



Consultation Feedback Report – Amendments to National Standard for Commercial Vessels – Part C, Section 4 - Fire safety

Outline

The Australian Maritime Safety Authority (AMSA) has amended the *National Standard for Commercial Vessels – Part C, Section 4 - Fire safety* (NSCV part C4) to reduce the complexity of the arrangement of standard and to provide greater alignment with other international standards relating to fire safety.

The revised standard have now been made and is available on the AMSA website (the superseded standard is also still available of the AMSA website). This revised standard will commence on 1 January 2018.

Key amendments

The key amendments that have been made to NSCV Part C4 include:

- (a) Clarifying the provisions relating to 'remote stops'. The current requirement for remote stops that are mentioned in the NSCV Part C5A, and require remote stops (shutoffs) that are capable of operating when exposed to fire, are being re-stated in NSCV Part C4. The fire duration and temperature that remote stops need to withstand are also clarified.
- (b) Clarifying that only some classes of vessels are required to have divisions that are 'smoke tight'. This change aligns the requirements with those already provided elsewhere in the NSCV.
- (c) Clarifying the current requirement for 'testing' fire dampers to remove ambiguity. It also clarifies the testing requirement for fire doors constructed of 'steel' and aligns it with international standards.
- (d) Aligning requirements for performance of 'fire doors' with both SOLAS and the High Speed Craft Code. This will clearly articulate that fire doors constructed of 'steel or an equivalent material' do not need to be tested.
- (e) Amending the list of acceptable standards for 'fixed fire systems' to include additional standards that have been introduced since the NSCV Part C4 was originally made. The standards have also been relocated to the applicable sections of the standard rather than each clause throughout the standard referencing a table.
- (f) Removing the requirement to fit spill trays to freestanding fuel tanks.
- (g) Administrative and editorial changes including:
 - (i) rearranging content to align with modern drafting practices; and
 - (ii) reducing the amount of cross referencing and removal of duplicated (repeated) content throughout the standard; and
 - (iii) including a determination provision to allow the National Regulator to quickly respond to industry and recognize new standards in future. The determinations would form the basis for future revisions of the standard.

Consultation Feedback

Consultation on the proposed amendments to NSCV Part C4 was conducted over four (4) weeks and closed on 16 August 2017.

Feedback was sought from the general public and key stakeholders including the:

- Domestic Commercial Vessel Advisory Committee;
- Fishing Industry Advisory Committee; and
- Maritime Agencies Forum.

AMSA received seventeen (17) submissions in response to the proposed amendments. These comments and AMSA's responses and subsequent amendments to NSCV Part C4 are set out in Table 1 below.

Table 1 – NSCV Part C4 consultation submissions and responses

Comment No.	Provision	Industry Comment / Submission	Response to submission
1	1.4 Definitions	"Structural Fire Protection" is not defined, so the difference between "fire resisting division" and "structural fire protection" is not clear. This has caused considerable confusion when applying the current version of the standard. Tables 4, 5 and 6 are headed "Structural Fire Protection" when they are in fact related to "Fire Integrity - refer SOLAS and HSC Code. Clause 4.5.2 is the section that actually relates to structural fire protection. Figure 1 is headed "Structural fire protection details" but shows details of both fire resisting divisions, 1(a), and structural fire protection, 1(b) and 1(c). Again, this causes confusion. The current version of C4 continually confuses the concepts of "fire resisting divisions" and "structural fire protection", this needs to be rectified to improve the clarity of the document.	Thank you for your submission. The terminology has been updated so that it is consistent throughout the standard.
2	General	Although we do not have any concerns with the proposed amendments in the consultation draft, I thought it appropriate to raise another issue where the standard could be further improved. We have had recent experience where the fire standards are not adequate for the size and complexity of some vessels that are now becoming DCVs. Some examples: Emmanuel – a large fish farming vessel (36m) with complicated void spaces, refrigeration and equipment Large landing barges – DCVs with a class certificate that does not cover fire-fighting equipment	Thank you for your submission. The emergency fire pump requirements have been updated to apply to fire risk category I vessels, based on deck area.

Comment No.	Provision	Industry Comment / Submission	Response to submission
3	1.4 Definition - Machinery Space	<p>In the setting up of the NSCV, the standards were developed not in isolation but across all facets of the ship systems fitted on-board to provide effective defence in depth i.e. a single failure of a system alone would not result in a significant event. The NSCV has done this very well noting some necessary review and streamlining since the introduction of the NSCV standards to the market place. For the NSCV fire standard, the machinery space description is based upon that of the SOLAS definition of a Class A Machinery space with a slight change to include a limit for the aggregate power for the main propulsion set at 120kw sourced from the ISO fire standard. The ISO was the only known marine standard at the time for fire systems to set a cut off limit to cater for vessels under 24m of the type The National System predominantly deals with. The 120Kw engine power limit saved smaller low risk vessels from the requirement to fit very expensive fire systems. However the ISO fire standard has little interrelated defence in depth across its other standards as compared with the NSCV. For these reasons we believe the 120Kw engine size limit within the NSCV is too low as it captures most small boats with inboard motors leading to the expensive fitting of both fixed fire-fighting systems and structural fire protection for fundamentally low fire risk vessels. We would recommend the threshold is lifted from the 120Kw to somewhere between 120Kw and 375Kw (Class A Machinery Space) threshold by looking at fire incident data and a fresh look to the risks and outcomes as applied to the DCV fleet.</p>	<p>Thank you for your submission. ISO 9094 was amended in 2015 to include defence in depth requirements (fire dampers for example).</p> <p>Further to this, the NSCV definition of a machinery space is consistent with international requirements that capture larger vessels than the ISO standard. For example: The HSC Code 2000 defines a machinery spaces as a space containing internal combustion engines either used for main propulsion (of any size) or having an aggregate total power output of more than 110 kw.</p>
4	3.7.1 a) steel construction	Clarification if an open deck for accommodation requires the fitting of SFP	Thank you for your submission. The reference mentioned in the submission is to the current NSCV C4 standard. This provision has been updated in new draft.
5	3.8.3 Plastic Pipe Penetrations	This section excludes the use of materials not meeting time ratings (ABS or PVC piping as an example) in High and Moderate fire risk spaces. However there are many non essential systems that penetrate high risk and moderate risk fire spaces e.g. domestic fresh water, sewage, hot water etc. that use ABS or PVC piping. The use of these materials may	The wording has been updated to reference the IMO Resolution A.753(18) fire endurance test so it is consistent with the machinery section.

Comment No.	Provision	Industry Comment / Submission	Response to submission
		be permitted for non essential systems provided a fire rated solation device is fitted at the bulkheads of fire divisions.	
6	4.7.3.4 Table 19 (C) pump number	There was previous discussions about relaxing this requirement to allow the fire pump to be driven by the main engine on certain vessels? The pump shall be driven independently of propulsion machinery except on those vessels where: a) the prime mover is self-contained within the space and can be operated locally; b) the prime mover can be readily operated uncoupled from the propulsor (propeller, jet, etc.); and c) the main fire pump is driven from a power take-off provided by the manufacturer.	Thank you for your submission. The proposed correction amendment 2 to NSCV Part C4, made in 2011 was never implemented. That proposal was prepared by WA DoT and in April 2011 and the industry technical advisory panel decided not to progress the amendment. That proposed amendment is also out of scope to include in this review of the standard.
7	4.7.3.6 non dedicated pumps	Discussed in the NSCV C5A, some clarification and review of this clause for consideration of the use general service pumps for use as either a fire or bilge pump in the case of tugs, see our comments in C5A submission and the question of use of bilge pumps for other applications (fire).	Thank you for your submission. The new draft includes the following provision: <i>'5.8.5 Non-dedicated main fire pumps</i> <i>Pumps used for other purposes may also serve as main fire pumps provided they are not pumps normally used for pumping oil or other combustible or flammable liquids.</i> <i>Example: Sanitary, ballast, bilge or general service pumps may also serve as main fire pumps provided that they are not normally used for pumping of oil and that if they are subject to occasional duty for the transfer or pumping of fuel, suitable change-over arrangements are fitted</i>
8	5.3.1 Stand for smoke detectors	Consider the acceptance of self-contained power sources in smoke detectors for lower risk yachts, houseboats (motorboats)etc.	Thank you for your submission. The intent of this provision was to allow long life batteries as a 'reliable power source'. These words will be removed and only retain the requirement to comply with AS 3786. <i>Note: AS 3786 deals with the power source and types of self-contained power sources that are permissible as part of the standard.</i>

Comment No.	Provision	Industry Comment / Submission	Response to submission
9	5.4.8 Limitations on automatic	A rethink for vessels with unattended machinery spaces is worth consideration. Combined use class 4 and 2 vessels to permit systems to automatically release as a "hirer" may not have the training and put the vessel at risk if were required to manually release.	Thank you for your submission. The new draft NSCV C4 is arranged so that vessels contain and prevent the growth of a fire to allow time to shutoff closures and respond to a fire. The briefing given to hirers on Class 4 vessels should include operation of all systems on board the vessel including fire systems.
10	9.6.1 Smoke Zones	Smoke curtains have been installed particularly to smaller vessels and whether a non-combustible curtain would satisfy the requirements for a smoke division Lloyds review found a non-combustible curtain would not be considered to satisfy the requirements for a smoke tight division on the basis that the boundaries of the curtain would not be smoke tight (i.e. air gaps would exist between the curtain and adjacent surfaces)	Thank you for your submission. AMSA agrees with the Lloyds review. A boundary (whatever it is made of) would not be considered a smoke tight boundary if it is not capable of being closed at the ends. AMSA also notes that smoke zones are not required unless the vessel is carrying more than 200 day passengers, or more than 12 berthed passengers.
11	Definitions	Escape or evacuation route means a category of space defined in Table 3. This is ambiguous, what if it is not enclosed? This could be changed to escape or evacuation route means a pathway or category of space defined in Table 3.	Thank you for your submission. A note has been added to the definition to provide further clarity.
12	Table 26 - fire extinguishers	The minimum requirements for fire extinguishers on vessels less than 10m is problematic due to storage limitations and risk, i.e. an open RIB with outboards, would recommend some relaxation for vessels under 10m on the qty and size of fire extinguishers.	Thank you for your submission. The reference mentioned in the submission is to the current NSCV C4 standard. An open 10m RIB with outboards requires only 1 fire extinguisher - see 5.6 (Table 17) of the new draft.
13	10.4.1	Typo in 10.4.1 incorrectly refers to Table 36, should be 37.	Thank you, the reference has been updated.
14	Table 37	FRC II vessel, small galley, < 36 pax, indicates no need for separation of galley from other spaces. However, the small galley is still defined as a moderate risk fire space, needing 15 minute structural fire protection between it and all other spaces. Suggest that this be clarified, it affects all 2B and 3B vessels. Does the deck, deck head, surrounding bulkheads of a small galley need structural fire	Thank you for your submission. Noted. However, changing small galley to be defined as a minor risk space will not fix this issue as these still require smoke tight divisions, and would therefore result in the same issue.

Comment No.	Provision	Industry Comment / Submission	Response to submission
		protection? Possibly small galley could be redefined as minor fire risk spaces.	AMSA has addressed this issue by including an additional item in the key for both Table 4 and 5 that refers to clause 10.4.1.
15	Table 13	Requirement for fixed fire extinguishing system for "Galley automatic local fire extinguishing systems required for each deep fat cooker, cooking range or similar appliance." What does this mean, is a normal stove top a cooking range? If so this is excessive.	Thank you for your submission. This provision was incorrectly worded in the draft and has been corrected as follows: <i>Galley automatic local fire extinguishing systems required for each deep fat cooker on any vessel and each cooking range or similar appliance in Fire Risk Category III or IV vessels carrying more than 36 passengers.</i>
16	4.5	Structural fire protection – suggest giving some detail as to the acceptable methods of retaining structural fire protection to ali and GRM vessels. Welded pins are not necessarily viable and are often the only means approved by the Class society certificate issued with the SFP product. Suggest also some guidance on how structural fire protection is to be achieved in way of flush deck hatches on ali and GRP boats.	Thank you for your submission. AMSA will provide an instruction to surveyors on this topic.
17	Consequential to NSCV Part F2	NSCV Part F2 provides class 4 vessels with the option to use NSCV Part C4 to meet their fire safety requirements. The application of NSCV Part C4 says that it applies to vessel other than special vessels (Part F) unless those sections specify otherwise. NSCV Part C4 doesn't provide requirements for class 4 vessels. NSCV Part F2 requires updating to say how a class 4 vessel can apply NSCV Part C4.	Thank you for your submission. AMSA will update NSCV Part F2 to clarify that class 4 vessels wanting to use NSCV Part C4 are to apply the standard as if they were a class 2 vessel.