

Annex 3:- MSN 1823 Revision - Explanation and Cost-Comparison of Original and Revised Requirements

Part 1 - Substantive changes											
Paragraph	Old Requirement	New Requirement	Details of Change (+) = cost; (-) = saving; (0) = neutral	Why the change?	Costs and/or Benefits	New Cost Items	Indicative Amount/s	New Savings Items	Indicative Amount/s	Average net cost/s or saving/s	Source
4 - Requirement for a Partial Declaration of Survey...	None	New paragraph 4B.9 on Special Considerations - Additional areas for consideration 4B.9.1 Ships where hull structure in way of the propeller is at particular risk of breach or damage due to foreign object ingress to the propeller shall fit protection in the form of propeller guards or other arrangements. Factors contributing to the level of risk for the structure include lightweight scantlings in the area, limited propeller clearance and high levels of debris in the operating area. In the case that it is not considered practical to fit such protection, the impracticality shall be demonstrated, and suitable alternative provisions for safety made, such as local hull strengthening. 4B.9.2 Where a canopy is provided covering the passenger compartment, the supports shall not impede emergency escape. 4B.9.3 Welding required for either construction or repairs shall only be carried out by approved welders with qualifications and experience appropriate to the materials on which they are working.	(+) New material is to cover safety needs of vulnerable vessels, in particular Amphibious Passenger Vehicles (APVs). Potential cost where structure is deemed to be vulnerable and propeller guard/s need/s to be fitted.	Incidents have shown that some vessels, in particular APVs may have vulnerable areas of structure that were not specifically covered in original MSN 1823.	Costs of purchasing and fitting propeller guards, where necessary. Cost of small loss of propulsion efficiency.	Manufacture and fitting of propeller guard/s	£??			??	APV designers and builders; APV owners and operators.
6.2 - Weatherdeck	Height of coamings for openings in an exposed weatherdeck, direct to machinery space 460mm.	Height of coamings for openings in an exposed weatherdeck, direct to machinery space 380mm.	(-) Reduction in coaming height requirement from 460mm to 380mm; 80mm.	A lower step over thresholds into Machinery spaces, direct from weatherdeck, is deemed to provide adequate safety clearance for most operating conditions.	1) Construction stage. Small saving in costs of steel or equivalent. 2) Ongoing ease of access and reduced tripping hazard for ship's crew throughout its life.	N/A		Saving in steel costs	?	?	Ship designers and builders.
6.6 Windows	None (See Annex 5 entry)	6.6.1 Windows located in superstructures which contribute to the stability of a sub-divided vessel or in a superstructure which protects openings in the freeboard deck of a sub-divided vessel are only permitted on the condition that they are fitted with, and protected by, deadlights. 6.6.2 Windows that form part of the weathertight integrity of ships in Category C (tidal) and D shall be in accordance with Classification Society Rules, and shall be of toughened safety glass. Windows that form part of the weathertight integrity of ships in Category C (tidal) and D shall be in accordance with Classification Society Rules, and shall be of toughened safety glass. 6.6.3 Windows that form part of the weathertight integrity of ships in Category A, B and Non-Tidal C may be of "Tempered glass" – toughened safety glass which may not have been tested in accordance with ISO 614, nor marked as such. Glass shall however be in accordance with ISO 12216. 6.6.4 Windows that do not form part of the weathertight integrity of a ship, but provide protection and comfort to persons onboard shall be of the tempered glass type, such that it is unlikely to cause injury if it shatters.	(-) Slight relaxation of the requirement for all windows to be of toughened safety glass, tested and marked as such.	Revised glass standard allows for lower level of risks encountered in categories A, B and non-tidal C.	Saving on cost of tested and marked glass for eligible ships.	N/A		Savings for windows in ships on low risk operations.	?	?	Glass manufacturers, ship designers and builders.
6.7 Routine inspections for watertight integrity	None	New paragraph 6.7.2bis - The master shall be provided with a diagram of the hull to include information on the location, size and type of any hull penetrations to include information on the means of closure.	(+) Requirement for hull diagram to be provided, as shown left.	Improved mitigation against risks from water ingress, particularly for vessels with numerous hull penetrations such as APVs	Cost of diagram, or in modifying existing one to show hull penetrations.	New diagram or modification of existing one	??			??	Ship designers and builders; owners and operators.
7.5.1 Flash Point of Fuel	Any oil fuel used in boilers or machinery shall have a flash point of not less than 60°C (closed test).	Any oil fuel used in boilers or machinery shall have a flash point of not less than 55°C (closed test).	(-) Reduction in minimum flashpoint from 60°C to 55°C	55° aligns with the fuel flashpoint requirement in the EU directive on technical standards for inland waterway vessels. It also means that road fuel could be used, which may be advantageous for ships operating inland, where access to marine fuels may be awkward.	May give more flexibility in choice of fuels.			Non-specific savings	?	?	Ship owners; fuel suppliers.

Paragraph	Old Requirement	New Requirement	Details of Change (+) = cost; (-) = saving; (0) = neutral	Why the change?	Costs and/or Benefits	New Cost Items	Indicative Amount/s	New Savings Items	Indicative Amount/s	Average net cost/s or saving/s	Source
7.5.2 Low flash point fuels	None	New 7.5.2 Where it is proposed to use other low flash point fuels, i.e. Liquefied Petroleum Gas (LPG) or Liquefied Natural Gas (LNG), the operator should contact the MCA for guidance early in the project, and the proposal shall be supported by a detailed risk assessment. The MCA will need to be satisfied that an appropriate level of safety is provided, which shall include the machinery installation being approved by a UK authorised Classification Society listed in 4.3, and being in general compliance with DfT standards. The fuel transportation, carriage storage ashore, and refuelling operations shall be in accordance with Health and Safety Executive requirements, and other relevant guidelines.	(0) Permits the use of new fuel types which may result in savings for operators.	Improved management of fire and explosion risk from fuel; makes new fuel options available.	Savings owing to cheaper fuels.			Non-specific savings	?	?	
7.5.4 High Pressure Fuel Lines	7.5.3 (2) External high-pressure fuel delivery lines between the high-pressure fuel pumps and fuel injectors shall be protected with a jacketed piping system capable of containing fuel from a high-pressure line failure. A jacketed pipe incorporates an outer pipe into which the high-pressure fuel pipe is placed, forming a permanent assembly. The jacketed piping system shall include a means for collection of leakages and arrangements shall be provided with an alarm in case of a fuel line failure. [Therefore, all engines are required to have jacketed piping systems.]	7.5.4.1 All main engines, auxiliary engines and emergency generators, except diesel fire pumps or lifeboat engines, having an output of 375kW (500hp) or above must be fitted with a jacketed piping system for the high pressure fuel lines, between the high-pressure pump/s and fuel injectors.	(0) Relaxation of previous requirement for jacketed piping systems on all high pressure engines, with provision for equivalent measures where viable, taking into account engine size, output and configuration.	This requirement has been amended to allow for an alternative to jacketed fuel pipes between the high pressure pump and the injector/manifold on engines with a power output of less than 375kW (and any other high pressure fuel lines on engine). At present alternatives which supply an alternative standard of safety to jacket fuel systems are limited and not widely developed, however this amendment future proofs the requirement. It is therefore deemed cost neutral when compared to the previous version of the requirement in original MSN 1823.	Benefits on costs of jacketed piping systems on smaller engines; those with an output below 375kW. It is assumed that a majority of eligible ships' owners/operators may consider an alternative, cheaper option where it is viable.			Possible future savings for alternative option/s that may be developed for small or medium sized ship engines. (It is assumed that larger ship engines will be over 375kW so must be fitted with jacketed piping systems.)	??	??	Engine manufacturers; ship designers and builders; ship owners and operators.
"		7.5.4.2 Ships with engines having a power output of less than 375kW (500 hp) including all main engines, auxiliary engines and emergency generators, except diesel fire pumps or lifeboat engines, must comply with the requirements of 375kW and over. In exceptional cases, where an engine manufacturer is unable to supply a jacketed high-pressure fuel piping system, any alternative arrangement provided must meet an equivalent level of safety, such as IACS Unified Interpretation SC 189, or that shown at (10) below. Such an installation may be accepted by the MCA as meeting an equivalent level of safety.									
"		7.5.4.2 (1) If an engine under 375kW (500 hp) is designed so that there are no surfaces having a temperature exceeding 220°C and this can be verified by acceptable evidence/inspection, then an enclosure to prevent spray from a damaged high-pressure fuel line is not necessarily required. When approving such an installation, care should also be taken to ensure that there is no other equipment in the machinery space that may be a source of ignition if impinged by a fuel spray, e.g. electric motors, switches, etc.									
8.2 - Emergency Power	8.2.1 Coverage to include:- (h) other safety equipment such as automatic pressurised sprinkler systems or fire pumps; (i) bilge pumping systems;	Coverage to include:- (h) other safety equipment such as automatic pressurised sprinkler systems or fire pumps (unless supplied by mechanical power); (i) bilge pumping systems (unless supplied by mechanical power);	(-) System/s may be mechanically powered	Original requirement did not allow for ships where such systems are operated by mechanical power.	Possible saving on costs of equipment/fitting.			Variable	?	?	Ship designers and builders.
8.2.2 The following are admissible for use as an emergency power source	None	New paragraph 8.2.2 (3) To enable the crew to be able to undertake (1) or (2) above, emergency battery lighting shall be provided in way of the emergency means of power supply described. This may be by the use of torches stowed in a readily accessible place nearby.	(+) Requirement for emergency battery lighting	To facilitate better and easier management of emergency situations.	Cost of torches or other battery light system.	1. Four suitable torches; or	180.00			£153.00	Torch and lighting system suppliers; owners/operators.
						2. Portable lamp system	125.00				
8.2.2 The following are admissible for use as an emergency power source	8.2.2 (3) General requirement for emergency means of power to be capable of operating for at least 60 minutes.	New paragraph 8.2.2 (5) requiring emergency means of power to be capable of operating for at least 30 minutes, when ship operated on Cat A or B, and is never more than 80m from the bank.	(-) Relaxation for ships operating on Category A & B waters. Emergency power duration requirement reduced from 60 mins to 30 mins.	Lines up with relaxation in other areas, according to the operating environment.	Savings in reduced number / size of batteries for ships operating only on Category A and B waters.			1. Reduced number/size of batteries. 2. Reduced size of emergency generator.	?	?	Ship builders; ship electricians; owners and operators.

Paragraph	Old Requirement	New Requirement	Details of Change (+) = cost; (-) = saving; (0) = neutral	Why the change?	Costs and/or Benefits	New Cost Items	Indicative Amount/s	New Savings Items	Indicative Amount/s	Average net cost/s or saving/s	Source
8.2 - Emergency power	8.2.3 The emergency power source and any associated switchboard plant shall be in a separate space to the main power supply. Cables feeding the electrical installations in the event of an emergency shall be installed and routed in such a way as to maintain the continuity of supply of these installations in the event of fire or flooding affecting the main power supply. These Emergency power cables shall never be routed through the main engine room, galleys or space where the main power source and connected equipment is installed, except where necessary to provide power to emergency equipment in such areas. The emergency power source shall be installed above the line of the bulkhead deck of subdivided ships and as high as possible in open ships	8.2.3 ... Unless emergency power cables are suitably protected against fire and flame to a 30 minute standard for ships on category A and B waters, and to a 60 minute standard for ships on category C and D waters, they shall not be routed through the main engine room,...	(?) New provision for alternative means of fire protection by allowing routing of electrical emergency power cables through main machinery and other high fire risk areas such as the galley, on the proviso that the cables are protected from fire for the appropriate length of time as per section 8.2.2.4 and .5. Gives greater flexibility to designers. It may make the design more straightforward in that wiring runs will be easier.	On many ships (including narrowboats), the emergency power source cannot be sited separately due to size or configuration limitations. This amendment may also reduce building times and associated cost in that wiring can be run straight through areas of high fire risk such as machinery spaces if necessary.	Option would only be taken up if there were overall cost benefits to owners and builders.			Savings would be subsumed into the design and build cost of applicable ships	?	?	Ship designers and builders.
New section 8.2.5 - Catamaran Emergency Source of Electrical Power	8.2.3 The emergency power source and any associated switchboard plant shall be in a separate space to the main power supply. Cables feeding the electrical installations in the event of an emergency shall be installed and routed in such a way as to maintain the continuity of supply of these installations in the event of fire or flooding affecting the main power supply. These Emergency power cables shall never be routed through the main engine room, galleys or space where the main power source and connected equipment is installed, except where necessary to provide power to emergency equipment in such areas. The emergency power source shall be installed above the line of the bulkhead deck of subdivided ships and as high as possible in open ships	8.2.5.1 The requirements of section 8.2.3, that the emergency source of electrical power is located above the bulkhead deck, is intended to ensure that it is not immediately put out of action by a flooding incident, and that there is a safe access to it should it need attention, even during an emergency. 8.2.5.2 This requirement can be considered to be fulfilled on a catamaran ship with twin electrical generators, one in each hull....	(-) Those catamarans that already have two generators in engine rooms would not need an additional power source above the bulkhead deck.	If ship already has two separate power supplies then a third is not required.	Saving of cost of additional emergency power source. Provision for better layout above deck, with more space.			Variable: emergency power source	?	?	Catamaran designers and builders; generator manufacturers.
9.1 - Fixed Bilge Pumping Arrangements	9.1.1 Both/All bilge pumps fitted to be capable of being supplied by emergency source of power.	One bilge pump fitted to be capable of being supplied by emergency source of power.	(-) Relaxation from requiring both/all bilge pumps to be powered by the emergency power source.	Original requirement may not be practicable or proportionate to risk on all ships.	Saving on costs of wiring and electrical fittings, and on size of emergency generator.			Variable saving which would normally be subsumed into design and build costs.	?	?	Ship designers and builders.
9.7 - Alternative arrangements for small ships. Now: 9.8 Alternative means of [Bilge Pumping] for small ships	9.7 Where the surveyor considers the fitting of a bilge main is not practical, the requirements of 9.1 to 9.4 may be satisfied by the use of individual submersible pumps.	New paragraph 9.7.1 Where the surveyor is satisfied that the fitting of a bilge main is not practical, the requirements of 9.1 to 9.5 may be satisfied by the use of individual submersible pumps. Such submersible pumps shall be capable of both automatic (except in machinery spaces) and manual operation and clear indication shall be provided on the navigating bridge when pumps operate. 9.7.2 This does not relieve such ships of the requirement for at least two means of draining every compartment. The alternative means may be by provision of portable engine driven or submersible type electric pump with flexible discharge line, capable of being operated from main or emergency power via a wandering lead.	(-) Relaxation of bilge pump requirements for small ships.	Making requirements more appropriate and proportionate to the risks, and the size and configuration of small ships.	Possible saving on costs of standard, larger bilge pumps and associated fittings.	Two electric submersible bilge pumps	300.00	Larger independent bilge pump (engine driven)	£515.00	£215.00	"
9.8 - Alternative means of [Bilge Pumping] for small ships	As per Section 9.1, all ships to be provided with two fixed and independently powered pumps.	New paragraph 9.8.3 - The failure of the main propelling machinery shall not render bilge pumping inoperable and a second independent system should be provided if the ship is not subdivided and relies on internal buoyancy from foam or tanks to remain afloat in the case of flooding.	(0 or -) This provision gives flexibility in the type of pump and fittings that comprise the second independent bilge pump and system. For instance, a separate electric submersible pump could be used where suitable. As well as being a comparatively inexpensive item of equipment in itself, this type of pump could save on the fitting and plumbing costs associated with having a second powered-pump plumbed into the main (first) bilge piping system.	To provide appropriate redundancy in the bilge pumping system for vessels meeting damage stability requirements through means of buoyancy foam. Allows cheaper options to be considered for the second system.	Costs of second, independent bilge pumping system on affected ships. It is anticipated that only a small number of ships will be affected. Benefit of provision for cheaper options such as submersible electric bilge pump.	Purchase and fitting of second independent bilge pumping system. Variable/indicative	??	Saving on cost of second bilge pump and associated pipework system, by having single submersible bilge pump.	??	??	Ship designers and builders; owners and operators.

Paragraph	Old Requirement	New Requirement	Details of Change (+) = cost; (-) = saving; (0) = neutral	Why the change?	Costs and/or Benefits	New Cost Items	Indicative Amount/s	New Savings Items	Indicative Amount/s	Average net cost/s or saving/s	Source	
10.1.2 Righting Lever Criteria	10.1.2 (1) The area under the righting lever curve (GZ curve) shall not be less than 0.055 metre radians up to $\phi = 30^\circ$ angle of heel and not less than 0.09 metre radians up to $\phi = 40^\circ$ or the angle of down-flooding ϕ_f^1 if this angle is less than 40° . Additionally, the area under the righting lever curve (GZ curve) between the angles of heel of 30° and 40° or between 30° and ϕ_f^1 , if this angle is less than 40° shall not be less than 0.03 metre radian.	10.1.2.1 (i) - Ships operating in category A and B waters, or open ships in category C waters The area under the righting lever curve (GZ curve) shall not be less than 0.055 metre-radians up to $\phi = 30^\circ$ angle of heel. 10.1.2.1 (1) ii - Ships with \geq deck operating in category C or D waters The area under the righting lever curve (GZ curve) shall not be less than 0.055 metre radians up to $\phi = 30^\circ$ angle of heel and not less than 0.09 metre radians up to $\phi = 40^\circ$ or the angle of down-flooding ϕ_f^1 if this angle is less than 40° . Additionally, the area under the righting lever curve (GZ curve) between the angles of heel of 30° and 40° or between 30° and ϕ_f^1 , if this angle is less than 40° shall not be less than 0.03 metre radian.	(-) Relaxation. Ships in category A and B waters are not required to have a righting moment beyond 30° . (0) No change.	Such vessels would not roll to those high angles on category A and B waters, so this is a proportionate reduction in requirements. n/a	Saving in surveyor fees, and watertight structure. n/a			Structure design and build Surveyor time/fees n/a	? n/a	? n/a	? n/a	Ship builders; owners/operators n/a
10.2.1 Damage Stability Requirements - Table	Maximum number of passengers was 50.	Cat C, ≤ 60 passengers, ≤ 1 deck, Margin Line Residual GZ & Range Criterion, Ref 10.2.8 Maximum number of passengers increased to 60.	(-) Relaxation for Cat B & C ships with 1 or less decks carrying up to 60 passengers. Reduced from SOLAS 1 Compartment damage stability to Margin Line, Residual GZ and range criteria. Ships in Category C need not comply with 1 Compartment Standard.	To allow a full coach load of passengers to go on trip boats without increase in stability requirements. (On Cat A, B and C waters.)	Saving on design and construction including materials; surveyor time.			Structure design and build Surveyor time/fees	?	?	?	Ship designers and builders. (Boat yards may be able to establish indicative difference in costs, between building ship
10.2.1 Table and Note 4	None specific. If operating in summer would have to undergo SOLAS 1 compartment test under current rules.	Cat B, C or D (see note 4) , ≤ 100 passengers, ≤ 1 deck, Margin Line Residual GZ & Range Criterion, Ref 10.2.8 Note (4) Only applicable when the ship is restricted to operations in all cases in favourable weather, between 1 April and 31 October, both dates inclusive, and in daylight hours.	(-) Relaxation for Cat B, C and D ships with 1 or less decks carrying up to 100 passengers from SOLAS 1 Compartment damage stab to Margin Line, Residual GZ and range criteria if operating in summer months with favourable weather only. Revised Code therefore allows these ships to operate without having to meet SOLAS 1 or 2 compartment standard, provided they carry no more than 100 passengers.	Cheaper to build a ship for Margin Line, Residual GZ & Range than the SOLAS 1 (or 2) compartment standard. Justified under ALARP principles. Operating restrictions correspond to those for Class VI ships.	Saving on design and construction including materials; surveyor time.			Structure design and build Surveyor time/fees	?	?	?	Ship designers and builders. (Boat yards may be able to establish indicative difference in costs, between building ship to carry 50 people as in old Code as opposed to 60 or 100 people in new code, and benefit from conducting of proposed test as opposed to SOLAS I comp test.)
10.2.6 - Calculation of stability in the damaged condition	10.2.6 (c) (ii) Transverse extent: full breadth of the ship at the level of the deepest subdivision load waterline taken parallel to the keel;	10.2.6 (c) (ii) Transverse extent: from the ship's side to its centreline including any centreline bulkhead at the level of the deepest subdivision load waterline taken parallel to the keel. Ships with a centreline bulkhead will need to be considered in two ways – a calculation for damage through and beyond the bulkhead, and a calculation for damage up to but not including the bulkhead, in accordance with the "lesser extent of damage" provision in 10.2.6(c)(iv). Ships with wing boundaries, e.g. B/5 bulkheads or wing tanks, need calculations assuming damage to the outboard and centreline spaces, leaving the space on the side undamaged intact, maximizing the heel effect.	(-) Significant simplification for catamarans; need only damage one hull instead of both simultaneously.	Clarification of stability standards - previous requirement excessive for multihulls in comparison to monohulls.	Major cost reduction in construction: freeboard and watertight bulkheads.			Structure design and build Surveyor time/fees	?	?	?	Ship surveyors; owners/operators
10.2.6 - Calculation of stability in the damaged condition	None	New sub-paragraph (e) - When considering transverse damage on multihulls, catamarans need only be considered to have damaged one hull, provided the two hulls are totally independent, and that there are not cross connections that, if damaged would flood the other hull and wet deck compartment. See Figure 10.2.6. Trimarans should be considered to have damaged wing and centre compartments.	(?) New sub-paragraph (e) clarifying calculation requirements for double or multi-hull ships.	Clarification		n/a	n/a	n/a	n/a	n/a	n/a	
10.2.7 Standard of stability in the damaged criterion	10.2.7 (1) (d) (iii) (aa) A wind pressure of 120N/m ² (Pa) to be applied;	10.2.7 (1) (d) (iii) (aa) A wind pressure of 80N/m ² (Pa) to be applied;	(?) Wind pressure reduction of 40 N/m ² .	Relaxation in line with Directive for domestic passengers ships (Directive 2009/45/EC states 80 N/m ² for Classes C and D (sea areas).) Original MSN 1823 was overly onerous given the sheltered nature of Categorised Waters	Permits larger accommodation for passengers.			Increased passenger revenue	?	?	?	Ship designers and builders.
10.2.7 Standard of stability in the damaged condition (2) (b)	10.2.7 (2)(b) in the case of asymmetrical flooding the angle of heel for one-compartment flooding shall not exceed 7 degrees. For the simultaneous flooding of two or more adjacent compartments a heel of 12 degrees may be permitted;	(b) in the case of asymmetrical flooding the angle of heel for one-compartment flooding shall not normally exceed 7 degrees. Proposals to exceed 7 degrees shall be submitted to the MCA for special consideration. Such a proposal will not be accepted if the heel angle exceeds 12 degrees. The proposal must include information which demonstrates that muster stations, evacuation routes and life-saving appliances are able to be used satisfactorily.	(-) Relaxation. This will allow one compartment ships to heel up to 12 degrees in the final equilibrium damaged condition subject to approval by the MCA whereas beforehand this was only for two compartment ships.	Greater flexibility; allows wider bulkhead spacing or limited asymmetry in vessel arrangements.	More flexible design requirements but potential savings will be subsumed into the design / build stage.			Potential non-specific saving arising at design/build stage.	?	?	?	Ship surveyors; owners/operators.

Paragraph	Old Requirement	New Requirement	Details of Change (+) = cost; (-) = saving; (0) = neutral	Why the change?	Costs and/or Benefits	New Cost Items	Indicative Amount/s	New Savings Items	Indicative Amount/s	Average net cost/s or saving/s	Source
10.2.8 - Damage stability for undecked, partially decked or single deck ships operating within UK Category B and C waters and carrying up to 60 passengers	None	(7) Alternatively damage stability may be demonstrated by practical test in the Swamped condition (vessel complete, with simulated full load: fuel; fluids; persons simulated at 75 Kg each; tyres fully inflated (for APV); and, eliminating as far as practical any air pockets from areas where they may become trapped). The ship should be floating at equilibrium following the worst possible flooding of the passenger space, or combination of passenger space and one under deck compartment, and with a load equivalent to a righting lever of 0.05m at the gunwale, there should be at least 7 degrees range of positive stability beyond the equilibrium angle.	(-) Provision of alternative damage stability test for appropriate ships, including APVs.	To provide greater flexibility for ships covered by section 10.2.8, including APVs.	Potential saving in terms of surveyor time and out-of-service time.			Variable savings, according to ship characteristics. Structure design and build Surveyor time/fees	£??	??	Ship surveyors; owners and operators.
10.4 - Subsequent Stability Verifications 10.4.1 Heel Test Ships	10.4.1 2 cm tolerance in freeboard measurement bow and stern; 1cm at amidships.	3 cm tolerance in freeboard measurement bow and stern; 2cm at amidships.	(-) Relaxation limiting change in freeboard check for lightship – 1cm extra allowance before failure of lightship check.	Effectively this will allow more additions / modifications through the life of the ship with less requirements for a re-inclining (which is a costly and lengthy process).	Approximately 33 percent increase in the acceptable variance in draught before re-inclining			Surveyor time/fees Out-of-service time	?	?	Ship designers and builders; ship owners/operators
11.1 Draught Marks	Every ship shall have a scale of draughts marked clearly at the bow and stern in accordance with SI 1993 No. 3138 Schedule 3.6. The accuracy of the draught marks shall be witnessed and confirmed by the MCA.	Now refers to datum being marked. More flexibility in draft marks allowed, according to ship.	(-) Relaxation.	Not necessary for all draught marks to be displayed. Amendment allows ship to comply with the regulations via a more pragmatic approach for type of ship and operating environment.	Saving on costs of measuring, marking and maintaining marks as well as their periodic verification.			Construction Surveyor time/fees Maintenance	?	?	Ship builders; ship surveyors; MCA Fees Regulations
12 - LSA - Table 1: Primary means of communication	See table - fixed VHF DSC required	Alternative means allowed where no suitable VHF coverage (reference to 12.4.2 (1)).	(-) Cat C, fixed VHF can change to whatever means SAR plan requires.	Relaxation because if ship not in VHF range, VHF equipment would become useless	Saving in cost of excess equipment.			Radio equipment	£135.00		Marine radio suppliers
								Radio Licence	£20.00	£155.00	OfCom
12.1.1 (3)	None	New sub-section (3) requiring portable lighting.	(+) Additional lighting to be carried on Cat A ships operating at night, to enable safe for abandoning of ship, and transfer to bank/shore.	To reduce risks associated with ship evacuation at night.	Costs of lighting units and associated wiring and fittings.	Lighting unit/s (indicative) wiring, [power] source], installation.	110.00			£110.00	ship designers and builders; owners/operators.
12.1.2 Ships which may operate in Cat B waters	(1) In operating areas where the width of water means deployment of a liferaft is not practicable, then 100% buoyant apparatus or lifebuoys may be provided as an alternative (liferafts may be considered impractical where the combined diameter of liferaft and beam of ship exceed the width of water for 50% or more of the distance of the voyage).	(1) In operating areas where the ship is never further than 80 metres from an accessible bank where passengers could be evacuated should the need arise, liferafts or ORILs are not required to be provided. This should be agreed with the surveyor by the provision of objective evidence. The restriction shall be recorded on the Passenger Ship Safety Certificate	(-) No liferaft or ORIL required if ship within the criteria.	The risk level is within ALARP (as low as reasonably practicable) limits under normal conditions. On a narrow waterway, it may be difficult or impossible to launch liferafts or ORILs.	Saving on cost of liferaft/s or ORIL/s, and their periodic servicing.			Liferafts. Indicative scenario for Category B ship carrying 60 passengers and having 2 x 25 man liferafts and 1 x 10 man liferaft.	£7,000.00		LSA manufacturers and suppliers.
"	"	"	"	"	"			Servicing costs each 5 years @ £350 per liferaft, including certificate and excluding any spare parts.	£1,050.00	£8,050.00	"
12.2.1 (3) (b) (iv) Assembly and Embarkation arrangements for liferafts	None	(iii) Embarkation and assembly stations shall not be located in way of the machinery spaces or other spaces with a high fire risk unless the boundaries between the high risk areas and the embarkation and assembly station is insulated to the A30 standard of fire protection.	(+) Improved fire protection	Safety of passengers and crew.	Cost of insulation if located next to a machinery space. Will arise at design and build stage so difficult to monetise.	Cost of additional A30 insulation	?				Ship designers and builders
12.2.2 Rescue Boats	(1) All ships of greater than 24 metres in length that are certified to operate in Category C or D waters shall be fitted with a rescue boat. The requirement for the carriage of a rescue boat may be relaxed for ships under 35 metres in length	(5) The requirement for the carriage of a rescue boat may be relaxed for ships under 50 metres in length where the surveyor considers that the installation will be physically impossible.	(-) Relaxation in carriage of rescue boat increased to 50m Length from 35m Length for Cat C & D (never required on Cat A & B). NB This easement is intended to acknowledge the limitations of space or/and configuration on some ships between 24m and 50m in length. It should not be interpreted as a means of avoiding the carriage of a rescue boat, at the design stage.	It may not be practical or even possible to fit rescue boat on board some ships, in such a way that it can be deployed effectively in emergency situations. (This measure is in line with Directive 2009/45 for seagoing domestic passenger ships, and therefore considered reasonable to apply eligible UK passenger ships operating on categorised waters.)	For eligible ships: 1) Cost of rescue boat. 2) Benefit of being able to use space released for revenue earning purposes.			Rescue boat (Average) Additional onboard revenue (non-specific)	£3,896.00	£3,896.00	LSA manufacturers and suppliers.
12.2.4 Lifejackets / Buoyancy aids	N/A	12.2.4 (4) Lifejackets on all category C and D vessels shall be fitted with an automatically activated light of MED, SOLAS or ISO approved type. 12.2.4 (5) It is strongly recommended that lifejackets on vessels operating in category B waters are fitted with an automatically activated light of MED, or SOLAS or ISO approved type.	(+) New requirement for lifejackets on ships operating in category C or/and D waters to be fitted with automatically activating lights.	Where dry-shop evacuation is not possible, or cannot be achieved, persons in the water will be more visible and easier to locate and rescue. This change is considered proportionate to the greater risk level encountered in category C and D waters.	Additional cost of lifejackets fitted with lights.	Separate lights @ £13.00 per lifejacket. Cost shown for 65 lifejackets.	845.00			£845.00	LSA manufacturers and suppliers; ship owners and operators.
13.1 Public Address System	Entertainment systems shall be turned off automatically when the public address system is used. Manual shut off shall be available on ships with loud hailers.	Must be able to shut off entertainment systems at point of operation of the public address system.	(0) Simplification - do not need an automatic shut-off of an entertainment system in the bar or lounge (for instance) when the wheelhouse PA system is used, provided the entertainment system can be easily switched off in the bar or lounge.	Will help to reduce safety risk without necessarily increasing burden on operator.	Means bands, DJs etc. can bring on their own gear rather than having an expensive system permanently wired into the ship.			PA electrical systems	?	?	Ship designers and builders; owners/operators.
15.1.1 (2)	At least one power operated fire pump required on all ships.	This requirement may be relaxed for ships operating on Category A waters only, or ships of less than 15m length on other categorised waters, provided an additional 21A/113B extinguisher is carried in lieu of the power operated fire pump. This is in addition to the portable extinguishers required by section 15.2.	(-) Relaxation in carriage of fire pump for Cat A, and C – D under 15m Length. However, additional 21A/113B fire extinguisher required as condition.	Reduction in costs of equipment and wiring, as well as shell fittings, pipework, valves, maintenance and survey.	Saving on cost of fire pump and associated infrastructure. The proposed changes ease or remove design constraints on arrangements involved with fire pump installation.	Two 21A/113B Fire extinguisher/s	£80.00	Engine operated fire pump; or	£675.00	£595.00	Pump and extinguisher manufacturers and suppliers.
						"	£80.00	Electrically powered fire pump; or	£888.00	£808.00	
						"	£80.00	Portable electrically powered pump; or	£480.00	£400.00	
						"	£80.00	Portable diesel powered pump	£756.00	£676.00	

Paragraph	Old Requirement	New Requirement	Details of Change (+) = cost; (-) = saving; (0) = neutral	Why the change?	Costs and/or Benefits	New Cost Items	Indicative Amount/s	New Savings Items	Indicative Amount/s	Average net cost/s or saving/s	Source
15.1.5 Drainage of fire extinguishing water from enclosed spaces	(4) Freeing ports, drains and pump suctions shall be kept free of obstructions and be suitably protected to avoid their blockage during operation. Regular inspection shall be carried out to ensure that they are not blocked	(4) Freeing ports, drains and pump suctions shall be kept free of obstructions and be suitably protected to avoid their blockage during operation. Regular inspection, appropriate to the operation of the ship, shall be carried out to ensure that they are not blocked.	(0) New additional wording gives more flexibility, to allow for different types and sizes of ship.	Permits alternative vessel arrangements where pump suction cannot be blocked.	Benefit of flexible operation and reduced inspection.			Costs of inspection time by crew member/s			(Ship surveyors; owners/operators)
15.4.2 Fire Fighting Extinguishing for Cat A Machinery Spaces	1) one foam fire extinguisher of at least 45 litres capacity or a carbon dioxide fire extinguisher of at least 16 kilogrammes capacity; and	No longer required	(-) 15.4.2 (1) requirement removed.	Requirement for 45 litre, or 16kg CO2, extinguisher impractical as many machinery spaces are too small to hold these bulky extinguishers.	Cost of 45 litre foam fire extinguisher; or, 16kg CO2 fire extinguisher			45 litre foam fire extinguisher; or	£700.00	£700.00	Fire extinguisher manufacturers/suppliers.
								16kg CO2 fire extinguisher	£590.00	£590.00	
15.5 Fire detection in machinery spaces	Fire detection system must provide audible alarm at the control position.	Fire detection system must provide audible and visual alarms at the control position.	(+) Addition of reqt for a visual alarm for fire detection in remote machinery spaces.	An audible alarm alone may be obscured or drowned out by engine and passenger noise.	Possible increase in cost of alarm indication equipment.	Additional cost of visual alarm facility (if any)	?				? Ship designers and builders; owners/operators.
15.5 "	None	New final sentence in paragraph 15.5 - For ships under 24m the detection system need not be MED approved but must meet the standard of BS EN 54.	(-) Relaxation of MED approval requirement for ships under 24m in length.	BS EN 54 is considered a more proportionate standard than the MED, for fire detection systems on ships of under 24m.	Saving on cost of MED approved equipment.			Indicative saving on fire detection system	£??		? Fire detection system manufacturers and suppliers.
15.6 Fire Protection of Machinery and Auxiliary Machinery Spaces	15.6.1 Machinery spaces shall be enclosed by "A" Class divisions insulated to A-30 standard or equivalent. As far as practical such spaces shall be gas tight.	15.6.1 All machinery spaces shall be enclosed by "A" class divisions insulated to "A-30" standard. Where the adjacent space is a low risk area such as a void space, side shell (except in way of life-saving appliances) or open decks not used for passengers, crew or cargo, additional structural fire protection is not required, but the boundaries shall be "A-0" standard (steel) or equivalent. Machinery spaces shall be designed and constructed to enable them to be made gas-tight if a fire occurs.	(-) reducing the amount of insulation installed	Because there is reduced risk in these spaces.	Indicative reduced costs of fire protection per m2. (Will arise at design and build stage.)			Non-specific - construction and insulation cost savings	?		? Ship designers and builders
15.8.3 Fire Protection of Galleys	(1) All galleys shall be enclosed by an A-0 standard steel boundary or equivalent, with self-closing steel doors. Any serving hatches must be fitted with steel shutters. (2) Galleys shall not be sited adjacent to the main escape route as required by Section 13.2 of this Code. (3) A readily accessible fire blanket is to be provided in the galley.	Example of alternative means given (eg fire curtain and fog system).	(-) Do not always need A0 standard - equivalent water mist system may be used.	Galley is high risk but this is an alternative way of meeting the objectives.	Option would only be taken up if there were cost savings or other benefits.			Potential and variable, depending on ship, type of operation and preferences of the owner and operator.	?		? Ship designers and builders; fire control system manufacturers
17.1.2 Gangways	On ships of 30 metres or more registered length (or, in the case of an unregistered ship, of 30 metres or more overall length) the owner/operator shall ensure that there is a gangway carried on the ship which is appropriate to the deck layout, size, shape and maximum freeboard of the ship and which complies with the specifications contained in section 6 of The Code of Safe Working Practices for Merchant Seamen. Consideration shall be given to the provision of safety nets where appropriate.	Removed. This section now just makes references to the Code of Safe Working Practices.	(0) Possibly a cost reduction as means of access no longer specified, permitting alternative arrangements eg shore access ramps in appropriate cases.	Guidance on means of access is provided in The Code Of Safe Working Practices, to which this revised Code now refers.	Cost of a gangway.			Potential and variable, depending on ship	?		? Ship builders; ship owners/operators
17.2 Guardrails and Stanchions	In every ship bulwarks or guard rails shall be provided on every exposed deck to which any passenger may have access. Such bulwarks or guard rails, together with stanchions supporting the guard rails shall be so placed, designed and constructed as to prevent any passenger from climbing or accidentally falling overboard. Guard rails shall have a minimum height of 1000mm above the deck.	17.2.1 In every ship bulwarks or guard rails shall be provided on every exposed deck to which any passenger may have access. Such bulwarks or guard rails, together with stanchions supporting the guard rails shall be so placed, designed and constructed as to prevent any passenger from climbing or accidentally falling overboard. Guard rails shall have a minimum height of 1000 mm above the deck. However, on ships in Category C and D waters, built on or after 1 January 2017, guardrails shall have a minimum height of 1100mm above deck.	(0) Requisite height of guardrails increased by 100mm for new ships operating in Category C and D waters.	Improved protection from falling for both passengers and crew. 1100mm is also the guardrail height required in the EU Directive on Safety Rules and Standards for [Domestic Seagoing] Passenger Ships, and in the UK Small Seagoing Passenger Ships (SSPS) Code. In addition to raising safety standards for passenger ships on categorised waters, this harmonisation of guardrail requirements may mean that they become less expensive to procure and fit to newbuild ships.	Although this is a slightly increased requirement, the MCA anticipates that there will be little or no increase in the cost of providing guardrails. There may, possibly, be savings, for the reason given in the previous column.		?	?	?		? Ship designers and builders; guardrail manufacturers.
17.3 Anchor handling arrangements	Ships shall be provided with anchor handling arrangements, together with anchors and chain cables that are sufficient in number, weight and strength, with regard to size and intended service to the ship.	Every ship shall be provided with anchor handling arrangements, incorporating anchors and chain cables that are sufficient in number, weight and strength, having regard to the size and intended service of the ship, and the ground it will be used on. New 17.3.2 covers alternative means of securing the ship	(?) Greater flexibility and provision for alternative means of securing ship.	Some navigation authorities do not want anchors used because they would rip up ground works. There is usually no need for anchors in canals.	Saving of cost of anchor and windlass.			Anchor Windlass	?		? Ship builders; owners/operators
19 - Navigation 19.1.2 Ships operating in Cat B Waters	See original Code	Previous paragraphs 19.1.2 (2), and (4) are removed. Requirements for applicable ships are now limited to signalling lamp and echo sounder, plus Category A requirements.	(-) Magnetic compass or equivalent, and satellite/radio navigation equipment no longer required on Category B waters.	More proportionate to level of risk commonly encountered in Category B waters.	Saving on costs of navigation equipment.			Non-applicable navigational equipment	?		? Ship designers and builders; navigation equipment manufacturers and suppliers.

Paragraph	Old Requirement	New Requirement	Details of Change (+) = cost; (-) = saving; (0) = neutral	Why the change?	Costs and/or Benefits	New Cost Items	Indicative Amount/s	New Savings Items	Indicative Amount/s	Average net cost/s or saving/s	Source
24.5 Inspection of the Outside of the Ship's Bottom	See original Code	Renamed: Inspection of the Outside of the Ship's Underwater Area. Extensive amendments to original text. See Edition 2 of the Code.	(+) Relaxation overall - benefit. (+) Waiver on strength of satisfactory internal examination removed; (0) More guidance on making application for extension; (-) Relaxation of previous exclusion of certain ships, from eligibility for extension; (-) Wood and steel ships over 20 years old may now be considered for extension under certain conditions; (-) Now no age criteria or restriction for fibre reinforced plastic (FRP) ships.	To be more proportionate to risks involved, and provide greater flexibility for operators.	Savings on costs of surveyor time, and costs of ship being lifted out of the water, and being inoperative.			Surveyor time/fees Out-of-operation time	?	?	Ship surveyors; owners /operators
Annex 5 - glass entry	Glass thickness shall be in accordance with classification society rules or in accordance with Lloyds Register Inland Waterway Rules. Glass must be toughened safety glass.	Categories A, B and non-tidal C: Glass may be "tempered glass" - toughened safety glass which may not necessarily have been tested in accordance with ISO 614, and not therefore marked as such. Glass is normally to be used in accordance with ISO 12216:2002. Categories tidal C, and D: Glass must be thermally toughened safety glass that meets the standards set out in ISO 21005:2012, tested and marked in accordance with ISO 614:2012. Glass thickness shall be in accordance with classification society rules or in accordance with Lloyds Register Inland Waterway Rules.	(-) Slight relaxation of the requirement for all windows to be of toughened safety glass, tested and marked as such.	Revised glass standard allows for lower level of risks encountered in categories A, B and non-tidal C.	Saving on cost of tested and marked glass for eligible ships.			Variable savings on less expensive (non-certificated) toughened glass that may be fitted in appropriate windows on applicable ships.	?	?	Glass manufacturers, ship designers and builders.
Part 2 - Non-substantive changes											
New section 3.7 - Risk Assessment of Operations		3.7.1 ...Prior to plan approval taking place, a risk assessment shall be carried out by the owner/operator to ensure that any local conditions or circumstances are adequately considered and all known risks are mitigated. ...	(0) This particular risk assessment is only to be undertaken by owner / operator where necessary, because either: the ship in question differs from the normal design and construction standards and assumptions in the Code, for its operating area; or, the operating area has characteristics that result in a lower or higher level of risk than would normally be expected.	Greater flexibility for an owner/operator who demonstrates, by their risk assessment, that the ship in question meets the necessary safety standards despite either the ship, or its operating area having non-standard or uncommon characteristics. The standards laid down in this Code are developed for set circumstances based on basic assumptions but if local conditions differ from those assumptions, there may need to be some mitigating measures put in place. Operators should be responsible for their risk assessments, and taking into account the particular characteristics of their ship/s and operating area/s.	Salary etc. for time spent drawing up and carrying out risk assessment (x number of ships affected).	Will vary according to size and characteristics of individual ships, and their area and type of operations.	?				Ship owners and operators
6.1 - Watertight subdivision	None	New sub-paragraph 6.1.3 - Regardless of whether a ship is subdivided or not, every ship that has through hull penetrations that the surveyor considers to provide an increased risk of failure or water ingress, the through hull fitting should be situated in a watertight space. In particular, special attention should be made to drive shafts or other rotating machinery.	(0) This is not a new requirement but it clarifies and makes explicit MCA's existing policy.	Safeguarding watertight integrity of shell fittings.	Cost would not normally be an issue. This requirements only applies to ships of unusual configuration e.g. some amphibious vessels.	n/a	n/a	n/a	n/a	n/a	N/A
6.7 Routine inspections for watertight integrity	None	6.7.1 - All deadlights, watertight doors, valves and closing mechanisms of scuppers shall be opened and closed at intervals of not more than seven days. 6.7.2 All closing appliances and devices relating to the damage control or watertight integrity for protection of the ship shall be inspected by a person appointed by the master for that purpose, at intervals of not more than seven days, or if the ship has been out of service for more than seven days, before it proceeds on any voyage. 6.7.3 A record of any inspection shall be kept as part of the Safety Management System.	(?) Requirement for regular inspections of items concerned. (Already a requirement under DSM, and included in this revised Code for clarification.)	Pro-active safety/risk management.	No additional costs.	N/A	N/A	N/A	N/A	N/A	N/A
10.3 - Stability Information	See original Code	New sub-paragraph 10.3.3 Every ship complying with the requirements of 10.2.8 on completion shall have its stability information submitted to the MCA for approval.	(0) States requirement for submission to MCA for clarity.	Clarifies and confirms existing policy.	No change	N/A	N/A	N/A	N/A	N/A	N/A
10.4 - Subsequent Stability Verifications - 10.4.1 Heel Test Ships	None. (See original Code)	New sub-paragraph 10.4.1 (3) Every inclining or lightship survey or tests made for this purpose or for the purpose of this section of the Code shall be carried out in the presence of an MCA surveyor.	(0) States requirement for presence of MCA surveyor for clarity.	Clarifies and confirms existing policy.	No change	N/A	N/A	N/A	N/A	N/A	N/A
10.4.2 - Subdivided ships	None. (See original Code)	New sub-paragraph 10.4.2 (6) Every inclining or lightship survey or tests made for this purpose or for the purpose of this section of the Code shall be carried out in the presence of an MCA surveyor.	(0) States requirement for presence of MCA surveyor for clarity.	Clarifies and confirms existing policy.	No change	N/A	N/A	N/A	N/A	N/A	N/A

Paragraph	Old Requirement	New Requirement	Details of Change (+) = cost; (-) = saving; (0) = neutral	Why the change?	Costs and/or Benefits	New Cost Items	Indicative Amount/s	New Savings Items	Indicative Amount/s	Average net cost/s or saving/s	Source
15.7 Fire protection of passenger and crew accommodation	15.7.1 In all enclosed accommodation the bulkheads, linings, ceilings and their associated grounds shall be constructed of non-combustible materials and their exposed surfaces shall have low flame spread. 15.7.2 All ships with passenger sleeping accommodation shall be fitted with a fixed fire detection system installed and arranged to detect the presence of fire in such spaces and corridors, stairways and escape routes within accommodation spaces. 15.7.3 Passenger sleeping accommodation shall be fitted with an automatic pressurised water sprinkler fixed fire fighting system.	15.7.1 In all enclosed accommodation the bulkheads, linings, ceilings and their associated grounds shall be constructed of non-combustible materials, as defined in the FTP Code, and their exposed surfaces shall have low flame spread compliant with the FTP Code, Annex 1, Part 5. 15.7.2 Primary deck coverings within accommodation spaces, service spaces and control stations are to be of a type which will not readily ignite, or give rise to toxic or explosive hazards at elevated temperatures. Reference is also to be made to the FTP Code, Annex 1, Parts 2 and 6. 15.7.3 Except when a fully addressable fire detection system is fitted, upholstery composites (fabric in association with any backing or padding material) used throughout the ship and on open decks shall be approved in accordance with the FTP Code, Part 9 or an equivalent standard [such as suitable ISO/BS standards] acceptable to the MCA. 15.7.4 Except when a fully addressable fire detection system is fitted, suspended textile materials such as curtains and drapes shall be approved in accordance with the FTP Code, Annex 1, Part 7, or an equivalent standard [such as suitable ISO/BS standards], acceptable to the MCA. 15.7.5 All ships with passenger sleeping accommodation shall be fitted with a fixed fire detection system installed and arranged to detect the presence of fire in such spaces and corridors, stairways and escape routes within accommodation spaces. Bedding components shall be approved in accordance with the FTP Code, Annex 1, Part 9 or	(?) New requirement for upholstery standards. In practice built to BS standards anyway, so technically an IN but may not be any costs to this. Clarifies meaning of expressions in original text.	No cost impact is anticipated here. The meaning of the original wording is lifted from SOLAS Chapter II-2 but there was no definition or explanation and so the references to the FTP Code (and any ISO standards therein) are included for clarification. Materials used for upholstery bought in the UK should already meet appropriate fire safety standards as a matter of course.	If there are any extra costs, they will arise at the design and construction stages, and will depend on individual ship characteristics.	n/a	n/a	n/a	n/a	n/a	N/A
20.3 Carriage of COSWP	20.3.2 Ships of less than 15 metres in length carrying 5 or less workers are not required to carry a copy onboard provided a copy is freely available to all workers and it is clearly stated in the ships Safety Management System where each copy of the COSWP is kept. A minimum of one copy per 3 ships shall be made available by the operator.	20.3.1 All persons working on the ship shall have access to the COSWP, either in "hard" copy, or electronically. It shall be clearly stated in the ship's Safety Management System where each copy of the COSWP is kept, or may be accessed.	(-) Previous arrangement for ships of < 15m in length is now extended to all ships, so there is now no requirement for one hard copy of COSWP to be carried. The COSWP must however be available and accessible to everyone working on the ship; either in hard copy or electronically. (eg perhaps on a tablet or laptop)	Requirement considered excessive for small ships.	Cost of COSWP			One copy of COSWP.	40.00	40.00	MCA (MIN 512)
Annex 7- The Heeling Test and Freeboard measurements	Section 9 - Freeboard Measurements. 9.1 Loaded freeboard measurements shall be taken at the heeling test with all weights onboard corresponding to the total number of passengers at 75kg each. Freeboard measurements shall be taken at positions forward, aft and amidships; with the location of the measurement points being recorded for future reference. Freeboard measurements shall generally be taken to the deck edge at side; any exception to this shall be noted to avoid any misinterpretation. The minimum freeboard and its location shall also be recorded. The mean loaded freeboard shall not be less than the minimum freeboard permitted for the ship. The minimum freeboard for ships of waterline length 6 m or less is 380mm. The minimum freeboard for ships with a waterline length of 18.3 m or more is 760mm. For intermediate lengths the minimum freeboard shall be calculated by linear interpolation. These minimum freeboards may	Annex 7 deleted except for section 10 - Subsequent Stability Verifications. Open Boat diagrams renamed to Open Ship.	This topic is now covered within the relevant MCA Instructions to Surveyors.	No change.	N/A	N/A	N/A	N/A	N/A	N/A	N/A