B), for the management of maritime mission systems and their enabling support systems throughout the CLC. These are consistent with contemporary leadership, governance and management principles and with legal duties. They take account of the need for duty holders to establish and maintain:

a. Clearly defined accountability frameworks.

b. Consultation, cooperation and coordination mechanisms for information flow across the undertaking.

c. Systems to ensure that hazard and risk information is communicated across the CLC, and that effectiveness of hazard and risk controls is maintained (or, where practicable, improved) for maritime mission systems and their enabling support systems. This information relates to:

   (1) hazard and risks to maintaining alignment between the Capability Manager's OSI and the maritime mission system and its enabling support system

   (2) hazards and risks to personnel, the public and the environment that must be managed through day-to-day operations.

d. Appropriate performance levels for functional management activities (e.g. engineering, training, logistics and support, safety and environmental

[19] It is a combination of activities and enabling conditions/system characteristics, and the functional performance of these, that determine the likelihood that the specified operational effect will be delivered. Where the functional performance of those activities and enabling conditions/characteristics is essential to delivering the specified operational effect, the associated hazards and risks must be identified and controlled if the likelihood of delivering that effect is to be maximised.

management, finance etc.) that are essential to the achievement of the Seaworthiness Outcome. Note that many functions must act in a collective and coordinated manner in support of capability management processes, which include but are not limited to:

(1) planning

(2) needs and requirements analysis

(3) acquisition and commissioning

(4) operation and sustainment

(5) disposal.

e. Required competencies for those performing the essential functional management activities identified through (d) above.

f. Accident, incident management and investigative capabilities for the management of incidents or events relating to the achievement of the Seaworthiness Outcome, and to support continual learning.

g. Performance measurement and assurance aligned to accountabilities and through which judgements and decisions relating to seaworthiness management are informed.

3.18 GMCOs must be considered in context of a duty holder's accountabilities and responsibilities. For example, all duty holders are situated in, or across, specific phases of the CLC. Governance and management requirements are therefore considered with respect to the phase(s) in which the duty holder acts, and the roles and responsibilities of that duty holder.

3.19 GMCOs associated with Goal 1 enable Goals 2 and 3. Goals 2 and 3 express compliance obligations necessary to satisfy the Seaworthiness Argument[20] by ensuring that:

a. the Capability Manager's OSI is appropriately defined and controlled

b. hazards and risks relating to the achievement of the Seaworthiness Outcome in context of that OSI are considered through application of ACCOs (described in the ACCO section below)

c. the realisation and operation of a maritime mission system and its enabling support system occurs in a manner such that those hazards and risks are

[20] The rationale and justification for each functional objective under Goals 2 and 3 is its explicit relationship to a necessary condition in the Seaworthiness Argument. Using the governance and management capability established under Goal 1 to satisfy the performance requirements in Goals 2 and 3 provides the necessary and sufficient conditions for the Seaworthiness Argument to hold true.

eliminated or, minimised so far as is reasonably practicable (SFARP) in context of that OSI.

3.20 A graphical representation of the GMCO structure (including a full list of functional objectives) and the relationship of GMCOs to ACCOs are included at Annex 3B. DSwRSP 101 contains the full set of GMCOs.

Activity and Condition Based Compliance Obligations

3.21 The DSwMS ACCOs comprise three goals and associated compliance obligations derived through analysis of the necessary and sufficient functions and constituent elements that collectively realise a viable mission system.

3.22 The ACCO goals can be summarised as follows:

a. Goal 1: The functions necessary for the mission system to exist and endure are established, monitored and maintained.

b. Goal 2: The functions necessary for mission systems to move and maintain position are established, monitored and maintained.

c. Goal 3: The functions necessary for the mission system to perform the taskings are established, monitored and maintained.

3.23 The functional objectives under each of these goals are achieved through the collective and integrated contribution of the constituent elements of a mission system:

a. physical

b. personnel

c. command and control.

3.24 Analysis in development of the ACCOs aims to ensure users establish and maintain controls that relate to hazards and risks associated with the constituent elements and their relationship to the functional objectives. This relationship can be complex thus a full description of the methodology, the structure and the detailed application of the ACCOs is provided in Annex 3C.

3.25 The ACCOs consolidate the current knowledge of hazards, risks and controls as they relate to maritime mission systems, at a functional level, that guides and enables the duty holder in the selection and application of controls appropriate in context of the OSI.

3.26 The ACCO structure (including a full list of functional objectives) and the relationship of GMCOs to ACCOs are included in Annex 3B. The ACCO development and application method is included in Annex 3C. DSwRSP 101 contains the full set of ACCOs.

3.27 In summary, the suite of DSwMS compliance obligations (GMCOs and ACCOs) articulates a coherent and comprehensive set of outcomes and

requirements. The set is in a form that is suitable for application by those best placed to act in accordance with their risk management accountabilities. It is through the application of the DSwMS compliance obligations, as directed through the DSwMS Operating Model, that duty holders can reasonably expect that the Seaworthiness Outcome will be achieved.

COMPLIANCE WITH THE DEFENCE SEAWORTHINESS MANAGEMENT SYSTEM REGULATORY FRAMEWORK

Means of compliance

3.28 The regulated must respond to each applicable DSwMS compliance obligation through, in the first instance, a ‘proposed means of compliance’ (PMOC) – in effect a proposed ‘solution’ which, it is claimed, will satisfy the functional objective and related requirements described in the DSwMS compliance obligation.

3.29 Noting the DSwMS aims to regulate for the performance of systems of control, rather than exercise direct control over discrete hazards and risks, PMOCs with DSwMS compliance obligations may be achieved through systems solutions which can demonstrate to the duty holder, as the accountable official, how the requirements in a DSwMS compliance obligation will be measured and assured. PMOCs must, therefore, include the method of assurance.

3.30 Where sufficient evidence is available to have confidence in the PMOC, then the DSwR will recognise, through endorsement of a compliance strategy, that PMOC as a valid and therefore an acceptable means through which DSwMS compliance obligation requirements can be measured and assured. An endorsed strategy aggregates the acceptable means of compliance (AMOCs) for the maritime mission system and enabling support system in question.

3.31 The following two scenarios illustrate the concept of a means of compliance (MOC) applied to the two types of DSwMS compliance obligation:

a. A PMOC presented in partial compliance with GMCO 1.3 (establish hazard and risk management capabilities) might be the approved safety and environmental management system (SMS/EMS) active during each CLC phase of a maritime mission system and its enabling support system. The determination of acceptability (i.e. AMOC) might be based on evidence presented that the proposed SMS/EMS satisfies a recognised legal, national or international standard, in conjunction with a means of assuring the system is implemented and functioning as intended.

b. A PMOC presented in compliance with ACCO 2.2 (have and maintain situational awareness) might be:

(1) In the context of a major surface combatant, proposing a triple-redundancy[21] navigation system. The AMOC might be evidence that the system meets the requirements of the OSI, that it has the necessary reliability and supportability attributes and that operator and maintainer training will be developed and delivered through processes and organisations recognised by a competent authority.

(2) In the context of a small craft, a line-of-sight operating policy might be appropriate. The AMOC might be presented that requires accountable duty holders to formally verify and retain evidence that:

(a) small boat operator training is fit for purpose with reference to the requirement

(b) that operators have been trained, and remain current, to operate craft of that kind.

3.32 In developing a PMOC, duty holders must be satisfied that the PMOC:

a. is suitable (i.e. fit for purpose)

b. has been implemented, or that there is a reasonable expectation that it will be implemented

c. will function as required[22]

d. can be measured against the requirements of the compliance obligation.

3.33 The suitability of a PMOC must be determined, SFARP, on an objective basis if it is to be consistent and defensible. It is the ability to assess the PMOC against objective, consistent and defensible criteria that ‘justifies’ the claim, by the duty holder, that the PMOC should be acknowledged by the DSwR as acceptable (i.e. that it constitutes a defensible argument). In proposing MOCs, duty holders must consider:

a. consistency/compliance with legal or industry codes of practice or standards

b. competency and authorisation of those applying those codes of practice or standards

c. the recognition or approval by competent authorities of systems/organisations relating to subparagraphs (a) and (b) above

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[21] Triple redundancy approach in this context might include a primary (visual), secondary (radar) and tertiary (GPS) means of maintaining situational awareness.

[22] The extent that the DSwR will be engaged in assuring the implementation and maintenance of solutions is dependent on the associated risk – ie is a risk based decision agreed between the DSwR and the duty holder during development of a ‘compliance strategy’ and associated ‘assurance plan’ (see Chapter 5 for detail).

d. the suitability of evidence relating to application of the codes of practice or standards by the competent and authorised entities using recognised systems/organisations (e.g. accreditations, licences, certifications etc.).

3.34 These core principles are applied by the DSwR when considering PMOCs for acceptance.

3.35 The DSwR is responsible for the provision of guidance as to what constitutes an AMOC for a particular DSwMS compliance obligation. This guidance must articulate the principles that underpin an AMOC, and provide examples of AMOCs, for reference by the relevant duty holders.

3.36 In certain circumstances the DSwR may direct a particular solution, referred to as a directed means of compliance (DMOC). This may occur:

a. In response to prescribed legislation.

b. Where Defence direction is provided from other third line of defence policy owners.

c. In cases where the Regulator is satisfied that only a particular solution will provide the required level of hazard and risk control. In this case, such DMOC are expected to be the exception.

3.37 It is the responsibility of the Capability Manager to propose solutions appropriate to their context for agreement by the DSwR through endorsement of a compliance strategy.

3.38 The compliance strategy must articulate the PMOC for applicable DSwMS compliance obligations. The DSwR will on request, provide supporting advice on development of a compliance strategy, including determining those DSwMS compliance obligations that are applicable in the circumstances.

3.39 The DSwR may, where appropriate, authorise a competent authority to act on their behalf to determine, in respect of a maritime mission system and its enabling support system:

a. the applicability of compliance obligations

b. the acceptability of PMOCs.

3.40 Duty holders are to submit the strategy to the DSwR for assessment of its suitability as a basis for assuring compliance with the requirements of the DSwMS. On agreement by the DSwR, the strategy becomes, in effect, the ‘claim’ and ‘argument’ relating to management for the achievement of the Seaworthiness Outcome for the subject maritime mission system and its enabling support system.

3.41 Duty holders are required to implement the strategy. The DSwR may seek to assure, through evidence, that the claim and argument as articulated by the strategy, remain valid throughout the CLC. That ‘evidence’ is provided through the assurance activity described in assurance plans. Thus confidence in achievement of the Seaworthiness Outcome is justified through evidence.

ADMINISTRATION OF DEFENCE SEAWORTHINESS MANAGEMENT SYSTEM COMPLIANCE OBLIGATIONS

3.42 The DSwR is accountable for the development, promulgation and configuration management of DSwMS compliance obligations. DSwMS compliance obligations are developed, promulgated and administered by the Office of the Defence Seaworthiness Regulator (ODSwR) in accordance with the requirements of the DSwMS Operating Model.

3.43 For further detail, see Chapter 5, Process 1.

ANNEX 3A

OUTCOME-FOCUSED GOAL-BASED REGULATION

INTRODUCTION

1. The Defence Seaworthiness Management System (DSwMS) adopts an outcome-focused goal-based approach to regulation. The basic principle is to articulate a logical hierarchy of goals, functional objectives and associated requirements which aims to control hazards and risks to delivery of an overarching objective.

2. The overarching objective for the DSwMS is the achievement of the Seaworthiness Outcome. The DSwMS includes two types of goal-based DSwMS compliance obligations; these aim to control hazards and risks to the achievement of the Seaworthiness Outcome inherent in:

a. governance and management practices relating to the definition, realisation, operation and disposal of maritime mission systems and their enabling support systems – these are the DSwMS Governance and Management Compliance Obligations (GMCOs)

b. the maritime mission systems and enabling support systems themselves – these are the DSwMS Activity and Condition Based Compliance Obligations (ACCOs).

3. The structure of DSwMS goal-based regulatory framework is illustrated in Figure 3A–1; the logic underpinning the structure is articulated in the subsequent section.

Figure 3A–1: Outcome-focused goal-based structure of the Defence Seaworthiness Management System compliance obligations

STRUCTURAL LOGIC

4. **Tier 1 – Aim.** This represents the highest level statement regarding what must be achieved – ie the overarching objective. For the DSwMS, this is the achievement of the Seaworthiness Outcome.

5. **Tier 2 – Goals.** These comprise a logical series of objectives which align with, and which necessarily must be satisfied to achieve, the overarching objective:

a. **Governance and management goals.** These are objectives which sum to deliver governance and management outcomes necessary to achieve the Seaworthiness Outcome. They are related to the Seaworthiness Outcome through a logical argument – the ‘Seaworthiness Argument’.

b. **Activity and condition based goals.** These are invoked through application of the GMCOs and represent objectives, where a number of hazard and risk controls may be required to act collectively, and to the specified performance level, to effectively manage hazards and risks inherent in maritime mission systems and their enabling support systems.

6. **Tier 3 – Functional objectives.** These represent a series of specific objectives that sum to deliver the tier 2 goals. They provide a logical structure for the articulation of requirements as they relate to those goals.

7. **Tier 4 – Requirements.** These represent function and performance requirements that relate to a particular functional objective and which guide users to identify and propose solutions that satisfy the requirements.

8. **Tier 5 – Solutions.** The means of compliance proposed by the regulated and deemed acceptable by the DSwR to satisfy the requirements.

9. **Rationale/justification.** This component represents the rationale for the requirement (provided by the DSwR) and the justification for the solution (provided by the regulated). The justification constitutes a measure of mindfulness insofar as a valid justification must demonstrate a duty holder understands the requirement and can propose a solution that is measurable, and which it is reasonable to expect will satisfy the requirement as it relates to the achievement of the Seaworthiness Outcome.

ANNEX 3B

DEFENCE SEAWORTHINESS MANAGEMENT SYSTEM COMPLIANCE OBLIGATIONS OVERVIEW AND FUNCTIONAL RELATIONSHIP

Figure 3B–1: Defence Seaworthiness Management System compliance obligations

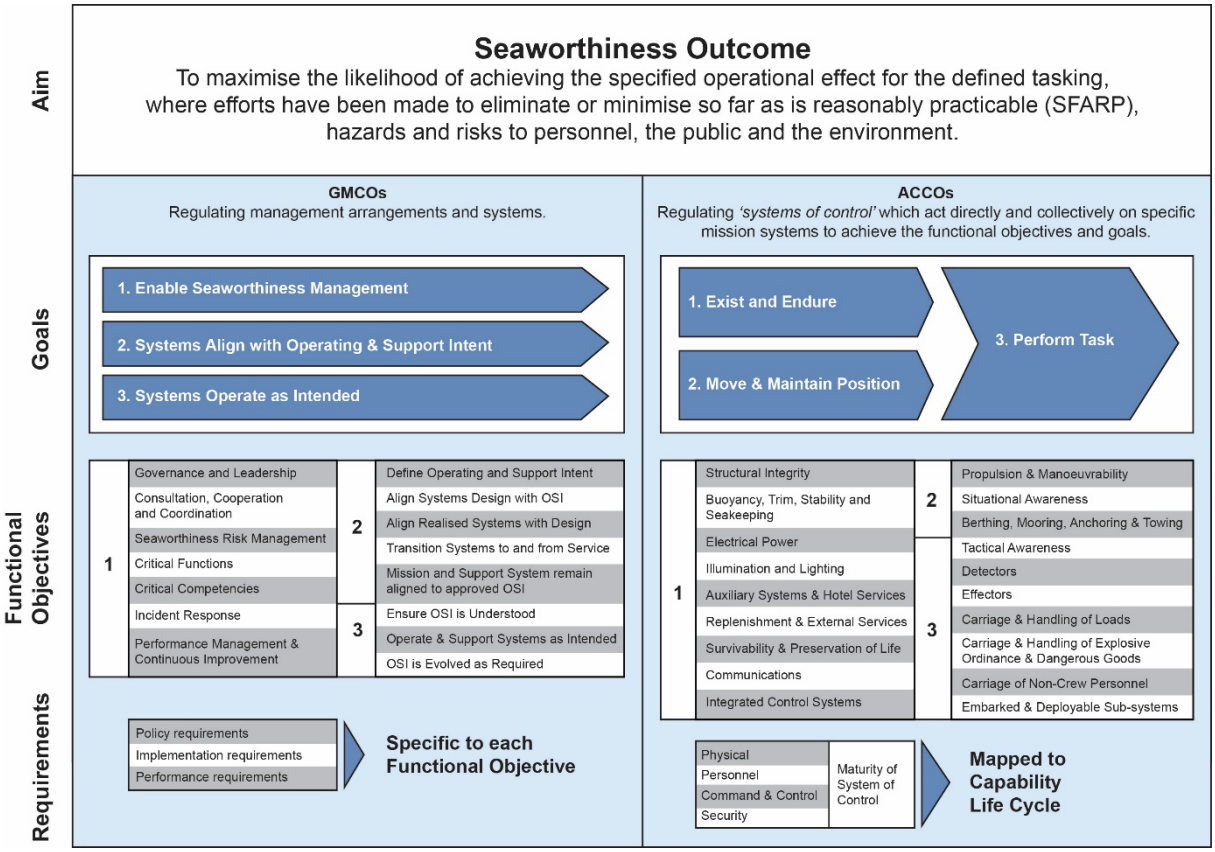
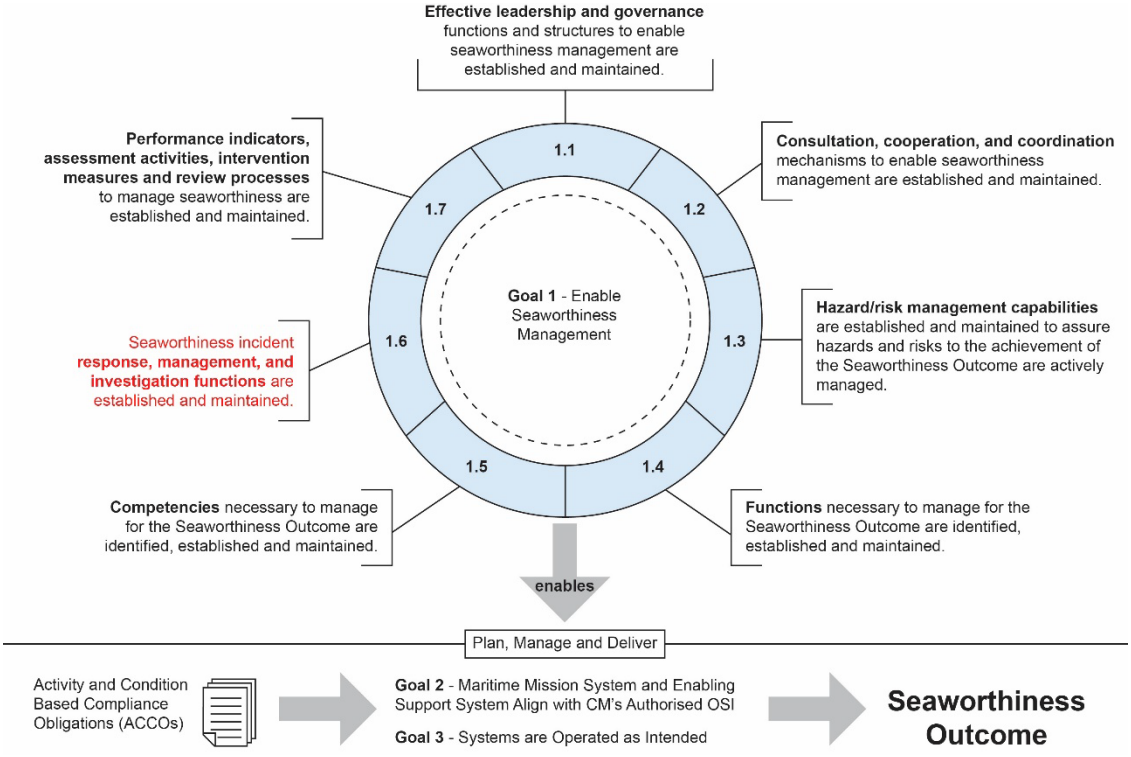


Figure 3B–2: Defence Seaworthiness Management System compliance obligations – functional relationship



ANNEX 3C

ACTIVITY AND CONDITION BASED COMPLIANCE OBLIGATION DEVELOPMENT METHODOLOGY, STRUCTURE AND USE

1. This annex describes the method used to develop Activity and Condition Based Compliance Obligations (ACCOs), the structure of ACCOs and the application of them to mission systems with respect to hazard and risk controls in the seaworthiness context.

ACTIVITY AND CONDITION BASED COMPLIANCE OBLIGATION DEVELOPMENT METHODOLOGY

2. Consistent with Defence Seaworthiness Management System's (DSwMS) outcome-focused goal-based regulation, ACCOs are developed from a top-down approach of defining the goals that support the overarching aim of achieving the Seaworthiness Outcome, then the functional objective that achieve these goals, and then the requirements of each functional objective. The methodology considers:

a. the necessary and sufficient functional requirements and constituent elements of a viable maritime mission system from a first principles approach

b. the range of potential activities and tasks that may be required of a maritime mission system,

c. the approach to risk management, where:

   (1) hazards, risks and codified controls in the Defence maritime environment are well known

   (2) hazards, risks and/or controls are not well known or understood and the need for management in accordance with an agreed risk management methodology.

3. The methodology requires that the ACCOs as a set are:

a. mutually exclusive, in that they cover different and distinguishable obligations (no overlap)

b. collectively exhaustive, in that they cover all significant aspects of seaworthiness from a regulatory perspective, for all maritime mission systems (no gaps).

4. A key component in achieving the above steps is a thorough literature review against a relevant body of knowledge, to inform the development of Defence seaworthiness regulations.

5. In the maritime context, the relevant body of knowledge is contained in a number of commonly used publications including but not limited to:

a. Naval rule sets

b. Civil maritime codes and conventions

c. Classification Society rule sets.

6. In interpreting this body of knowledge, the DSwMS Regulation Working Group considers:

a. The context for which each rule-set or code was written and any associated limitation, for example civilian versus military.

b. The purpose for which each code or rule set was written and any associated limitation for example, safety, environment, engineering and training. These are typically functional or activity specific views and not always considered, defined, developed or applied in the context of organisational objectives.

c. The regulatory approach applied by each code or rule-set for example, goal-based versus prescription.

d. The suitability in the Australian Defence maritime context.

e. Coherency and conflict between codes or rule sets.

7. The current literature review has confirmed that there is no single code or collective set that meets DSwMS requirements for regulating the management of Seaworthiness. The DSwMS Regulation Working Group therefore tailored and incorporated relevant aspects of applicable codes where appropriate.

8. This approach derived the ACCO structure which is described herein.

ACTIVITY AND CONDITION BASED COMPLIANCE OBLIGATION STRUCTURE

9. The ACCOs are designed to complement and reinforce the Governance and Management Compliance Obligations (GMCO), noting the Seaworthiness Outcome (the Aim) can only be achieved when both the GMCO goals and the ACCO goals are achieved.

GOALS

Goal 1: The functions necessary for the mission system to exist and endure are established, monitored and maintained

10. **Rationale:** All mission systems are designed to operate in the environments specified in their operating and support intent (OSI) (GMCO 2.1 and 2.2). For example, maritime mission systems are designed to operate in a specific position in the water column (on the surface or submerged), in certain sea conditions and so on. To do so requires functions which, in the first instance, enable the mission system to exist and endure in those environments before it can perform any defined task beyond simply sustaining itself.

Goal 2: The functions necessary for mission systems to move and maintain position are established, monitored and maintained

11. **Rationale:** Mission systems usually need to position themselves in order to achieve their defined tasks. Each mission system, therefore, needs to be able to maintain control of its speed, course, orientation and position to the degree required by its OSI.

Goal 3: The functions necessary for the mission system to perform the taskings are established, monitored and maintained

12. **Rationale:** The purpose of a mission system is to achieve the required operational effects through performing defined tasks. This will often involve the use of specific military systems (e.g. detectors and effectors). The capability to perform a defined task will often need to be maintained or restored in the face of damage or impairment.

Functional Objectives

13. The goals above are underpinned through functional objectives. The functional objectives sum to deliver the goals which in turn, sum to deliver the aim (the Seaworthiness Outcome). Each ACCO articulates a functional objective. The design, realisation and operation of a mission system must result in solutions which meet those functional objectives in context of its OSI.

14. Each ACCO also articulates requirements and considerations pertaining to risks that might prevent achievement of the functional objective, or which may result through achieving the functional objective. For example, a ballast water system may be necessary to achieve stability (a functional objective). A failure to maintain or operate the ballast system correctly may result in failure to achieve the stability required. However, achieving stability through ballast water transfer may introduce a risk to the environment through harmful pest translocation. In addition, this may also introduce a flow on risk to operating through possible denial of port access as a result of failing to meet local environmental management standards.

15. The ACCOs aim to consolidate the current knowledge of hazards, risks and controls as they relate to maritime mission systems, at a functional level, that guides and enables selection and application of controls appropriate in context of the OSI. That is, the functional objectives are defined in a manner that allows them to be interpreted and applied so a particular mission system can control hazards and risks as appropriate to its specific context.

Requirements

16. Functional objectives are achieved though the collective and integrated contribution of the constituent elements of a mission system – physical, personnel, and command and control. That is:

a. Physical elements form the basis of all mission systems. Physical elements include all the inanimate things that are necessary to constitute the mission system, as distinct from personnel. This includes, for example, structures,

machinery, equipment, hardware, software, consumables (such as fuels, lubricants, munitions) and so on.

b. Almost all mission systems require interaction with personnel. The OSI and the physical elements of a mission system will usually set the personnel requirements, while human factors will usually have to be taken into account in the design and use of the physical elements. In accordance with GMCO Goals 2 and 3, the OSI needs to be sufficiently evolved and understood to provide guidance with respect to personnel and their interaction with the physical elements. Personnel must be trained and perform their tasks in an environment that enables the task to be sustained - they must be effective in their role which also requires that they be kept safe and well.

c. All mission systems operate in complex and dynamic environments. For a mission system to achieve its defined tasks, decisions must be made, communicated and executed efficiently and effectively. This requires each mission system to have appropriate integration of physical elements and personnel, as well as systems of communication, authority, command and control.

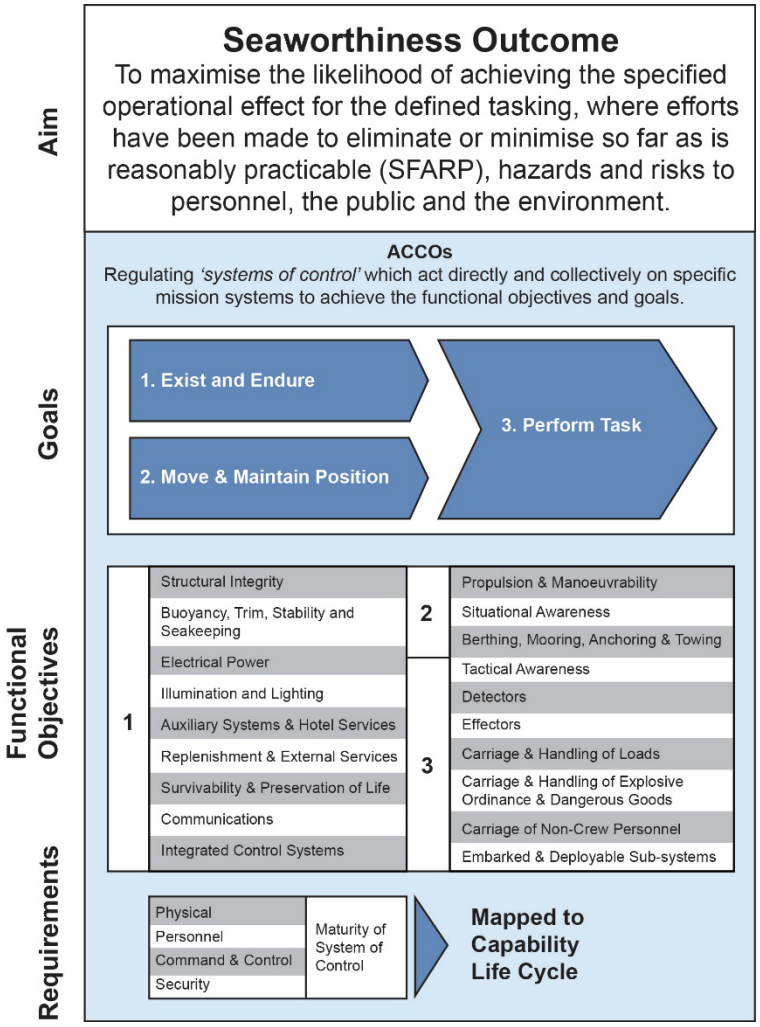
17. It follows that hazards and risks as they relate to the ACCO functional objectives, are managed through the function and performance of the constituent elements. Failure of those constituents to function and perform to the required level lessens the likelihood of achieving the operational effect for the defined tasking; and may expose personnel, public and the environment to harm (there is risk to the Seaworthiness Outcome).

18. Therefore, ACCO requirements call for solutions (systems of control) that act on or are enacted through one or more of these constituents to ensure they function and perform to the appropriate level as they apply to each functional objective, in the context of the OSI. Thus, there are a set of common and unifying requirements that apply to all constituents and across all ACCOs (see DSwRSP 101), as well as unique requirements specified in each ACCO.

19. The ACCO requirements also recognise that the maturity of controls must be appropriate to the requirements of the specific phase of the CLC that the mission system is currently in. For example, during commissioning, there may be a requirement that fire-fighting and damage control functions be available prior to specific test and trial activities. In addition, the requirements of each ACCO will have associated vulnerabilities (point of weakness) that must be identified, managed and controlled. Thus, security is an integral component of a system of control and must be considered across each ACCO.

20. The ACCO Structure is provided at Figure 3C–1 below:

Figure 3C–1: Activity and Condition Based Compliance Obligations structure



Solutions (Systems Of Control)

21. Risks to achieving the functional objective, or which result through achievement of the functional objective, may be realised when constituent elements fail to function or perform to the appropriate level. Systems of control therefore act on or are enacted through the constituents of the mission system to prevent loss of control in the first instance, or should control be lost, to regain control and/or minimise the consequences.

22. The system of control, as a concept, can be defined at various levels; for example, a code of practice might be applied to the whole or part of a mission system (e.g. Naval Ship Code, Class Society rules etc.) and may in turn require or apply a system of controls at a specific level. For example:

a. A system of control with respect to structural integrity of a mission system may be articulated through:

(1) a Class Society rule set consistent with the requirements of the OSI, that requires the structure be designed by a recognised Suitably

Qualified and Experienced Person (SQEP), independently reviewed, and that it then be inspected during construction and maintained through life with periodic inspections

(2) training and requalification for maintainers

(3) Orders, Instructions and Publications (OIP) for operators that describe operating limits and optimal modes for operation

(4) assurance requirements and activities associated with (1) to (3) above.

b. A system of control at local level on a mission system, relating to, for example, the operation of a lifting davit associated with deployable sub-systems may comprise:

(1) independent certification of the davit and of the lift point on the deployable element in a specified periodic cycle

(2) training for operators with associated certification and re-qualification requirements including the use of appropriate personal protective equipment

(3) provision of operating and maintenance procedures reviewed by SQEP as consistent with the Original Equipment Manufacturer (OEM) design and intent for operation and maintenance (and aligned with the OSI)

(4) provision of communications and control arrangements between the control points such as the bridge of a ship and the operator

(5) operating assurance arrived at through periodic exercise of the system to provide confidence that it can be operated to support the defined task when required.

23. As discussed earlier, systems of control act on or are enacted through one or more physical, personnel and command and control constituents and typically comprise combinations of the following:

a. codes of practice

b. physical control solutions (e.g. navigation aids, machinery interlocks, guards, life-saving and safety equipment)

c. Orders, Instructions and Publications (OIP)

d. training and qualifications

e. monitoring, management and reporting

f. assurance.

Risk management approach and Activity and Condition based Compliance Obligation application

24. As discussed earlier, the Functional Objectives are defined in a manner that allows them to be interpreted and applied so a particular mission system can derive hazard and risk controls appropriate to its specific context. The interpretation and application is managed through Process 2 of the DSwMS Operating Model, which requires the Capability Manager to develop a compliance strategy for a mission system and its enabling support system. The compliance strategy must describe and justify the proposed means of compliance (PMOC) against the requirements articulated through the ACCOs. The PMOCs may take the form of one or more 'systems of control'.

25. The proposed systems of control must meet both the unique requirements specified in each ACCO, as well as the common and unifying requirements discussed above.

26. The risk management approach used in development and application of the ACCOs is described in Figure 3C–2, which is derived from the Safe Work Australia Code of Practice, but which is applicable more broadly to managing the risks to the Seaworthiness Outcome.

Figure 3C–1: Risk management approach

Activity and Condition Based Compliance Obligation risk management approach

27. Many hazards and risks in the Defence maritime undertaking are well known and have well established controls. In these situations, SQEP, when assessing hazards and risks, should identify and implement known controls while being mindful to take into account any limitations that may apply or any improvements that may be available in the circumstances. They should then determine if further risk assessment and treatment action is warranted. Where the controls are not well understood duty holders must apply the specific risk management approach and requirements articulated as a result of compliance with GMCO 1.3.

28. Note that in some situations, there is a mandatory requirement to conduct a formal risk assessment. Refer to ACCO guidelines and to the Capability Manager's GMCO 1.3 compliant systems for further information.

29. The development method for the ACCOs recognises that the rationale and traceability of many of the established controls (e.g. codes of practice) are not always well understood or clearly articulated. Hazard and risk identification is often implicit rather than explicit in codes of practice, and their development is often driven in response to adverse events rather than in the context of the outcomes or objectives of the enterprise. Thus, the codes tend to focus on a particular functional area or outcome, such as engineering, finance, safety or environment.

30. In addition, many codes are developed with a different aim in mind and may be misaligned with a Capability Manager’s desired outcome and intent. For example, civilian ship survivability codes provide a limited focus on survivability of the ship with a primary focus on preservation of life. That is, the intention is to provide a platform that will survive for sufficient time for the ship to be evacuated. For military maritime mission systems, the emphasis is often on different criteria that are intended to ensure that the ship remains afloat and stable to implement recovery action and continue to deliver the operational effect. A reasonably practicable control in this circumstance may be to have increased numbers of ships complement, all who are trained in fire-fighting and damage control.

31. The ACCOs therefore provide an outcome-focused goal-based framework of compliance obligations in which to situate, test and apply many existing systems of control, in the context of achieving the Seaworthiness Outcome.

32. The ODSwR will review and challenge ‘good practice’ to determine:

a. what it was trying to control and why

b. who proposed the practice and whether they were suitably qualified and experienced

c. what evidence exists to justify the practice in the Seaworthiness context.

33. As a result, the DSwMS will continually improve the state of good practice in the Seaworthiness context. This is an ongoing function of the ODSwR in accordance with processes one and ten of the DSwMS Operating Model, and in conjunction with stakeholders in the interests of the Defence maritime community.

Application of Activity and Condition Based Compliance Obligation to maritime mission systems

34. Figure 3C–3 demonstrates ACCO application to a specific mission system. In summary, the Capability Manager, through the development of the OSI, will determine the activities and conditions which a maritime mission system will engage in, and then determine the applicability of the ACCOs. Where applicable, the Capability Manager will propose solutions (systems of control) to meet the requirements of the ACCO.

35. Irrespective of the mission system, the requirements against each ACCO are the same. However, the solutions proposed by the Capability Manager to meet the requirements may be entirely unique to the specific mission system and its intended use (i.e. will be determined by the context as described through the OSI, for that mission system).

36. This approach allows for the flexibility the Capability Manager requires to respond to the regulations without constraining solutions or enforcing solutions that do not fit the context. For example, to achieve a particular requirement of ACCO Functional Objective 2.1 (establish, monitor and maintain situational awareness), a guided missile destroyer may require a primary, secondary and tertiary navigation system. To achieve the particular requirement of the regulation in the case of a small workboat, a control may be presented that only requires it to remain in line-of-sight of land and comply with local State Regulations for small craft.

37. The Capability Manager will present solutions to the regulator, which addresses the requirements of the ACCO, as PMOC. The regulator will then work with the regulated to determine if the requirements are met and the solution was proposed by Suitably Qualified and Experienced Personnel. Where these conditions are met, the solution will be deemed an acceptable means of compliance (AMOC).

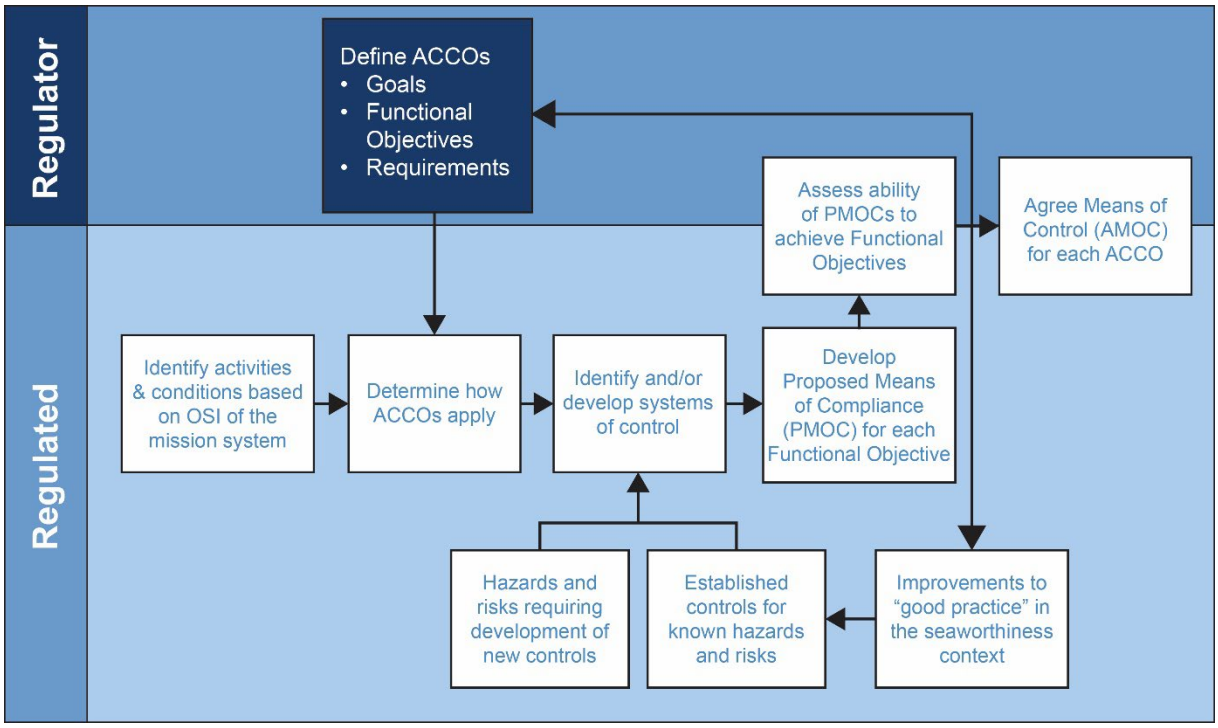
38. In certain circumstances the DSwR may direct a particular solution, referred to as a directed means of compliance (DMOC). This may occur:

a. In response to prescribed legislation.

b. Where Defence direction is provided from other third line of defence policy owners.

c. In cases where the regulator is satisfied that only a particular solution will provide the required level of hazard and risk control. In this case, such DMOC are expected to be the exception.

Figure 3C–1: Simplified application of ACCO to a mission system



39. The DSwR maintains a register of statutory and other requirements relevant to the seaworthiness context (see guidance for further details).

CHAPTER 4

DEFENCE SEAWORTHINESS MANAGEMENT SYSTEM RISK MANAGEMENT AND ASSURANCE FRAMEWORK

INTRODUCTION

4.1 The Defence Seaworthiness Management System (DSwMS) comprises a Regulatory Framework, Risk Management and Assurance Framework and Operating Model.

4.2 This chapter describes the DSwMS Risk Management and Assurance Framework in detail. It is based on the enterprise risk governance concept of three 'lines of defence' and which:

a. provides a formal three lines of defence structure to support risk based decision-making and oversight in complex enterprises/undertakings where:

(1) the first line comprises the business and operations activities and management where risks are controlled directly, and on a day-to-day basis

(2) the second line comprises the systems of control which act on the first line (including the provision of supporting systems)

(3) the third line comprises enterprise-wide systems of control in response to the objectives and outcomes required by the enterprise, related government direction and legislation

b. establishes clear accountabilities for consideration of, and compliance with, the DSwMS compliance obligations and which align along the three lines where:

(1) risk is categorised[23] in a manner which facilitates identification of appropriate management methods, and alignment of decision making roles and functions accordingly

(2) risk ownership is clearly identified

(3) independent levels of risk oversight and assurance are provided

c. through assurance, provides supporting evidence to justify confidence that hazards and risks to the achievement of the Seaworthiness Outcome are

[23] The approach to managing risks of different types within a given category can vary significantly and must be aligned to the enterprise objectives, management roles, responsibilities and accountabilities; if risk management is to be effective. A DSwMS risk categorisation (a taxonomy) is provided in Annex 4A to facilitate these considerations.

being controlled and that it is reasonable to expect that the Seaworthiness Outcome is being achieved.

DEFENCE SEAWORTHINESS MANAGEMENT SYSTEM RISK MANAGEMENT AND ASSURANCE FRAMEWORK – PURPOSE

4.3 The DSwMS Risk Management and Assurance Framework constitutes the enterprise-wide governance and hazard/risk management framework for the achievement of the Seaworthiness Outcome. The purpose of the DSwMS Risk Management and Assurance Framework is to:

a. articulate the DSwMS hazard and risk management and assurance context in enterprise terms

b. align duty holder accountabilities with application of the DSwMS compliance obligations to control hazards and risks to the achievement of the Seaworthiness Outcome

c. provide, through assurance activities aligned to the DSwMS risk management and assurance framework, the means to verify the implementation and performance of agreed[24] controls for hazards and risks to the achievement of the Seaworthiness Outcome

d. articulate hazard and risk information to those best placed to act, and who have a duty to act, where agreed controls for hazards and risks to the achievement of the Seaworthiness Outcome are not performing as required.

4.4 The DSwMS Risk Management and Assurance Framework ensures that risk management and assurance information is aligned to duty holders' roles, responsibilities and accountabilities and to DSwMS hazard and risk management policy, principles and regulatory controls (DSwMS compliance obligations).

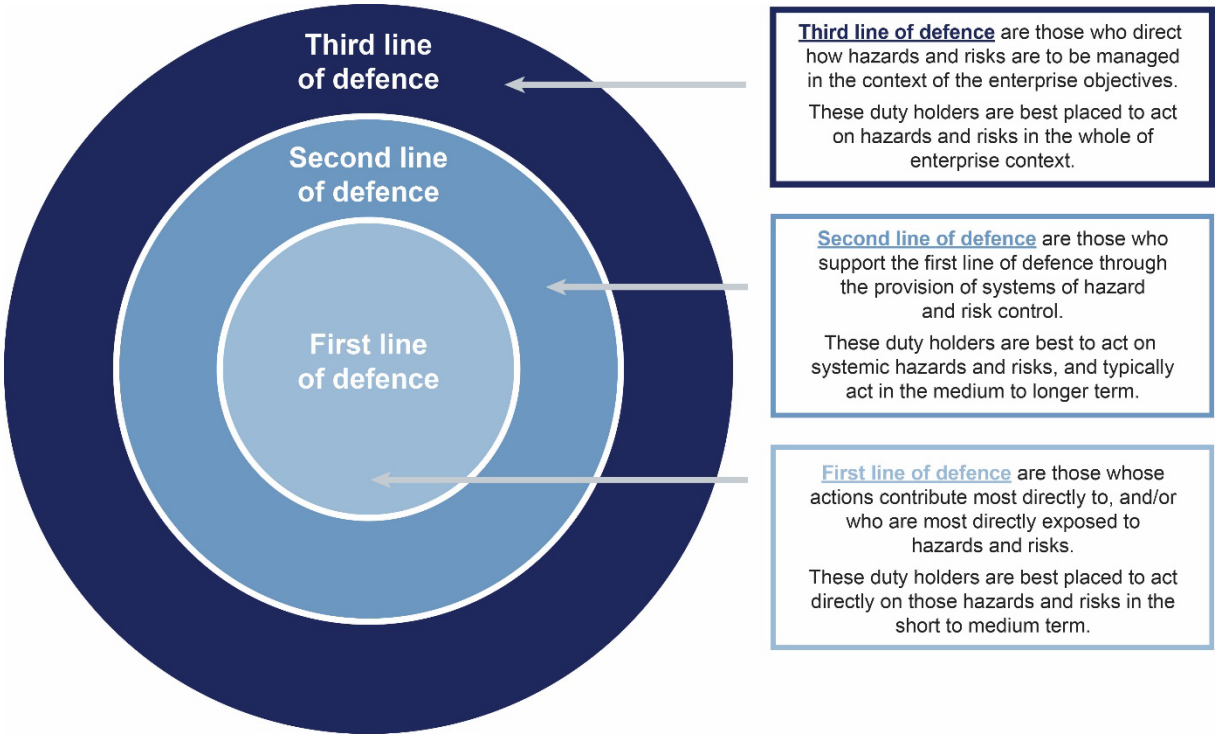
DEFENCE SEAWORTHINESS MANAGEMENT SYSTEM RISK MANAGEMENT AND ASSURANCE FRAMEWORK – DESIGN CONCEPT

The 'three lines of defence' approach to hazard and risk management and assurance

4.5 Figure 4–1 provides a graphical representation of the DSwMS Risk Management and Assurance Framework in support of the discussion and guidance that follows.

[24] As agreed between the Capability Manager and the DSwR, as applicable to the subject maritime mission system and its enabling support system. The mechanism for this agreement is through a compliance strategy developed in accordance with DSwMS Operating Model.

Figure 4–1: The Defence Seaworthiness Management System Risk Management and Assurance Framework



4.6 Roles, responsibilities and accountabilities for managing hazards and risks to the achievement of the Seaworthiness Outcome are determined by the context of the duty holder with respect the three 'lines of defence' as shown in Figure 4–1. The principal considerations are:

a. where the duty holder sits with respect to the lines of defence[25]

b. what the source of the hazards and risks to the achievement of the Seaworthiness Outcome is

c. what control the duty holder exercises over those hazards and risks and through what method they exercise that control.

4.7 In the DSwMS the specific duty holders are:

a. third line of defence: the Defence Seaworthiness Authority (DSwA) and Defence Seaworthiness Regulator (DSwR)

b. second line of defence: the Capability Managers and those duty holders identified through compliance with Governance and Management Compliance Obligation (GMCO) 1.1 and 1.4

[25] A duty holder may have accountabilities in more than one line of defence. From a risk management perspective, it is important to recognise and maintain as far as possible, independence of risk management functions across the lines of defence.

c. first line of defence: duty holders responsive to Capability Managers and to those duty holders defined in subparagraph b above.

4.8 The following paragraphs describe how hazards and risks to the achievement of the Seaworthiness Outcome are categorised to provide the risk management and assurance context, and how hazard/risk controls and associated assurance align with roles, responsibilities and accountabilities.

Risk management context

4.9 The first step to any risk management is to understand the context. DSwMS uses two contextual aids to consider risk management in context of the Defence Enterprise:

a. the three lines of defence enterprise Risk Management and Assurance Framework (discussed above), and

b. a system of risk categorisation (a taxonomy) to ensure consistency of discussion and risk management considerations.

4.10 A risk taxonomy is a comprehensive, common and stable set of risk categories that is used within an organisation. A taxonomy is important because:

a. Different words/labels may be applied to discussion around risk depending on the context of discussion and the role of those engaged in it. These same words/labels may take on different meanings when considered from a different point of view. A risk taxonomy provides a framework within which to coordinate and achieve consistent risk considerations and discussions.

b. Defence risk management spans everything from day-to-day working level decisions and activities through to those affecting the enterprise as a whole (e.g. performing formal safety risk assessments to inform Orders, Instructions and Publications (OIP), through planning operational activities, to long term Defence committee decisions requiring sound appreciation of strategic and external risk). It is essential to identify the types of risks within a given category, as different types require different assessment and treatment approaches and techniques.

c. Where risk is not clearly identified, categorised and defined (characterised), confusion is likely to arise and risk assessment and management actions may, for example, fail to consider all types of risk relating to the matter at hand or apply inappropriate approaches or techniques.

4.11 Providing a comprehensive set of risk categories:

a. encourages those involved in risk identification to consider all types of risks that could affect the organisation's objectives

b. facilitates the consideration of risks from across the organisation

c. facilitates comparative analysis of an organisation's risks over time.

DEFENCE SEAWORTHINESS MANAGEMENT SYSTEM RISK TAXONOMY

4.12 An overview of the DSwMS risk taxonomy is provided in Annex 4A. In this taxonomy, risk is categorised as:

a. source

b. exposure and consequence, and

c. function.

4.13 The following paragraphs discuss each of these categories in detail.

4.14 **Source.** The source of risk may lead to the requirement for different tools and techniques to identify, assess and control risks. A one-size-fits-all approach to risk can oversimplify the problem and lead to inappropriate identification, assessment or application of controls noting it is often the sources of the risk which determines the most appropriate approach. The sources are defined as internal, external and strategic, where:

a. Internal risks are sometimes referred to as ‘preventable’ in so far as the hazards, risks and controls are inherent in the activities undertaken to achieve the day-to-day operations of the business or enterprise and are within our control. They are often analysed through methods such as bowtie analysis or fishbone analysis.

b. Strategic risks are connected to the enterprise outcomes and are often taken on intentionally by an organisation. These risks are often analysed through means such as scenario analysis or ‘Why, Because’ analysis.

c. External risks are outside of the control of the organisation however the organisation may be able to respond should the risk be realised, through appropriate planning. These risks are generally dealt with through scenarios or war gaming.

4.15 **Exposure and Consequence.** With limited resources, an understanding of the exposure to certain risks and their consequences helps better target where controls and assurance resources should be applied and secondly, the types of analysis that may be required. For example, an assessment of local exposure with minor consequences may lend itself to a periodic spot check. A systemic failing across multiple mission systems, or degradation of a particular control over time, may only be discovered through some form of trend analysis. The DSwMS characterises conditions, events and associated hazards/risks as follows:

a. **Localised (contained) conditions/events and associated hazards/risks.** Typically low consequence in enterprise terms. Foreseeable with controls derived using Suitably Qualified and Experienced Personnel (SQEP). Examples include conditions/events and associated hazards/risks relating to:

(1) outputs/artefacts supporting capability management but not central to the achievement of the Seaworthiness Outcome (artefacts not directly controlled by regulation)

(2) small scale (tactical/operational) activities relating to day-to-day work, e.g. tool/machinery/plant operation and maintenance, general seamanship, etc.[26]

b. **Major conditions/events and associated hazards/risks.** Typically high consequence in enterprise terms. Foreseeable with controls derived using specialist techniques and subject matter experts. Examples include conditions/events and associated hazards/risks relating to:

(1) activities and related outputs/artefacts supporting capability management and central to the achievement of the Seaworthiness Outcome (capability management activities and outputs/artefacts subject to specific regulatory control[27], e.g. the Capability Manager's operating and support intent (OSI))

(2) functions and performance of a maritime mission system and/or its enabling support system that are critical to the achievement of the Seaworthiness Outcome and are, therefore, subject to specific regulatory control[28] – e.g. platform design characteristics, operating and support criteria (stability, hull integrity, navigation and collision avoidance, aviation operations and critical interoperability, etc.).

c. **Chronic conditions and associated hazards/risks.** Typically systemic and insidious (i.e. 'slow burners'). Difficult to foresee, identify and quantify. This type creates conditions and associated hazards/risks for localised and major events. These typically require systematic analysis and system wide approaches to control.

Examples include hazards/risks relating to suitability of management systems and processes (fitness for intended management purpose), critical workforce competencies, systems resourcing (systemic stress forcing shortcuts and workarounds).[29]

Note that repetitive localised events and consequences may arise through chronic type conditions and result in major consequences – for example repeated exposure to hazardous environmental conditions (e.g. substances, noise, radiation) may result in an overall degree of harm with respect to the achievement of the Seaworthiness Outcome that is damaging in an enterprise context.

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[26] DSwMS Governance and Management Compliance Obligation (GMCO) 1.3 is directed toward the need for systems of control acting at this level for hazards and risks of these kinds. Some DSwMS Activity and Condition Based Compliance Obligations (ACCOs) may also act here.

[27] DSwMS GMCOs– Goals 2 and 3

[28] DSwMS ACCOs

[29] DSwMS GMCOs are derived through analysis of conditions of these kinds

4.16 **Function.** An understanding of the functional view of risk leads to an understanding of the skill sets and practises required to manage the conditions and risks identified above, however, as research identifies, considering risks in functionally independent silos is one of the biggest problems of risk management globally.

4.17 Risks should always be considered in the context of the overall outcomes and objectives of the enterprise. The functional view can provide a good understanding of the skills and experience necessary to identify, assess or control various risks, and conduct assurance, but should not be the start point. Organisations tend to be more comfortable looking at risk in this way (engineering, technical, finance, safety, environment etc.) but it does not follow that independently managing risks in this way sums to achieve the business/enterprise outcomes. Moreover, these functional views are not independent in and of themselves, let alone the outcome. For example, a risk commonly referred to as a 'technical risk' and associated with the function and operation of an item of machinery, will naturally require safety management practices be followed. However, functional or operating failures of the machinery could also lead to fuel spill and environmental consequences, loss of opportunity, revenue for an enterprise and so on. Thus the risks to the outcome should highlight the need for technical, safety, environmental and financial expertise; not technical, safety, environmental and financial risk management frameworks. That is, there should be one risk management framework that looks at risks in the context of the outcome, and which governs and coordinates the management of risk across the functions required to deliver that outcome.

4.18 A detailed risk taxonomy is included in Annex 4A.

Hazard/risk control

4.19 The DSwMS approach to risk management requires, in the first instance, that ***SQEP identify all foreseeable hazards, risks and known controls, and implement the known controls***, while being mindful to take into account any limitations that may apply or any reasonably practicable improvements that may be available in the circumstances. Thereafter SQEP determine if further risk assessment and treatment action is warranted.[30] This approach is sometimes referred to as the due diligence or ‘good practice’ approach as it ensures that the basis to act is founded in recognised good practice and ensuring that good practices are being followed. This maintains a focus on the implementation of controls for which a precedent has been set and which are therefore significant in considerations of reasonable practicability. This does not preclude the use of alternative controls, however where adopted those controls must be justified and defensible in the circumstances. Further guidance on the due diligence approach to risk management is provided at the DSwMS website.

[30] The determination will take account of any mandated (legislated or Defence specific) requirements for formal risk assessment. Refer DSwMS website for further information.

4.20 Issues and events (i.e. realised risks) relating to the achievement of the Seaworthiness Outcome ultimately manifest in the first line of defence (LoD). However, accountability for appropriate systems of hazard/risk control and assurance is determined by the lines of defence in which the duty holder acts. The DSwMS Risk Management and Assurance Framework aligns roles, responsibilities and accountabilities for hazard/risk control as follows:

a. **First line of defence (1LoD).** DSwMS Activity and Condition Based Compliance Obligations (ACCOs) act to assure systems of hazard and risk control, specific to mission systems and their enabling support systems, satisfy DSwMS performance requirements at the 1LoD. The 1LoD is accountable to take ownership of and manage hazards/risks in the day-to-day undertaking through:

   (1) mindful application of, and self-assurance against, those systems of control

   (2) where necessary, by using management systems and governance arrangements required, or provided, by the 2LoD.

b. **Second line of defence (2LoD).** DSwMS GMCOs act on governance and management systems to ensure they satisfy DSwMS performance requirements for control of hazards and risks to the achievement of the Seaworthiness Outcome. The 2LoD is typically[31] accountable for establishing and maintaining those governance and management systems to ensure ACCOs are applied and controls maintained at the 1LoD through a systemic approach. The 2LoD also provides:

   (1) advice and support for 1LoD for implementation of GMCO-compliant systems

   (2) the Capability Manager with assurances independent of the 1LoD.

c. **Third line of defence (3LoD).** Provides an enterprise-wide system of control through provision of the DSwMS to apply regulatory instruments[32] and assure achievement of the Seaworthiness Outcome for all maritime mission systems and enabling support systems across the enterprise.

Assurance context

4.21 The DSwMS Risk Management and Assurance Framework aligns roles, responsibilities and accountabilities for hazard and risk management assurance as follows:

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[31] In some circumstances, the first lines of defence may be the sole provider of governance and management arrangements subject to DSwMS GMCO performance requirements.

[32] For example: DSwMS compliance obligations, Defence seaworthiness instructions (DSwIs), directed means of compliance (DMOCs) and seaworthiness corrective actions (SCAs).

a. **First line of defence.** Conducts assurance activities relating to the performance of hazard and risk controls (including systems of control) specific to each maritime mission system and enabling support system within their control.

b. **Second line of defence.** Conducts assurance activities independent of the 1LoD relating to the performance of organisation-wide (Group and Service) governance and management systems and through 'sector' hazard and risk profiling. This essentially checks performance of those governance and management systems against logical groupings of maritime mission systems and their enabling support systems.

c. **Third line of defence.** Conducts enterprise-wide assurance independent of the first and second lines of defence. This includes hazard and risk profiling relating to the performance of the DSwMS against:

(1) the primary DSwMS objective – the achievement of the Seaworthiness Outcome

(2) externally imposed compliance obligations (typically imposed by legislative requirements).

4.22 The specific hazard and risk management and assurance needs, requirements and reporting mechanisms within each region of the diagram at Figure 4–1 vary according to the character of the hazard/risk and the context in which decision making is being made – ie enterprise-wide, corporate, or day-to-day capability management and operational levels. Specific guidance regarding hazards, risks, controls, assurance and related roles, responsibilities and accountabilities is provided at the DSwMS website.

APPLICATION

4.23 The DSwMS Risk Management and Assurance Framework, represented through the 'three lines of defence' approach, enables duty holders to better understand their specific context for risk management within the enterprise as it aligns to their specific roles, responsibilities and accountabilities.

4.24 The risk taxonomy allows duty holders to better understand and therefore manage the risks identified within their context using methods and techniques aligned to the categories described in the taxonomy.

4.25 These two contextual aids work together to guide the application of what people commonly understand as the approach to risk management as it is described/prescribed through standards such as ISO 31000 and Australian legislation, in a manner appropriate to their context.

Defence seaworthiness management system assurance and due diligence

4.26 Legislative due diligence duties require the duty holder[33] to:

a. acquire up-to-date knowledge of safety and environmental protection matters as they pertain to seaworthiness management

b. have an understanding of the hazards and risks associated with acquiring and operating maritime capability as they pertain to the achievement of the Seaworthiness Outcome

c. ensure use of appropriate resources and processes to eliminate or minimise those hazards and risks

d. ensure use of appropriate processes to receive information about incidents, hazards and risks and responding in a timely manner to that information

e. ensure use of processes to comply with any duty or obligation under relevant federal/state/territory legislation – e.g. safety and environmental protection laws

f. verify the ongoing suitability and effectiveness of systems of control.

4.27 The DSwMS is an enterprise-wide system for control, through regulation, of those aspects of capability management across the CLC necessary to assure the achievement of the Seaworthiness Outcome. In the first instance, it is a 3LoD response to requirement 4.27(b) above.[34] However, the DSwMS also enables[35] duty holders to discharge other due diligence obligations as those obligations relate to the achievement of the Seaworthiness Outcome. It does so through provision of information and advice relating to the due diligence requirements, where that advice is proactively sought or otherwise provided through assurance and reporting activities.[36]

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[33] For the purposes of work health and safety, these are duties of an ‘officer’ under the Work Health and Safety Act 2011 (https://www.legislation.gov.au/Details/C2016C00887)

[34] It is not, however, the only system of regulation operating in the third line of defence. The DSwMS operates-in a co-regulated community comprising other Defence regulatory authorities, policy makers and regulators within the broader Australian community. The DSwR is accountable to provide the interface with those other regulators impacting the DSwMS Regulatory Framework, as well as with international bodies who share an interest in managing for seaworthiness.

[35] The obligation to exercise proactive due diligence remains with duty holders; the DSwMS is purely an enabler.

[36] Noting that the DSwMS cannot develop and apply regulation without a comprehensive knowledge of the undertaking, the legal context and the relationship between governance, due diligence, risk management and assurance in the Defence undertaking. It is a central source of information and support for those having explicit due diligence duties in legislation.

4.28 DSwMS assurance activities are a means through which due diligence requirements for receiving and responding to hazard/risk information, including verifying effectiveness of systems of control, is supported in accordance with duty holders' roles, responsibilities and accountabilities.[37] Duty holders' hazard and risk management responses and assurance activities are to take account of:

a. Short, medium and long term consequences as they relate to the achievement of the Seaworthiness Outcome.

b. Information relating to the suitability and performance of governance and management systems that have a role in the control of hazards and risks to the achievement of the Seaworthiness Outcome. This information typically relates to compliance by the 2LoD with GMCOs and the 3LoD with externally imposed regulation/compliance obligations.

   Hazards, risks and issues of these kinds are generally systemic and require medium to long-term action to resolve permanently. Short-term actions may be necessary to address systemic issues that impact on the achievement of the seaworthiness outcome by a specific maritime mission system and its enabling support system (for example, inability to provide Suitably Qualified and Experienced Personnel to perform through-life supportability analysis for a major mission system where the long-term consequence is fleet cannibalisation).

c. Information generated and articulated through the application/operation of governance and management systems that have a role in control of hazards and risks to the achievement of the Seaworthiness Outcome. This information typically relates to compliance with ACCO requirements (i.e. the performance of hazard and risk controls applicable to a specific maritime mission system and its enabling support system).

   Hazards/risks and issues of these kinds generally require short to medium-term chain of command and management response from the 1LoD. They may, however, be escalated to the second or third lines of defence for longer term resolution, or where specific DSwMS or enterprise thresholds (e.g. Defence risk materiality thresholds) are reached or exceeded.

Defence Seaworthiness Management System assurance and reporting

4.29 The DSwMS Risk Management and Assurance Framework is enacted via Processes 3, 4, 5, 6 and 9 of the DSwMS Operating Model. These processes require the DSwR and 2LoD duty holders to develop assurance plans and to conduct assurance activities in accordance with those plans.

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[37] Noting, for example, the separation of roles, responsibilities and accountabilities for providing effective governance and management systems (primarily second and third line of defence), from roles, responsibilities and accountabilities when operating within (i.e. using) those systems (first line of defence).

First line of defence

4.30 1LoD duty holders are best placed to act on hazards and risks to the achievement of the Seaworthiness Outcome as they relate to day-to-day capability management across the CLC and to operating and support activities. Depending on a duty holder's role and responsibilities in the 1LoD, these hazards and risks may require a short, medium or long-term view, for example:

a. those responsible in the upstream activities of the CLC are making decisions which may result in significant hazards and risks to the achievement of the Seaworthiness Outcome in the medium to long term

b. those acting during the in-service phase of the CLC are generally exposed to hazards and risks which require short (immediate) to medium term action.

4.31 In both cases, hazard/risk information may require escalation through governance and management arrangements for longer term resolution.

4.32 1LoD duty holders, as those most exposed to and best placed to act where hazards and risks manifest as issues and events, are required to take ownership of these hazards and risks. Further, they must:

a. familiarise themselves with the management systems and physical systems (including associated OIP) on which they depend for the control of hazards and risks to the achievement of the Seaworthiness Outcome

b. assure themselves, including seeking assurances from other duty holders[38]

c. where necessary, that these systems are:

   (1) suitable to control these hazards and risks

   (2) adequately maintained and resourced

   (3) applied as intended

d. where shortcomings are identified:

   (1) take hazard/risk control actions appropriate to the circumstances

   (2) report the shortcomings, through their chain of command and management in accordance with hazard/risk management policy and accountability frameworks provided by duty holders in the 2LoD, for action by responsible and accountable duty holders.

[38] For example, capability enabling and support services responsive to, but not owned by the Capability Manager (Capability Acquisition and Sustainment Group, Estate and Infrastructure Group, etc.).

Second line of defence

4.33 2LoD duty holders are best placed to:

a. take, and act on, a medium to long-term view of the Capability Manager's objectives

b. monitor strategic and systemic hazards and risks to organisational (Group and Service) governance and hazard/risk management systems for which they are accountable.

4.34 Examples include organisational governance and hazard/risk management systems and arrangements necessary to control hazards and risks to activities and artefacts that are regulated through DSwMS compliance obligations (e.g. functions necessary to define and manage the OSI, or to assure credible systems safety management).

4.35 2LoD duty holders are therefore required to:

a. assure themselves (including seeking assurances from other duty holders - see 4.33(b)) that they have established and are maintaining governance and management systems that satisfy DSwMS performance requirements for control of hazards and risks to the achievement of the Seaworthiness Outcome, including but not limited to ACCOs

b. provide assurance to the Capability Manager, independent of the 1LoD, of the application and performance of systems of hazard and risk control within the 1LoD

c. where those systems do not satisfy the DSwMS requirements:

    (1) take appropriate hazard/risk control action

    (2) report the shortcomings, through their chain of command and management in accordance with hazard/risk management policy and accountability frameworks provided by duty holders in the 2LoD, for action by responsible and accountable duty holders.

4.36 To enable first and second lines of defence assurance and hazard/risk management response in a structured and coherent manner aligned to the DSwMS Risk Management and Assurance Framework, the DSwR requires that Capability Managers develop a DSwMS compliance strategy and associated assurance plan. The DSwR uses information from endorsed compliance strategies and associated assurance plans to develop a DSwMS Assurance Master Plan in support of 3LoD reporting requirements.

Third line of defence

4.37 3LoD duty holders are best placed to:

a. take, and act on, a medium to long-term view of the enterprise

b. monitor trends in strategic and systemic hazards and risks to enterprise-wide governance and management systems and arrangements for which they are accountable.

4.38 The principal system of strategic control for the achievement of the Seaworthiness Outcome is the DSwMS. 3LoD duty holders therefore require:

a. assurances that the DSwMS is fit for purpose, implemented and effective

b. where it is not, guidance to support decisions regarding corrective action.

4.39 3LoD duty holders may also receive, for short-term consideration and action, DSwMS hazard/risk information through escalation processes where:

a. Defence risk materiality thresholds are reached or exceeded

b. trigger conditions set through the DSwMS are reached or exceeded.

This information may be articulated through the DSwR/DSwA, through first and second lines of defence duty holders and their respective assurance arrangements, or through both.

4.40 The DSwA is to provide to the level 3 authorities[39]:

a. an annual report which:

(1) addresses the continued suitability of the DSwMS, its implementation status and all matters as necessary to support 3LoD duty holders in discharge of their due diligence duties (typically informed through the conduct of the DSwMS monitoring and continual improvement process)

(2) provides an overarching portfolio risk profile regarding the risk trends in capability management for the achievement of the Seaworthiness Outcome (typically informed through the conduct of assurance and analysis in accordance with the assurance master plan developed and maintained by the Office of the DSwR (ODSwR))

b. reporting, through DSwMS escalation mechanisms, for those matters that must be bought to the attention of the 3LoD for immediate or short-term consideration and response.

4.41 For specific guidance regarding application of the DSwMS Risk Management and Assurance Framework across the CLC, refer DSwMS website.

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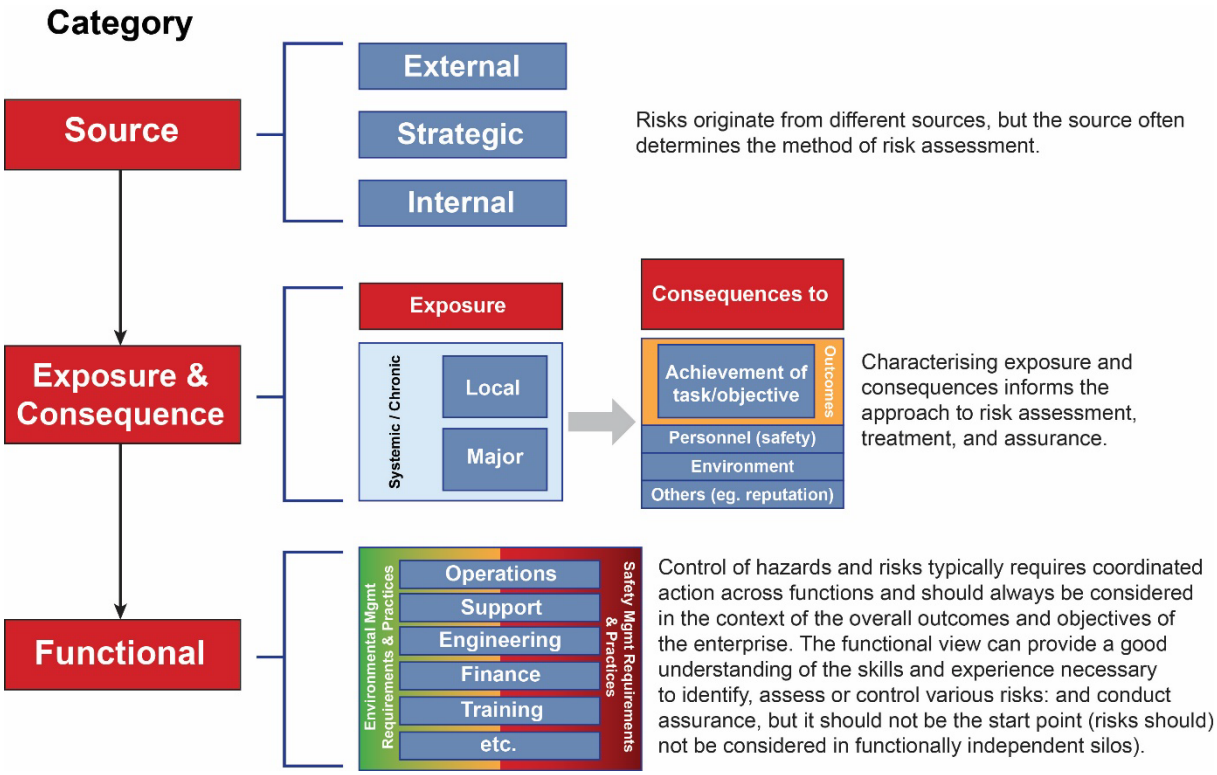
[39] See Chapter 2 for details regarding those authorities (individuals with regards to due diligence and associated advisory committees (e.g. Defence Audit and Review Committee)).

ANNEX 4A

THE DEFENCE SEAWORTHINESS MANAGEMENT SYSTEM RISK TAXONOMY

Figure 4A–1: Defence Seaworthiness Management System risk taxonomy



CHAPTER 5

DEFENCE SEAWORTHINESS MANAGEMENT SYSTEM OPERATING MODEL

INTRODUCTION

5.1 The Defence Seaworthiness Management System (DSwMS) comprises a Regulatory Framework, Risk Management and Assurance Framework and Operating Model. This chapter describes rationale and design concept of the DSwMS Operating Model, which comprises a series of processes that enacts the two frameworks and embodies the principles of due diligence. It ensures the frameworks are developed, maintained and applied in a mindful and systematic manner through a series of core processes conducted by both the Defence Seaworthiness Regulator (DSwR – the single regulator of the DSwMS) and the regulated.

5.2 In addition, the chapter describes how the regulated (duty holders, including Capability Managers, Group Heads and Service Chiefs, other practitioners, those in command and line management) will interact with the DSwR to promote the core behaviours of mindfulness, collaboration, accountability and transparency.

DEFENCE SEAWORTHINESS MANAGEMENT SYSTEM OPERATING MODEL – PURPOSE

5.3 The purpose of the DSwMS Operating Model is to enact both the DSwMS regulatory framework and the DSwMS Risk Management and Assurance Framework through the systematic, mindful application of a series of core processes. These core processes constitute activities carried out by both the DSwR and the regulated, which develop, apply and manage the controls to hazards and risks to the Seaworthiness Outcome in a coherent manner. The DSwMS Operating Model embodies the principles of due diligence through the proactive and mindful consideration of hazards and risks within the systems acquired and operated in a seaworthiness context. The DSwMS Operating Model serves to coordinate seaworthiness activities across the Capability Life Cycle (CLC) and bring the appropriate authorities together in a coordinated fashion.

DEFENCE SEAWORTHINESS MANAGEMENT SYSTEM OPERATING MODEL – DESIGN CONCEPT AND CORE PRINCIPLES

The Defence Seaworthiness Management System Operating Model – design concept

5.4 The DSwMS Operating Model is designed around the following considerations:

a. business processes – describe in detail the way of defining, arranging, and physically performing tasks that deliver the Seaworthiness Outcome

b. management systems – identify the performance measures, accountability and decision-making roles, and incentives for the core processes

c. jobs, skills and organisation – define the job activities, organisational structure, skill needs and facility requirements of the required environment

d. values and behaviours – define the written and unwritten cultural rules and customs that must exist in the required environment

e. information technology – define the new objects, applications and architecture required to support the required business processes.

5.5 Specific design information including the design methodology, rationale, and validating information is available via the DSwMS website.

The Defence Seaworthiness Management System Operating Model

5.6 Figure 5–1 is a high level representation of the core processes of the DSwMS Operating Model. The specific detail of the core processes is configuration managed by the Office of the DSwR (ODSwR) and can be accessed via the DSwMS website. As represented in Figure 5–1, the core processes are carried out by both the DSwR and the regulated with strong collaboration between both.

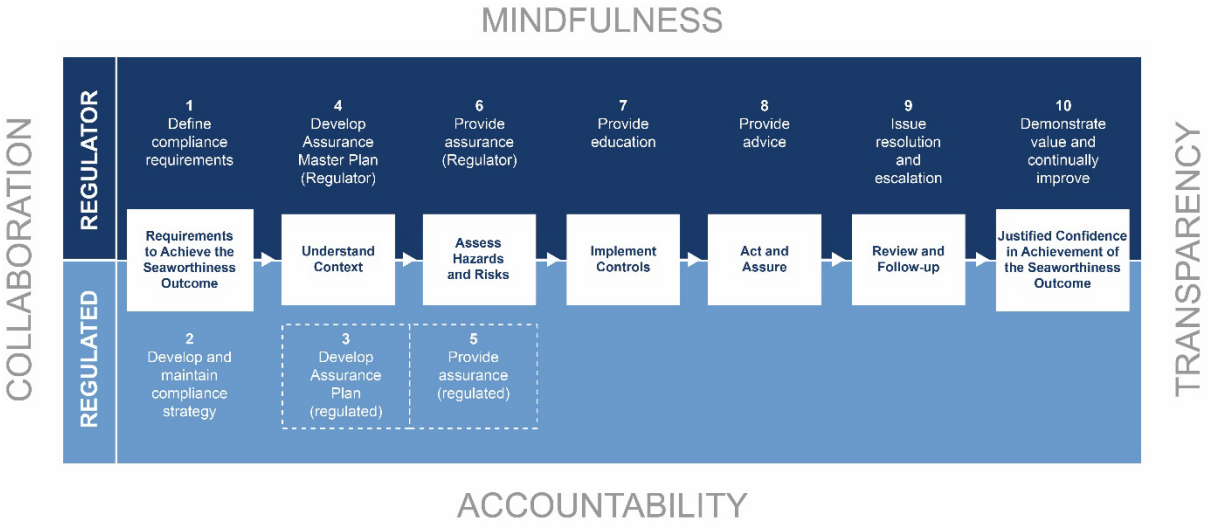
5.7 The DSwMS Operating Model enacts the DSwMS Regulatory Framework and DSwMS Risk Management and Assurance Framework described in Chapter 3 and Chapter 4 through the relevant processes:

a. Processes 1 and 2 enact the DSwMS regulatory framework by articulating the activities required to both develop regulations and respond to them.

b. Processes 3, 4, 5 and 6 enact the DSwMS Risk Management and Assurance Framework by highlighting the risk management accountabilities and by articulating the activities required to plan and conduct assurance in response to the accountabilities. Assurance is done by both the DSwR and the regulated, in order to demonstrate sufficient evidence exists to provide justified confidence in the Seaworthiness Outcome.

c. Processes 7, 8, 9 and 10 support the other processes to provide a coherent system with the ability to continuously improve.

Figure 5–1: The Defence Seaworthiness Management System Operating Model



5.8 The following describes the rationale and the outputs from each of the processes in Figure 5–1.

Process 1 – define compliance requirements

5.9 In the first instance, the DSwR defines controls to hazards and risks in the context of the Seaworthiness Outcome through regulations as described by the DSwMS regulatory framework. This process describes a structured approach to the development, testing and implementation of DSwMS compliance obligations.

5.10 The development of, and change to, regulations is instigated via three sources:

a. **External event.** A major external event may provide insights into the management of hazards and risks in other contexts that are applicable in the seaworthiness context. Examples may include: lessons from the Challenger space shuttle disaster; corporate governance lessons in the private sector; hazard/risk management lessons in the capital works sector; and lessons from Australian National Audit Office audits. Advice may be sought from the DSwR with respect to external events as they apply in the seaworthiness context (see Process 8 – Provide advice).

b. **Internal analysis or event.** Assurance activity, trend analysis or other risk analysis (conducted through Process 10 – Demonstrate value and continuously improve) or other analysis of events internal to Defence, may provide insights into the management of hazards and risks that are applicable in the seaworthiness context. Examples may include Defence

internal reviews and incident/accident investigations such as Rizzo,[40] Black,[41] Defence Enterprise Risk Management reports and the First Principles Review. Advice may be sought from the DSwR with respect to internal events and analysis as it applies in the seaworthiness context through Process 8 – Provide advice.

c. **Legislative requirement.** Unless specifically exempt, Defence is required to comply with all applicable federal/state/territory legislation.[42] Legislation applicable in the seaworthiness context is generally that which relates to safety or the environment. The activities within this process require the DSwR to understand, so far as is reasonably practicable (SFARP), all Australian legislation that applies, or may apply, to Defence with respect to seaworthiness. The DSwR will also understand, SFARP, all relevant international conventions applicable to seaworthiness that are not yet enacted through Australian federal/state/territory legislation; examples may include provisions under the International Convention for Prevention of Pollution from Ships. Advice may be sought from the DSwR with respect to other countries' legislation as it applies in the seaworthiness context (see Process 8 – Provide advice).

5.11 In certain circumstances, legislation may be applicable to Defence with respect to seaworthiness, however the legislation may be overly prescriptive or developed for a different context. Examples of this may include legislation detailing requirements that:

a. would severely compromise the operational effect required of a mission system, such as waste management with respect to a submarine

b. may result in inappropriate and unintended consequences, and may include statutory regulations detailing activity specific systems of work or codes of practice which were never contemplated in a military maritime context; such as diving, working from heights, electrical work etc.

5.12 In cases where application of legislation is not appropriate to context and compliance would affect the ability to achieve the Seaworthiness Outcome, this process identifies the role of the DSwR in advocacy to the appropriate authority, in order to seek an exemption or a change to the relevant legislation. Where such circumstances exist, other appropriate controls will be identified and applied to best satisfy the intent of the legislation.

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[40] Plan to Reform Support Ship Repair and Management Practices, Paul J Rizzo, July 2011

[41] Review of the Defence Accountability Framework, Associate Professor Rufus Black, January 2011

[42] The Federal Register of Legislation (https://www.legislation.gov.au/Home) is 'the authorised whole- of-government website for Commonwealth legislation and related documents'; it also provides links to 'other sources of Australian law' (https://www.legislation.gov.au/content/OtherJurisdictions), including individual state/territory legislation websites.

5.13 The DSwR will conduct appropriate impact assessment of new or changing regulation through this process, testing against the following criteria to ensure that any seaworthiness regulation is:

a. **Suitable.** Does the regulation provide sufficient information to identify a suitable system of control to manage identified hazards or risks (will it achieve the outcome)?

b. **Feasible.** Is the regulation possible to implement/comply with? This criteria addresses whether the regulation is practicable.

c. **Acceptable.** Can the application of the regulation be met within organisation constraints[43], in foreseeable circumstances? This criteria addresses whether the regulation is reasonable.

d. **Distinguishable.** Is the regulation sufficiently different to other regulations? Over-regulation can occur where multiple regulations aim to control the same hazards or risks.

e. **Sustainable.** Is the regulation viable over the foreseeable future?

5.14 Further guidance to the applications of Process 1 – Define compliance requirements, can be accessed via the DSwMS website.

Process 2 – develop and maintain compliance strategy

5.15 This process describes how the regulated respond to the regulations through the development of an appropriate compliance strategy.

5.16 The DSwR requires that duty holders demonstrate compliance with all applicable regulations through this process. Consistent with outcome-focused goal-based regulation, DSwR does not prescribe solutions. Rather, solutions are tailored to context by the regulated community to meet the requirements of the regulation and to demonstrate that hazards and risks are controlled so far as is reasonably practicable. Therefore, the concept of a waiver against a DSwMS regulation is not valid as the regulation is either applicable or it is not; and the solution is tailored up front to meet the relevant requirements. Where for example, a mission system is entering a disposal phase, a previously accepted system of control may be deemed to incur an unreasonable cost in the new context. In this circumstance the operating and support intent (OSI) would be reviewed and an alternative system of control would be presented by the regulated with evidence that it is reasonably practicable in the new context. Rather than a waiver against a regulation, this will result in an update of the compliance strategy.

[43] Noting, for example, the specific test for reasonable practicability under the Work Health and Safety Act 2011 (WHS Act - http://www.legislation.gov.au/Series/C2011A00137)

5.17 The compliance strategy is the means by which the regulated describe how they intend to comply with the regulations as described in Chapter 3. It is expected that the means of compliance (MOC) with the Governance and Management Compliance Obligations (GMCOs) will be similar for all maritime mission systems within a particular group or service. For example, the governance arrangements articulated by Navy, in response to GMCO 1.1, would be likely applicable across all maritime mission systems within Navy. Similarly, Army's governance arrangements would be likely applicable to all maritime mission systems within Army, but might be substantially different to those of other Groups or Services.

5.18 With respect to the Activity and Condition Based Compliance Obligations (ACCOs), the compliance strategy may be represented at a group of classes, class or discrete mission system level. The form the compliance strategy takes will be dependent on how common or unique the systems of control are when presented to meet the requirements of the regulations.

5.19 The Capability Manager is required to develop, review or update a compliance strategy for any of the following reasons:

a. a new regulation has been issued by the DSwR

b. a regulation has been amended by the DSwR

c. a configuration change, of such significance that it has a significant and enduring impact on the OSI has occurred

d. a change to any component of the OSI has occurred, or is possible

e. a new project, generally for a new maritime mission system or a significant upgrade to an existing maritime mission system (for example, a mid-life upgrade) is in progress

f. an assurance activity, by either the DSwR or the regulated, has identified a requirement to change any given MOC.

5.20 In general, the regulated will take the following steps in development, review or update of a compliance strategy:

a. Assess the applicable regulations with respect to the maritime mission system and its enabling support system.

b. Identify all relevant authorities and stakeholders involved in determining the MOC. Those making declarations as to the efficacy of a MOC against a regulation must be determined, by the duty holder, to be a Suitably Qualified and Experienced Person (SQEP).

c. Assess the relevant regulation, in the context of the maritime mission system and its enabling support system, in order to determine the PMOC.

d. Develop and propose all relevant MOC to the DSwR as PMOC.

5.21 The PMOC is the solution defined by the regulated that best meets the regulation for their context. The sum of all required MOCs to meet the regulations constitutes the compliance strategy. As a minimum, a compliance strategy must contain the following:

a. The relevant regulations.

b. The PMOC with respect to the regulations.

c. The justification of the PMOC, including the measures that will demonstrate that the PMOC satisfies the requirements of the regulation (or that an action plan is in place to subsequently meet the regulation).

d. The person who made the determination that the PMOC would satisfy the regulation.

e. A declaration by the duty holder that that the person determining the PMOC is suitably qualified and experienced.

f. Any assurance requirements for the PMOC. For example, maintaining ‘class’ with a given class society may be presented as a PMOC against a given regulation. This may bring mandatory assurance requirements with it.

5.22 Although the concept of a waiver is not valid against a DSwMS regulation, it is recognised that waivers may manifest in DSwMS at the first and second lines of defence. For example, a particular standard may be presented as a MOC, yet aspects of that standard may not be applicable in the context. In this circumstance, a Capability Manager may request a waiver from the standard owner or appropriate authority and provide an alternative agreed to by a suitably qualified and experienced authority. As indicated above, this ensures any tailoring of requirements to context is taken into account before the solution is presented to the regulator as a PMOC in a compliance strategy.

5.23 By presenting the compliance strategy, the Capability Manager declares that they have:

a. justified confidence that the compliance strategy (including any associated action plan) is capable of achieving the Seaworthiness Outcome

b. accepted accountability for its implementation and execution (i.e. will maintain compliance in accordance with the strategy).

5.24 The DSwR must be satisfied that the PMOC can be measured against the requirements of the relevant regulation. Thus the DSwR will deem a means of compliance as ‘acceptable’ where:

a. the duty holder can demonstrate that it can be measured against the requirements of the regulation

b. that it was proposed by a Suitably Qualified and Experienced Person.

5.25 As outlined in Chapter 2 and Chapter 3, the DSwR is not a ‘permissioning authority’. Due diligence requires the duty holder have a general understanding of the hazards and risks in the context of their business and apply suitably resourced systems of control. The DSwR interprets legislation, and aims to control hazards and risks to the Seaworthiness Outcome through the regulations. The regulations thus provide a framework to aid the duty holder in assessing risks to the Seaworthiness Outcome but in no way absolves the duty holder of their accountability in managing risks in their undertaking.

5.26 An acceptable MOC (AMOC) may be used as guidance for development of a compliance strategy for a different mission system, however, as discussed in Chapter 3, the MOC may only be applicable in the context of a particular maritime mission system or class of maritime mission system. In meeting a DSwMS compliance obligation, acceptable means of compliance and assurance may vary depending on:

a. the mission and enabling support system in question

b. relevant applicable management systems and processes

c. who sponsors those systems and processes

d. how they are applied throughout the CLC.

5.27 Examples of AMOCs are provided in Chapter 3.

5.28 In certain circumstances, legislation may prescribe the exact way in which compliance must be demonstrated/achieved. Similarly, in certain circumstances, the DSwA or the DSwR may determine that they will be satisfied only by a specific approach to compliance. Such directed means of compliance (DMOC) are expected to be the exception. Where a DMOC is deemed necessary, it will be issued by the DSwR via a Defence Seaworthiness Instruction (DSwI).

5.29 Extant DMOC can be accessed via the DSwMS website.

5.30 The DSwR can provide further guidance on compliance strategy structure and development where required.

5.31 Further guidance to the applications of Process 2 – Develop and Maintain Compliance Strategy, can be accessed via the DSwMS website.

Process 3 – develop assurance plan (regulated)

5.32 This process describes the requirement for the regulated to plan appropriate assurance activities in accordance with the DSwMS Risk Management and Assurance Framework. This process should be read in conjunction with Process 5 – Provide assurance (regulated). As reflected by GMCO 1.3, and required through due diligence, the duty holder is required to assure that controls intended to address hazards and risks to the Seaworthiness Outcome are resourced, in place and effective for their intended purpose. In accordance with the DSwMS Regulatory Framework and the DSwMS Risk Management and Assurance Framework, assurance is to be conducted by the duty holder at both the first line of defence, where DSwMS Activity and Condition Based Compliance Obligations operate; and

the second line of defence, where DSwMS Governance and Management Compliance Obligations operate.

5.33 The duty holder will plan and conduct assurance as required, based on hazards and risks to the Seaworthiness Outcome. As such, this process is not intended to be prescriptive, but rather provide guidance to duty holders on principles around good practice with respect to assurance.

5.34 The assurance plan, and subsequent assurance activities, contribute to the body of evidence required by the duty holder to provide justified confidence in the Seaworthiness Outcome.

5.35 It is expected that the Capability Manager will, SFARP, understand the totality of assurance requirements and subsequent activities as they pertain to seaworthiness. In many circumstances, assurance activities may be conducted by other groups and services, or by external bodies, which are not under the authority of the Capability Manager. Where such assurance activities occur, by other groups or services, the Capability Manager may reasonably expect that these are done on their behalf in the seaworthiness context, and may, through GMCO 1.2 (Consultation, Cooperation and Coordination), establish appropriate mechanisms to influence assurance activities to meet their requirements. An example may be where contractor performance is assured by another group or service. Where the contractor performance is directly relevant to the Seaworthiness Outcome, the Capability Manager may establish appropriate mechanisms with the other Group or Service to request targeted assurance activity.

5.36 Where assurance activities are conducted by external bodies, that contribute to an understanding of hazards and risks to the Seaworthiness Outcome, or controls as they pertain to hazards and risks to the Seaworthiness Outcome, the duty holder is expected to review and utilise such information in making judgements as they apply to seaworthiness.

5.37 In planning assurance activities, the duty holder may seek to coordinate assurance activities by other groups and services where practicable.

5.38 In a resource constrained environment, assurance activities should be targeted based on an assessment of hazards and risks. In general, inputs to the assurance plan may include but are not limited to:

a. mission system compliance strategies, particularly where MOC prescribe assurance activities

b. hazard and risk assessment

c. outputs from previous assurance activities such as:

    (1) trend analysis

    (2) recognised non compliance

    (3) risk or issue in one area which may be applicable in another

d. periodic requirement

e. spot check

f. a new regulation or requirement.

5.39 Where it may be appropriate to conduct assurance activities with respect to a particular mission system, based on an understanding of risk to the Seaworthiness Outcome, in many circumstances it may be more appropriate to conduct assurance activities based on:

a. one or more of the fundamental inputs to capability (FIC) – such as facilities, personnel or training

b. geographical region

c. class of mission systems

d. theme – such as solid waste management.

5.40 In accordance with GMCO 1.5, Critical Competencies, the duty holder must be satisfied that personnel conducting assurance activities are suitably qualified to do so.

5.41 Further guidance to the applications of Process 3 – Develop assurance plan (regulated), can be accessed via the DSwMS website.

Process 4 – develop assurance master plan (regulator)

5.42 This process describes the requirement for the DSwR to plan appropriate assurance activities in accordance with the DSwMS Risk Management and Assurance Framework. This process should be read in conjunction with Process 6 – Provide assurance (Regulator). In accordance with the DSwMS regulatory framework and the DSwMS Risk Management and Assurance Framework, assurance is to be conducted by the DSwR as a third line of defence activity. The aim of this assurance is to:

a. assist duty holders in understanding hazards and risks to the Seaworthiness Outcome, in order to support decision making in the seaworthiness context

b. support the DSwR and DSwA in the application of appropriate controls with respect to hazards and risks to the Seaworthiness Outcome, and measure the effectiveness of DSwMS to inform reporting requirements.

5.43 The Assurance Master Plan, and subsequent assurance activities, contribute to the body of evidence for the DSwA to provide justified confidence in the efficacy of the DSwMS; and may contribute to the body of evidence required by the duty holders to provide justified confidence in the Seaworthiness Outcome.

5.44 In planning assurance activities, the DSwR will make every effort to be cognisant of other assurance activities being conducted in the same area and will coordinate with other assurance providers where practicable.

5.45 In a resource constrained environment, assurance activities should be targeted based on an assessment of hazards and risks. Inputs to the Assurance Master Plan may include, but are not limited to:

a. mission system compliance strategies, particularly where MOC prescribe assurance activities

b. regulated assurance plans

c. hazard and risk assessment

d. outputs from previous assurance activities such as:

(1) thematic or strategic trend analysis

(2) recognised non compliance

(3) risk or issue in one area which may be applicable in another

e. periodic requirement

f. spot check

g. a new regulation or requirement.

5.46 Therefore, the key output of this process is a risk based, prioritised and fully resourced plan for the deployment of DSwR assurance resources.

5.47 To ensure that assurance activities conducted in the third line of defence are done so by suitably qualified and experience people, the DSwR may identify appropriate subject matter experts within the regulated to participate in assurance activities prescribed in the DSwMS Assurance Master Plan. The DSwR may also request that the regulated identify appropriate individuals to participate in activities prescribed in the DSwMS Assurance Master Plan. Requests for assistance will be made through the appropriate chain-of-command arrangements within the specified group or service. Where requests for assistance have been made by the DSwR, supervisors are to make every effort to allow identified personnel to participate as requested.

5.48 To avoid potential conflicts of interest, in all cases where personnel from the regulated are requested to conduct assurance activities on behalf of the DSwR, the DSwR will ensure that suitable separation exists between the person and the assurance activity they are conducting. Examples where insufficient separation exists may include:

a. where the identified person conducted similar assurance at the first or second line of defence

b. where assurance is being conducted against the efficacy of a MOC, the SQEP who proposed the MOC should not be involved in the assurance over that MOC at the third line of defence.

5.49 Further guidance to the applications of Process 4 – Develop Assurance Master Plan (Regulator), can be accessed via the DSwMS website.

Process 5 – provide assurance (regulated)

5.50 This process describes the requirement for the regulated to provide appropriate assurance activities in accordance with the assurance plan (regulated). This process should be read in conjunction with Process 3 – Develop assurance plan (regulated).

5.51 The duty holder will plan and conduct assurance as required, based on hazards and risks to the Seaworthiness Outcome. As such, this process is not intended to be prescriptive, but rather provide guidance to duty holders around good practice with respect to assurance.

5.52 The duty holder is required to conduct first and second line of defence assurance activities.

5.53 On conduct of assurance activities the duty holder is to inform the DSwR in circumstances where:

a. They are unable to comply with the endorsed compliance strategy for the following reasons:

   (1) the AMOC is deemed, through assurance, to be unsuitable to meet the intent of the regulation

   (2) a regulation has been found to be not suitable or applicable and may require modification or removal.

b. A hazard or risk has been identified where a duty holder recognises there may be a need for a new regulation, examples include:

   (1) new or novel technologies

   (2) new or novel modes of conducting the business or undertaking.

c. They have identified systemic risks to the Seaworthiness Outcome. They are also to inform the DSwR regarding the actions they have taken, or are taking to manage and remediate those risks.

d. A risk to the Seaworthiness Outcome exists that requires a third line of defence response, and/or assistance of the DSwR is required to resolve associated issues (via escalation in accordance with Process 9). Examples include:

   (1) the inability of entities on which a Capability Manager depends, to satisfy the Capability Manager’s needs in meeting the Seaworthiness Outcome

   (2) inability to comply with a new DSwMS regulation or requirement.

5.54 Where the duty holder detects they did not comply where it was reasonable to do so, they shall take such action as to remediate the non-compliance as soon as is reasonably practicable. In such cases of non-compliance, the duty holder will report to the DSwR where Defence enterprise materiality criteria or trigger conditions set through the DSwMS are reached or exceeded.

5.55 On receiving such information as detailed in paragraph 5.54, the DSwR will consider:

a. the suitability of actions being taken by the duty holder

b. the ability of the duty holder to take effective action

c. requirements on the DSwR arising from Process 9 – Issue resolution and escalation.

5.56 Further guidance to the applications of Process 5 – Provide assurance (regulated) including materiality criteria and trigger conditions, can be accessed via the DSwMS website.

Process 6 – provide assurance (regulator)

5.57 This process describes the requirement for the DSwR to provide assurance activities in accordance with the Assurance Master Plan. This process should be read in conjunction with Process 4 – Develop Assurance Master Plan (Regulator).

5.58 The DSwR is required to conduct third line of defence assurance activities mindful of the requirements of Chapter 4.

5.59 On conduct of assurance activities the DSwR is to inform the duty holder in circumstances where:

a. a non-compliance against an AMOC within the compliance strategy has been identified.

b. a hazard or risk has been identified where the DSwR recognises a need for a new regulation. Examples include:

   (1) new or novel technologies

   (2) new or novel modes of conducting the business or undertaking.

c. a risk to the Seaworthiness Outcome has been identified. In accordance with Chapter 4 risks may be characterised as:

   (1) localised (contained) events and associated risks

   (2) major events and associated risks

   (3) chronic conditions and risks.

5.60 Periodic reporting requirements of the DSwR are articulated in Chapter 4 and will include assessments of the health of the DSwMS.

5.61 The DSwR may authorise an independent party to conduct assurance on their behalf.

5.62 For contestability and assessment of DSwMS efficacy, the DSwA may determine the requirement for an independent party to conduct assurance activities over both the DSwR and the regulated.

5.63 Further guidance to the applications of Process 6 – Provide assurance (Regulator), can be accessed via the DSwMS website.

Process 7 – provide education

5.64 This process describes the requirement for the DSwR to understand the educational requirements with respect to DSwMS and to engage with authorised bodies to ensure education with respect to DSwMS is provided to the appropriate people, at the appropriate time, to the appropriate level.

5.65 The scope of this process includes education required by the regulated to enable seaworthiness management, and that required by the ODSwR to facilitate the DSwMS.

5.66 Education is a cornerstone of successful seaworthiness management. As groups and services maintain independent training and education systems, the DSwR shall establish and maintain appropriate mechanisms with all groups and services to ensure that the requirements for education are understood, developed and implemented appropriately.

5.67 It is expected that groups and services will, through consultation with DSwR, proactively develop education requirements sufficient to enable seaworthiness management as described in DSwMS policy publications. The DSwR will determine and maintain all education requirements for the ODSwR.

5.68 The education requirements for this process fall loosely into four categories:

a. education developed by the DSwR and provided by the DSwR

b. education developed by the DSwR and provided externally

c. education developed externally and provided by the DSwR

d. education developed externally and provided externally.

5.69 The DSwR may conduct assurance activities with respect to education, in accordance with Process 4 – Develop Assurance Master Plan (Regulator) and Process 6 – Provide assurance (Regulator).

5.70 Further guidance to the application of Process 7 – Provide education, can be accessed via the DSwMS website.

Process 8 – provide advice

5.71 This process describes the requirement for the DSwR to provide advice with respect to seaworthiness management.

5.72 In general, ‘information’ addresses facts or interpretations with respect to ‘what’ is required for seaworthiness management in accordance with DSwMS policy publications. ‘Advice’ applies the specific regulations, compliance requirements or assurance requirements to a particular set of circumstances; and often describes ‘how’ a given issue can be resolved. Therefore the DSwR will manage requests for advice differently to requests for information, in particular with respect to documentation requirements. In most circumstances, requests for information will be managed through Process 7 – Provide education.

5.73 Both advice and information can be sought from DSwR via any of the means articulated at the DSwMS website.

5.74 Advice provided by the DSwR may be sought externally where the subject matter expertise does not reside within the ODSwR, or where such advice requires a suitably qualified and authorised legal practitioner. In all circumstances, the DSwR will identify the appropriate suitably qualified person or persons to provide the advice.

5.75 The DSwR will capture all requests for advice and assess the advice requirements against the following:

a. the issue

b. the context

c. level of complexity

d. the authority(ies)/advice provider(s)

e. time frames

f. advice implications (legal interpretation, traceability, risk mitigation).

5.76 The DSwR will provide the advice through the nominated, authorised person. Advice may be delivered via the most appropriate means, however, all advice authorised by the DSwR will be documented and retained by the ODSwR.

5.77 Advice areas may include, but are not limited to:

a. regulation

b. compliance, including PMOC

c. assurance

d. seaworthiness risk management

e. legislation, as it applies in the seaworthiness context; where such advice requires interpretation of the law, the DSwR will ensure that the person or

persons providing the advice are suitably qualified and authorised legal practitioners

f. other countries' legislation as it applies to operation of Australian maritime mission systems in the seaworthiness context.

5.78 Further guidance to the applications of Process 8 – Provide advice, can be accessed via the DSwMS website.

Process 9 – issue resolution and escalation

5.79 This process describes the role of the DSwR and the regulated in issue resolution and escalation.

5.80 The requirement for issue resolution and/or escalation may be instigated by the DSwR or the regulated. Such requirements may include, but are not limited to:

a. An inability of the duty holder to comply with a regulation.

b. An inability to agree on a MOC with a regulation.

c. A request for assistance by a duty holder. Such requests may occur where:

(1) the owner of the risk or hazard control is outside of the authority of the duty holder

(2) responsibilities and accountabilities relating to shared duties are unclear or cannot be resolved

(3) conflicts in co-regulation require resolution at the third line of defence.

d. A breach of compliance with regulations. In this circumstance the DSwR will issue a seaworthiness corrective action (SCA) to the duty holder in accordance with the materiality criteria available via the DSwMS website.

e. A breach of compliance with legal obligations. In this circumstance the DSwR will:

(1) advise the DSwA

(2) report to external regulatory authorities in accordance with legislated mandatory reporting requirements and consistent with the roles, responsibilities and accountability of the DSwR

(3) issue a SCA to the duty holder, or take other action in accordance with Defence Enterprise risk management (ERM) policy and the materiality criteria available via the DSwMS website.

5.81 Enforcement under DSwMS is shared between internal authorities (summary authorities, service tribunals, accountable officials and the DSwR etc.) and external regulators, which all have parallel enforcement powers that work together to ensure compliance to DSwMS. In general, enforcement mechanisms are set out in

applicable legislative instruments[44], however the DSwR reserves the right to take other such action as deemed appropriate in order to manage hazards and risks to the Seaworthiness Outcome. Such action may include, but is not limited to:

a. escalating an issue, which results in the accountable official halting a project at a gate review until specified conditions have been satisfied

b. advising an accountable official to, for example, defer sea trials until specified conditions have been satisfied

c. issuing a SCA, which recommends the accountable official restrict the operation of a maritime mission system, or elements of its support system, until specified conditions have been satisfied.

5.82 Consistent with the principle that the DSwR is not a permissioning authority, the exercise of enforcement powers will need to be judicious and the exception under DSwMS.

5.83 The DSwR may review the effectiveness of the issue resolution and escalation process in accordance with Process 10 – Demonstrate value and continuously improve.

5.84 Further guidance to the applications of Process 9 – Issue resolution and escalation, can be accessed via the DSwMS website.

Process 10 – demonstrate value and continuously improve

5.85 This process describes the requirement for the DSwR to assess appropriate measures of effectiveness for DSwMS, collect and analyse data with respect to the measures, and make improvements to the system in the context of achieving the Seaworthiness Outcome. The continual monitoring of the system with appropriate reporting mechanisms will allow the DSwR to demonstrate the value that DSwMS is contributing to Defence in the seaworthiness context. Value in the seaworthiness context is measured against demonstrations of:

a. traceability to the Seaworthiness Outcome

b. due diligence, including legal compliance

c. effectiveness and efficiency.

5.86 One of the historical issues that the DSwMS seeks to address is the gradual erosion of capability over time. It is important that Defence protects the DSwMS itself from this threat by reminding itself of the value created by the system.

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[44] For example: Public Governance, Performance and Accountability Act 2013, Public Service Act 1999, Defence Force Discipline Act 1982, Defence Act 1903, Work Health and Safety Act 2011, etc.

5.87 The DSwR will define and baseline appropriate measures of effectiveness for the DSwMS. Measures of effectiveness will naturally change over time as more information becomes available through analysis, and as the system matures. Current measures of effectiveness can be accessed via the DSwMS website.

5.88 Data may be collected against measures through a number of means, including:

a. assurance activities (DSwR)

b. assurance activities (regulated)

c. compliance strategies.

5.89 Once data is collected against the measures, the DSwR will conduct analysis over the data which will be used for:

a. improvements

b. seaworthiness corrective actions (SCAs)

c. hazard and risk assessments

d. health assessments

e. reports to the DSwA

f. reports to the regulated.

5.90 Such analysis may include but is not limited to:

a. culture surveys

b. trend analysis

c. event analysis

d. hazard/risk analysis.

5.91 This process aims to proactively identify latent hazardous conditions, other systemic or strategic risks and apply suitable controls via the appropriate mechanism. Such mechanisms could include:

a. a new regulation

b. corrective action requirement for the regulated

c. education

d. advocacy.

5.92 Further guidance to the applications of Process 10 – Demonstrate value and continuously improve, can be accessed via the DSwMS website.

THE SEAWORTHINESS CASE

5.93 The DSwMS Operating Model described by the above processes represents a closed-loop management system, which enacts regulation and assurance and embodies due diligence principles.

5.94 All three components of the DSwMS have been built around the requirement to demonstrate the Seaworthiness Outcome through a claim, answered with an argument and evidence. In the context of the DSwMS Operating Model:

a. the claim of a ‘seaworthy maritime mission system’ is made and argued through the compliance strategy developed through Process 2 – Develop and Maintain Compliance Strategy

b. the evidence is provided through the assurance activities conducted in Process 3 – Develop assurance plan (regulated) and Process 5 – Provide assurance (regulated).

5.95 Thus, the seaworthiness case for a given maritime mission system is comprised of the compliance strategy and the evidence provided through assurance.

GLOSSARY

TERMS AND DEFINITIONS

acceptable means of compliance (AMOC)

A means of compliance presented against the compliance obligations and deemed acceptable by the DSwR.

Notes:

A means of compliance will be deemed acceptable where:

- the duty holder has demonstrated that it can be measured against the requirements of the regulation, and
- it was proposed by a suitably qualified and experienced person (SQEP).

Accountable official

A person(s) who has been authorised with a scope of decision rights over defined functions, activities, resources, outputs, outcomes etc.; and who is answerable for decisions made or not made within their authorised scope.

Note:

- Decision rights may be delegated to others however the accountable authority remains answerable for the decisions made or not made within their authorised scope.

activity and condition based compliance obligations (ACCO

Regulatory controls specifically directed at mission and enabling support systems. Activity and condition based compliance obligations (ACCOs) aim to ensure hazards and risks inherent in those systems are controlled in a manner that is systematic, coordinated and aligned with achievement of the Seaworthiness Outcome.

Note:

- It is a combination of activities and enabling conditions/system characteristics, and the functional performance of these, that determine the likelihood that the specified operational effect will be delivered. Where the functional performance of those activities and enabling conditions/characteristics is essential to delivering the specified operational effect, the associated hazards and risks must be identified and controlled if the likelihood of delivering that effect is to be maximised.

ACCO argument

If a mission system has systems of control designed to meet the ACCO Functional Objectives in the context of its OSI and it can demonstrate through these systems of control that:

- physical elements of a mission system are suitable (fit for purpose), reliable and supportable

- and personnel elements are competent in their roles and there are sufficient numbers to sustain the task
- and decision rights (including authorities and delegations) as applicable to achieving activities and tasks are understood and executed appropriately, and decisions are made by the authorised persons in a timely manner and executed effectively in accordance with the intent
- and appropriate security provisions to address vulnerabilities are established, monitored and maintained
- and all systems of control are implemented to a level of maturity that is appropriate and effective for the mission system, given its phase in the Capability Life Cycle (CLC)

then it is reasonable to expect that the systems of control can act collectively to achieve the Seaworthiness Outcome.

Administration

In the international maritime context, the Government of the nation State whose flag the ship is entitled to fly is deemed the 'Administration'. The Australian Government is the Administration recognised by the United Nations under international law.

Notes:

- The Australian Constitution and the Administrative Arrangements Orders allocate responsibility for carrying out the functions of the Administration on behalf of the Australian Government. Responsibility for implementing and enforcing its international obligations is delegated to Departments and Agencies, for example the Australian Maritime Safety Authority and the Department of Agriculture, Water and Resources.
- The Australian Defence Organisation also performs some default functions on behalf of the Administration where the Australian Maritime Safety Authority does not have jurisdiction over Defence vessels.
- Also referred to as the Flag Administration or Flag State

assurance framework

Aligns risk management and assurance accountabilities to those best placed to act.

Notes:

- Accountabilities are not based on chain of command but on functions, roles and responsibilities.
- Assurance provides supporting evidence to justify confidence that hazards and risks to the Seaworthiness Outcome are being effectively managed.

capability

The power to achieve a desired operational effect in a nominated environment within a specified time and to sustain that effect for a designated period. Capability is delivered by systems that incorporate people,

organisation, doctrine, collective training, platforms, material, facilities, in-service support and command and management.

capability life cycle (CLC)

A capability system's whole of life, from initial identification of a need to its disposal.

Note:

- The four phases are: strategy and concepts; risk mitigation and requirements acquisition; and in-service and disposal.
- Transition is not an explicit phase within this CLC definition however, the DSwR regulates for the transition of knowledge and accountabilities into and out of the in-service phase through GMCO 2.4.

Capability Manager

A three star/band three officer who has responsibility for raising, training and sustaining their respective capabilities at the level of preparedness directed by SEC/CDF.

Notes:

- In relation to the delivery of new capability or enhancements to extant capabilities through the Defence Industrial Capability Plan (DICP), the CM is responsible for delivering agreed capability to the Government, within their Group or Service through coordination of the fundamental inputs to capability (FIC).
- The CMs are:
  - Chief of Navy (CN);
  - Chief of Army (CA);
  - Chief of Air Force (CAF); and
  - Deputy Secretary Strategic Policy and Intelligence (DEPSEC SP&I).
- In the DSwMS context other duty holders may be deemed by the Defence Seaworthiness Authority as being ‘Capability Managers’ for the purpose of developing a compliance strategy against the DSwMS compliance obligations. This will occur where organisations manage maritime mission systems outside the remit of those capability managers identified above, for example: DSTG, JCG etc.

certification

The process of officially recognising that organisations, individuals, materiel or systems meet defined standards or criteria.

Note:

- In the context of military forces, the hierarchical relationship in logical sequence is: assessment, analysis, evaluation, validation and certification.

compliance obligations

See DSwMS compliance obligations.

compliance self-assessment

Conducting a self-assessment against the GMCOs – an analysis of where current activities align with the Defence Seaworthiness Management System compliance obligations to identify gaps and overlaps.

control

A measure taken to eliminate a risk or, if that is not possible, to minimise the risk so far as is reasonably practicable. Eliminating a hazard will also eliminate any risks associated with that hazard.

control maturity

The degree of control/system of control development and functionality.

control effectiveness

The question of whether or not the controls are operating as intended. A system of controls cannot be effective unless it is adequate.

Note:

- Effectiveness of risk management, control, and governance processes is present if processes are operating in a manner that provides reasonable assurance that the organisation's objectives and goals will be achieved.

Defence risk materiality thresholds

Specific consequences that, if reached, mean that the risk needs to be made visible at particular decision-making levels.

This is set on behalf of SEC/CDF through Defence Enterprise Governance Branch.

defined tasking

What a mission system will do ie Strategic requirements are translated into operational and tactical plans that govern what a maritime mission system 'will do' over the immediate time horizon (generally two years).

directed means of compliance (DMOC)

A particular solution directed by the DSwR to be used. A DMOC may be issued:

- in response to prescribed legislation
- where Defence direction is provided from other third-line-of- defence policy owners, or
- in cases where the Regulator is satisfied that only a particular solution will provide the required level of hazard and risk control. In this case, such DMOC are expected to be the exception.

DSwMS compliance obligations

Outcome-focused, goal-based function and performance requirements which must be satisfied to build confidence that hazards and risks to the Seaworthiness Outcome are being controlled.

Note:

- DSwMS compliance obligations can be categorised as follows:
  - activity and condition based compliance obligations (see separate definition)
  - governance and management compliance obligations (see separate definition).

due diligence

Applying a level of judgement, care, prudence, determination, mindfulness or activity a person would reasonably be expected to apply in particular circumstances.

The standard applied to determine whether the steps taken or things done by the person in a given situation are considered due diligence is what an objective person would judge as being reasonable in that situation.

Note:

- There are specific legal definitions under the WHS Act and the EPBC Act.
- In a Defence context, due diligence can be considered the application of a systematic approach to risk management that minimises exposure to risk - both for the outputs of the Defence enterprise and for its personnel (all of whom are, effectively, risk management practitioners).
- In the DSwMS context, due diligence includes taking reasonable steps to:
  - acquire and keep up to date knowledge of matters relevant to the achievement of the Seaworthiness Outcome
  - gain an understanding of the nature of both operational activities and non-operational activities controlled or undertaken, including an appropriately detailed understanding of the hazards and risks associated with those activities
  - ensure that Defence personnel (and, where applicable, consultants / contractors / outsourced service providers) at all levels have available for use, and make use of, appropriate resources and processes to eliminate or minimise risks associated with work carried out as part of those activities
  - ensure that the chain of command and other relevant authorities have appropriate processes for receiving and considering information regarding incidents, hazards and risks and responding in a timely way to that information

- ensure that all relevant elements of the Defence enterprise have, and implement, processes for complying with any duty or obligation arising from a DSwMS compliance obligation
- verify the provision and use of the resources and processes as described above.

duty holder

A person who is identified in legislation or a compliance obligation as having an obligation to comply with a requirement.

Notes:

- A duty holder is not necessarily an individual e.g. Defence has safety obligations under the WHS Act 2011 but compliance will be carried out by people within the organisation.
- Duty holders under the DSwMS may include entities other than Defence personnel - for example, persons associated with the Australian Defence Force Cadets (a personal development program for young people).
- In some circumstances, multiple duty holders may share obligations arising from a particular DSwMS compliance obligation. They are required to collaborate to comply.

  For DSwMS purposes, the 'levels' of duty holder (associated with the ‘three lines of defence’ concept – see Volume 1, Part 1, Chapter 4, Figure 4-1) are:
  - level 1 – duty holders best placed to act on localised and major hazards/risks and controls
  - level 2 – duty holders best placed to act on systemic hazards/risks and systems of control
  - level 3 – duty holders at the enterprise level; best placed to act on strategic and systemic hazards/risks and systems of control.

ensign

A flag indicating nationality or state of registration.

fit for purpose

The realised system can be reasonably expected to achieve the intended purpose.

Notes:

- The intended purpose must be understood by those who specify, design, realise and utilise the system.
- The system must achieve the purpose in a manner where hazards and risks - to personnel, the general public, the environment, other systems, etc. - have been eliminated or, where elimination is not practicable, minimised SFARP.
- Systems may include, but are not limited to:
  - systems of work, including processes and activities (e.g. OIP)

- materiel systems
- management systems
- information systems
- training systems
- logistics systems.

Flag Administration

An alternative name for ‘Administration’ in the international maritime law context.

Flag State

An alternative name for ‘Administration’ in the international maritime law context.

functional objective

The outcome achieved through a function.

Notes:

- The functional objectives collectively sum to deliver the goals which in turn sum to deliver the aim (the Seaworthiness Outcome).

governance and management compliance obligations (GMCO)

Regulatory controls specifically directed at governance and management functions and activities across the capability lifecycle (CLC). GMCOs aim to ensure the functions and activities are performed in a manner that is systematic, co-ordinated and aligned with achievement of the Seaworthiness Outcome.

At the second line of defence (LoD) the GMCOs act on governance and management systems to ensure they satisfy DSwMS performance requirements for control of hazards and risks to the achievement of the Seaworthiness Outcome. The GMCOs are designed to ensure the functions and activities are performed in a manner that is systematic, coordinated and aligned with achievement of the Seaworthiness Outcome.

in-service

A phase in the capability life cycle. The capability is being used or operated.

justified confidence

In the context of a seaworthiness judgement or decision, requires that the judgement or decision:

- be made on the basis of all pertinent information available
- consider both its short- and long-term seaworthiness implications
- consider the operational effect, safety and environmental aspects of the Seaworthiness Outcome
- be able to be justified to any subsequent Defence or external review

lines of defence (LoD)

The DSwMS assurance framework uses a 'three lines of defence' model.

Notes:

- The first line of defence (1LoD) is aligned to where hazards and risks manifest.
- The second line of defence (2LoD) is aligned to those accountable for governing and managing the first line (including provision of supporting systems).
- The third line of defence (3LoD) is aligned to the enterprise-wide level (for whole-of-enterprise governance and strategic guidance).
- The model is described in detail in Chapter 4.

localised (contained) conditions/events and associated risks

DSwMS characterisation of conditions/events and associated risks that are of low consequence in enterprise terms, but relatively high probability. Foreseeable with controls derived using suitably qualified and experienced personnel.

Notes:

- Examples include conditions/events/risks relating to:
  - outputs/artefacts supporting capability management but not central to the Seaworthiness Outcome (artefacts not directly controlled by regulation)
  - small scale (tactical/operational) activities relating to day-to-day work, e.g. tool/machinery/plant operation and maintenance, general seamanship, etc.

major conditions/events and associated risks

DSwMS characterisation of conditions/events and associated risks that are of high consequence in enterprise terms, but low probability. Foreseeable with controls derived using specialist techniques and subject matter experts.

Notes:

- Examples include conditions/events/risks relating to:
  - activities and related outputs/artefacts supporting capability management and central to the Seaworthiness Outcome (capability management activities and outputs/artefacts controlled by regulation, e.g. the capability manager’s operating and support intent)
  - functions and performance of a maritime mission system and/or its enabling support system that are critical to the Seaworthiness Outcome and are, therefore, controlled by regulation – e.g. platform design characteristics, operating and support criteria (stability, hull integrity, navigation and collision avoidance, aviation operations and critical interoperability, etc.).

means of compliance (MOC)

A documented explanation of how compliance with the GMCOs and ACCOs is intended to be achieved. There are three types:

- acceptable means of compliance (AMOC)
- directed means of compliance (DMOC)
- proposed means of compliance (PMOC).

mission system

The element of the capability that directly performs the operational function.

Notes:

- Examples include:
  - ship, tank or aircraft
  - distributed systems (e.g. communications network)
  - discrete systems that integrate into other mission systems (e.g. a radar upgrade for a platform).
- Major support system components (such as simulators, automatic test equipment and logistic information management systems) could also be classified as mission systems if the level of management attention to be applied to these components warranted this classification.

For the purposes of the DSwMS, the term mission system excludes major support system components.

Operating and Support Intent (OSI)

The operating intent and support intent are collectively referred to as the Capability Manager's OSI.

The operating intent is generated from a strategic view of the operational effect(s) a maritime mission system may need to achieve, or contribute to, throughout its in-service phase. It is an articulation of what Defence expects, or ‘wants’, a maritime mission system to be able to do.

The support intent is the Capability Manager’s definition of what is required to support the achievement of the operating intent and must evolve, in concert with the operating intent, throughout the CLC. A maritime mission system is enabled through its support system, which is defined and resourced throughout the CLC. Without a suitable, maintained support system, the likelihood of achieving the specified operational effect is significantly reduced (i.e. is not maximised).

person conducting a business or undertaking (PCBU)

A duty holder under the WHS Act 2011 (section 5).

plant

Includes:

- any machinery, equipment, appliance, container, implement and tool
- any component of any of those things
- anything fitted or connected to any of those things.

proposed means of compliance (PMOC)

A way to comply with one or more DSwMS compliance obligations proposed, by the regulated, to the DSwR.

Note:

- In developing a proposed means of compliance, the regulated seek to meet the relevant DSwMS compliance obligation(s) in the manner most appropriate to their context and circumstances.

realise

To make real, or give reality to a capability.

reasonably practicable

For the purposes of the DSwMS and associated policy publications, reasonably practicable means that which is, or was at a particular time, reasonably able to be done in relation to meeting the requirements of a DSwMS compliance obligation.

Notes:

- The DSwMS basis for assessing what is reasonably practicable considers the role of ‘good practice’ as a start point (as described in the DSwMS approach to risk management – refer to Chapter 4)
- reasonably practicable in relation to a duty to ensure health and safety is defined in section 18 of the WHS Act 2011.
- Other legislation explicitly and implicitly sets the standard of reasonableness to be applied in their contexts.
- The DSwMS approach to applying the concept of reasonably practicable, including worked examples, is at the DSwMS website.

regulated

Duty holders in the first and second lines of defence constitute 'the regulated'.

regulation

The application of controls to ensure compliance with non- discretionary standards (e.g. laws, statutes, regulations and essential conditions - collectively, compliance obligations) prescribed by an approved authority. The elements and characteristics of regulation are:

- an independent authority (the regulator)

- an agreed regulatory approach (e.g. risk based regulation, compliance based regulation, or combination of these)
- a set of regulatory requirements (e.g. performance based regulations, compliance regulations, or combination of these)
- an agreed compliance assurance approach (e.g. independent oversight, self-administration, third party, or combination of these)
- enforcement mechanisms (graded intervention, targeted intervention, formal sanctions, or combination of these).

risk management

Understanding the context and in that context identifying, analysing, communicating and responding to risks to support achievement of the objective.

Note:

- For further information see ISO 31000 series.
- See also the WHS Act 2011 for information specific to safety risks.

seaworthiness (noun)

See seaworthy

Seaworthiness Argument

An expression, in a formal logic format, of the concepts underpinning the Defence approach to seaworthiness:

If:

a) the specified operational effect is interpreted, defined and formally articulated by the Capability Manager through an operating and support intent (OSI)

b) and the design and OSI remain aligned and understood throughout the CLC

c) and a maritime mission system and its enabling support system are realised such that hazards/risks to personnel, the public and the environment are eliminated, or where elimination is not practicable minimised so far as is reasonably practicable, in the context of the OSI

d) and all defined taskings can occur within the boundaries of the OSI (i.e. within the boundaries of realised systems when operated and supported as intended)

then the likelihood of achieving the specified operational effect is maximised for the defined tasking(s) and hazards and risks to safety and the environment are eliminated or, where elimination is not practicable, minimised SFARP (i.e. the Seaworthiness Outcome is achieved).

Note 1: the Seaworthiness Argument is a formal logic expression which traces to the Seaworthiness Outcome. Thus the compliance obligations (regulations) address each condition of the Seaworthiness Argument such that, if the requirements of the regulations are met (through a compliance strategy and associated assurance) it can be reasonably expected that the

Seaworthiness Outcome has been achieved and that any associated maritime mission system covered by such a compliance strategy can be deemed seaworthy.

Note 2: GMCO Goal 1 establishes the organisational requirements to enable the conditions of the Seaworthiness Argument a through d to be met. GMCO Goal 2 and the ACCOs address conditions a, b and c of the Seaworthiness Argument and GMCO Goal 3 address condition d of the argument. Thus compliance with the requirements of the compliance obligations, along with associated assurance activities, constitutes an argument that the Seaworthiness Outcome has been achieved.

Note 3:The ACCO argument is a subset of the Seaworthiness Argument that demonstrates where systems of control address the unifying requirements for each ACCO, these will act collectively to control for hazards and risks inherent in a given mission system.

seaworthiness case

A body of information which together provides the context, claims, arguments and evidence necessary to support seaworthiness judgments relating to a maritime mission system and its enabling support system. In the context of the DSwMS operating model:

- the claim of a ‘seaworthy maritime mission system’ is made and argued through the compliance strategy developed through Process 2 – Develop and Maintain Compliance Strategy;
- the evidence is provided through the assurance activities conducted in Process 3 – Develop Assurance Plan (Regulated) and Process 5 – Provide Assurance (Regulated).

Note: Seaworthiness case documents include:

- the capability manager's operating and support intent (OSI)
- compliance strategy and related artefacts
- assurance plan and related artefacts.

Notes:

- The OSI provides context specific to the mission system and its enabling support system.
- The compliance strategy and related artefacts provide additional context, as well as an argument in the form of claims and proposed evidence.
- The assurance plan and related artefacts provide the actual evidence in support of the claims and related argument.

seaworthiness corrective action (SCA)

SCAs are a mechanism that can be used by the DSwA to provide notice to the regulated community to:

a) Rectify a specific non-compliance with the DSwMS.

b) Rectify or improve a means of compliance (MOC) where it has been proven less effective than anticipated. The requirement for this type of SCA will typically be identified through assurance and trend analysis. This type of SCA is provided to assist the regulated community in the improvement of hazard and risk controls in the context of the Seaworthiness Outcome.

seaworthiness incident

An occurrence or event adversely impacting, or potentially impacting, the achievement of the Seaworthiness Outcome.

Notes:

- Includes incidents of an emergency nature, not all of them foreseeable, that require sudden and urgent action.
- Seaworthiness incidents may arise accidentally, or as the result of deliberate action (e.g. by disaffected persons, terrorists, enemy forces).
- See also notifiable incident and dangerous incident; these terms have specific meanings under the *Work Health and Safety Act 2011*.

Seaworthiness Outcome

That the operation of a maritime mission system, in accordance with its Capability Manager's operating and support intent and enabled by its support system:

- maximises the likelihood of achieving the specified operational effect for the defined tasking, where
- efforts have been made to eliminate or minimise so far as is reasonably practicable (SFARP), hazards/risks to personnel, the public and the environment.

Seaworthy (adjective)

The characteristic of a maritime mission system where it is operated and supported in accordance with a Capability Manager's authorised operating and support intent, such that the likelihood of achieving a specified operational effect for a defined tasking is maximised and hazards and risks to personnel, the public and the environment have been eliminated or minimised SFARP (i.e. the characteristic of a maritime mission system resulting from achievement of the Seaworthiness Outcome). A mission system can be recognised as being seaworthy where it can be demonstrated that the conditions of the Seaworthiness Argument, as they pertain to that mission system, have been met (see Seaworthiness Argument).

subject matter expert (SME)

A person with a high degree of knowledge and competency pertaining to a particular subject/technology/discipline.

suitably qualified and experienced person[nel] (SQEP)

An individual who has the requisite qualifications, training and experience to competently carry out, or supervise, tasks associated with an operation or activity.

Notes:

- The SQEP requirements (qualifications, training, level of experience) for a particular task must be defined by the appropriate duty holder.
- Qualifications must be current (in date) when a task/activity is performed.

unifying artefacts

Those artefacts that are central to management for the Seaworthiness Outcome, comprising specific regulated artefacts (e.g. the OSI), and other artefacts agreed between the regulator and the regulated within a specific compliance strategy (e.g. formal safety assessments).

These are known as 'unifying' artefacts because they are a central reference for duty holders across (and beyond) Defence and throughout the capability life cycle as a basis for the conduct of

seaworthiness management.

SHORTENED FORMS OF WORDS

ACCO	Activity and condition based compliance obligations, see definition in the Glossary.
AMOC	Acceptable means of compliance, see definition in the Glossary.
CLC	Capability Life Cycle, see definition in the Glossary.
DMOC	Directed means of compliance, see definition in the Glossary.
DSwA	Defence Seaworthiness Authority
DSwMS	Defence Seaworthiness Management System
DSwRSP	Defence Seaworthiness Regulatory System Publication
DSwR	Defence Seaworthiness Regulator
ED ODSwR	Executive Director, Office of Defence Seaworthiness Regulator
ISwMR	Independent Seaworthiness Management Review
LoD	The three lines of defence, see definition in the Glossary.
MOC	Means of compliance, see definition in the Glossary.
ODSwR	Office of the Defence Seaworthiness Regulator
OEM	Original Equipment Manufacturer
OIP	Orders, instructions and publications
OSI	Operating and support intent
PMOC	Proposed means of compliance, see definition in the Glossary.
PPE	Personal Protective Equipment
SCA	Seaworthiness corrective action, see definition in the Glossary.
SFARP	So far as is reasonably practicable, see definition of ‘reasonably practicable’.