National Marine Safety Committee

DRAFT Regulatory Impact Statement

National Standard for Commercial Vessels

PART C Design and Construction

INCORPORATING PROTOCOL FOR TRANSITION INTO SUBSECTION 7A SAFETY EQUIPMENT (AMENDMENT 1 TO EDITION 3)

12 April 2011

Contents

1 EXECUTIVE SUMMARY

Statement of the Problem

The Uniform Shipping Laws (USL) Code was introduced in 1979. Since that time, administrative changes made by jurisdictions have increased differences in regulatory practices faced by industry. There have been advances in technology, rendering parts of the USL Code inadequate, obsolete or difficult to apply, and the international standards and requirements on which the Code was originally based have changed but have not been incorporated into the Code.

The USL Code is being progressively replaced by a new standard, the National Standard for Commercial Vessels (NSCV). Vessels that entered the fleet after 7 November 2008 are required to comply with Editions 1 and 2 of Part C Subsection 7A of the NSCV but most of those that entered the fleet before this date are required to comply with the USL Code.

Because of the age profile of the domestic commercial vessel fleet, there is a highly variable level of safety equipment among commercial vessels, including vessels that do not comply with the safety equipment requirements of the USL Code.

A relatively high proportion of marine incidents involving commercial vessels from 2005 to 2009 involved collisions, persons overboard, swamping, capsizing or the need for evacuation. The likelihood of such events resulting in a fatality or serious injury is dependent, to some degree, on the safety equipment on board.

Statement of Options

Two viable options have been identified in this Risk Impact Statement (RIS) to address the problem, namely:

1 Maintain the status quo, that is, variable levels of life-saving appliances and medical supplies that either pre-date the USL Code, comply with different variations of the USL Code or comply with the NSCV, depending on the age of the vessel in the fleet

2 Apply Amendment 1 to Edition 3 to transition the requirements of Part C Subsection 7A to the domestic commercial vessel fleet with respect to life-saving appliances and medical supplies by introducing safety upgrades over time that are warranted by the risk.

Impact Analysis

The annualised net cost (in current prices) of adopting Amendment 1 and transitioning the requirements of Part C Subsection 7A to domestic commercially registered and surveyed vessels in the fleet is estimated to be around $3.5 million. When the additional 3,833 currently unregistered Class 3B, 3C, 3D and 3E Queensland vessels are added, the cost rises to $5.2 million[1]. This cost will not be spread evenly across the vessel fleet, but will depend on the class of vessel and the class of waters vessels operate in. For example, Class 3C vessels will be required to carry inflatable coastal liferafts in place of dinghies. Some Class D vessels may be required to purchase dinghies while others may only require additional buoyant appliances and lifebuoys. Some Class 1 D and 1E vessels will have to acquire open reversible liferafts. Servicing requirements for safety equipment will also change. The cost of changes to requirements for first aid kits, medications and medical equipment will also vary across vessel types.

The benefits of the proposed changes are difficult to quantify. However, each is expected to improve the likelihood of survival in the event of an accident or incident. The provision of anti-exposure suits will minimise the risk of hypothermia for the crew of rescue boats in low temperature waters. The provision of liferafts and buoyant appliances will improve the

[1] The Queensland situation is discussed in detail in Chapter 2.

likelihood of survival for occupants involved in an overboard accident. The provision of torches, upgrading of distress signals and improved standards for internal communication equipment will improve the likelihood of survival for occupants on board a damaged vessel while an evacuation is under way or in the case of an onboard emergency. The changes to medical scales will also improve survivability in the event of an overboard or onboard emergency, especially considering there has been no review of the medical scales since the USL Code was introduced some 30 years ago.

The value of statistical life is often used to estimate the benefits of reducing the risk of death. A related concept is the value of statistical life year, which estimates the value society places on reducing the risk of premature death. The OBPR recommends departments and agencies use an estimate of $3.5 million for the value of statistical life and $151,000 for the value of statistical life year (each measured in 2007 dollars). Accordingly, the annual cost of the proposed transition for vessels currently registered or in survey in the commercial fleet would be offset if the proposed changes were to reduce fatalities from accidents or incidents by one per year.

Preliminary conclusion and recommendation

The status quo (Option 1) is rejected because it does not provide the same level of safety equipment with the potential to mitigate the consequences of marine incidents for all users of domestic commercial vessels. Option 2, a risk-based transition of safety upgrades to vessels in the existing commercial fleet, is supported because it is much more likely to meet the Government’s objectives and is likely to result in a greater net benefit to society. Over time, it will bring about a common performance-based safety standard in the domestic commercial vessel fleet.

2 STATEMENT OF THE PROBLEM

2.1 Background

The Uniform Shipping Laws (USL) Code is being progressively replaced by a new standard, the National Standard for Commercial Vessels (NSCV).

The USL Code was introduced in 1979. Since that time there have been changes to vary some requirements in the Code but it has not been updated to incorporate the changes into a single document. At the same time:

a) administrations in the jurisdictions have made changes to standards and processes which have increased differences in regulatory practices faced by industry

b) technology has advanced, rendering parts of the USL Code inadequate, obsolete or difficult to apply

c) international standards and requirements, on which the Code was originally based, have changed and not been incorporated into the Code.

A comparison between the USL Code and the NSCV is set out in the table below.

Table 1 — Comparison between the NSCV and USL Code

National Standard for Commercial Vessels (NSCV)	Uniform Shipping Laws (USL) Code
Part A: Safety Obligations	New
Part B: General Requirements	Section 1
Part C: Design and Construction	Sections 5, 6, 7, 8, 9, 10, 11, 12, 13, 16
Part D: Crew Competencies	Sections 2, 3
Part E: Operational Practices	Section 15
Part F: Special Craft	Section 18

2.2 NSCV Part C Subsection 7A Safety Equipment

Part C Subsection 7A Safety Equipment of the NSCV was developed following a review of the USL Code to replace Section 10: *Life Saving Appliances* and the part of Section 13: *Miscellaneous Equipment* of the USL Code that deals with medical supplies.

In reviewing the USL Code and preparing Part C Subsection 7A, consideration was given to a number of factors, including:

a) the National Marine Safety Strategy

b) current designs, practices and materials

c) coronial reports and incident investigations

d) relevant national and international standards

e) provisions no longer used

f) current survey practice, both formal and informal

g) discretionary requirements that rely on authority approval

h) current technical standards format and style

Edition 1 of draft Part C Subsection 7A was released for public comment on 1 July 2002, along with a draft Regulatory Impact Statement (RIS), which reviewed the impact of Subsection 7A on newly constructed vessels entering the fleet. A reference group consisting

of industry and government representatives reviewed public comment on 25 and 26 February 2003 and made recommendations to the NMSC.

The NMSC subsequently approved Edition 1 of Part C Subsection 7A on 6 August 2003, with the Office of Regulation Review reporting the final RIS was satisfactory on 21 October 2003. The Australian Transport Council (ATC) endorsed this document by inter-sessional vote on 12 May 2004.

Edition 1 was later subject to two technical amendments: Amendment 1 was endorsed by the ATC and published in January 2006, and Amendment 2 was endorsed by the ATC on 7 November 2008. These two amendments were consolidated into Edition 2 without further technical change, which was published on 5 September 2008. Due to the nature of the changes with respect to Edition 2, further public review and a RIS were not deemed necessary.

Edition 3 of Part C Subsection 7A was prepared by the NMSC Secretariat in consultation with a reference group consisting of representatives from the various State, Territory and Commonwealth marine safety authorities and from industry. It was released for public comment on 7 September 2009. Due to the nature of the changes, which were confined to updating references to technical design and construction standards and editorial clarifications having no economic impact, a RIS was not developed. A reference group consisting of industry and government representatives reviewed public comment on 1 December 2009 and made recommendations to the NMSC. The NMSC subsequently approved Edition 3 of Part C Subsection 7A on 16 March 2010, with the Office of Regulation Review confirming a RIS was not required on 12 June 2009. The ATC endorsed Edition 3 on 24 September 2010.

2.3 Application of the NSCV to Existing Vessels

The question of application of the NSCV to existing vessels was considered during the development of Part B of the standard that was to replace Section 1 of the USL Code. Early drafts included the application of the new standards to existing vessels in the application clause.

However, it became clear the clause was quasi-legislative and more reflective of policy than a technical standard. Application of new standards to existing vessels requires a policy decision on the balance between available government resources and public expectations as to safety. It had been recognised that the inclusion of quasi-legislative clauses was one of the failings of the USL Code, so the application clause in Part B was amended to apply only to new vessels, existing vessels entering survey for the first time and existing vessels upgrading service. Specifying what happens to existing vessels that have been modified and existing vessels without change was not included, but was to be specified in the enabling legislation.

The conclusions that justify the new provisions for new vessels are invalid when applied to the existing fleet, because of the different costs associated with applying the new standards to existing vessels. While the benefits of the new standard stay the same, the costs of applying the new standard to existing vessels are frequently considerably more.

In addition to the cost of supplying, building or otherwise providing for the thing required by a specific provision in the new standard, an existing vessel faces additional cost through:

- The cost of removing any existing arrangements
- The loss of any residual capital value inherent in the existing arrangements
- The cost of alterations to structure needed to accommodate the new arrangement
- The cost of fitting or modifying ship systems required to supply the new arrangements
- Loss of earnings during alterations while the vessel is out of service

- Adverse changes in the vessel's earning capabilities that might come about due to the impact of the new regulations or the arrangements put in place to accommodate them.

Policies that apply new standards to existing vessels need to take these differences into account. Except where there is an urgent safety concern that needs to be addressed, existing standards should be recognised as remaining appropriate and relevant to the existing fleet when new standards are introduced. This continues at least for the short-to-medium term. However, these costs will gradually reduce with time because of the following factors:

- Time allows the vessel to work and provide a return on existing capital investment
- Time permits full application of any capital depreciation allowance
- Many items of equipment will in any case expire, or become outdated or unserviceable over time
- The likelihood of ongoing repairs, refits, upgrades and refurbishments for reasons other than safety increases with time. The reasons include changes in operation, competitive advantage, economy of operation, reliability and ease of maintenance. These can offset some or all of the cost of the safety upgrade
- Time permits the owner to schedule downtime and expenditure to best fit in with business needs and opportunities, reducing the cash flow burden, business disruption and ultimately the cost of the upgrade
- Time gives the owner the opportunity to factor future safety expenditure into the broader strategic decisions that determine the economic service life of the vessel, and whether to scrap and replace.

Accordingly, over time there is capacity for upgrades in safety if warranted by the risk. In particular, where it can be demonstrated that the negative impact of marine incidents could be reduced if there was better safety equipment.

2.4 The Transition Process

NSMC has published the *Administrative Protocol for Assessing the Application of the NSCV to Existing Vessels* (Protocol) to provide the principles for a systematic approach to determining what upgrades are needed and how they should be applied.

The principles operate by providing a framework for reviewing each provision in the NSCV standard for new vessels to establish its relevance and priority in terms of the safety of existing vessels.[2]

Each provision of the new standard that differs from the old standard is assessed as to the rationale for the change and the benefits of its effects. Depending upon the outcome, each provision is classified as being one of three types: Urgent, Benign or Progressive.

Provisions are given Urgent status where the matter has an immediate and significant impact on safety; or there is a manifest deficiency in the safety standard of the existing fleet which has been highlighted by an incident, product recall or similar event. The risks that arise if the new provision were not applied would be considered to be intolerable. Typically, the difference in risk between new and old provisions that determines whether it is urgent is in the order of 100 times greater risk.

A provision is given Benign status where either the change has been for largely administrative, industry efficiency, or other non-safety related reasons; or the benefits would

[2] Flapan, M. 2010, 'What should be done with Grandad? Discussing the application of new standards to the existing fleet', *Proceedings from Marine Safety 2010 Conference*, Perth, August 2010. NB: Discussion of the transition process is drawn substantially from this reference.

be grossly disproportionate to the costs. The risks associated with not applying the new provision to a vessel complying with the old provision would be considered to be negligible. Typically the difference in risk between new and old provisions associated with benign provisions is less than 0.5×10^{1} times greater than the benchmark acceptable in the NSCV.

The third level of status, Progressive, is assigned where the issue is not considered urgent, but where there is likely to be a significant deficiency relative to safety expectations over a longer term. The difference between the old and new standards can be considered a tolerable risk. Over time, a tolerable risk that was initially considered acceptable becomes unacceptable because of the change in the cost/benefit balance.

Examples of provisions with progressive status might be the upgrading of fire safety measures, safety equipment, or subdivision standards.

Once provisions have been sorted by status, transition periods are assigned that are intended to minimise the impact on business while achieving short and long term safety goals.

Prior to the expiry of the specified transition period, the existing vessel can either apply the deemed-to-satisfy solution specified for the particular provision or it can apply an equivalent solution as specified in Part B of the NSCV. A third option has been devised for existing vessels that is not available for new vessels, a Remedial solution. Remedial solutions are solutions that are not fully compliant or equivalent, but can deliver most of the safety gains of the deemed-to-satisfy solution at a more practicable cost. These are particularly suited to 'construction'-type issues where major structural changes might otherwise be required.

2.5 Protocol for Transition to Part C Subsection 7A Safety Equipment

On 26 November 2008, the NMSC decided that a set of transitional provisions for NSCV Section C Subsection 7A be developed by the Reference Group undertaking the review of Subsection 7A. On 23 June 2010, the NSCV considered the resulting Transition Assessment (See Appendix D) and decided to proceed by including the transition provisions into Subsection 7A as a technical amendment to the standard, *Amendment 1 to NSCV Part C Subsection 7A Edition 3* (Amendment 1). This is the first application of the Administrative Protocol and the resulting Transition Assessment forms the basis of this proposal.

A reference group consisting of industry and government representatives considered the risks associated with non-compliance to each provision and whether the status should be urgent, progressive or benign. Where appropriate, transition periods were assigned. The NMSC has decided that, notwithstanding its earlier recognition of the issues associated with embedding policy in standards, the transition provisions will be embedded in NSCV Section C Subsection 7A as Amendment 1 (see above).

Amendment 1 addressed in this proposal affects domestic commercial vessels in Classes 1, 2 and 3 in operational areas A, B, C, D and E. Editions 1 and 2 of Part C Subsection 7A affect vessels introduced into the fleet before 7 November 2008, while Edition 3 affects vessels introduced into the fleet after 7 November 2008. As noted above, the changes in Edition 3 were minor and did not have an economic impact on the fleet. Accordingly, the vessels affected by the Transition Assessment are restricted to vessels that entered the fleet before 7 November 2008. This proposal concerns the transitional application of Edition 3 of Part C Subsection 7A to vessels that entered the fleet after 7 November 2008 (Amendment 1), consistent with the Protocol.

The classes of domestic commercial vessels affected by Amendment 1 are set out in the table below.

Table 2 — Vessel Use Categories

Area of use/use of vessel	Passenger	Non-passenger	Fishing
Unlimited domestic	1A	2A	3A
Offshore	1B	2B	3B
Restricted offshore	1C	2C	3C
Partially smooth water	1D	2D	3D
Smooth water	1E	2E	3E

Vessel types are:

Class 1— passenger vessels, those which carry more than 12 passengers

Class 2— non-passenger vessels are not Class 1 or 3 and may carry up to 12 passengers; and

Class 3— fishing vessels.

Areas of operation are:

A: unlimited domestic operations or those which are greater than 200nm from the coast

B: offshore operations or those which are within 200nm from the coast

C: restricted offshore operations or those within 30nm from a safe haven, including designated smooth or partially smooth waters or waters designated by a marine authority as being restricted offshore operations

D: partially smooth water operations or those within waters designated by a marine authority where the significant wave height does not exceed 1.5m for at least 90% of the time; and

E: smooth water operations or those within waters designated by a marine authority where significant wave height does not exceed 0.5m for at least 90% of the time.

This stage of the transition does not include Class 4 vessels, now referred to as leisure craft. The criteria for leisure craft, including safety equipment requirements, are contained in a separate part of the standard, so it makes sense to transition all criteria for leisure craft separately. Therefore, leisure craft vessels are not affected by the Transition Assessment for the purposes of this proposal. It is intended that leisure craft in Class 4C will be transitioned with the remainder of the leisure craft fleet in the future.

Queensland and Tasmania have substantially applied Part C Subsection 7A in varying degrees. Where known, the impact of costs and benefits already taken up in the jurisdictions is reported separately.

2.6 Adoption of Part C Subsection 7A

Queensland

Amendments to the Queensland Transport Operations (Marine Safety) Regulation 2004 (regulation) provide for the implementation of the safety equipment requirements of Part C Subsection 7A of the NSCV. These legislative changes became law on 1 June 2009.

From 1 June 2009, commercial and fishing vessels must carry the appropriate safety equipment as required under the NSCV Part C Subsection7A standard, or as varied by the new regulation requirements. Unregistered fishing vessels less than 10m in length and class 1F hire and drive vessels are not affected as the current safety equipment requirements for these vessels were not modified by the amendment. Queensland has advised an intention to apply the requirements of Part C Subsection 7A of the NSCV to currently unregistered fishing

vessels less than 10m in length at some point in the future. From 1 June 2009, new commercial and fishing vessels need to be equipped with safety equipment required under the NSCV Part C Subsection 7A standard, subject to changes contained in the regulation. Maritime Safety Queensland has allowed transition periods for existing vessels and vessels under construction (where applicable) to comply with the new requirements in recognition of the cost to vessel owners to comply with the amended regulation and the serviceable lifespan of safety equipment. Existing vessels are commercial and fishing vessels that were equipped with the required safety equipment before 1 June 2009 and will qualify for transition to NSCV Part C Subsection 7A in accordance with the nominated transition periods, as follows:

- two years to be compliant with type and quantity requirements as specified in chapter 4 of NSCV Part C Subsection 7A (Edition 2)
- five years to be compliant with design, construction, installation and servicing requirements as specified in chapters 2, 3 and 5 of NSCV Part C Subsection 7A (Edition 2).

If during these transition periods an item of safety equipment either becomes irreparable, unserviceable and incapable of being restored to its original working condition, or has reached the end of its service life as stated by the manufacturer, it must be replaced with equipment complying with NSCV Part C Subsection 7A.

Tasmania

In Tasmania the *Marine and Safety (Vessel Safety) Standards By-Laws 2000* was revised in October 2004 to adopt Part C Subsection 7A of the NSCV with respect to deemed compliance for suitable equipment and arrangement of equipment for safe operation. This includes liferafts, pyrotechnics and smoke signals, medical stores and first aid equipment and the 'coastal standard'. In addition, *Marine and Safety (Safe Operation) Amendment Regulations 2009* refers to Annex G of Part C Subsection 7A of the NSCV with respect to approved lifejackets for people on powered vessels less than 6 metres in length.

2.7 Nature of the problem

2.7.1 Overview

An examination of marine incidents involving domestic commercial vessels by type of incident from 2005 to 2009 confirms the relatively high proportion of marine incidents where safety equipment, including the medical supplies, could have reduced the consequences for users. Of the 3,064 incidents reported, 76% were of a type where safety equipment had the potential to reduce consequences, for example, collision of vessels, unintentional grounding, collision with a fixed object, falls within a vessel, person overboard, fire, collision with a submerged object, sinking, swamping and capsizing. The table below sets out marine incidents by incident type from 2005 to 2009.

Table 3 — Commercial Vessel Reported Marine Incidents by Incident Type 2005-2009

Incident Type	2005	2006	2007	2008	2009	Total
Collision of vessels	151	130	137	132	133	683
Grounding unintentional	75	114	95	65	73	422
Collision with fixed object	40	50	48	44	46	228
Falls within vessel	30	28	40	29	37	164
Other onboard incident	31	35	23	28	23	140
Structural failure	35	30	36	20	17	138
Other	28	32	25	28	23	136
Collision with wharf	27	26	30	30	20	133

Incident Type	2005	2006	2007	2008	2009	Total
Person overboard	19	24	20	30	28	121
Fire	23	20	27	22	15	107
Collision with submerged object	18	15	32	19	21	105
Sinking	22	24	24	13	18	101
Swamping	15	24	17	16	23	95
Capsizing	8	17	15	17	15	72
Onboard crushing or pinching	12	14	17	7	9	59
Flooding	6	11	9	9	17	52
Collision with floating object	16	10	5	11	7	49
Other incident caused by an operating vessel	7	3	3	11	12	36
Hit by propeller or vessel		2	7	8	4	21
Collision with overhead obstruction	4	5	1	1	3	14
Loss or presumed loss of a vessel	2	2	1	6	3	14
Diving incident	6	2	3			11
Collision with an animal	1	1	2	2		6
Grounding intentional		1	2	3		6
Skiing incident	1	1	1		3	6
Explosion		1		1	2	4
Loss of stability			1			1
Parasailing incident	1					1
Unknown	25	25	27	37	25	139
Total	603	647	648	589	577	3,064

According to the NMSC, from 2005 to 2009 on average there were 13 fatalities and 35 serious injuries each year in which domestic commercial vessels were involved, or a total 67 fatalities and 174 serious injuries over the period, as set out in the table below.

Table 4 — Commercial Vessel Reported Marine Incidents in Australia 2005-2009

Incident	2005	2006	2007	2008	2009	Total
Fatality	8	10	12	23	14	67
Minor injury	93	124	110	130	122	579
Missing person		1				1
Serious injury	37	46	31	44	16	174
Unknown	40	11	45	10	8	114
Total	178	192	198	207	160	935

O'Connor's (2008:36) study into boating fatalities in Australia from 1992 to 2004 found that commercial vessel deaths involve less favourable seas and the associated risk of falling overboard when compared with recreational vessel-related deaths, which are higher in number. Of the 31 marine incidents investigated in the study involving commercial vessels, none of those killed wore PFDs, and alcohol, co-morbidities and medication use were all factors in the deaths. (Source: O'Connor, N 2008, *National Assessment of Boating Fatalities in Australia 1999 – 2004*, National Marine Safety Committee, Sydney.)

2.7.2 Size of National Commercial Vessel Fleet

As noted above in Section 2.2, according to the data held in the NMSC national data set, there is a total 16,182 vessels currently registered or in survey in Classes 1, 2 and 3 in Operational Areas A, B, C, D and E. When additional Queensland Class 3 vessels less than 10 metres in length are included in the national fleet, the total rises to 20,015 vessels. As

explained in the notes to Table 5, although these vessels are not commercially registered and are equipped to other non-commercial standards, the intention to modify Queensland regulations to require these vessels to comply with the NSCV Part C Subsection 7A at some point after the present amendment is completed has been flagged. Accordingly, the impact analysis in this RIS reports costs and benefits of the proposal separately for the following:

- the national fleet of vessels currently registered or in survey in the commercial fleet
- the national fleet of vessels currently registered or in survey *plus* the additional Class C Queensland vessels.

Table 5 does not include vessels that entered the fleet after 7 November 2008 because there was no economic cost associated with the introduction of Edition 3 of Part C Subsection 7A for newly constructed vessels, as noted above. The fleet of commercial vessels currently registered or in survey and the additional Queensland vessels are set out in the table below.

Table 5 — National Commercial Vessel Fleet by Class and Jurisdiction

Operational Area	NSW	QLD	QLD[1 2]	SA	TAS	VIC	WA	NT	National[3]	National[4]
A	1	5	0	1	4	3	13	1	28	28
B	74	639	541	187	119	125	1,072	268	2,484	3,025
C	1,113	1,703	3,082	834	673	320	761	177	5,581	8,663
D	401	1,019	169	118	247	294	184	257	2,520	2,689
E	3,661	1,222	41	47	159	263	145	72	5,569	5,610
Total	5,250	4,588	3,833	1,187	1,202	1,005	2,175	775	16,182	20,015

NOTES:

1 The vessel numbers reflected in this column are additional Queensland Class 3 vessels less than 10 metres in length. They are indicated separately because they currently are not registered and are equipped to other non-commercial standards. There is now an intention to modify Queensland regulations to require these vessels to comply with Edition 3 of the NSCV Part C Subsection 7A.

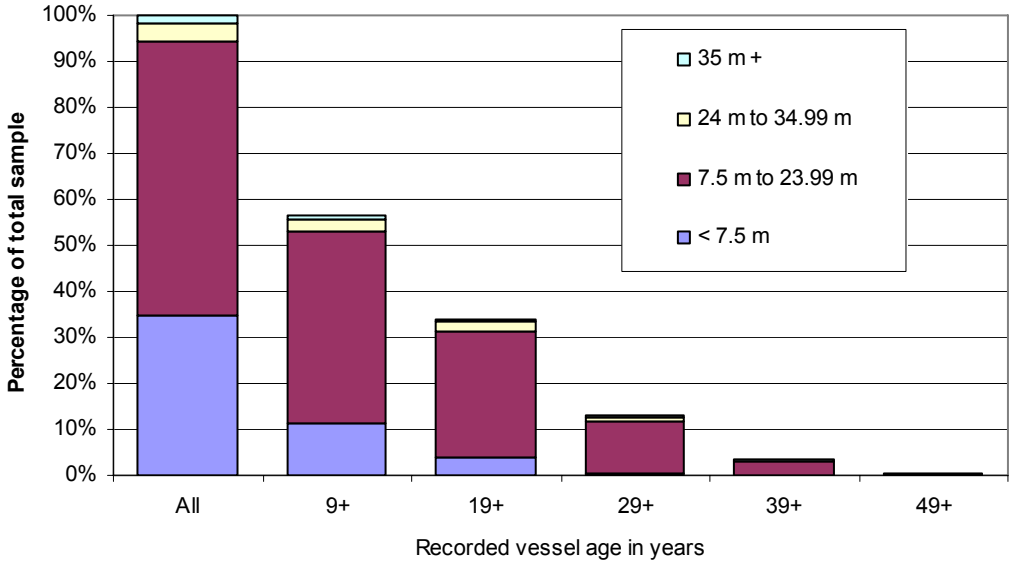
2 These additional numbers are based on an estimate of vessel numbers to 2008 provided by the Queensland. Department of Primary Industries (DPI). This estimate is based on fishing licenses issued to all fishing vessels. Until 2008, DPI issued fishing licence marking to all fishing vessels, including dories, tenders etc.

The primary intention of this RIS is to assess the intention to apply NSCV C7A to existing vessels as maintained in the national data set (that is, currently registered or in survey as commercial vessels); however, the analysis of transitional impacts for individual changes has been considered for these additional Class 3 vessels less than 10 metres in length, where the application of the change is appropriate to vessels of this size. Where the change would be impractical, the numbers of vessels from the NMSC national data set will be used. The preliminary outcome and conclusion will still reflect the analysis of the total impact to vessels currently registered or in survey as commercial vessels.

3 National fleet figures according to the NMSC national data set.

4 National fleet figures including Queensland Class C vessels less than 10 metres in length.

Figure 1 — Domestic Commercial Vessels Built up to 2008 by Age and Length



Source: NMSC. [3]

The current situation regarding the application of new standards to existing domestic commercial vessels in Australia is ambiguous. The previous USL Code Section 1 Clause 2 states:

Unless expressly provided otherwise, the provisions of this Code apply to new vessels. For vessels the keels of which were laid or reached a similar stage of construction on or before 31 December 1991, the Authority may determine the extent to which the Code provisions in force on that date are required to be met.

The scope and nature of the discretion granted under this clause has never been systematically defined and the objectives have to be implied. The ambiguity is further highlighted by references to application in individual sections of the old USL Code. For example, USL Code Subsection 5A Clause A.5 stated:

This Section applies to every new vessel the keel of which is laid after the date of coming into force of this Section and which is to be constructed to the survey of an Authority. Where alterations are made to an existing vessel this Section shall apply as far as is reasonable and practicable to the alterations as if the parts of the vessel so altered were parts of a new vessel.

But USL Code Subsection 8A Clause A.2.1 states:

This Section applies to every vessel subject to the survey of an Authority. Where difficulty is experienced in respect of a particular vessel's meeting these Requirements, the matter should be referred to the Authority for decision. Where alterations are made to an existing vessel, such as materially to affect the stability of the vessel, the Authority may require the vessel to be re-inclined and a re-assessment made as to the ability of the vessel to meet the applicable criteria.

[3] The percentages presented in Figure 1 are indicative of the domestic commercial fleet.

Subsection 8A clause appears to apply to every vessel including existing vessels, while Subsection 5A clause only applies to new vessels and alterations to existing vessels.

The lack of clarity on the application of new standards to existing vessels becomes even more manifest when items such as fire and safety equipment are considered. Most jurisdictions have regulations that set requirements. A number of these have been frozen in time, being based on different variants of the USL Code, with or without modifications. However, in the field, jurisdictions have often applied current standards for some items of equipment but exemptions from compliance with others.

Most jurisdictions apply at least some parts of new standards to the existing fleet. The extent to which new standards are applied to the existing fleet is not consistent between jurisdictions and even within jurisdictions. This leads to uncertainty and barriers to mutual recognition.

2.8 Why Action is Needed

The majority of marine incidents reported from 2005 to 2009 were of a type where safety equipment, including medical supplies, had the potential to reduce the consequences for those on board the vessels concerned.

Excluding the social cost of less serious accidents and marine incidents, the combined annual social cost of fatalities and serious injuries involving domestic commercial vessels in Australia is $66 million. Evidence suggests that commercial vessel deaths involve less favourable seas and the associated risk of falling overboard, and that fatalities are associated with not wearing PFDs (Personal Flotation Devices), alcohol, co-morbidities and medication use. There is a relatively high proportion of marine incidents involving collisions, persons overboard, swamping, capsizing or the need for evacuation that involved commercial vessels.

Because of the age profile of the domestic commercial vessel fleet, there is a highly variable level of safety equipment in the commercial vessel fleet, including vessels that do not comply with the safety equipment requirements of the USL Code, which was introduced over 30 years ago.

The extent to which new standards are applied to the existing fleet is not consistent between jurisdictions and even within jurisdictions, which leads to uncertainty and barriers to mutual recognition.

3 OBJECTIVES

3.1 Objectives of the NSCV

The overall aims of the NSCV, which are consistent with the strategic actions recommended in the *National Marine Safety Strategy*, are to deliver:

- improved safety outcomes
- introduction of consistent standards for new types of operations
- reduced business costs for operators seeking to expand their businesses
- incorporation of OH&S principles into construction and operations standards
- a national, harmonised code.

3.2 Objective of the Safety Equipment Standard

The objective of the safety equipment standard is to minimise the consequences of accidents by providing certain key items of safety equipment, including medical supplies.

4 STATEMENT OF OPTIONS

NMSC identified two viable options, namely:

1 Maintain the status quo, that is, variable levels of life-saving appliances and medical supplies that either pre-date the USL Code, comply with different variations of the USL Code or comply with the NSCV, depending on the age of the vessel in the fleet

2 Apply Amendment 1 to transition the requirements of Part C Subsection 7A to the domestic commercial vessel fleet with respect to life-saving appliances and medical supplies by introducing safety upgrades over time that are warranted by the risk.

A potential third option could have been to limit the Transition Assessment to part of the fleet of commercial vessels, for example, selected commercial vessels by size or by age. However, this was not considered feasible because the fundamental aim of the project that developed the Transition Assessment was to assess the gap between the level of safety provided by the previous safety standard and the safety provisions provided in the current standard. Therefore the transition investigation proceeded on the basis of assessing whether to apply or not apply the current provisions uniformly across the whole of the fleet.

4.1 Option 1: Status Quo

Maintain the status quo, that is, variable levels of life-saving appliances and medical supplies on domestic commercial vessels, depending on the age of the vessel in the fleet:

While maintaining the status quo would not involve the additional cost of purchasing and installing medical supplies and equipment:

- There has been a sustained high level of marine incidents where safety equipment had the potential to reduce the consequences for users of domestic commercial vessels
- There is a variable level of safety equipment in the domestic commercial vessel fleet, which includes vessels that do not comply with the safety equipment requirements of the USL Code
- There is inconsistency in the extent to which jurisdictions have introduced standards for life-saving equipment and medical supplies, which has led to uncertainty and barriers to mutual recognition.

4.2 Option 2: Apply Amendment 1 to the domestic commercial vessel fleet

Option 2 is to adopt Amendment 1 and transition the requirements of Part C Subsection 7A to domestic commercial vessels in the fleet, consistent with the principles of the Protocol:

- Amendment 1 would introduce safety upgrades over time that are warranted by the risk, eventually achieving a standard that is consistent with the NSCV, the standard required for all vessels that entered the fleet after 7 November 2008
- It is estimated the annual net cost of introducing Amendment 1 for vessels currently registered or in survey in the commercial fleet is $3.507 million at present values, excluding qualitative benefits and costs. This consists entirely of annual costs. When the additional 3,833 currently unregistered Class 3B, 3C, 3D and 3E Queensland vessels are added to the fleet, the cost rises to $5.2 million.
- If Amendment 1 contributes to a reduction of one fatality each year, there would be a reduction in the social cost of fatalities of $3.5 million. This represents an annual benefit of $3.5 million plus the unquantified benefits of a potential reduction in the social cost of injuries associated with marine incidents in commercial vessels. At a minimum, these benefits would be equal to the annual cost of the proposed transition for vessels currently registered or in survey in the commercial fleet

- The impact of Option 2 as set out above assumes that state and territory jurisdictions adopt Option 2.

4.2.1 Background

A Reference Group, originally formed in March 2009, met on 28 April 2010 to review each provision in Part C Subsection 7A of the NSCV to establish its relevance and priority in terms of the safety of existing vessels. Consistent with the Protocol, the Reference Group then sorted each provision by status (Urgent, Benign or Progressive). The progressive status also includes further information about the change, including one basic timeframe, as follows:

- Alteration – alteration to the vessel may be required in order to comply (coded 'A');
- At replacement – compliance is required when equipment is replaced (coded 'AR'); and
- Remedial – the applied solution may be remedial (coded 'R').
- Transition periods were then assigned for provisions that were classified as urgent or progressive, either as an actual time for compliance or as 'At replacement'.

The Reference Group developed *Attachment 1 — NSCV C7A Safety Equipment Transition Assessment* (transition assessment), the subject of this proposal, as part of the minutes of the Reference Group meeting. The transition assessment adopts the structure of Part C Subsection 7A as laid out in the NSCV, as follows:

- Chapter 3 deals with Design and Construction
- Chapter 4 deals with Installation, including General Requirements (4.3), Lifeboats and Rescue Boats (4.4), Liferafts (4.5), Dinghies (4.6), Buoyant Appliances (4.7), Lifebuoys (4.8), and Pyrotechnic and Smoke Signals (4.10)
- Chapter 5 deals with Type and Quantity of safety equipment to be carried, as set out in Tables 2, 3 and 4 of the standard (5.3), and Lifejackets (5.5)
- Chapter 6 deals with Servicing
- Annex B deals with Requirements for non-SOLAS Rescue Boats, including Design and Construction (B2), Fittings (B3) and Marking of Rescue Boats (B5)
- Annex C deals with Requirements for Dinghies, including Design and Construction (C2) and Marking (C5)
- Annex D deals with Inflatable Coastal Liferafts, including Design and Construction (D2), and Equipment and Rations (D3)
- Annex E deals with Open Reversible Liferafts, including Design and Construction (E2) and Fittings (E3)
- Annex F deals with Buoyant Appliances, including Design and Construction (F2)
- Annex G deals with Coastal Lifejackets, including Design and Construction (G2)
- Annex H deals with Medical Supplies
- Attachment 1 — NSCV C7A Safety Equipment Transition Assessment is set out in Appendix A.

5 IMPACT ANALYSIS (COSTS AND BENEFITS)

5.1 Option 1: Status Quo

Problems associated with the status quo have been outlined in the Problem Section. Although maintenance of the status quo, does not involve the imposition of additional direct costs onto commercial vessel operators, it does not provide the same level of safety equipment with the potential to mitigate the consequences of marine incidents for all users of domestic commercial vessels.

There is a highly variable level of safety equipment in the commercial vessel fleet because of the age profile of the fleet, including vessels that do not comply with the safety equipment requirements of the USL Code, which was introduced over 30 years ago. The extent to which new standards are applied to the existing fleet is not consistent among jurisdictions, which leads to uncertainty and barriers to mutual recognition.

The status quo is therefore rejected as being inadequate to reduce the social cost of marine incidents involving commercial vessels and meet the need for continual improvements to safety.

5.2 Option 2: Apply the Protocol to transition the requirements of Part C Subsection 7A

5.2.1 Background

For the purposes of this RIS, the existing regulatory requirements of Section 10: Life Saving Appliances and part of Section 13: Miscellaneous Equipment of the USL Code, which includes medical supplies, are taken as the status quo. However, as noted above, Queensland and Tasmania have applied Part C Subsection 7A. Where known, the impact of costs and benefits already taken up in the jurisdictions is reported separately.

The impact analysis for Option 2 firstly considers the costs and benefits associated with safety equipment for commercial vessels required by Part C Subsection 7A of the NSCV. These costs and benefits are assessed in Section 5.2.3.

There are several proposed changes to specific standards that can be expected to have an impact on vessel operators and marine agencies. These costs and benefits are assessed in Section 5.3.4. Servicing costs are assessed in Section 5.2.5 and costs associated with medical scales are assessed in Section 5.2.6. Construction costs in Annexes B and C are discussed in Sections 5.2.7 and 5.2.8 respectively.

Some amendments to individual standards in Edition 3 of Part C Subsection 7A are relatively minor. They involve clarification of provisions, incorporation of changes already approved, or alignment with international standards on which the USL Code is based (see Appendix A). Because these changes are minor they are not subject to regulatory assessment, although taken together they are expected to be beneficial.

Assumptions for calculating the costs and benefits of the proposal are set out below:

- Costs and benefits exclude GST
- There is a social discount rate of 7%, consistent with the Office of Best Practice Regulation, Best Practice Regulation Handbook 2010
- The social discount rate is applied to the asset life of capital equipment to arrive at an annualised cost in present values
- Transition periods are as nominated in NSCV C7A Safety Equipment Transition Assessment (see Appendix D). Adoption of the standard is assumed to be evenly distributed across the transition period, with the social discount rate applied from year two of the transition period. For example, if the transition period is up to two years, it is assumed that 50% of adoption of the standard will occur in year two, which is discounted by 7%
- There is a valuation of $3.5 million for the social cost of a fatality (source: Office of Best Practice Regulation, Best Practice Regulation Handbook 2010).

5.2.2 Structure of Part C Subsection 7A

Part C Subsection 7A consists of five chapters and eight annexes:

Chapter 1 —Preliminary

- scope, that is, design, manufacture, stowage, marking and scale of safety equipment
- application to commercial vessels excluding vessels covered by Part F
- objective, that is, to minimise the consequences of accidents by providing vessels with certain key items of safety equipment
- referenced documents
- definitions specific to this subsection.

Chapter 2 —Safety Equipment Design and Construction

- scope, that is, design and construction of safety equipment
- objective, that is, to ensure that safety equipment is suitable for the purpose for which it is to be used
- required outcomes
- deemed-to-satisfy solutions or prescriptive requirements in terms of standards for items of safety equipment, and assessment and verification of compliance.

Chapter 3 —Installation of Safety Equipment

- scope, that is, requirements for the installation of safety equipment including marking, stowage, labelling and launching
- objective, that is, to ensure that all safety equipment is readily accessible, identified and maintained in optimum operating condition
- required outcomes
- deemed-to-satisfy solutions for stowage, marking, launching and operation of equipment.

Chapter 4 —Type and Quantity of Safety Equipment

- scope, that is, the type and quantity of equipment to be carried
- objective, that is, to specify minimum standards for the type and quantity of safety equipment to be carried on a vessel appropriate for risks that are likely to be encountered;
- required outcomes
- deemed-to-satisfy solutions (scales of safety equipment) for each vessel category presented in tabular form
- equivalent solutions for the use of open reversible liferafts in place of coastal liferafts and buoyant equipment.

Chapter 5 —Servicing of Safety Equipment

- scope, that is, requirements for servicing safety equipment
- objective, that is, to specify minimum standards for the servicing of safety equipment so that the effectiveness of the safety systems can be maintained
- required outcomes
- deemed-to-satisfy solutions relating to servicing and maintenance of equipment.

Under the performance standards framework embodied in the NSCV, each chapter of Part C Subsection 7A sets out the required outcome, which may be achieved via a prescriptive solution or a deemed-to-satisfy solution in the carriage of safety equipment.

Part C Subsection 7A effectively reduces the administrative discretion of marine authorities by specifying outcomes and conditions to the greatest extent possible. Not only does this reduce the variation of interpretation between jurisdictions, it should also have the effect of reducing the costs of administration to marine authorities and vessel operators.

The Annexes contain the standards for items of safety equipment. They have been amended to have a performance basis and to adopt recognised national and international standards where appropriate. This has had the effect of greatly simplifying the document and the requirements. The Annexes consist of:

A Requirements for SOLAS Equipment which calls up the relevant Marine Orders for vessels that are required to carry SOLAS safety equipment, mainly those which operate in Class A waters (sea going vessels)

B Requirements for non-SOLAS Rescue Boats, including design and construction, fittings, equipment and marking

C Requirements for Dinghies, including design and construction, fittings, equipment and marking

D Requirements for Coastal Liferafts (Inflatable), which adopt the Group A liferaft requirements specified in ISO 9650-1 with variations applicable to coastal waters, for example, equipment and rations, stowage and launching, marking and servicing

E Requirements for Open Reversible Liferafts, including design and construction, and fittings

F Requirements for Buoyant Appliances, including design and construction, launching and marking

G Requirements for Coastal Lifejackets

H Requirements for Medical Supplies.

5.2.3 Scales of Equipment

The scales of equipment in Part C Subsection 7A are effectively the deemed-to-satisfy solution for the performance standards framework of the NSCV. Scales of safety equipment are specified for each vessel category, noting that vessels operating in Class A waters are required to carry safety equipment in accordance with Marine Orders Part 25.

Compared with the USL Code, the tabular format of Subsection 7A is expected to make it easier to see the differences between vessel categories and how the requirements vary with levels of risk, in particular the area of operation (Classes B to E). Also, there are some differences in the items of safety equipment.

The proposed scales of equipment are set out in the table below.

Table 6 — Scales of Safety Equipment

	1B	1C	1D	1E	2B	2C	2D	2E	3B	3C	3D	3E
Liferafts and Rescue Boats	**Length (metres)**											
Inflatable coastal liferaft for 100% + non-SOLAS rescue boat[R1]	≥25	≥25			≥25	≥25			≥25	≥25		
Inflatable coastal liferaft for 100%	<25	<25			<25	<25			<25	<25		
Inflatable coastal liferaft or internal buoyancy[R2]						<15			<15			
KEY: (R1) – On vessels continuously engaged on voyages in operational areas with a monthly mean water temperature of 15°C or less, an anti-exposure suit of an appropriate size shall be provided for every person assigned to crew the rescue boat. (R2) – Not required if vessel is fitted with level flotation in accordance with NSCV Part C Section 6B.												
	1B	**1C**	**1D**	**1E**	**2B**	**2C**	**2D**	**2E**	**3B**	**3C**	**3D**	**3E**
Buoyant Appliances (General)	**Length (metres)**											
A dinghy + sufficient buoyant appliances, lifebuoys[B4] or both for 100% complement			≥25 [B1]				≥25 [B1]				≥25 [B1]	
Sufficient buoyant appliances, lifebuoys [B4] or both for 100% complement			<25 B1, B2, B5				<25 B1, B2, B5				<25 B2, B5	
Sufficient buoyant appliances, lifebuoys [B4], dinghies or combination for 100% complement				Yes B1, B3, B5				≥15 B5				≥15 [B5]
Sufficient buoyant appliances, lifebuoys [B4], or both for 100% complement [B6]								<15 [B5]				<15 [B5]
Sufficient buoyant appliances, lifebuoys[B4], or both, for 100% complement or dinghy for 100% complement [B6]							<15 B1, B5				<15 [B5]	
KEY (B1) – A reduction in buoyant appliance capacity may be allowed following assessment in accordance with Clause 2.21. (B2) – A dinghy may be included for rescue of persons overboard. (B3) – Vessels conforming to Flooding Risk Category II as specified in NSCV Part C Section 6B, having a passenger limit of 36 day passengers —buoyant appliances for 100% complement. (B4) – Each lifebuoy is assumed to provide support for two (2) persons. (B5) – Vessels less than 25 m in measured length shall have suitable equipment on board to sustain and effectively recover persons overboard, e.g. heaving line with rescue quoit, ladder, rescue sling, scramble net. (B6) – Not required if vessel is fitted with level flotation in accordance with NSCV Part C Section 6B.												
	1B	**1C**	**1D**	**1E**	**2B**	**2C**	**2D**	**2E**	**3B**	**3C**	**3D**	**3E**
Lifebuoys	**Length (metres)**											
12, 4 with lights, 2 with lights and smoke, 2 with buoyant lines[L1]	≥60											
8, 2 with lights, 2 with lights and smoke, 2 with buoyant lines [L1]	≥45	≥60			≥60	≥60			≥60	≥60		
6, 1 with lights, 2 with lights and smoke, 2 with buoyant lines [L1]	≥25	≥45			≥45	≥45			≥45	≥45		
4, 2 with lights and smoke, 2 with buoyant lines [L1]		≥25			≥25	≥25			≥25	≥25		
8, one with light, one with buoyant line [L1]			≥60[L2]									
6, one with light, one with buoyant line [L1]			≥45 [L2]	≥60 [L2]								

	1B	1C	1D	1E	2B	2C	2D	2E	3B	3C	3D	3E
4, one with light, one with buoyant line [L1]			≥25 [L2]	≥45 [L2]								
2, one with light, one with buoyant line [L1]	≥10	≥10	≥10 [L2]	≥10 [L2]	<15	<15	≥15 [L3]	≥15 [L3]	≥15	≥15	≥15 [L3]	≥15 [L3]
1 with light [L1]			<10 [L2]	<10 [L2]	<15	<15 [L4]	≥15 [L3]	≥15 [L3]	<15	<15 [L4]	<15 [L3]	<15 [L3]

KEY
(L1) – Lights and smoke signals shall comply with Annex A.
(L2) – Additional to buoyancy requirements (General).
(L3) – Included in Buoyancy Requirements (General).
(L4) – Not required if vessel is less than 10 m and carries 1 person only; or vessel is less than 6 m and fitted with level flotation in accordance with Part C Section 6.

	1B	1C	1D	1E	2B	2C	2D	2E	3B	3C	3D	3E
Lifejackets	**Length (metres)**											
Adult SOLAS lifejacket with light (L1) for 100% complement, plus child size SOLAS lifejacket with light [L1] for the greater of: 10% of the total capacity of passengers, or the number of children of mass less than 32 kg.	Yes				Yes				Yes			
Coastal with light [L1] for 100%		Yes				Yes				Yes		
Coastal for 100%			Yes	Yes			Yes	Yes			Yes	Yes
Distress Signals	**Number of distress signals**											
Parachute distress rockets	6	3	3		6	3	3		6	3	3	
Red hand-held flares	4	2	2	2	4	2	2	2	4	2	2	2
Hand-held orange smoke signals	2	1	1	1	2	1	1	1	2	1	1	1
Line Throwing Appliance												
4 rockets and lines	≥45	≥45										
On-board Communications and Alarm Systems												
General emergency alarm system	≥25	≥25	≥25	≥25	≥25	≥25	≥25	≥25	≥25	≥25		
Public address system[C1]	Yes	Yes	Yes	Yes								

KEY
(C1) – A public address system is required where the vessel has no other demonstrated effective means to address passengers in time of emergency.

Emergency lighting (hand-held)												
Battery operated torches	2				2				2			
Battery-operated torch for each crew member		Yes	Yes	Yes		Yes	Yes	Yes		Yes	Yes	Yes
Medicines and Medical Stores												
Medicines and medical stores	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Anti-exposure suits

Part C Subsection 7A Edition 3 requires vessels of 25m or more in length continuously engaged on voyages in Class B and C waters with a monthly mean temperature of 15ºC or less to carry an anti-exposure suit of an appropriate size for each person assigned to crew the rescue boat. The proposed transition period is two years from application of the policy or one year from the next annual survey/registration (up to two years).

Based on information supplied by marine authorities, 46 vessels operate in waters with a monthly mean temperature of 15ºC or less. The cost of an anti-exposure suit is $547. The estimated equivalent annual cost for all affected vessels on the basis of 2 crew per rescue boat is $11,401, assuming an asset life of five years.

The benefit of the proposal is that the crew of rescue boats on the affected vessels will also be able to carry out necessary tasks without being unduly affected by hypothermia in low temperature waters as do those on newer vessels already subject to the standard.

The 2003 RIS reported that public comment and the Public Comment Review (PCR) Group supported the use of anti-exposure suits by the crew of rescue boats, as they enable them to carry out the necessary tasks without being unduly affected by hypothermia in low temperature waters.

Inflatable coastal liferafts on Class 3C Vessels

Part C Subsection 7A Edition 3 no longer permits dinghies as an alternative to inflatable coastal liferafts on Class 3C (fishing) vessels less than 25m in length. The proposed transition period is two years from application of the policy or one year from the next annual survey/registration (up to two years).

Advice from four marine authorities suggests that about 50% of Class 3C vessels (1,064) currently do not carry liferafts. The estimated annual increase in costs for vessels currently registered or in survey in the commercial fleet is $523,407 if 50% of Class 3C vessels currently have dinghies but are required to purchase a four-person liferaft, assuming an asset life of seven years. The cost includes an annual servicing fee of $296. When the additional estimated 1,541 currently unregistered Class 3C Queensland vessels are added to the fleet, the cost increases to $1,281,462.

There is improved safety with inflatable coastal liferafts compared with dinghies in the event of an overboard accident or vessel evacuation. Unlike the standard for liferafts, the standard for dinghies provides no protection for occupants, no provision for righting if overturned or for boarding from the sea, has less equipment and no rations, and almost certainly cannot be deployed by a single person.

The benefit of the proposal is that the crew of Class 3C vessels will now work with the same standard of safety equipment as crew on other classes of vessels, which is consistent with the aim of reducing the social cost of marine incidents involving commercial vessels and continuing improvements to occupational and personal safety.

Buoyant appliances

Equipment for Class D Vessels

Part C Subsection 7A Edition 3 requires all vessels 25m or more in length operating in Class D waters to have the same requirements for buoyant equipment. Subsection 7A is the same as the USL Code for Class 1D vessels but more stringent for Class 2D and 3D vessels. Currently, 2D and 3D vessels can include a dinghy in the 100% buoyant capacity while Subsection 7A requires a dinghy in addition to the 100% buoyant capacity. The proposed transition period is two years from application of the policy or one year from the next annual survey/registration (up to two years).

The costs of the proposal are shown for two cases with respect to Class 2D and 3D vessels in the table below: dinghies are either not currently used as part of the buoyant capacity or are currently used as part of the buoyant capacity. In the former case, the yearly cost is higher ($9,581), as a dinghy has to be purchased. In this assessment, it is assumed dinghies have to be purchased. If a dinghy is already used, only buoyant appliances for 100% complement have to be purchased ($1,705 per annum).

Table 7 — Buoyant Equipment for Class D Vessels, Annualised Costs ($'000)

Option	Class 1D ≥25m	Class 2D & 3D ≥25m
Dinghies not currently included in 100% buoyant capacity on Class 2D & 3D		
Proposal (dinghy + 100% buoyant capacity)	0	2
Dinghies currently included in 100% buoyant capacity on Class 2D & 3D		
Proposal (dinghy + 100% buoyant capacity)	0	10

The assumptions used in estimating the costs for vessels currently registered or in survey in the commercial fleet are:

- 44 affected Class 2D and 3D vessels
- an average of 3 people per Class 2D and 3D vessel, based on minimum crew requirements
- a dinghy costs $1,580
- buoyant appliances consist of a Carley float and a two-person lifebuoy, with an average cost of $57 per person
- asset lives of 5 years for buoyant appliances and lifebuoys, and 12 years for dinghies.

When the additional 210 currently unregistered Class 3D and 3E Queensland vessels are added to the fleet, the cost increases to $55,309.

The benefit of the proposal is that the crew of Class 2C and 2D vessels will now work with the same standard of safety equipment as crew and passengers have on Class 1D vessels. In addition, there is improved safety for occupants in the event of an overboard accident.

The 2003 RIS notes that the dinghy for Class D vessels in the USL Code could be considered to replace a rescue boat, that is, it is intended to be used in person overboard incidents. At the time public comment argued that dinghies are not suitable replacements for rescue boats because they are difficult to launch, provide no protection from the weather, and do not have a specified requirement for a motor of sufficient power to provide mobility and manoeuvrability to enable people to be retrieved from the water. The PCR Group suggested an alternative of requiring rescue boats for Class 1D vessels. However, after assessing the cost, the Group did not consider there was a strong case for preferring rescue boats to the proposed use of dinghies.

Open Reversible Liferafts for Class 1D and 1E vessels

Part C Subsection 7A Edition 3 requires vessels in Class 1D and Class 1E continuously engaged on voyages with a monthly mean temperature of 15ºC or less to carry open reversible liferafts in place of buoyant equipment. The proposed transition period is two years from application of the policy or one year from the next annual survey/registration (up to two years).

Estimated costs for affected Class 1D and Class 1E vessels are set out below:

Class 1D vessels:

Based on advice from marine authorities it is estimated that 59 Class 1D vessels will be affected by the proposal, although advice from the relevant marine agency indicates that only one of these vessels does not already comply. Costs are estimated to increase by $92,418 per annum compared with the USL Code but are only $1,566 compared against actual practice, as marine agencies reported only one non-complying vessel. The assumptions are:

- an average of 50 people carried on each vessel
- one open reversible liferaft of 64-person capacity replaces the 100% buoyant equipment complement at an annual cost of $1,366 per vessel
- liferafts have an asset life of 10 years
- currently, the average cost of buoyant appliances and lifebuoys (to be deducted from the cost of purchasing a liferaft) are $60 per person, or $663 per vessel per year.

The cost increase represents $1,566 per vessel per annum, which includes an annual servicing fee of $825.

Class 1E vessels:

Based on advice from marine authorities it is estimated that 80 Class 1E vessels will be affected by the proposal, although advice from the relevant marine agency indicates that only 9 of these vessels do not already comply. Costs are estimated to increase by $109,177 per annum compared with the USL Code but are only $12,282 compared against actual practice, as marine agencies reported only nine non-complying vessels. The assumptions are:

- an average 70 people carried on each vessel (based on a range of 12 to 410 people)
- the proposal requires 40% buoyant equipment complement or open reversible liferafts for 28 persons
- one open reversible liferaft of 30-person capacity replaces the buoyant equipment at an annual cost of $925 per vessel
- liferafts have an asset life of 10 years
- currently, Carley floats and lifebuoys (without lights) are used in equal shares. The costs per person (to be deducted from the cost of purchasing a liferaft) are $60 per person respectively, or $186 per vessel per year.

The cost increase represents $1,365 per vessel per annum, which includes an annual servicing fee of $592.

The total estimated cost for all affected classes is $201,595.

The provision to have all passengers and crew out of the water reduces risk of death or injury caused by hypothermia in low temperature waters in the event of an overboard accident. While the likelihood of a Class 1E vessel having to disembark passengers in an emergency is low, the consequences are likely to be severe if the passengers are forced to enter the water. These consequences can be avoided if passengers and crew are able to abandon the vessel without entering the water.

The benefit of the proposal is that the crew and passengers of Class 1D and Class 1E vessels will now have access to the same standard of reduced risk in the event of an overboard accident in low temperature waters as crew and passengers on newer vessels.

Equipment for Class 1E vessels

Part C Subsection 7A Edition 3 requires vessels in Class 1E to have 140% buoyant capacity, including 100% coastal lifejackets. The USL Code requires 115% buoyant capacity made up of any combination of buoyant appliances, lifebuoys, coastal lifejackets and dinghies. The proposed transition period is two years from application of the policy or one year from the next annual survey/registration (up to two years).

New South Wales currently requires a minimum of 25% lifejackets in the 115% buoyant capacity.

The cost implications of the proposal depend on how many lifejackets are currently provided as part of the buoyant capacity. The assumptions for estimating the costs are:

- 1,010 Class 1E vessels
- an average of 50 passengers per vessel
- no buoyant appliances are currently lifejackets
- the average cost of lifejackets is $63 and of other buoyant equipment is $60 per person.

There is an estimated increase in costs of $205,935 per annum using this method, or $204 per vessel.

According to the 2003 RIS, there was adverse comment on the proposal from operators of Class 1E vessels, mainly with regard to the 100% lifejacket requirement. It was argued that Class E covers calm, inland waters, most of which are close to shore, there is no evidence that the current requirements are inadequate from a safety perspective, and the cost of lifejackets, storage space and lost revenue would be significant. However, the majority of the PCR Group considered the consequences of an incident would be sufficient to increase risks to an unacceptable level and that passengers expect lifejackets to be available in an emergency, consistent with community expectations.

It is not possible to estimate the cost associated with providing adequate storage space or potential lost revenue due to a lack of information on the affected vessels.

There is improved safety in the event of an overboard accident, as the standard for dinghies has no provision for righting if overturned and Carley floats and lifebuoys require people to hold onto the buoyant appliance and tread water.

The benefit of the proposal is that the crew and passengers of Class 1E vessels will now have access to the same standard of safety equipment in the event of an overboard accident as crew and passengers on newer vessels.

Passenger Limit for Some Class 1E Vessels

Part C Subsection 7A Edition 3 requires vessels in Class 1E carrying up to 36 day passengers which are in Flooding Risk Category II as specified in NSCV Part C Section 6B to have buoyant appliances for 100% complement. The proposal in effect also requires 200% buoyant capacity, including 100% coastal lifejackets. This compares with the 115% buoyant capacity for Class 1E in the USL Code and the proposal for 140% buoyant capacity assessed above. The proposed transition period is two years from application of the policy or one year from the next annual survey/registration (up to two years).

The additional safety equipment in the proposal is aimed at achieving equivalent safety in lieu of subdivision (Risk Category II), which NSCV Part C Section 6B allows for Class 1E vessels with a limit of 36 day passengers. To achieve that, buoyant appliances for 100% complement is required. In the 2003 RIS, based on information supplied by marine authorities, it was assumed 53 vessels would be affected by the Edition 2 proposal, which required a passenger limit of 49. The cost savings associated with not being required to

retrofit a single compartment subdivision were assessed as greater than the cost of purchasing equipment for the additional buoyant capacity. Consistent with the findings of the 2003 RIS, it is expected the proposal will not increase costs.

According to the 2003 RIS, public comment on the proposal expressed concern that it was too prescriptive and pre-empted expert assessment of equivalent safety for individual vessels with respect to the proposed passenger limit and extra safety equipment. The PCR Group recommended the requirements be included in *Part C Subsection 6: Subdivision and Damaged Stability* and be reviewed as part of the development of that subsection. The NMSC did not accept the suggestion because the passenger limit provides a simpler solution that has proved to be adequate. Events have overtaken that decision and the passenger limitation is now specified in *Part C Subsection 6B*, having now been developed and reflected in Edition 3.

Internal Buoyancy

Part C Subsection 7A Edition 3 increases the length breakpoint for Class 3E vessels to use internal buoyancy in place of buoyant capacity from 10m to 15m, bringing Class 3E into line with Class 2E. This is a relaxation of the USL Code and was proposed to simplify requirements. It is given a Benign status, therefore has no financial impact. In any case, it would not be expected to have a financial impact on affected vessels because, being an option in the standard, it is not likely to be undertaken as the cost of retrofitting buoyancy would likely be higher than maintaining the required safety equipment.

Distress Signals

Other Distress Signals

The types of distress signals specified in Part C Subsection 7A are:

- 6 parachute distress rockets are required in Class B waters and 3 in Class C and D waters. None are required in Class E waters
- 4 red hand-held flares are required in Class B waters and 2 in Class C, D and E waters
- 2 hand-held orange smoke signals are required in Class B waters and 1 in Class C, D and E waters.

The proposed transition period is at replacement, therefore may be more than 3 years, which is the minimum period of validity for this equipment.

The proposal tends to reduce the numbers of distress signals required to be carried by larger Class B and C vessels by eliminating length breakpoints currently in the USL Code and to increase them for Class E vessels, due to elimination of marine authority discretion, as set out in the table below.

Table 8 — Distress Signal Requirements for Class B and C Vessels

Vessel Category/Distress Signal	USL Code	Proposal	Change
Class B ≥45m			
Parachute distress rockets	12	6	-6
Red handheld flares	0	4	4
Handheld orange smoke signals	0	2	2
Class B ≥25m			No change
Class B <25m			
Parachute distress rockets	3	6	3
Red handheld flares	2	4	2
Handheld orange smoke signals	1	2	1
Class C ≥25m			

Vessel Category/Distress Signal	USL Code	Proposal	Change
Parachute distress rockets	6	3	-3
Red handheld flares	4	2	-2
Handheld orange smoke signals	2	1	-1
Class C <25m			No change

It is estimated that the costs of distress signals for Class B and C vessels currently registered or in survey in the commercial fleet will increase by $205,081 per annum overall as a result of the proposal, with cost reductions for Class C vessel of 25m or more in length and increases for Class B vessels less than 25m in length, as set out in the table below.

Table 9 — Effect of Proposed Distress Signal Requirements for Class B and C Vessels Relative to the USL Code

Vessel Category	Number of Vessels	Purchase Cost ($'000)	Annual Cost ($'000)
Class B ≥45m	32 (not counted in total)	-7	-3
Class B ≥25m	251	0	0
Class B <25m	2,233	616	221
Class C ≥25m	137	-38	-14
Class C <25m	5,442	0	0
Total	8,063	571	205

When the additional currently unregistered Queensland vessels are added to the fleet, consisting of 2,774 Class 3C and 3D vessels (additional 3 x parachute distress rockets) and 3,664 Class C, D and E vessels (relaxation of 1 x handheld orange smoke signal), the cost reduces from $205,081 to $199,545.

As shown in the table below, marine authorities adopt different practices with respect to the requirements for Class E vessels, although they are close to the proposal of two red flares and one orange smoke signal.

Table 10 — Distress Signal Requirements for Class E Vessels by Jurisdiction

Jurisdiction	Numbers	Factors Considered
NSW	2 red flares, 1 orange smoke in all area, 1 rocket in some areas	Rocket not required where there is a potential fire hazard, eg dams, Murray River
QLD	2 red flares, 2 orange smoke	Specified in regulations
SA	Same as recreational boats: 2 red flares, 2 orange smoke	Degree of isolation
TAS	Reduction generally allowed, ie 1 each rocket, red flare, orange smoke.	Proximity to other vessels, VHF radio assistance, shoreline, visual from shore.
VIC	None required	
WA	Generally 2 red flares, 2 orange smoke	
NT	Varies	Proximity to other vessels, remoteness of area, probability of starting bush fires with rocket

It is not possible to estimate the cost of the proposal for other distress signals for Class E vessels relative to existing requirements because of variation in the application of discretion by marine authorities. However:

- The proposal will be associated with savings overall as there are no parachute rockets in the proposal and they are the most expensive distress signal at $65, and only one orange smoke flare is included at $33
- Savings per vessel will be highest in New South Wales and Tasmania where parachute rockets are sometimes required
- There will also be savings in Queensland, South Australia and Western Australia where two orange smoke signals are required
- Costs will increase in Victoria where no distress signals are currently required.

The main benefit of the proposal is that it will simplify requirements. There are also cost savings for some Class C and Class B vessels, as noted above.

On-board Communications and Alarm Systems

Part C Subsection 7A Edition 3 requires a public address system on Class 1 passenger vessels where there is no other effective means of communication to address passengers in an emergency. It is intended to assist in assembling and guiding passengers in the event of an emergency on larger vessels carrying a substantial number of passengers to ensure their safety. The proposed transition period is two years from application of the policy or one year from the next annual survey/registration (up to two years).

No overall costs are estimated for the proposal as there is no information on the numbers of vessels that have public address systems or other effective means of communication to address passengers in an emergency. However, advice from Western Australia in the 2003 RIS that 80% of its passenger vessels have a public address system indicates the increased costs would be minimal if the benchmark were applied nationally.

Torches

Part C Subsection 7A Edition 3 requires that two battery-operated torches be carried on Class B vessels and one torch for each crew member on Class C, D and E vessels. The proposed transition period is two years from application of the policy or one year from the next annual survey/registration (up to two years).

Torches are intended to provide light for guidance in the event of an emergency. There is a lower torch requirement for vessels operating in Class B waters because emergency lighting is required and that mitigates the need for torches.

Public comment in the 2003 RIS suggested that torches are required even on vessels with emergency lighting because the lighting does not cover all areas and torches are still useful for directing people.

The USL Code gives the responsibility to marine authorities to determine the number of torches that have to be carried. The proposal is similar to existing practice adopted by marine authorities. It is therefore expected to have little effect, as shown in the table below.

Table 11 — Torch Requirements by Jurisdiction

Jurisdiction	Requirement
NSW	One per crew member
QLD	One per crew member
SA	On passenger vessels, one per certified crew member plus one in passenger areas, galley and wheelhouse. None required on fishing vessels
TAS	One per crew member on Class 1C, 2 per vessel for other vessel categories

Jurisdiction	Requirement
VIC	Two per vessel. Note that the largest passenger vessel has 4 crew members
WA	One per crew member on passenger vessels, one per vessel for others
NT	One per crew member

The cost of a torch is $12. Since Class B vessels require two torches, there will be a cost of $24 per vessel. The total cost for Class B vessels is $59,616, with 2,484 vessels affected.

Part C Subsection 7A requires one torch per crew member for vessels in Class C, D and E. Crew numbers are not known for these vessels, so it is assumed there is an average of three crew members per vessel. On this assumption, 3,470 vessels would be affected at a total cost of $80,892 for these classes. The total estimate cost for all affected classes is $140,508.

The benefit of the proposal is that, even on vessels with emergency lighting, torches provide lighting in unlit areas in an emergency and are useful for directing people. As noted above, this benefit was highlighted in public comment on Edition 1 of the standard.

Coastal lifejackets for additional Class 3C, 3D and 3E Queensland vessels

As discussed above, there is now an intention to modify Queensland regulations to require currently unregistered Class 3 vessels in that state to comply with Edition 3 of the NSCV Part C Subsection 7A. Under the proposed regulations an estimated 3,082 Class 3C vessels will be required to carry a coastal lifejacket and light and 210 Class 3D and 3E vessels will be required to carry a coastal lifejacket. The estimated additional cost is $46,986.

Lifebuoys for additional Class 3B, 3C, 3D and 3E Queensland vessels

Under the proposed Queensland regulations discussed above an estimated 3,292 Class 3C, 3D and 3E vessels will be required to carry a lifebuoy with light. The estimated additional cost is $38,782. This cost estimate does not include a discount for vessels less than 10 metres in length that carry one person only or vessels less than 6 metres in length fitted with internal buoyancy in accordance with NSCV Part C Subsection 7A, in which case the proposed regulations would not require carriage of the lifebuoy.

5.2.4 Equipment Standards

Consistent with the performance standards framework of the NSCV, Part C Subsection 7A adopts relevant national or international standards as a deemed-to satisfy solution for open reversible liferafts, coastal lifejackets, distress signals and coastal liferafts. Generally, compliance with the referenced standards is at replacement except for distress signals, which has been classified as benign. Other requirements of Edition 3 that are specified in the Annexes, such as marking and fittings, generally apply the transition period of two years from application of the policy or one year from the next annual survey/registration (up to two years).

The USL Code contains standards for many items of safety equipment that are not consistent with international standards and are sometimes at a lower standard. This has arisen because the Code has been varied on an irregular basis and therefore has not kept up with changes in technology, materials and designs that have been adopted elsewhere.

The main items of safety equipment affected are liferafts, lifejackets and distress signals:

- The standard in the HSC Code is proposed for open reversible liferafts. The USL Code and the HSC Code standards are the same, except that as changes are made to the IMO standard they are not be adopted locally until specifically adopted. The HSC Code

ration pack in place of the coastal pack is also proposed. Open reversibles are only used in areas where there is an increased likelihood of rescue, for example, close to shore

- The choice of standards AS 4758.1–Personal flotation devices–Part 1: General requirements, ISO 12402-3–Personal flotation devices—Part 3: Lifejackets, performance level 150 —Safety requirements or British Standard BS EN396–Lifejackets and Personal Buoyancy Aids Lifejacket 150 is proposed for coastal lifejackets. These standards cover both inherently buoyant and inflatable lifejackets
- The Australian Standard AS2092–Pyrotechnic, Marine Distress Flares and Signals for Pleasure Craft is proposed for distress signals. This standard covers parachute distress rockets, red hand-held flares and hand-held orange smoke signals.

It is not expected the proposals on equipment standards for open reversible liferafts, coastal lifejackets and distress signals will incur additional costs.

Inflatable Coastal Liferafts

Part C Subsection 7A Edition 3 requires inflatable coastal liferafts to comply with ISO 9650-1, effectively the same requirement as the ISAF standard in Edition 2 except for the ration pack. The main differences compared to the existing coastal liferaft standard in the USL Code are as follows:

- construction performance tests
- entrance details and unsymmetrical loading
- boarding ramps
- performance standards for the painter line
- water pockets and performance standards for their operation
- container markings
- liferaft markings and instructions
- the changes to the ration pack
- a maximum of 12 persons capacity.

The implication of the person capacity restriction is that two or more coastal liferafts or >12 persons capacity SOLAS liferafts will be required on vessels carrying more than 12 persons. It is expected that a coastal ration pack will be required, whether the liferaft is a coastal or a SOLAS.

Assumptions underlying cost estimates regarding inflatable liferafts include:

- Liferafts have an average life of 10 years
- 50% of vessels in Queensland and the Northern Territory are not affected as they carry open reversible liferafts
- All other vessels in other jurisdictions all carry coastal liferafts (that is, no SOLAS liferafts are carried by domestic vessels)
- 50% of Class 2C and 3C vessels are 15m or more in length and carry up to four people on board
- Classes 1B and 1C vessels carry up to 50 people on board
- Classes 2B and 3B vessels carry up to four people on board

- The cost of existing coastal liferafts is $3,816 and $9,200 for four and 25-person liferafts respectively. The cost of the proposed four-person coastal liferaft (ISO 9560-1) is also $3,816 and the cost of the proposed 25-person SOLAS liferaft is $10,500
- Annual service costs are $1,100 for a 25-person SOLAS liferaft and $592 for a 25-person coastal liferaft. These costs exclude the additional variable cost of re-stocking safety kits.

The liferaft sizes were selected as the least-cost option for the assumed number of occupants. This could vary if crew numbers are greater or smaller than the minimum, or if smaller liferafts are used for passenger vessels, which would make the costs higher. All costs are exclusive of GST and inclusive of costs for testing and accreditation of safety equipment.

It is estimated the proposal will increase costs over the existing situation by $1.807 million pa. There will be no additional cost for most vessels as the cost of the existing and proposed four-person coastal liferaft are the same at $3,816.

The reason why costs increase is the 12 persons capacity limit on coastal liferafts, implying that more SOLAS liferafts are required for vessel complements. For a 25-person liferaft, a SOLAS will cost $1,300 more than an existing coastal, which represents $672per annum over the 10-year life of a liferaft, including the difference in the service fee for the SOLAS liferaft and the coastal liferaft.

The increased standard of liferafts could be expected to increase the chance of survival for larger groups of people in the event of an overboard emergency. The number of emergencies and the reduction in risk cannot be estimated.

The benefit of the proposal is that the crew and passengers of the affected vessels will now have access to the same standard of safety equipment in the event of an overboard accident as crew and passengers on newer vessels.

5.2.5 Servicing

Part C Subsection 7A Edition 3 requires various service intervals for safety equipment, depending on the type of equipment, as the deemed-to-satisfy solution under the performance standards framework of the NSCV. The proposed transition period is at the next service. The table below shows service intervals and requirements for safety equipment.

Table 12 — Proposed Servicing Requirements

Safety Equipment	Service Interval	Servicing Requirements
Inflatable liferafts	12 or longer if manufacturer specifies	Accredited by manufacturer, current service manuals, access to genuine spare parts, training, quality management system
Marine evacuation systems	12 or longer if manufacturer specifies	Accredited by manufacturer
Inflatable lifejackets	12 or longer if manufacturer specifies	Accredited by manufacturer
Inflatable non-SOLAS rescue boats	Not specified	In accordance with manufacturers‘ instructions, accredited by manufacturer. Note emergency repairs may be carried out on board
Hydrostatic release units	12 or longer if manufacturer specifies	Competent person, proper facilities, trained personnel. Throw-away replaced in accordance with manufactures‘ instructions

Safety Equipment	Service Interval	Servicing Requirements
EPIRBs in Coastal Liferafts	12 or longer if manufacturer specifies	Replace source of energy if necessary. 406MHz 12 months unless in inflatable liferaft then when the liferaft serviced
Distress signals	Not applicable	Period of validity not less than 3 years

Compared with Part C Subsection 7A, the USL Code has more limited requirements for servicing of safety equipment, and marine authorities do not apply them uniformly. For example, the USL Code specifies service intervals for inflatable liferafts and lifejackets, but does not specify service intervals for non-SOLAS rescue boats, while service intervals for other types of equipment are in accordance with manufacturers' instructions. In the case of distress signals, the three-year period of validity is to ensure they are manufactured to the required standard. It is the same standard as for the USL Code, so is not discussed further.

In the proposal, inflatable liferafts are subject to the most stringent requirements, which implies that manufacturers of the more important items of safety equipment have significant control over the servicing process because they are required to accredit service stations for the equipment they manufacture.

Liferafts

It is estimated the proposal will increase service costs over the existing situation by $1.334 million pa, which has already been included in the costs reported in Section 5.2.4 above. There will be no additional cost for most vessels as the cost of the existing and proposed four-person coastal liferaft are the same.

As discussed in Section 5.2.4, assumptions underlying cost estimates regarding inflatable liferafts include:

- 50% of vessels in Queensland and the Northern Territory are not affected as they carry open reversible liferafts
- All other vessels in other jurisdictions all carry coastal liferafts (that is, no SOLAS liferafts are carried by domestic vessels)
- 50% of Class 2C and 3C vessels are 15m or more in length and carry up to four people on board
- Classes 1B and 1C vessels carry up to 50 people on board
- Classes 2B and 3B vessels carry up to four people on board
- Annual service costs are $1,100 and $610 for a 25-person and six-person SOLAS liferaft respectively. Annual service costs are $592 and $327 for a 25-person and six-person coastal liferaft respectively. These costs exclude the additional variable cost of re-stocking safety kits.

The liferaft sizes were selected as the least-cost option for the assumed number of occupants. This could vary if crew numbers are greater or smaller than the minimum, or if smaller liferafts are used for passenger vessels, which would make the costs higher. All costs are exclusive of GST and inclusive of costs for testing and accreditation of safety equipment.

The reason why costs increase is the 12 persons capacity limit on coastal liferafts, implying that more SOLAS liferafts are required for vessel complements. For a 25-person liferaft, the service of a SOLAS will cost $508per annum more than for an existing coastal liferaft.

The main benefit of the proposal is improved functionality and reliability of safety equipment so that it performs as intended when needed in an emergency.

Other Items of Equipment

The total cost of servicing other items of safety equipment cannot be estimated as there is insufficient information on the number of items. It is possible to determine the cost of each service and how this differs from existing practice, as shown in the table below.

Table 13 — Servicing Costs and Practices for Other Items of Equipment

Item	Cost ($/service)	Current Situation
Marine evacuation systems	Not identified	NSW, VIC, WA, SA, NT: none
		QLD: Subsection 7A
Inflatable lifejackets	35	TAS: manufacturer's requirements
		Note inflatable lifejackets are not currently specified in the USL Code
Inflatable non-SOLAS rescue boats	800	NSW, VIC, NT: none
		QLD: Subsection 7A
		WA, SA: survey, ie annual
Hydrostatic release units	110	WA, NT: manufacturers‘ requirements
		QLD: Subsection 7A
		SA: 6 months
		VIC: annual
406MHz EPIRB	349	NSW, SA, TAS: at battery replacement
		VIC, NT: manufacturers‘ requirements
		QLD: Subsection 7A
		WA: Subsection 7A

It appears there are no marine evacuation systems on domestic vessels, which may be one reason why no service station was able to provide a cost for servicing.

Tasmania has servicing requirements for lifejackets in accordance with the manufacturer’s instructions, which is consistent with the requirements of the proposal.

In Western Australia and South Australia, where non-SOLAS inflatable rescue boats are checked at survey, there may be an increase in servicing costs, depending on the cost of survey compared to the cost of servicing.

With respect to hydrostatic release units, costs should decrease in South Australia, remain the same in Victoria, Western Australia and the Northern Territory, and increase in Queensland.

Servicing costs for EPIRBs are not expected to increase. The 406MHz units have a self-test battery and a five-year service interval.

5.2.6 Medical Scales

Part C Subsection 7A Edition 3 requires medical supplies necessary to treat minor medical conditions or injuries, or to temporarily stabilise a patient until transfer to medical assistance. It is the deemed-to-satisfy solution under the performance standards framework of the NSCV. The proposed transition period is at the first re-stock of medical supplies. Although industry representatives advised there are different re-stock periods depending on the type of vessel, for the purposes of this proposal re-stocks are assumed to take place every 12 months.

Before the adoption of Subsection 7A Edition 2, scales of medical supplies had not been comprehensively reviewed and updated since the USL Code was first introduced in the late

1970s. Since then there have been significant changes in the types of medicines and medical equipment available. It is likely that the medical supplies on board would be less than adequate in an emergency, or would not be known to medical staff providing advice (by radio).

Subsection 7A continues the requirement of the USL Code that a copy of the Ship Captain's Medical Guide, which gives guidance on diagnosis and medical procedures, be carried on Class 1B berthed or unberthed vessels. This document has been updated several times since the USL Code was introduced and refers to medicines and medical supplies which are not included in the USL Code medical scales.

There is little evidence on the number and severity of medical incidents but the community appears to have become more risk averse, with an expectation of more and better medical supplies in the event of an incident, particularly in the case of passengers on board vessels. The main deficiency of the medical scales in USL Code is the type of supplies required and their availability.

Variations from the scales of medical supplies in the USL Code occur for the following reasons:

- to ensure consistency with the Ship Captain's Medical Guide, which contains diagnosis and procedure information and is required to be carried on vessels; and
- to keep up to date with commonly used and available medications and medical procedures.

As a result, when faced with a medical emergency on a vessel it is more likely the correct treatment will be provided, whether by a person on the vessel or in radio contact with a doctor.

The items in each scale were included on the basis of risk, in particular:

- the number of persons on board a ship at any particular time and whether the ship is berthed as a proxy for length of voyage or distance from medical facilities
- the type of ship and the particular health hazards of the cargoes being carried or the type of operations being carried out
- the area of operation (Class A to E) as a proxy for the length of voyage or distance from medical facilities
- the distance the ship will be from medical facilities on shore and the capacity for evacuation of sick or injured persons in an emergency
- the level of first aid training of the crew.

The medical scales were recommended by a registered pharmacist and reviewed by practitioners engaged in supplying medicines to coastal vessels. They are minimum amounts designed for use in single incidents involving one or two persons, and specific time periods to medical assistance. Optional items are included where vessel operators assess risks to be higher, for example, where there are larger numbers of passengers, or where dangerous goods are being carried.

The table below shows the existing and proposed scales by vessel category for vessels currently registered or in survey in the commercial fleet. Scale G is a basic first aid kit. Vessels to which scales D and E apply must also carry the Scale G kit.

Vessels with berthed passengers involving operations further from the coast require a higher scale than vessels without berthed passengers in the same class. This is consistent with the risk-based approach of Part C Subsection 7A.

The only scale change in Subsection 7A is for Class 3C vessels to move from Scale G to Scale F, making them consistent with Class 2C vessels, which are required to carry Scale F. The reason for this change is that there is no difference in the risk associated with fishing vessels operating in Class C waters relative to non-passenger vessels.

The total cost of the pre-Subsection 7A scales for vessels currently registered or in survey in the commercial fleet is estimated to be $7.148 million at current values compared with $7.550 million for the proposed Subsection 7A scales, representing an increase in costs for the fleet of $401,841 for vessels currently registered or in survey vessels in the commercial fleet. The unit costs of the old and new medical scales are shown in columns 3 and 6 of the table below. The unit costs were multiplied by the number of vessels affected (column 1) to obtain the fleet costs.

Table 14 – Cost of USL Code and Proposed NSCV Medical Scales by Vessel Category

Vessel Category	Vessels	USL Scale	USL Unit Cost ($)	USL Total Cost ($'000)	NSCV Scale	NSCV Unit Cost ($)	NSCV Total Cost ($'000)	Extra Cost ($'000)
Column	1	2	3	4	5	6	7	8
1B	141	D	2,018	285	D	8,095	1,141	857
1C	489	F	382	187	F	446	218	31
1C Berthed Pax	26	E	1,411	36	E	675	17	-19
1D	417	G	215	90	G	287	120	30
1D Berthed Pax	22	F	382	8	F	446	10	1
1E	960	G	215	207	G	287	275	69
1E Berthed Pax	51	F	382	19	F	446	23	3
2B	422	E	1,411	596	E	675	285	-311
2C	2,933	F	382	1,121	F	446	1,307	186
2D	1,612	G	215	347	G	287	463	116
2E	3,474	G	215	748	G	287	997	249
3B	1,921	E	1,411	2,711	E	675	1,297	-1,414
3C	2,133	G	215	459	F	446	951	491
3D	469	G	215	101	G	287	135	34
3E	1,085	G	215	234	G	287	311	78
Total	16,154			7,148			7,550	402
NB: the cost for scales D and E vessels includes a scale G first aid kit, valued at $287. Estimates assume that 5% of vessels from Classes 1C, 1D and 1E are berthed.								

Overall, the cost of the proposal is estimated to be 5.6% greater than the cost of the USL Code's medical scales at current values for vessels currently registered or in survey in the commercial fleet. The most significant increase is for Class 1B vessels (over 300% or $6,077 per vessel) due to the inclusion of capital items, including an SAE Defibrillator, an emergency stretcher and a first aid oxygen unit; which is considered to be a community standard for vessels carrying passengers that may be up to 12 hours from medical assistance. However, in subsequent years' expenditure, costs are estimated to be less than the cost of the USL Code's medical scales in today's values, as capital equipment items in scale D, which have a life of several years, would not be included. For example, if the total cost of $994,995 for the capital equipment for 1B vessels were to be excluded from the analysis, in today's values there would be a reduction of $593,154 across the fleet, rather than an increase of $401,841, as noted above. This can be partly explained by lower manufacturing costs for some items and fluctuating exchange rates.

There is an increase in cost for Class 3C (107% or $231 per vessel) vessels because there is a higher medical scale proposed (F rather than G). There is a decrease in cost for vessels requiring scale E (Class 1C with berthed passengers, 2B and 3B). Compared with the USL Code, costs for these vessels will decrease by 52% or $736 per vessel, representing a reduction of $1.535 million from the overall cost (2,086 vessels requiring scale E x $736).

All other vessels will experience cost increases of either 33% ($72) per vessel (scale G) or 17% ($64) per vessel (scale F).

When the additional currently unregistered Queensland vessels are added to the fleet, consisting of 3,623 Class 3B and 3C vessels (Scale F) and 210 Class 3D and 3E vessels (Scale G), the cost rises to $1,251,531.

The benefit of the proposal is that the crew and passengers of the affected vessels will now have access to the same standard of medical equipment and supplies in the event of an accident or illness as crew and passengers on newer vessels. In addition, there is more appropriate medical assistance in the event of an emergency, taking into account vessel types and areas of operation, especially considering the sustained high level of fatalities and serious injuries on commercial vessels reported above and the fact that there has been no review of the medical scales for older vessels in the fleet since the USL Code was introduced some 30 years ago.

5.2.7 Annex B – Requirements for Non-SOLAS Rescue Boats

Annex B2.1 of Part C Subsection 7A Edition 2 requires non-SOLAS rescue boats to be a minimum length of 3.8 m, compared with the 3.25 m specified in the USL Code. The proposed transition period is at replacement of the equipment. Excluding Queensland, which exempts non-SOLAS rescue boats between 3.2 m and 3.8 m as an equivalent solution, 272 vessels are potentially affected.

The proposal may involve alteration to the vessel to house the non-SOLAS rescue boat at the required minimum length. However, as this information is not known, it is not possible to estimate costs associated with the proposal.

The benefit of the proposal is improved safety and clarification of requirements.

5.2.8 Annex C – Requirements for Dinghies

Annex C2.1 of Part C Subsection 7A Edition 2 requires dinghies to be a minimum length of 2.4 m and to have reserve buoyancy that is consistent with the requirements of Part C Section 6B of the NSCV. The proposed transition period is at replacement of the equipment.

Excluding New South Wales, which has already adopted the requirement for Class 3C vessels, up to 4,027 vessels are potentially affected.

The proposal may involve alteration to the vessel to house the dinghy at the required minimum length. However, as this information is not known, it is not possible to estimate costs associated with the proposal.

The benefit of the proposal is improved safety and clarification of requirements.

5.2.9 Conclusion

It is estimated the annual net cost of transitioning Part C Subsection 7A of the NSCV for vessels currently registered or in survey in the commercial fleet is $3.507 million at present values, excluding qualitative benefits and costs. This figure consists entirely of annual costs. When the additional 3,833 currently unregistered Class 3B, 3C, 3D and 3E Queensland vessels are added to the fleet, the cost rises to $5.240 million.

All safety benefits of the individual changes are qualitative. The provision of anti-exposure suits minimises the risk of hypothermia for the crew of rescue boats in low-temperature waters, while the provision of liferafts on Class 3C vessels, open reversible liferafts of Class 1D and 1E vessels and buoyant appliances on Class D and Class 1E vessels improves the likelihood of survival for occupants involved in an overboard accident. For example, from 2005 to 2009 there were 121 marine incidents involving a person overboard.

The provision of torches, upgrading of distress signals for some vessels and improved standard for internal communication equipment improves the likelihood of survival for occupants while on board a damaged vessel, while an evacuation is under way or in the case of an onboard emergency. For example, from 2005 to 2009 there were 683 incidents involving a collision of vessels and 101 incidents involving a sinking. The provision of upgraded medical kits enables more appropriate medical assistance for injured occupants. For example, from 2005 to 2009 there were 164 incidents involving a fall within a vessel and 107 incidents involving a fire.

The costs and benefits of the Proposal are set out in the table below.

Table 15 — Costs and Benefits of Proposed Scales of Equipment ($'000 pa)

Proposal	Vessels Affected	Costs ($'000 pa)	Benefits
Scales of Equipment			
Anti-exposure suits	17	11	Minimises risk of hypothermia in low temperature waters for crew of rescue boats
Liferafts on Class 3C vessels (registered or surveyed vessels only)	1,064	523	Improved safety for occupants in the event of an overboard accident
Liferafts on Class 3C vessels (registered or surveyed vessels plus additional QLD vessels)	2,605	1,281	
Buoyant appliances (Equipment for Class D vessels) (registered or surveyed vessels only)	44	10	Improved safety for occupants in the event of an overboard accident
Buoyant appliances (Equipment for Class D vessels) (registered or surveyed vessels plus additional Class 3D and 3E QLD vessels)	254	55	
Buoyant appliances (Open Reversible Liferafts for Class 1D and 1E vessels)	46	202	Improved safety compared with dinghies in the event of an accident

Proposal	Vessels Affected	Costs ($'000 pa)	Benefits
Buoyant appliances (Equipment for Class 1E vessels)	1,010	206	Improved safety for occupants in the event of an overboard accident
Other distress signals (Class B and C) (registered or surveyed vessels only)	2,402	205	Simplified requirements
Other distress signals (Class B and C) (registered or surveyed vessels plus additional Class 3C, 3D and 3E QLD vessels)	6,066	200	
Torches	5,872	141	Provides lighting in unlit areas in an emergency, useful for directing people
Coastal lifejackets (plus additional Class 3C, 3D and 3E QLD vessels)	3,292	47	
Lifebuoys (plus additional Class 3C, 3D and 3E QLD vessels)	3,292	39	
Equipment Standards			
Liferafts	2,626	1,807	Increased standard of liferaft increases chance of survival in the event of an emergency
Medical Scales			
Registered or surveyed vessels only	16,154	402	More appropriate medical assistance in the event of an emergency
Registered or surveyed vessels (plus additional Class 3B, 3C, 3D and 3E QLD vessels)	19,987	1,252	
Total (registered or surveyed vessels only)	16,154	3,502	
Total (registered or surveyed vessels plus additional Class 3B, 3C, 3D and 3E QLD vessels)	19,987	5,240	

The majority of the total annual cost is attributable to the requirement for a maximum of 12 persons on inflatable coastal liferafts, making it necessary for some vessel operators to replace their coastal liferafts with SOLAS liferafts or purchase additional coastal liferafts. This is expected to affect 2,626 vessels at a cost of $1.807 million. The benefit of the proposal is an increased chance of survival for larger groups of people in the event of an emergency.

There is an estimated cost of $523,407 for the operators of an estimated 1,064 Class C vessels less than 25m in length currently registered or in survey that are no longer permitted to carry dinghies as an alternative to inflatable coastal liferafts. The benefit of the proposal is

the improved safety of inflatable coastal liferafts compared with dinghies in the event of an overboard accident.

The estimated cost of transitioning revised medical scales for vessels currently registered or in survey in the commercial fleet is $401,841, which will impact on the entire fleet of 16,154 vessels in varying degrees. The most significant increase is for Class 1B vessels (over 300% or $6,077 per vessel) due to the inclusion of capital items, including an SAE Defibrillator, an emergency stretcher and a first aid oxygen unit; which is considered to be a community standard for vessels carrying passengers that may be up to 12 hours from medical assistance. There is also an increase in cost for Class 3C vessels (107% or $231 per vessel) because there is a higher medical scale proposed (F rather than G). The benefit of the proposal is more appropriate medical assistance in the event of an emergency, taking into account vessel types and areas of operation, especially considering there has been no review of the medical scales since the USL Code was introduced some 30 years ago.

As noted above in Section 4.2, if Amendment 1 contributes to a reduction of one fatality each year, there would be a reduction in the social cost of fatalities and serious injuries of $3.5 million. This represents an annual benefit of $3.5 million plus the unquantified benefits of a potential reduction in the social cost of less serious injuries associated with marine incidents in commercial vessels. At a minimum, these benefits would be equal to the annual cost of the proposed transition for vessels currently registered or in survey in the commercial fleet.

The transitioning of Part C Subsection 7A of the NSCV would remove the highly variable level of life-saving equipment and medical supplies in the ageing commercial vessel fleet and increase consistency of standards for safety equipment among the jurisdictions, reducing uncertainty and barriers to mutual recognition.

The impact of Option 2 as set out above assumes that state and territory jurisdictions adopt Option 2.

The estimated annual net benefit excludes the following, because of a lack of data:

- Other distress signals for Class E vessels
- On-board communications and alarm systems for Class 1 passenger vessels
- Servicing other items of safety equipment
- Requirement for non-SOLAS rescue boats to be a minimum length of 3.8 m
- Requirement for dinghies to be a minimum length of 2.4 m

6 CONSULTATION

6.1 Reference Group

A Reference Group was formed to conduct a transition review and recommend an implementation plan for Amendment 1.

The Reference Group held its first transition meeting on 28 January 2010 by teleconference to conduct an initial scoping of the transitional activities. This included individual reviews of the provisions of Part C Subsection 7A of the NSCV to identify appropriate transitional periods, followed by a group discussion on the areas of consensus, opposing views and finally resolution of opposing views.

The Reference Group met again on 28 April 2010 and agreed on the transition requirements for public comment. During the meeting the Chairman invited discussion about each of the clauses that represent changes from either the USL Code or Editions 1 and 2 of NSCV Part C Subsection 7A. There was discussion about the likely timeframe for application of the recommendations with respect to the single national jurisdiction and current survey/registration procedures in each marine safety agency.

The Reference Group recognised that in current practice, time to the next vessel inspection and subsequent compliance period must be taken into account. It was agreed the description of the timeframe for change should be expressed in terms of current practice and an absolute timeframe for compliance, for example, two years from application of the policy or one year from the next annual survey /registration.

It was agreed that equipment carriage changes would be assigned the status ‘Urgent’ and the remainder be assigned the status ‘Progressive’. The Reference Group agreed to the specific recommendations set out in *Attachment 1 — NSCV C7A Safety Equipment Transition Assessment* (see Appendix A).

Reference Group members include:

- Australian Maritime Safety Authority (AMSA)
- Australian Yachting Federation
- Commercial Vessel Association of NSW
- Department of Transport, Western Australia
- Marine and Safety Tasmania
- Marine Safety Victoria
- Maritime Safety Queensland
- MG Kailis
- PFD Australia Pty Ltd
- RFD Australia
- Svitzer Australia
- Wiltrading

Further consultation will take place when the draft Amendment 1 and RIS are issued for public consultation.

Comment is requested on the effectiveness of the revised safety equipment requirements as proposed in this draft RIS to reduce the consequences of marine incidents and improve the likelihood of survival.

7 DRAFT CONCLUSIONS

Option 2 provides all users of domestic commercial vessels with the same level of safety equipment that has the potential to mitigate the consequences of marine incidents by introducing safety upgrades over time that are warranted by the risk. These incidents include collision of vessels, unintentional grounding, collision with a fixed object, falls within a vessel, person overboard, fire, collision with a submerged object, sinking, swamping and capsizing. The eventual outcome for vessels that entered the fleet before 7 November 2008 would be a standard that is consistent with both the NSCV and vessels that entered the fleet after 7 November 2008. Amendment 1, which is the basis of Option 2, addresses the high level of variation in safety equipment in the ageing commercial vessel fleet and the variation in new standards that are being applied to the existing fleet among the jurisdictions, which leads to uncertainty and barriers to mutual recognition.

Option 1 does not provide the same level of safety equipment in the fleet with the potential to mitigate the consequences of marine incidents for all users of domestic commercial vessels and it perpetuates the variation in new standards that are being applied to the existing fleet among the jurisdictions.

It is therefore recommended that Option 2 be adopted as the most effective option that will over time will bring about a common performance-based safety standard in the domestic commercial vessel fleet, and may improve safety outcomes

8 IMPLEMENTATION AND REVIEW

8.1 Implementation

Although the requirements of Part C Subsection 7A of the NSCV encompasses all Class 1, Class 2 and Class 3 domestic commercial vessels in the fleet, as noted above, the economic impact of Amendment 1 is restricted to vessels that entered the fleet before 7 November 2008.

It is proposed that the requirements of Part C Subsection 7A of the NSCV would be phased in according to the outcomes of public comment and its subsequent review by the Reference Group, followed by endorsement by the NMSC and the Australian Transport Council. For example, provisions classified as Urgent would be implemented within two years of the application of the policy or one year from the next annual survey or registration; provisions classified as Progressive would be implemented when the equipment is due to be replaced; and no implementation of provisions classified as Benign is required as they have not been recognised as having a significant impact on the levels of safety previously in place in the USL Code.

Jurisdictions now reference the NSCV, including Subsection 7A, in place of Sections 10 and 13 of the USL Code. Some jurisdictions are represented on the Reference Group that developed this proposal, and all jurisdictions sign off each stage of the development of this proposal. Jurisdictions that do not adopt Option 2, the preferred option, could represent a risk to the implementation process. However, the jurisdictions have agreed that if Amendment 1 is endorsed, the standard will be amended, so the Transition Assessment would be embedded into the standard and would take effect when Amendment 1 is published.

8.2 Proposed Future Reform

The Council of Australian Governments (COAG) is considering a proposal for a single national system for all commercial vessels under Commonwealth legislation. Currently, the Commonwealth only controls commercial vessels on interstate and international voyages. If approved by COAG, it is proposed this reform would begin to take effect in 2013 with a transition phase until it is fully implemented in 2016. The reform would involve the national application of the NSCV through a revised Commonwealth Navigation Act, in place of current State legislation. It would cover the design, construction and operation of commercial vessels.

The general intent of the reform is to introduce a nationally uniform approach for regulating domestic commercial vessels in Australian waters. The exact scope of how the reform will be implemented is yet to be finalised and is currently being considered by a working party.

8.3 Review

NMSC reviews all its national standards at five-yearly intervals from their publication date to assess their effectiveness in delivering their stated objectives. This may result in a revision of the standard if it requires change. The NMSC can also institute an amendment or revision of the standard ahead of its scheduled review to address an urgent issue.

The review of national standards takes into account feedback from the public, as well as data from the national incident database maintained by NMSC. The expected outcome from jurisdictions implementing Amendment 1 would be consistent safety equipment across the commercial fleet. A failure to achieve this outcome would indicate Amendment 1 had not met its objectives, which would be expected to trigger a more thorough analysis of the underlying reasons.

Under the National System for Commercial Vessel Safety proposal being considered by COAG, the Australian Maritime Safety Authority (AMSA) would assume responsibility for the ongoing maintenance and review of the NSCV. The processes to be used by AMSA are yet to be identified.

APPENDIX A – MINOR CHANGES

Subsection 7A Edition #3	Clause	Requirement	Effect of Requirement
Chapter 4: Installation of Safety Equipment			
3	4.4.1	Lifeboats to be marked in accordance with MO Part 25	Effectively little change as coastal lifeboats not currently available
3	4.4.1, 4.5.1, 4.6.1, 4.7.1, 4.8.1	Size of parent vessel marking specified on life-saving equipment	Consistency
3	4.3.1.2	Safety equipment not to be stowed above machinery or high-risk space	Prevention of loss of life-saving equipment in the event of fire. Effectively little change as probably done that way now
3	4.3.1.3	Stowage locations for life-saving equipment to be marked	Potentially easier to find for servicing and in the event of an emergency
3	4.4.2	Non-SOLAS rescue boats to be ready for immediate deployment. Inflatables to be kept inflated at all times	International requirement. Effectively little change as probably done that way now. Inflation required for immediate deployment
3	4.5.2	Liferafts to be stowed with painter attached	International requirement. Effectively little change as probably done that way now
3	4.5.2	Liferafts to be stowed so they float free if vessel capsizes or sinks	International requirement. Ensures liferafts are not trapped in capsize or sinking. Effectively little change as probably done that way now
3	4.5.2	Throw-overboard liferafts to be stowed to permit launching on either side of a vessel	International requirement. Ensures liferafts are not trapped in capsize or sinking. Effectively little change as probably done that way now
3	4.5.2	Cargo tanks and slop tanks on tankers added	Clarification
3	4.5.2	Liferaft stowage requirements on vessels with reduced freeboard and/or deck space	Clarification of requirements based on international standard
3	4.5.4	Liferaft operating instructions to be posted and visible in emergency lighting conditions	Clarification of requirements based on international standard
3	4.6.3	Performance basis added for launching a dinghy	Amplification of existing requirement to clarify situation
3	4.10.1	Requirements for stowing pyrotechnic and smoke signals added	Clarification. International standard
3	4.3.2.2	Handholds to be provided where ladders are fitted	Improved safety

Subsection 7A Edition #3	Clause	Requirement	Effect of Requirement
Chapter 5: Type and Quantity of Safety Equipment			
3	5.3	Advice that Part E may apply and require demonstration through emergency preparedness or ship safety management, that safety equipment is adequate	Advice only
3	5.5.1	Type 2 or Level 50 PFDs to be worn by the operator and each of the other persons on board for Class 2C, 2D and 2E Personal Water craft, replacing the carrying of lifejackets	Minimal impact as only two vessels in Victoria potentially affected
Annex B: Requirements for Non-SOLAS Rescue Boats			
3	B2.2	Must be highly visible colour	In the event of an emergency, boat will be easier to locate leading to greater probability of rescue
3	B4	Power of motor specified	Clarification
3	B5.1	Standard of marking tape specified	Clarification of requirements
Annex C: Requirements for Dinghies			
3	C2.2	Must be highly visible colour	In the event of an emergency, dinghy will be easier to locate leading to greater probability of rescue
3	C5.1	Must be marked; marking specified	Clarification of requirements, including use of MO 25
Annex D: Inflatable Coastal Liferafts			
3	D3	Adopts fittings, equipment and rations for one Equipment Pack 1>24 hrs specified in ISO 9650-1; and one EPIRB, 406MHz	Clarification of requirements
Annex E: Open Reversible Liferafts			
3	E2	Adopts HSC Code requirements. The USL Code and the HSC Code are the same except that in the USL Code changes made to the IMO standard are not adopted locally until specifically adopted by amendment	Clarification of requirements
Annex F: Requirements for Buoyant Appliances			
3	F2.2	Buoyant material to comply with IMO Resolution MSC.81(70)	Clarification of requirements, use of recognised standards
3	F2.6	Fitted with painter to assist deployment, length and strength specified	Improved safety, prevents appliance drifting away during embarkation

APPENDIX B – DATA USED IN ANALYSIS

B.1 Costs of Equipment ($)

Safety Equipment	Low	High	Use this Cost
Anti-exposure suit	497	718	547
Coastal inflatable liferafts			
4 passenger	3,006	4,379	3,816
6 passenger	3,100	4,629	4,220
25 passenger	8,656	9,950	9,200
Dinghy			
3 metres (10 feet)	1,432	1,871	1,580
Carley float ($/person)			67
Lifebuoy (2 person)			104
Open reversible liferafts			
30 passenger			7,355
37 passenger			7,700
64 passenger			10,863
Coastal lifejacket inherently buoyant	45	87	63
Distress signals			
Parachute distress rockets	42	85	65
Red hand-held flares	15	30	24
Orange smoke signals	17	50	33
Battery-operated torch	6	13	12
SOLAS liferafts			
6 passenger			6,000
25 passenger			10,500
PFD Type 2	55	200	139
Non-SOLAS rescue boat			6,000

B.2 Vessels Currently Registered or in Survey in the Commercial Fleet by Category

	Class 1	Class 2	Class 3	Total
Operational Area A	2	12	14	28
Operational Area B	141	422	1,921	2,484
Operational Area C	515	2,933	2,133	5,581
Operational Area D	439	1,612	469	2,520
Operational Area E	1,010	3,474	1,085	5,569
Total	2,107	8,453	5,622	16,182

B.3 Number of Vessels Currently Registered or in Survey in the Commercial Fleet with Coastal Liferafts Having Greater Than 12-Person Capacity

Jurisdiction	Vessel Class				Update
	1B	1C	2C	3C	Number of Vessels
NSW	1	124	241	254	620
QLD	33	104	346	28	510
SA	3	10	73	339	425
TAS	1	20	101	226	348
VIC	4	33	81	63	181
WA	58	103	220	109	490
NT	5	9	29	11	53
Total					2,626

APPENDIX C – MEDICAL SCALES

C.1 Scale G and F First Aid Kit

Scale G and F First Aid Kit Description	Scale G (No.)	Scale F (No.)	Unit price ($)	Scale G ($)	Scale F ($)
Bandage, conforming 5 cm	1	2	1.15	1.15	2.30
Bandage, heavy crepe 7.5 cm	2	2	3.95	7.90	7.90
Bandage, heavy crepe 10 cm		1	4.70		4.70
Bandage, triangular	4	4	2.65	10.60	10.60
Dressing, combine 10 x 10 cm, sterile	3	3	0.55	1.65	1.65
Dressing, combine 10 x 20 cm, sterile	2	5	0.70	1.40	3.50
Dressing, non-adherent (10 x 10 cm or similar)	5	10	0.80	4.00	8.00
Dressing, hydroactive (10 x 10 cm or similar)	1	2	7.26	7.26	14.52
Wound dressing, combination, large*	2	3	7.69	15.38	23.07
Wound dressing, combination, small*	2	2	5.86	11.72	11.72
Adhesive roll, non-woven fabric 5cm x 10m	1	1	17.25	17.25	17.25
Dressings, elastic fabric strips	50	50	5.85	5.85	5.85
Gauze swabs, sterile (single use pkt of 3)	3	9	0.75	2.25	6.75
Eye pad, sterile	2	4	0.40	0.80	1.60
Wound closure strips, wide, 6 x 76mm	1	3	2.65	2.65	7.95
Tape surgical waterproof 2.5 cm x 5 m	1	1	7.20	7.20	7.20
Tape surgical waterproof 5 cm x 5 m	1	1	15.25	15.25	15.25
Towels, disposable, pkt of 2	2	3	1.10	2.20	3.30
Plastic bag set (3 asst L, M and S)*	1	2	0.95	0.95	1.90
Plastic bag*	2	2	0.18	0.36	0.36
Gloves, disposable, large	10	10	0.39	3.90	3.90
Safety pins, stainless, assorted pkt of 12	1	1	1.10	1.10	1.10
Blanket, emergency thermal	1	1	3.95	3.95	3.95
Ice pack, instant	1	1	3.95	3.95	3.95
Resuscitation mask, disposable	1	1	4.05	4.05	4.05
Resuscitation mask, pocket		1	23.25		23.25
Splinter probes, sterile, disposable	5	10	1.10	5.50	11.00
Splinter forceps, 12.5 cm	1	1	2.08	2.08	2.08
Shears, stainless, 19 cm minimum	1	1	8.55	8.55	8.55
Scalpel, disposable		2	1.21		2.42
Splint malleable, universal	1	2	46.95	46.95	93.90
Normal saline, sterile 30 ml polyamp	6	10	1.40	8.40	14.00
Povidone iodine swabs (single use)	10	20	0.38	3.80	7.60
Anaesthetic + antiseptic cream 30 g	1	1	7.35	7.35	7.35
Hydrocortisone 1% cream 30 g		1	7.40		7.40
Paracetamol 500 mg tabs or caps	24	48	3.05	3.05	6.10
Paracetamol 500 mg / Codeine 8 mg		24	5.99		5.99
Ibuprofen 200 mg tablets		24	4.95		4.95
Seasickness tablets (non-drowsy)	10	10	2.43	2.43	2.43
Imodium tablets	16	16	17.32	17.32	17.32
Loratadine 10 mg or Fexofenadine 120 mg tablets		10	6.50		6.50
Antacid tablets (Mylanta or equal)	12	50	2.00	2.00	8.00
CPR instruction chart or card	1	1	5.00	5.00	5.00
Australian First Aid Book	1	1	41.80	41.80	41.80
SAE Defibrillator (Laerdal First Aid unit or similar)		1	4,390.00		4,390.00
Stretcher for helicopter evacuation / ship board use		1	986.70		986.70

Scale G and F First Aid Kit Description	Scale G (No.)	Scale F (No.)	Unit price ($)	Scale G ($)	Scale F ($)
First Aid Oxygen Unit (Oxyport or equal)		1	1,680.00		1,680.00
Total including optional items				287.00	7,504.66
Total excluding optional items				287.00	445.66
NB: * product in this configuration not available, so cost from 2003 RIS presented at today's equivalent price.					

C.2 Scale E and D Medication

Scale E and D Medication Description	Scale E (No.)	Scale D (No.)	Unit price ($)	Scale E ($)	Scale D ($)
Adrenaline 1-1000 1ml ampoules		5	4.28		21.40
Antibiotic Ointment 15 0r 20g	1	1	13.95	13.95	13.95
Amoxycillin 500mg caps		20	12.52		12.52
Doxycycline 100mg caps or tabs		21	28.62		28.62
Benzyl penicillin 600mg with WFI 2ml		5	33.30		33.30
Chloramphenicol Eye Ointment 4g	1	1	10.83	10.83	10.83
Glyceryl trinitrate 400mcg spray	1	1	21.20	21.20	21.20
Morphine 10mg/ml ampoules		5	29.30		29.30
Naloxone 0.4mg/ml minijet		5	28.50		28.50
Paracetamol 500mg/Codeine 30mg tabs	20	20	4.96	4.96	4.96
Prochlorperazine 5mg tablet	25	25	11.24	11.24	11.24
Prochlorperazine 25mg suppositories	5	5	21.00	21.00	21.00
Prochlorperazine 12.5mg/ml ampoules		10	17.90		17.90
Prednisolone 5mg tablet		20	3.22		3.22
Salbutamol inhaler	1	1	7.95	7.95	7.95
Sodium chloride and glucose or dextrose compound, powder sachets, 4.9g approx	10	20	13.95	13.95	27.90
Total				105.08	293.79

C.3 Scale E and D Medical Equipment

Scale E and D Medical Equipment Description	Scale E (No.)	Scale D (No.)	Unit price ($)	Scale E ($)	Scale D ($)
Scalpel, sterile, disposable	3	5	1.21	3.63	6.05
Scissors, stainless, blunt/sharp 12.5cm		1	4.10		4.10
Splint set, vacuum or air inflation	1	1	184.95	184.95	184.95
Neck collar, multi-size, rigid, fully adjustable	1	2	35.00	35.00	70.00
Syringe with needle, sterile disposable 1 ml		5	0.18		0.90
Syringe with needle, sterile disp 2 or 3 ml, 23 or 25G		5	0.22		1.10
Isopropyl alcohol swabs		10	0.08		0.75
BVM air resuscitator	1	1	59.50	59.50	59.50
SAE Defibrillator (Laerdal First Aid unit or similar)	Optional	1	4,390.00	4,390.00	4,390.00
Stretcher for helicopter evacuation/ship board use	Optional	1	986.70	986.70	986.70
First Aid Oxygen Unit (Oxyport or equal)	Optional	1	1,680.00	1,680.00	1,680.00
Ship Captain‘s Medical Guide, current edition		1	120.00		120.00
Controlled Drug Register*		1	10.65		10.65
Total including optional items				7,339.78	7,808.49
Total excluding optional items				283.08	
NB: * product in this configuration not available, so cost from 2003 RIS presented at today's equivalent price.					

APPENDIX D – NSCV C7A SAFETY EQUIPMENT TRANSITION ASSESSMENT

KEY TO READING THE TABLE

(1) The descriptions of the changes are only valid for vessels compliant with either the USL Code or NSCV Part C7A *Safety Equipment* Editions 1 or 2. The timeframes for application are recommended for all vessels.

(2) The recommendations contained in this assessment have not been subjected to a RIS analysis with respect to the existing fleet.

(3) Where a timeframe description and a progressive timeframe box (i.e. At Replacement) are consecutively recommended, the indication is that whichever occurs first should apply to the individual vessel. The specified timeframe indicates the maximum time recommended for compliance (e.g. for Clause 4.3.1.3, compliance should take place when the equipment is replaced or within 2 years for equipment not due for replacement in that time.

(4) Where "A" is selected, it has been identified that an alteration to the vessel's infrastructure may be required in order to comply. For more information about alterations to infrastructure, see the *Administrative protocol for assessing the application of the NSCV to existing vessels*.

(5) Where "R" is selected, it has been identified that a remedial solution may be required. The intention of the recommendation is that it should only be applied if required. For guidance in the application of Remedial Solutions, see the *Administrative protocol for assessing the application of the NSCV to existing vessels*.

ABBREVIATIONS:

The following are abbreviations are used in the table:

A	*Alteration*;	alteration to the vessel may be required in order to comply.
AR	*At Replacement*;	compliance is required when equipment is replaced
B	*Benign*;	the need for change has not been recognised.
R	*Remedial*;	the applied solution may be remedial
U	*Urgent*;	the need for change has been recognised as having a significant impact on safety.

NSCV C7A: *Safety Equipment*									
Clause Nr.	**Clause Title**	**Change from previous standard**	**Vessel Class affected**	**U**	**Time frame**	**Progressive**			**B**
						AR	**A**	**R**	
Ch 3	**Design and Construction**								
3.3.1	Standards for Safety Equipment (Flares – Hand Held)	Adopts AS2092, USL Code duplicated it							✓
3.3.1	Standards for Safety Equipment (Table 1)	See Relevant Clauses/ Annexes for additional changes							
3.3.2	Assessment and verification	New: Instructions for verifying equipment design compliance	N/A		As compliant equip. is acquired				
Ch 4	**Installation**								
4.3	***General requirements***								
4.3.1.2	Stowage above high risk spaces	Safety equipment not to be stowed above machinery or high-risk space for the prevention of loss of life-saving equipment in the event of fire	All		5 yrs from application of policy or 4 yrs from next annual survey/registration.	✓		✓	
4.3.1.3	Marking of stowage locations	Stowage locations for life-saving equipment to be marked.	All		2 yrs from application of policy or 1 yr from next annual survey /registration	✓			

NSCV C7A: *Safety Equipment*									
Clause Nr.	**Clause Title**	**Change from previous standard**	**Vessel Class affected**	**U**	**Time frame**	**Progressive**			**B**
						AR	**A**	**R**	
4.3.2.2	Additional requirements for embarkation ladders	Handholds, rails or stanchions to be provided where ladders are fitted.	All where fitted		5 yrs from application of policy or 4 yrs from next annual survey/ registration.	✓			
4.4	***Lifeboats and rescue boats***								
4.4.1	Parent vessel identification	1. Lifeboats to be marked in accordance with MO Part 25. 2. Size of parent vessel marking specified on life-saving equipment.	Carriage per Tables 2, 3 & 4			✓			
4.4.2	Stowage of lifeboats and rescue boats	Non-SOLAS rescue boats to be ready for immediate deployment. Inflatables to be kept inflated at all times.	Carriage per Tables 2, 3 & 4		2 yrs from application of policy or 1 yr from next annual survey /registration	✓			
4.4.3	Launching and retrieval	The assumed weight of persons updated from 75 kg to 80 kg. Minimum factor of safety of 4.5 to 6 minimally reduced.	Carriage per Tables 2, 3 & 4						✓
4.5	***Liferafts***								

NSCV C7A: *Safety Equipment*									
Clause Nr.	**Clause Title**	**Change from previous standard**	**Vessel Class affected**	**U**	**Time frame**	**Progressive**			**B**
						AR	**A**	**R**	
4.5.1	Parent vessel identification	Size of parent vessel marking specified on life-saving equipment.	Carriage per Tables 2, 3 & 4			✓			
4.5.2	Stowage of liferafts	Liferafts to be stowed with painter attached.	Carriage per Tables 2, 3 & 4		2 yrs from application of policy or 1 yr from next annual survey /registration	✓			
4.5.2	Stowage of liferafts	Liferafts to be stowed so they float free if vessel capsizes or sinks.	Carriage per Tables 2, 3 & 4	✓	4 yrs from application of policy or 5 yrs from next annual survey/ registration.	✓			
4.5.2	Stowage of liferafts	Throw-overboard liferafts to be stowed to permit launching on either side of a vessel.	Carriage per Tables 2, 3 & 4		4 yrs from application of policy or 5 yrs from next annual survey/ registration.	✓			
4.5.2	Stowage of liferafts	Safety equipment not to be stowed on or above cargo tanks on tankers; slop tanks; or other tanks containing explosive or hazardous cargoes	Carriage per Tables 2, 3 & 4		See Clause 4.3.1.2				
4.5.2	Stowage of liferafts	Liferaft stowage requirements on vessels	Carriage per		4 yrs from application of policy or 5 yrs from next	✓			

NSCV C7A: *Safety Equipment*									
Clause Nr.	**Clause Title**	**Change from previous standard**	**Vessel Class affected**	**U**	**Time frame**	**Progressive**			**B**
						AR	**A**	**R**	
		with reduced freeboard and/or deck space.	Tables 2, 3 & 4		annual survey/ registration.				
4.5.4	Operating instructions	Liferaft operating instructions to be posted and visible in emergency lighting conditions.	Carriage per Tables 2, 3 & 4		2 yrs from application of policy or 1 yr from next annual survey /registration	✓			
4.6	***Dinghies***								
4.6.1	Parent vessel identification	Size of parent vessel marking specified on life-saving equipment.	Carriage per Tables 2, 3 & 4			✓			
4.6.3	Launching	Performance basis added for launching a dinghy.	Carriage per Tables 2, 3 & 4		Verify next survey/registration				✓
4.7	***Buoyant appliances***								
4.7.1	Parent vessel identification	Size of parent vessel marking specified on life-saving equipment.	Carriage per Tables 2, 3 & 4			✓			
4.8	***Lifebuoys***								
4.8.1	Parent vessel	Size of parent vessel	Carriage		r	✓			

NSCV C7A: *Safety Equipment*									
Clause Nr.	**Clause Title**	**Change from previous standard**	**Vessel Class affected**	**U**	**Time frame**	**Progressive**			**B**
						AR	**A**	**R**	
	identification	marking specified on life-saving equipment.	per Tables 2, 3 & 4						
4.10	***Pyrotechnic and smoke signals***								
4.10.1	Stowage and marking	Requirements for stowing pyrotechnic and smoke signals in a buoyant watertight container, fitted with a handle or lanyard added.	Class 1, Class 2		2 yrs from application of policy or 1 yr from next annual survey /registration	✓			
4.10.1	Stowage and marking	Stowage requirement is changed in Edition 3 to include that the container is mounted in a float free position.	Class 3		2 yrs from application of policy or 1 yr from next annual survey /registration	✓			
Ch 5	**Type and quantity**								
5.3	Safety equipment to be carried (Tables 2, 3 & 4)	Yes – See below	See Below						

NSCV C7A: *Safety Equipment*									
Clause Nr.	**Clause Title**	**Change from previous standard**	**Vessel Class affected**	**U**	**Time frame**	**Progressive**			**B**
						AR	**A**	**R**	
	Torches	2 battery-operated torches on Class B vessels One for each crew member on Class C, D and E vessels.	Op Area B & C & D & E	✓	2 yrs from application of policy or 1 yr from next annual survey /registration	✓			
	Distress Signals	Modifications to numbers of distress signals to be carried	Op Area B & C & E	✓		✓			
5.3	*Safety equipment to be carried (Tables 2, 3 & 4) Cont…….*	*Yes – See below*	*See Below*						
	Anti-exposure suits	In Class B and C waters with a monthly mean temperature of 15ºC or less, an anti-exposure suit of an appropriate size is required for each person assigned to crew the rescue boat.	Op Area B & C >25m	✓	2 yrs from application of policy or 1 yr from next annual survey /registration				

NSCV C7A: *Safety Equipment*									
Clause Nr.	**Clause Title**	**Change from previous standard**	**Vessel Class affected**	**U**	**Time frame**	**Progressive**			**B**
						AR	**A**	**R**	
	On-board communications systems (Public Address)	A public address system where a there is no other effective means of communication to address passengers in an emergency	All Class 1	✓	2 yrs from application of policy or 1 yr from next annual survey /registration				
	Open reversible Liferafts	Open reversible liferafts required in place of buoyant appliances in waters with a monthly mean water temperature of 15°C or less)	1D	✓	2 yrs from application of policy or 1 yr from next annual survey /registration	✓			
5.3	*Safety equipment to be carried (Tables 2, 3 & 4) Cont…….*	*Yes*	*See Below*						

NSCV C7A: *Safety Equipment*									
Clause Nr.	**Clause Title**	**Change from previous standard**	**Vessel Class affected**	**U**	**Time frame**	**Progressive**			**B**
						AR	**A**	**R**	
	Equipment totals	More stringent requirements for Class 1E vessels are proposed. Changes USL Code requirement of 115% buoyant capacity of any combination of buoyant appliances, lifebuoys, coastal lifejackets and dinghies, to 140% including 100% coastal lifejackets and 40% buoyant appliances.	1E	✓	2 yrs from application of policy or 1 yr from next annual survey /registration			✓	
	Passenger Limit	*Edition 1 & 2 change*: Vessels that do not conform to damage stability requirements and single compartment subdivision are limited to 49 passengers and require buoyant capacity for 100% *Edition 3 change*: Passenger limit only changed. Now 36 day passengers for Flooding Risk Category II vessels as	1E	✓	2 yrs from application of policy or 1 yr from next annual survey /registration			✓	

NSCV C7A: *Safety Equipment*									
Clause Nr.	**Clause Title**	**Change from previous standard**	**Vessel Class affected**	**U**	**Time frame**	**Progressive**			**B**
						AR	**A**	**R**	
		specified in NSCV Part C Section 6B.							
	5.3	*Safety equipment to be carried (Tables 2, 3 & 4) Cont…….*	*Yes*	*See Below*					
	Equipment totals i.e. dinghy extra	A dinghy is in addition to the 100% buoyant appliances as in the USL Code for Class 1D.	2D ≥25m 3D ≥25m	✓	2 yrs from application of policy or 1 yr from next annual survey /registration				
	Inflatable Liferafts	Dinghies no longer permitted as an alternative to inflatable liferafts	3C <25m	✓	2 yrs from application of policy or 1 yr from next annual survey /registration	✓			
	Internal Buoyancy	The option of internal buoyancy in place of buoyant capacity is increased from 10m to 15m, bringing Class 3E into line with Class 2E. This is a relaxation of the USL Code.	3E						✓
5.5	***Lifejackets***								
5.5.1	Alternative arrangements for Personal Water	*Edition 3:* Type 2 or Level	2C & 2D & 2E						✓

NSCV C7A: *Safety Equipment*									
Clause Nr.	**Clause Title**	**Change from previous standard**	**Vessel Class affected**	**U**	**Time frame**	**Progressive**			**B**
						AR	**A**	**R**	
	Craft	50 PFD's shall be worn by the operator and each of the other persons on board replacing the carrying of lifejackets.							
Ch 6	**Servicing**								
6.3	Assessment methods	Yes		✓	At next service				
6.4	Inflatable Coastal and open reversible liferafts	12 months or longer if manufacturer specifies, accredited by manufacturer, current service manuals, access to genuine spare parts, training, quality management system	Carriage per Tables 2, 3 & 4	✓	At next service				
6.5	Marine evacuation systems	12 months or longer if manufacturer specifies, accredited by manufacturer.	Carriage per Tables 2, 3 & 4	✓	At next service				
6.6	Inflatable lifejackets	12 months or longer if manufacturer specifies, accredited by manufacturer.	Carriage per Tables 2, 3 & 4	✓	At next service				

NSCV C7A: *Safety Equipment*									
Clause Nr.	**Clause Title**	**Change from previous standard**	**Vessel Class affected**	**U**	**Time frame**	**Progressive**			**B**
						AR	**A**	**R**	
6.7	Inflatable non-SOLAS rescue boats	In accordance with manufacturers' instructions, accredited by manufacturer.	Carriage per Tables 2, 3 & 4	✓	At next service				
6.8	Hydrostatic release units	12 months or longer if manufacturer specifies by competent person, proper facilities, trained personnel. Throw-away replaced in accordance with manufactures' instructions.	Carriage per Tables 2, 3 & 4	✓	At next service				
6.9	Launching Appliances	In accordance with manufacturer's instructions and thorough examination every 5 years including dynamic test of the winch brake with a proof load of not less than 1.1 times the maximum working load at the maximum lowering speed.	Carriage per Tables 2, 3 & 4	✓	At next service				
6.10	EPIRBS (and radar transponders)	Inspected and tested whenever the liferaft is serviced. The EPIRB shall also be serviced if required.	Carriage per Tables 2, 3 & 4	✓	At next service				

NSCV C7A: *Safety Equipment*									
Clause Nr.	**Clause Title**	**Change from previous standard**	**Vessel Class affected**	**U**	**Time frame**	**Progressive**			**B**
						AR	**A**	**R**	
6.11	Pyrotechnic and smoke signals – period of validity	Valid for a minimum of 3 years from date of manufacture, or such longer intervals as recommended by the manufacturer and approved.	All	✓	At next service				
Annex B	**Requirements for non-SOLAS rescue boats**								
B2	***Design and construction***								
B2.1	General	Minimum length increased from 3.25m to 3.8m, reserve buoyancy and persons capacity specified.	Carriage per Tables 2, 3 & 4			✓	✓		
B2.2	Colour	Must be highly visible colour.	Carriage per Tables 2, 3 & 4		2 yrs from application of policy or 1 yr from next annual survey /registration	✓			
B3	***Fittings***								
B4	Equipment	Power of motor specified.	Carriage per Tables 2, 3 & 4		2 yrs from application of policy or 1 yr from next annual survey /registration	✓			
B5	***Marking of rescue boats***								

NSCV C7A: *Safety Equipment*									
Clause Nr.	**Clause Title**	**Change from previous standard**	**Vessel Class affected**	**U**	**Time frame**	**Progressive**			**B**
						AR	**A**	**R**	
B5.1	Retro-reflective tapes	Standard of marking tape specified.	Carriage per Tables 2, 3 & 4						✓
Annex C	**Requirements for dinghies**								
C2	***Design and construction***								
C2.1	General	Minimum length and reserve buoyancy specified.	Carriage per Tables 2, 3 & 4			✓	✓		
C2.2	Colour	Must be highly visible colour.	Carriage per Tables 2, 3 & 4		2 yrs from application of policy or 1 yr from next annual survey /registration	✓			
C5	***Marking***								
C5.1	Retro-reflective tapes	Standard of marking tape specified.	Carriage per Tables 2, 3 & 4						✓
C5.2	Persons capacity	Basis for person capacity increased from 75kg to 80kg	Carriage per Tables 2, 3 & 4		2 yrs from application of policy or 1 yr from next annual survey /registration	✓			

NSCV C7A: *Safety Equipment*									
Clause Nr.	**Clause Title**	**Change from previous standard**	**Vessel Class affected**	**U**	**Time frame**	**Progressive**			**B**
						AR	**A**	**R**	
Annex D	**Inflatable coastal liferafts**								
D2	Design and construction	*Edition 1 & 2 change*: Adopts ISAF standard. Unlikely to occur as minimum product availability *Edition 3 change*: Adopts ISO 9650-1 standard.	Carriage per Tables 2, 3 & 4			✓			
D3	Equipment and rations	*Edition 1 & 2 change*: Adopts ISAF standard wit h modification Unlikely to occur as minimum product availability *Edition 3 change*: Adopts fittings, equipment and rations for one Equipment Pack 1 >24 hrs specified in ISO 9650-1; and one EPIRB, 406MHz	Carriage per Tables 2, 3 & 4		For all Coastal Liferafts add EPIRB at next service	✓ with D2			
Annex E	**Open Reversible Liferafts**								
E2	Design & Construction	Adopts HSC Code requirements. NOTE: The USL Code and the HSC Code are	Carriage per Cl 5.4 & Tables						✓

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						AR	**A**	**R**	
		the same except that in the USL Code changes made to the IMO standard are not adopted locally until specifically adopted by amendment.	2, 3 & 4						
E3	***Fittings***								
E3.2	Hydrostatic release unit	Modifies the adoption of the HSC Code requirements for design & construction.	Carriage per Cl 5.4 & Tables 2, 3 & 4		2 yrs from application of policy or 1 yr from next annual survey /registration	✓			
Annex F	**Buoyant Appliances**								
F2	***Design and Construction***								
F2.2	Buoyant material	*Edition 1 & 2 change*: Buoyant material to comply with IMO Resolution MSC.81 (70) or relevant national or international standards. *Edition 3 change*: Buoyant material to comply with IMO Resolution MSC.81 (70).	Carriage per Tables 2, 3 & 4			✓			

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Clause Nr.	**Clause Title**	**Change from previous standard**	**Vessel Class affected**	**U**	**Time frame**	**Progressive**			**B**
						AR	**A**	**R**	
F2.6	Painter	Fitted with painter to assist deployment, length and strength specified.	Carriage per Tables 2, 3 & 4		2 yrs from application of policy or 1 yr from next annual survey /registration	✓			
Annex G	**Coastal lifejackets**								
G2	Design and construction	*Edition 1 & 2 change*: adopts British Standard EN396, with variations for coastal waters, ie inflation, lights and marking *Edition 3 change*: Adopts AS 4758.1 or ISO 12402 Part 5 (Level 150) or BS EN 396 with variations for coastal waters i.e. inflation, lights and marking.	Carriage per Tables 2, 3 & 4			✓			
Annex H	**Medical supplies**								
H3.2	Equipment and supplies to be carried	There are scale variations from the USL Code in order to ensure consistency with the *Ship Captain's Medical Guide*.	Carriage per Tables 2, 3 & 4		At first re-stock	✓			
H11	First aid training	Includes reference to the need for first aid training	All						✓

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						AR	**A**	**R**	
		and directs the reader to Part D.							