PSCE Pre-board Lookups

MST3

Which Chapters apply to keel laid date? II-1, II-2, III

Where can the IMO number be located on the skin of the ship?

The ship's IMO number shall be permanently marked: in a visible place either on the stern of the ship or on either side of the hull or on the front of the superstructure.

What is the threshold for depth of deformations on skin plating?

1 inch per 4 inches. Maximum 4 inches over 16 inches. Inland tank barge and inspection repair guide.

What inspection is required by the Cargo Ship Safety Construction Certificate?

Initial inspection when ship is put into service. Renewal survey not exceeding 5 years. An intermediate survey within three months before or after the second anniversary date or within three months before or after the third aniiversary date of the certificate which shall take the place of the annual survey. An annual survey 3 months before or after the anniversary date. And a minimum of two inspections of the outside of the ships bottom during any five year period. In all cases the interval between any two such inspections shall not exceed 63 months.

How often are OI notifications done? Quarterly 33CFR 155.1960 (a)(1)

How long can flag dispensations last?

A specified period not exceeding 6 months. STCW Article VIII

Liferaft servicing shall not exceed how long?

Every liferaft shall be serviced at intervals not exceeding 12 months. The administration may extend this period to 17 months.

What kind of test is performed on the foam used for fixed firefighting?

Sedimentation. pH value. Expansion Ratio. Prainage time. Volumic Mass. These tests are described in MSC/ Circ. 798 3.3, 3.5, 3.6, 3.7 and 3.10 respectively.

What is the difference between the SOLAS regulations and CFR regulations for echo depth sounders? 74 solas(2009) Ch. V Reg 19.2.3.1 require an echo depth sounding device. CFR 164.35 requires a depth sounding device as well. In addition, 33 CFR 164.35 also requires a device that can continuously record the depth readings of the echo depth sounding device.

Who registers EPIRBS?

Register through flag which uses Cospas-Sarsat

How many SARTS should be onboard?

Two on the bridge if there is not a freefall lifeboat. 1 on the bridge and one in the lifeboat if the lifeboat is a freefall.

What are the required launch times for rescue boat and life boat?

Each survival craft shall be stowed in a state of continuous readiness so that two crew members can carry out preparations for embarkation and launching in less than 5 minutes. 74 Solas (2014 cons) Ch. III Reg 13.3

Rescue boats shall be stowed in a state of continuous readiness for launching in not more than 5 min. 74 Solas (2014 cons) Ch. III Reg 14.1

Who can still have open life boats?

Vessels applicable to Solas 74 and before. 74 Solas Ch. III Reg 5 states that the Administration may approve lifeboats with rigid shelters but does not require them. Reg 26 in Solas 97 requires cargo ships to carry lifeboats that meet Regulation 44. Regulation 44 discusses totally enclosed lifeboats.

What is the term used to define mechanical propulsion? What is an alternative to mechanical propulsion? 74 Solas Ch. III Reg 10. Propelling gear defines mechanical propulsion. Reg 9 describes motor lifeboats and Reg 10 describes mechanically propelled lifeboats other than motor lifeboats.

What are the paint locker fire fighting requirements?

Paint lockers shall be protected by:

Fixed CO2

Dry powder system

Water spraying or sprinkling system

An equivalent approved by the Administration

If the paint locker is less than 4 m2, and does not give access to accommodation spaces, a portable CO2 fire extinguisher may be accepted in lieu of a fixed system if a discharge port is provided. Alternatively, a port of hose connection may be provided to facilitate the use of fire main water.

74 Solas (2014 cons) Ch. II-2 Reg 10.6.3.1

Which equipment inside the galley needs fixed fire fighting equipment?

Deep-fat Frying equipment. 74 Solas (2014) Ch. II-2 Reg 10.6.4

What is required in the hospital space?

Approved medicine chest with readily understandable instructions. A water closet for the exclusive use of the hostpital occupant. Must not be used for stowage or berthing. ILO- 147

What are the requirements for safety around the steering gear room?

Ready accessible and separated from machinery spaces. And provided with suitable arrangements to ensure working access to steering gear machinery and controls. These arrangements shall include handrails and gratings or other nonslip surfaces to ensure suitable working conditions in the event of hydraulic fluid leakage.

Discuss rotary vane steering:

Rotary vane steering gear serves the same function as ram steering gear. It consists of a fixed casting, with a rotor to which wings are attached inside the casing. The casing matches up with the wings of the rotor. It has 4 chambers, two high pressure and two low pressure. A valve block directs hydraulic oil at high pressure into the the chambers, rotating the rudder.

What are the requirements for switchboards?

74 Solas (2009 cons) Ch. II-1 Reg 45.2 requires non conducting mats or gatings at the front and rear of the switchboard.

What is the requirements for particulates coming out of Marine Sanitation Devices?

Type I- produces an effluent having a fecal coliform bacteria count not greater than 1,000 per 100 milliliters and no visible floating solids.

Type II-produces an effluent having a fecal coliform bacteria count not greater than 100 per 100 millilters and suspended solids not greater than 150 milligrams per liter.

Type III- has no requirement for particulates because it is designed to prevent the overboard discharge of treated or untreated sewage

What is the sulphur requirement outside of the FCA? MARPOL Ch. 3 Reg 14.1.2 – 3.5% m/m

What sulphur content is required inside the ECA? MARPOL Ch. 3 Reg 14.4.3-.10 m/m

How fast should the emergency generator start?

Emergency Generator be started automatically upon failure of the main source of electrical power supply and be capable of supplying the required load as quickly as is safe and practicable subject to a maximum of 45 seconds. 74 Solas (2014 cons) Ch. II-1 Reg. 43.3.3

45 seconds

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		7	

MST3

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FFVE Preboard Lookups

On a container ship, which tiers are above decks? The first container above deck is Tier 82, the one on top of that is 84, 86, and so on.

What is the size threshold for overlarge container vessels? 1200 feet and longer. 14501 TEU and higher

How many containers can be stacked on a container ship? 33CFR164.15 Navigation bridge visibility.

- (a) The arrangement of cargo, cargo gear, and trim of all vessels entering or departing from U.S. ports must be such that the field of vision from the navigation bridge conforms as closely as possible to the following requirements:
- (1) From the conning position, the view of the sea surface must not be obscured by more than the lesser of two ship lengths or 500 meters (1640 feet) from dead ahead to 10 degrees on either side of the vessel. Within this arc of visibility any blind sector caused by cargo, cargo gear, or other permanent obstruction must not exceed 5 degrees.

Which cargoes cannot be outboard on a container ship? 1.1 1.2 Marine Pollutants 49CFR

On a Ro-Ro vessel, how often are samples taken in the Sample extraction smoke detection system? FSS Code Ch. 10 Reg 2.1.2 Any required system shall be capable of continuous operation at all times except that systems operating on a sequential scanning principle may be accepted, provided that the interval between scanning the same position twice gives an overall response time to the satisfaction of the administration.

What allows ships to load beyond their load line? ICLL Article 16- Issuance of Certificates: Load Line Exemption Certificate

What are the provisions for a ship that wants to load grain, but they do not hold a DoA? Grain Code 3.5- A ship without such a document of authorization shall not load grain until the master demonstrates to the satisfaction of the Administration, or of the Contracting Government of the port of loading acting on behalf of the Administration, that, in its loaded condition for the intended voyage, the ship complies with the requirements of this code. Grain Code 9.1 A ship not having on board a DoA... it may be permitted to load bulk grain provided that: the total weight of the bulk grain shall not exceed one third of the deadweight of the ship

What is the term for how a bulk carrier loads a cargo hold part way? Partly filled compartment Grain Code 2.4

What is the US Regulation that covers bulk carriers? 46CFR90

What is the equilateral triangle found on some ships? It is an indication that in order to meet current regulations, this ship has load limitations.



When did the requirement go into effect to keep all CSR history? SOLAS 14 XI-1/5.2.2

1 July 2004, Ships constructed before 1 July 2004 only need history from that date on.

Who is the VRP point of contact?

Response Manager

Registry of Lifting Appliances:

The tests, examinations and inspections indicated in this Register are based on the requirements of the ILO Convention No. 152 and Recommendation No. 160. They are intended to ensure that ships' lifting appliances are initially certified by a competent person and to establish periodically that they continue to be in safe working order to the satisfaction of a competent person acceptable to the competent authority. A Register of Lifting appliances and items of loose gear shall be kept in a form prescribed by the competent authority, account being taken of this model recommended by the International Labour Office. This Register and related Certificates shall be kept and be available to any person authorized by the competent authority. The Register and Certificates for gear currently aboard the ship shall be preserved for at least five years after the date of the last entry.

Explain Structural Fire Protection Boundaries: SOLAS 14 II-2/3

A-Class

Prevents **smoke** and **flame** for **1** hour and insulated so that if subjected to fire test for the applicable time period listed below, the average temperature on the unexposed side does not rise more than 139°C (250°F) above the original temperature and the temperature at any one point does not rise 181°C (325°F) above the original temperature.

A-60 (60 minutes)

A-30 (30 minutes)

A-15 (15 minutes)

A-0 (0 minutes)

B-Class

Prevents **flame** for **30 minutes** and insulated so that if subjected to fire test for the applicable time period listed below, the average temperature on the unexposed side does not rise more than 139°C (250°F) above the original temperature and the temperature at any one point does not rise 225°C (405°F) above the original temperature.

LTJG Pre-Board Look-Ups

B-15 (15 minutes)

B-0 (0 minutes)

C-Class

Prevents the passage of smoke between adjacent areas.

What do you look for on a water mist system? FSS Code 8.2.3

- Valve open and not locked closed
- Controller in auto/remote
- Fixed pressure
- Independent power pump
- Pressure tank volume equal to at least 2x charge of water (charge fresh water = amount discharged in 1 minute by pump that continuously provides enough pressure to cover a minimum area of 280m² at 5L/m²/min.

What are the Ventilation Requirements for CO2 Room (above/below decks)? SOLAS 14 II-2/10.4.3

When fire extinguishing medium is stored outside a protected space:

- Entrance from open deck, or
- If below deck no more than one deck below the open deck and fitted with mechanical ventilation system designed to take exhaust air from the bottom of the space and provide at least 6 air changes/hr.

What is the item called that secures cargo holds? SHIP KNOWLEDGE pg 192

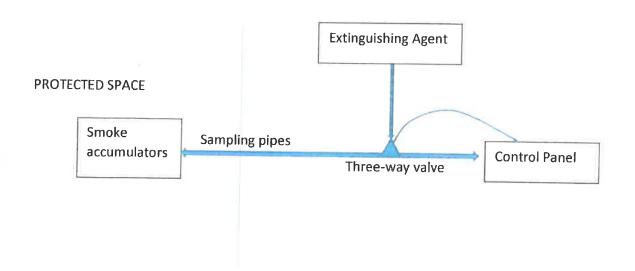
Cleats - fix the hatch cover to the coaming

Explain the smoke extraction system. SOLAS 14 II-2/20.4.2, FSS Code 10

Except open ro-ro spaces, open vehicle spaces and special category spaces, a sample extraction smoke detection system may be used as an alternative for the fixed fire detection and fire alarm system.

Sample Extraction Smoke Detection System:

- Ships constructed after 1 January 2012
- Components: smoke accumulators, sampling pipes, three-way valves, control panel
- Continuously operated, sensing units operate until density exceeds 6.65% obs/metre
- Detection of smoke or other products of combustion shall indicate a visual and audible signal at the control panel and indicating units



AOR

Coal Facilities: DTA, NS, KM Pier IX

Grain Facilities: Perdue

Container Facilities: VIG, NIT, PMT

Break-Bulk Facilities: Lamberts Point

Ro-Ro Facilities: Newport News Marine Terminal

Explain Random Vessel Exams:

Authority: 74 SOLAS(14) I/19 → Procedures for Port State Control Res A.1052(27)→46 USC 3303

Except as provided in chapter 37 and section 3505 of this title, a foreign vessel of a country having inspection laws and standards similar to those of the United States and that has an unexpired certificate of inspection issued by proper authority of its respective country, is subject to an inspection to ensure that the condition of the vessel is as stated in its current certificate of inspection.

RANDOM PSC EXAMINATION SELECTION (MSM II/D.4.E)

The COTP or OCMI may randomly examine vessels that do not screen for an ISPS/MTSA security compliance examination. Normally, the COTP or OCMI can perform random examinations when the vessel is in port, but may perform this examination prior to port entry if another examination is scheduled for the vessel prior to port entry.

<u>Unpredictability:</u> Random PSC examinations provide a strong deterrent against subversive actions or substandard operations. If vessel targeting falls into a predictable pattern, we leave open an avenue for organizations to understand and study ways to subvert the targeting systems and possibly allow substandard ships into U.S. ports without examination. A random examination selection process injects unpredictability into the targeting process and undercuts those intending to subvert our targeting systems.

Not already target for an ISPS/MTSA Security Compliance Examination or a PSC Safety and Environmental Compliance Examination. Random examination should be comprised of both a PSC safety and environmental compliance examination and an ISPS/MTSA Security Compliance examination and must be to the same scope as targeted PSC and ISPS examinations. Note in particular that vessels currently enrolled in the QUALSHIP 21 program and vessels that hold a valid Certificate of Compliance are subject to random ISPS/MTSA Security Compliance Examination but not random PSC Safety and Environmental Compliance Examination.

What is the difference between the SOLAS and CFR regulations for radars and which reference trumps the other?

SOLAS

All Ships $\geq 300GT : 9GHz \ radar (74 SOLAS(14) V/19.2.3.2)$

All Ships \geq 3,000GT: a second 3GHz or 9GHz radar (74 SOLAS(14) V/19.2.7.1)

CFR

All Ships ≥ 1,600GT: 1 marine radar system for surface navigation (33 CFR 164.35(a))

All Ships \geq 10,000GT: a second marine radar system that operates independently of the first (33 CFR 164.37(a))

Only CFR references can be used for enforcement options LODs, COTP Orders, Denial of Entry, Expulsion, etc. (33 CFR 160 Subpart B Control of Vessel and Facility Operations, 33 CFR 164.55)

Explain the different levels of enforcement for non-compliance:

(MSM V/C.1.F.2)

In general, Sector Commanders / Commanding Officers shall evaluate the enforcement actions recommended by marine safety personnel under their command to assure they are appropriate. Where appropriate and necessary, the Sector Commander / Commanding Officer may initiate enforcement actions, including:

- Refer to Other Agency for Enforcement Action (see F.3. below);
- Compliance Requirement (see volume II);
- Letter of Warning (see Chapter C2 of this volume);
- •Notice of Violation (see Chapter C3 of this volume);
 - Class I Administrative Civil Penalty (see Chapter C3 of this volume);
 - •Merchant Mariner Credential Suspension and Revocation (see Chapter C4 of this volume);
 - Refer for Class II Administrative Civil Penalty Prosecution (see Chapter C3 of this volume);
 - Revoke Certificate or Permit (see volume II);
 - •Refer for Judicial Prosecution (see Chapter C3 of this volume); and/or
 - •Impose/Request Operational Controls (see volume II).

(Port State Control Student Notes – Binder 1 – Penalty Actions)

Civil Penalty Adjudication

Civil Penalty

Letter of Warning

Explain a cement patch: Would class approve?

Should only be used as a temporary repair.

(MSM II/D.1.G.1.c.2)



During examination of the machinery spaces, the PSCO should form an impression of the standard of maintenance. Frayed or disconnected wires, disconnected or inoperative reach rods, quick closing valves or machinery trip mechanisms, missing valve hand wheels, evidence of chronic steam, water and oil leaks, dirty tank tops and bilges, extensive corrosion of machinery foundations, or a large number of temporary repairs, including pipe clips or cement boxes may be indicative of poor maintenance.

LTJG PSC/FFE Board Look-Ups

What document is needed for Grain that the National Cargo Bureau issues, and what is in it?

(NVIC 05-94 Requirements for Vessels Carrying Bulk Grain Cargo)

Certificate of Loading – attests that the stability of the vessel complies with the information approved by its Document of Authorization before each voyage from a U.S. port.

PONCB : 120

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LTJG PSC/FF Board Look-Ups

1. What is the policy for entering cargo holds?

Section 1

-PSCOs should not enter cargo holds that are being worked. PSCOs should only enter holds after reviewing the ship's safety requirements for hold entry and then only when escorted by one of the vessel's mates. (MSM Vol. II Sec. D, D5-7) Ship may classify holds as a confined space in which case we would not enter without a marine chemist certificate. It is also up to PSCO comfort and review if it is necessary to enter at all.

2. What is the time requirement for a change to a NOA?

-If the remaining voyage is more than 96 hours, as soon as practicable but 24 hours prior to arrival. If voyage is 24-96 hours, as soon as practicable but 24 hours prior to arrival. If voyage is under 24 hours, as soon as practicable but at least 12 hours prior to arrival. (33CFR160.212(a)(4)

3. What are tween (between) decks and what vessel types have them?

- -The space between two continuous decks on a ship, especially that below the upper deck.
- -Could be found on containers, ro-ros, and break-up and used as stowage space.

4. What is the US equivalent to IMSBC?

-49CFR Subchapter C- Hazardous Materials Regulations

5. Where are the exemptions for fixed fire fighting in cargo holds (in a US reference)?

-46CFR95.05-10 states that a fixed carbon dioxide or other approved system must be installed in all cargo compartments and tanks for combustible cargo except for vessels engaged exclusively in the carriage of coal or grain and bulk.

-Coal ships will typically have an exemption letter from class not required the installation of fixed fire fighting in their cargo holds.

6. What are the drainage requirements for water fixed fire fighting system (for ro-ros)?

-Each open ro-ro space having a deck above it and each space deemed to be a closed ro-ro space not capable of being sealed shall be fitted with an approved fixed pressure water spraying system. The drainage and pumping arrangements shall be such as to prevent the build-up of free surfaces. The drainage system shall be sized to remove no less than 125% of the combined capacity of both the water-spraying system pumps and the required number of fire hoses. Also the valves must be operable from outside the space. (SOLAS(14)II-2/19.3.9)

125% duinage

7. Are vehicles (for ro-ros) considered dangerous goods?

-Yes because of the dangerous goods contained in vehicles including the gasoline and the batteries. Petroleum distillates/products are listed in the IMDG Code under UN #1268 and battery powered vehicles/equipments are listed under UN #3171.
-49CFR176.905 also addresses requirements for motor vehicles that are carried as cargo.

8. Where are the alternate management systems for ballast water treatment listed? What are the testing requirements for them to become a USCG approved system?

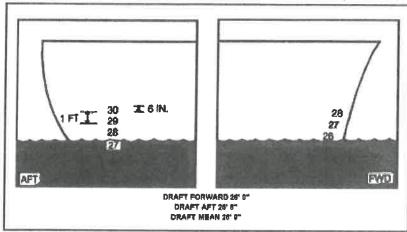
-The current list of the five USCG approved BWMS are searchable and listed on CGMIX -To become a USCG approved system the company would follow the steps in 46CFR162.060-10. Specifically, the manufacture must ensure evaluation, inspection, and testing of the BWMS is conducted by an independent laboratory accepted by the USCG unless a written request is approved. The list of accepted laboratories is listed on CGMIX and the only locations are in Michigan, Norway, Korea, Netherlands, and UK.

9. What do you need in order to expand and/or further investigate? (From OWS discussion)

-Clear grounds (Procedures for Port State Control, 2011)

1. How do you determine the draft during a hull walk?

When the water reaches the bottom of the draft mark you read it as a whole number.



2. Does the Master have to be present for a PSC exam?

No, it can be a vessel representative. Procedures for Port State Control Ch. 2

3. After what year does a vessel need a CSR?

01July04)74SOLAS(14)XI-1/5.2.2

4. SOLAS Cargo Construction certificate survey frequency?

Valid for 5 years and has an annual survey every year. 74SOLAS(14)I/14

5. Who sets sea areas?

IMO

6. Process for switching load lines?

- (1) Whenever the owner desires to change from one assigned freeboard to another, the Master shall verify the following:
 - a) Only one loadline certificate is in use at any given time. Other Loadline certificate(s) is/are kept in a sealed envelope and kept under the safe custody of the master.
 - b) Only one set of marks associated with the Loadline certificate in use, (i.e., is actually "painted in" and visible at any given time). Other Loadline marks are obliterated or painted out with the same colour as its background.

- c) The new summer freeboard on each side shall be physically measured each time, and recorded in the "Multiple Load Line Assignment Booklet" along with other relevant details, duly endorsed by the Master.
- d) The company is informed to update the office copy of "Multiple Load Line Assignment Booklet", in accordance with the procedure contained in the safety management system (SMS).
- e) An official entry is made in the ship's log book about the change in loadline marking.
- (2) During the annual/renewal loadline surveys, the RO's surveyor shall verify/endorse the Ship's copy of the "Multiple Load Line Assignment Booklet".
- (3) While carrying out the annual/renewal surveys, regardless of the deadweight value applicable at the time, the vessel shall be surveyed for compliance with the most severe statutory requirements corresponding to the greatest deadweight the vessel is capable of carrying, or the deepest draft upto which the vessel is capable of operating. On satisfactory completion of surveys, all the Loadline certificates shall be endorsed by the attending surveyor.

7. When is an EIAPP required?

The NO_x control requirements of Annex VI apply to installed marine diesel engine of over 130 kW output power other than those used solely for emergency purposes irrespective of the tonnage of the ship onto which such engines are installed. Definitions of 'installed' and 'marine diesel engine' are given in regulations 2.12 and 2.14 respectively. Different levels (Tiers) of control apply based on the ship construction date, a term defined in regulations 2.19 and hence 2.2, and within any particular Tier the actual limit value is determined from the engine's rated speed:

Tier	Ship construction date on or after	Total weighted cycle emission limit (g/kWh) n = engine's rated speed (rpm)			
		n < 130	n = 130 - 1999	n ≥ 2000	
I	1 January 2000	17.0	45·n ^(-0.2) e.g., 720 rpm – 12.1	9.8	
11	1 January 2011	14.4	44·n ^(-0.23) e.g., 720 rpm – 9.7	7.7	

m	1 January	3.4	9·n ^(-0.2)			
	2016*		e.g., 720 rpm – 2.4	2.0		

8. Retention of records for NTVRP?

3 years 33CFR155.1062(a)(2)

- Life boat recovery time?
 Life boats do not have a recovery time just a launching time requirement unless they are also being utilized as a rescue boat.
- 10. Can the food in a lifeboat be broken/crumbled even if it is in a sealed container and not expired?

 No, because it has to be packed in a manner which can be readily divided and easily opened,

 taken into account immersion suit gloved hands. LSA 4.1.5.1.18
- 11. Forward life rafts. Distance requirements? 100 meters 74SOLAS(14)III/31.1.4
- 12. Flammable/Combustibles stored in machinery spaces? 46CFR147.45
- (c) No more than 19 liters (five gallons) of flammable liquids may be stowed in any machinery space. The flammable liquids must be in containers of 3.8 liters (one gallon) or less.
 - (d) No more than 208 liters (55 gallons) of combustible liquids may be stowed in any machinery space.
- 13. A393 alarm/stopping requirements? A393 are only required to produce an alarm if the throughput reaches 15ppm
- 14. How do you get into a life raft on a Ro-Ro?

 Marine Evacuation System
- 15. Explain Row, Bays, and Tiers?

Bay Plan is a numbering system that gives a cross-sectional view of the arrangement of containers on a vessel above and below the deck. It consists of 6 digits. The first two digits indicate the bay, the middle two indicates the row and the last two represents the tier.

ROW is the position where the container is placed across the width of the ship. If the container is placed on the center line of the ship it is given a row 00. The rows are even numbered on the port side like 02, 04, and 08 and so on while the rows on the starboard side are given odd numbers like 01, 03, and 05 and so on.

TIER denotes the height of the containers on or under the deck. If the containers are placed on the deck, their numbering normally starts from 8, 84, 86, 88 and goes upwards starting from the first tier.



