Are there any exceptions?

The Administration may allow ships operating on short international voyages not to launch the lifeboats on one side if their berthing arrangements in port and their trading patterns do not permit launching of lifeboats on that side. However, all such lifeboats shall be lowered at least once every 3 months and launched at least annually. Cite: SOLAS Consolidated 2001, III/19

What are the requirements for rescue boats?

As far as is reasonable and practicable, rescue boats other than lifeboats which are also rescue boats, shall be launched each month with their assigned crew aboard and maneuvered in the water. In all cases this requirement shall be complied with at least once every 3 months. Cite: SOLAS Consolidated 2001, III/19

What are the requirements of the General Alarm System?

- The general emergency alarm system shall be capable of sounding the general emergency alarm signal consisting of seven or more short blasts followed by one long blast on the ship's whistle or siren and additionally on an electrically operated bell or klaxon or other equivalent warning system, which shall be powered from the ship's main supply and the emergency source of electrical power as appropriate.
- The system shall be capable of operation from the navigating bridge and, except for the ship's whistle, also from other strategic points.
- The system shall be audible throughout all the accommodation and normal crew working spaces.
- The alarm shall continue to function after it has been triggered until it is manually turned off or is temporarily interrupted by a message on the public address system. Cite: SOLAS Consolidated 2001, III/6 and LSA Code, Chapter 7

How often should the General Alarm be tested?

Weekly. Cite: SOLAS Consolidated 2001, III/20

What are a Muster lists and emergency instructions?

Clear instructions to be followed in the event of an emergency. Cite: SOLAS Consolidated 2001, III/8

Where are Muster lists and emergency instructions required to be posted?

Muster lists and emergency instructions complying with the requirements of regulation 37 shall be exhibited in conspicuous places throughout the ship including the navigating bridge, engine-room and crew accommodation spaces. Cite: SOLAS Consolidated 2001, III/8

What shall Muster Lists and Emergency Instructions include?

- The muster list shall specify details of the general emergency alarm and public address system and also action to be taken by crew when this alarm is sounded.
- It shall also specify how the order to abandon ship will be given.
- It shall show the duties assigned to the different members of the crew including:
 - Closing of the watertight doors, fire doors, valves, scuppers, side scuttles, skylights, portholes and other similar openings in the ship;
 - o Equipping of the survival craft and other life-saving appliances;
 - o Preparation and launching of survival craft;
 - o General preparation of other life-saving appliances;
 - O Use of communication equipment;
 - o Manning of fire parties assigned to deal with fires; and
 - Special duties assigned in respect to the use of fire-fighting equipment and installations.
 - The muster list shall specify which officers are assigned to ensure that life saving and fire appliances are maintained in good condition and are ready for immediate use.
 - The muster list shall specify substitutes for key persons who may become disabled, taking into account that different emergencies may call for different actions.
- The muster list shall be prepared before the ship proceeds to sea. After the muster list has been prepared, if any change takes place in the crew which necessitates an alteration in the muster list, the master shall either revise the list or prepare a new list. Cite: SOLAS 2001 Consolidated, III/37

What should a PSCO consider prior to conducting drills?

- The PSCO should not include any operational tests or impose physical demands, which, in the judgment of the master, could jeopardize the safety of the ship, crew, passengers, control officers or cargo.
- When carrying out operational control, the PSCO should ensure, as far as
 possible, no interference with normal shipboard operations, such as loading and
 unloading of cargo and ballasting, which is carried out under the responsibility of
 the master, nor should the PSCO require demonstration of operational aspects
 which would unnecessarily delay the ship.
- Having assessed the extent to which operational requirements are complied with, the PSCO then has to exercise professional judgment to determine whether the operational proficiency of the crew as a whole is of a sufficient level to allow the ship to sail without danger to the ship or persons on board, or presenting an unreasonable threat of harm to the marine environment. Source: IMO Resolution A.787 (19), Chapter 3

What international guidance should be used when observing drills? SOLAS Consolidated 2001, II-2 / 20 and III/19, IMO Resolution A.787 (19)

What are the SOLAS Fire Drill requirements for cargo ships?

Each fire drill shall include:

- Reporting to stations and preparing for the duties described in the muster list;
- Starting of a fire pump, using at least the two required jets of water to show that the system is in proper working order;
- Checking of fireman's outfit and other personal rescue equipment;
- Checking of relevant communication equipment;
- Checking the operation of watertight doors, fire doors, fire dampers and main inlets and outlets of ventilation systems in the drill area; and
- Checking the necessary arrangements for subsequent abandoning of the ship. Cite: SOLAS 2001 Consolidated, III/19

What are the SOLAS Abandon Ship Drill requirements for cargo ships?

Each abandon ship drill shall include:

- Summoning crew to muster stations with the alarm required by regulation 6.4.2 followed by drill announcement on the public address or other communication system and ensuring that they are made aware of the order to abandon ship;
- Reporting to stations and preparing for the duties described in the muster list;
- Checking that crew are suitably dressed;
- Checking that lifejackets are correctly donned;
- Lowering of at least one lifeboat after any necessary preparation for launching;
- Starting and operating the lifeboat engine;
- Operation of davits used for launching liferafts;
- Instruction in the use of radio life-saving appliances.
- Emergency lighting for mustering and abandonment shall be tested at each abandon ship drill. Cite: SOLAS Consolidated 2001, III/19

What is the time requirement for abandon ship drill?

All survival craft required to provide for abandonment by the total number of persons on board shall be capable of being launched with their full complement of persons and equipment within a period of 10 min from the time the abandon ship signal is given. Cite: SOLAS Consolidated 2001, III/31

XII. MACHINERY

What are the SOLAS general machinery requirements?

The machinery, boilers and other pressure vessels, associated piping systems and fittings shall be of a design and construction adequate for the service for which they are intended and shall be so installed and protected as to reduce to a minimum any danger to persons on board, due regard being paid to moving parts, hot surfaces and other hazards. The design shall have regard to materials used in construction, the purpose for which the equipment is intended, the working conditions to which it will be subjected and the environmental conditions on board. Cite: SOLAS Consolidated 2001, II-1/26

What type of communication is required between the navigating bridge and machinery space?

At least two independent means shall be provided for communicating orders from the navigation bridge to the position in the machinery space or in the control room from which the engines are normally controlled: one of these shall be an engine-room telegraph which provides visual indication of the orders and responses both in the machinery space and on the navigation bridge. Appropriate means of communication shall be provided to any other positions from which the engines may be controlled. For ships constructed on or after 1 October 1994 the following requirements apply in lieu of the provisions above:

At least two independent means shall be provided for communicating orders from the navigation bridge to the position in the machinery space or in the control room from which the speed and direction of thrust of the propellers are normally controlled: one of these shall be an engine-room telegraph which provides visual indication of the orders and responses both in the machinery spaces and on the navigation bridge. Appropriate means of communication shall be provided from the navigation bridge and the engine-room to any other position from which the speed or direction of thrust of the propellers may be controlled. Cite: SOLAS Consolidated 2001, II-1/37

This was further clarified by MSC circular 736 which states: At least two independent means shall be provided for communicating orders from the navigating bridge to the position in the machinery space or in the control room from which the engines are normally controlled: one of these shall be an engine-room telegraph which provides visual indication of the orders and responses both in the machinery spaces and on the navigating bridge. The second means of communication shall be independent of the engine-room telegraph and shall also provide for verification of engine orders and responses. A means of communication which provides for verification of both engine orders and responses shall also be provided from the navigating bridge and the engine-room to any other position from which the speed or direction of thrust of the propellers may be controlled.

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In what language should maintenance and operating instruction be written? Operating and maintenance instructions and engineering drawings for ship machinery and equipment essential to the safe operation of the ship shall be written in a language understandable by those officers and crew members who are required to understand such information in the performance of their duties. Cite: SOLAS Consolidated 2001, II-1/26

What are the requirements for external high-pressure fuel delivery lines between the high pressure fuel pumps and fuel injectors?

They shall be protected with a jacketed piping system capable of containing fuel from a high-pressure line failure. 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. Cite: SOLAS Consolidated 2001, II-2/15

Are there any exceptions? Where might you see these exceptions?

Yes, a suitable enclosure on engines having an output of 375 kW or less having fuel injection pumps serving more than one injector may be used as an alternative to the jacketed system. Cite: SOLAS Consolidated 2001, II-2/15

Does this apply to all ships?

Yes, as of 01 July 2003 all ships. Cite: SOLAS Consolidated 2001, II-2/15

What are the SOLAS requirements for electrical power?

A main source of electrical power of sufficient capacity to supply all electrical auxiliary services necessary for maintaining the ship in normal operational and habitable conditions will be ensured without recourse to the emergency source of electrical power; shall be provided. This main source of electrical power shall consist of at least two generating sets. Cite: SOLAS Consolidated 2001, II-1/40/41

What are the requirements for electrical switchboards?

Main and emergency switchboards shall be so arranged as to give easy access as may be needed to apparatus and equipment, without danger to personnel. The sides and the rear and, where necessary, the front of switchboards shall be suitably guarded. Exposed live parts having voltages to earth exceeding a voltage to be specified by the Administration shall not be installed on the front of such switchboards. Where necessary, non-conducting mats or gratings shall be provided at the front and rear of the switchboard. Cite: SOLAS Consolidated 2001, II-1/45

When is electrical equipment required to be intrinsically safe?

No electrical equipment shall be installed in any space where flammable mixtures are liable to collect including those on board tankers or in compartments assigned principally to accumulator batteries, in paint lockers, acetylene stores or similar spaces, unless the Administration is satisfied that such equipment is:

- Essential for operational purposes;
- Of a type which will not ignite the mixture concerned;
- Appropriate to the space concerned; and
- Appropriately certified for safe usage in the dusts, vapors or gases likely to be encountered. Cite: SOLAS Consolidated 2001, II-1/45

What is the requirement (briefly) for emergency power in cargo ships?

The electrical power available shall be sufficient to supply all those services that are essential for safety in an emergency, due regard being paid to such services as may have to be operated simultaneously. Cite: SOLAS Consolidated 2001, II-1/43

What types of the emergency power are allowed for cargo ships?

The emergency source of electrical power may be either a generator or an accumulator battery. Cite: SOLAS Consolidated 2001, II-1/43

What are the requirements when the emergency source of power is a generator?

Where the emergency source of electrical power is a generator, it shall be:

- Driven by a suitable prime mover with an independent supply of fuel,
- Started automatically upon failure of the main source of electrical power supply unless a transitional source of emergency electrical power
- Where the emergency generator is automatically started, it shall be automatically connected to the emergency switchboard and unless a second independent means of starting the emergency generator is provided the single source of stored energy shall be protected to preclude its complete depletion by the automatic starting system;
- It shall be provided with a transitional source of emergency electrical power as specified unless an emergency generator is provided capable both of supplying the services mentioned and of being automatically started and supplying the required load as quickly as is safe and practicable subject to a maximum of 45 s.

Cite: SOLAS Consolidated 2001, II-1/43

What are the requirements when the emergency source of power is an accumulator battery?

Where the emergency source of electrical power is an accumulator battery it shall be capable of:

- Carrying the emergency electrical load without recharging while maintaining the voltage of the battery throughout the discharge period within 12% above or below its nominal voltage;
- Automatically connecting to the emergency switchboard in the event of failure of the main source of electrical power; and
- Immediately supplying at least those services required. Cite: SOLAS Consolidated 2001, II-1/43

Where must the emergency source of power be located?

The emergency source of electrical power, associated transforming equipment, if any, transitional source of emergency power, emergency switchboard and emergency lighting switchboard shall be located above the uppermost continuous deck and shall be readily accessible from the open deck. They shall not be located forward of the collision bulkhead, except where permitted by the Administration in exceptional circumstances. Cite: SOLAS Consolidated 2001, II-1/43

Does an emergency generator fuel tank require a remotely operated shut-off valve?

Yes. This applies to fuel oil tanks having a capacity of 500 liters and above on ships built after May14 1998. On ships built prior to this it is 1000 liters and above. Every oil fuel pipe, which, if damaged, would allow oil to escape from a storage, settling or daily service tank situated above the double bottom, shall be fitted with a cock or valve directly on the tank capable of being closed from a safe position outside the space concerned in the event of a fire occurring in the space in which such tanks are situated. Cites: SOLAS Consolidated 2001, II-2/15 with Interpretation from MSC Circular 847, MSC letter dated 28 September1998 and NVIC 10-99.

What are the requirements for a main steering gear on a cargo ship?

The main steering gear shall be:

- Of adequate strength and capable of steering the ship at maximum ahead service speed
- Capable of putting the rudder over from 35 degrees on one side to 35 degrees on the other side with the ship at its deepest seagoing draught and running ahead at maximum ahead service speed and,
- Under the same conditions above, from 35 degrees on either side to 30 degrees on the other side in not more than 28 seconds;
- Operated by power where necessary to meet the requirements above. Cite: SOLAS Consolidated 2001, II-1/29

PRE 01 September 1984

The main steering gear shall be of adequate strength and sufficient to steer the ship at maximum service speed. Cites: SOLAS 60 II/29 and SOLAS 74 Unamended II-1/29

What are the requirements for an auxiliary steering gear on a cargo ship?

- The auxiliary steering gear shall be:
- of adequate strength and capable of steering the ship at navigable speed and of being brought speedily into action in an emergency;
- capable of putting the rudder over from 15 degrees on one side to 15 degrees on the other side in not more than 60 seconds with the ship at its deepest seagoing draught and running ahead at one half of the maximum ahead service speed or 7 knots, whichever is the greater; and
- Operated by power where necessary to meet the requirements above.

Cite: SOLAS Consolidated 2001, II-1/29

PRE 01 September 1984

The auxiliary steering gear shall be of adequate strength and sufficient to steer the ship at navigable speed and capable of being brought speedily into action in an emergency. Cites: SOLAS 60 II/29 and SOLAS 74 Unamended II-1/29

Does a vessel have to have an auxiliary steering gear?

No. When the main steering gear comprises two or more identical power units, an auxiliary steering gear need not be fitted, provided that:

- The main steering gear is capable of putting the rudder over from 35 degrees on one side to 35 degrees on the other side with the ship at its deepest seagoing draught and running ahead at maximum ahead service speed and, under the same conditions above, from 35 degrees on either side to 30 degrees on the other side in not more than 28 seconds while operating with all power units;
- The main steering gear is so arranged that after a single failure in its piping system or in one of the power units the defect can be isolated so that steering capability can be maintained or speedily regained. Cite: SOLAS Consolidated 2001, II-1/29

PRE 01 September 1984

No, where power operated units are fitted in duplicate to the satisfaction of the administration and each unit is of adequate strength and sufficient to steer the ship at navigable speed, no auxiliary steering gear need be required, provided that the duplicate units operating together can. steer the ship at maximum service speed. Cites: SOLAS 60 II/29 and SOLAS 74 Unamended II-1/29

Where must the steering gear be controlled?

Steering gear control shall be provided:

- For the main steering gear, both on the navigation bridge and in the steering gear compartment;
- Where the main steering gear comprises two or more identical power units, by two independent control systems, both operable from the navigation bridge.
- This does not require duplication of the steering wheel or steering lever.

- Where the control system consists of a hydraulic telemotor, a second independent system need not be fitted, except in a tanker, chemical tanker or gas carrier of 10,000 gross tonnage and upwards;
- For the auxiliary steering gear, in the steering gear compartment and, if power-operated, it shall also be operable from the navigation bridge and shall be independent of the control system for the main steering gear. Cite: SOLAS Consolidated 2001, II-1/29

PRE 01 September 1984

No specific requirements.

What further requirements can be found in MSC Circular 736?

Any main and auxiliary steering gear control system operable from the navigating bridge shall comply with the following:

means shall be provided in the steering gear compartment for disconnecting any control system operable from the navigating bridge from the steering gear it serves. Such means for disconnecting shall be operable by a single person without the need for tools.

What alarms are required on a steering gear?

- If electric,
 - o In the event of a failure of electrical power supply to the control system, an audible and visual alarm shall be given on the navigation bridge.
- If hydraulic,
 - A low-level alarm for each hydraulic fluid reservoir to give the earliest practicable indication of hydraulic fluid leakage. Audible and visual alarms shall be given on the navigation bridge and in the machinery space where they can be readily observed.
- Where a three-phase supply is used an alarm shall be provided that will indicate failure of any one of the supply phases. The alarms required in this paragraph shall be both audible and visual and shall be situated in a conspicuous position in the main machinery space or control room from which the main machinery is normally controlled and as may be required by regulation 51. Cite: SOLAS Consolidated 2001, II-1/29

What are the requirements for steering motor indicator lights?

Means for indicating that the motors of electric and electro-hydraulic steering gear are running shall be installed on the navigation bridge and at a suitable main machinery control position. Cite: SOLAS Consolidated 2001, II-1/30

PRE 01 September 1984

Means for indicating that the motors of electric and electro-hydraulic steering gear are running shall be installed in a suitable location to the satisfaction of the administration. Cites: SOLAS 60 II/30 and SOLAS 74 Unamended II-1/30

What are the requirements for rudder angle indication?

The angular position of the rudder shall:

- If the main steering gear is power-operated, be indicated on the navigation bridge.
- The rudder angle indication shall be independent of the steering gear control system;
- Be recognizable in the steering gear compartment. Cite: SOLAS Consolidated 2001, II-1/29

PRE 01 September 1984

The exact position of the rudder, if power operated, shall be indicated at the principal steering station. Cites: SOLAS 60 II/29 and SOLAS 74 Unamended II-1/29

What are the communication requirements for a steering compartment?

- A means of communication shall be provided between the navigation bridge and the steering gear compartment. Cite: SOLAS Consolidated 2001, II-1/29
- This was further clarified by MSC Circular 736 which states:
 - A means of communication to both order and respond to steering commands shall be provided between the navigating bridge and the steering gear compartment.

PRE 01 September 1984

No specific requirement.

What are the hydraulic oil storage requirements for hydraulic steering units? It must have:

- A fixed storage tank having sufficient capacity to recharge at least one power actuating system including the reservoir, where the main steering gear is required to be power-operated.
- The storage tank shall be permanently connected by piping in such a manner that the hydraulic systems can be readily recharged from a position within the steering gear compartment and
- Shall be provided with a contents gauge. Cite: SOLAS Consolidated 2001, II-1/29 PRE 01 September 1984

No specific requirement.

Does the steering compartment require non-skid surfaces?

Steering compartments shall be provided with suitable arrangements to ensure working access to steering gear machinery and controls. These arrangements shall include handrails and gratings or other non-slip surfaces to ensure suitable working conditions in the event of hydraulic fluid leakage. Cite: SOLAS Consolidated 2001, II-1/29 PRE 01 September 1984

No specific requirement.

What are the requirements for steering gear operating instructions?

Simple operating instructions with a block diagram showing the change-over procedures for remote steering gear control systems and steering gear power units shall be permanently displayed on the navigation bridge and in the steering compartment. Cite: SOLAS Consolidated 2001, V/26

XIII. ISPS CODE

What does ISPS stand for?

International Code for the Security of Ships and Port Facilities.

Where can you find the requirements for the ISPS Code? SOLAS 74A, Regulation XI and XI-2 and The SOLAS 2002 Amendments.

Who does the Code apply to?

- The following types of ships engaged on international voyages:
 - o passenger ships, including high-speed passenger craft;
 - o cargo ships, including high-speed craft, of 500 gross tonnage and upwards;
- Port facilities serving such ships engaged on international voyages.

What is the main objective of the ISPS Code?

To establish an international framework involving co-operation between Contracting Governments, Government agencies, local administrations and the shipping and port industries to detect security threats and take preventive measures against security incidents affecting ships or port facilities used in international trade. Source: ISPS Code

Define Security Level and the three levels of security?

It means the qualification of the degree of risk that a security incident will be attempted or will occur. Cite SOLAS 2002 Amendments, XI-1/5

- Security level 1: means the level for which minimum appropriate protective security measures shall be maintained at all times.
- Security level 2: means the level for which appropriate additional protective security measures shall be maintained for a period of time as a result of heightened risk of a security incident.
- Security level 3: means the level for which further specific protective security measures shall be maintained for a limited period of time when a security incident is probable or imminent, although it may not be possible to identify the specific target.

What are the ship security officer's responsibilities?

The ship security officer is the person on board the ship, accountable to the master, designated by the Company as responsible for the security of the ship, including implementation and maintenance of the ship security plan and for liaison with the company security officer and port facility security officers.

What are the company security officer's responsibilities?

The company security officer is the person designated by the Company for ensuring that a ship security assessment is carried out; that a ship security plan is developed, submitted for approval, and thereafter implemented and maintained and for liaison with port facility security officers and the ship security officer.

What documents does the ISPS CODE for vessels require?

- International Ship Security Certificate
- Ship Security Plan
- Declaration of Security
- Continuous Synopsis Record

What language is the International Ship Security Certificate required to be in?

It shall be drawn up in a form corresponding to the model given in the appendix to this Code. If the language used is not English, French or Spanish, the text shall include a translation into one of these languages.

Define the following:

International Ship Security Certificate

A certificate that is issued to a vessel that verifies that the security system and any associated security equipment of the ship fully complies with the applicable requirements of chapter XI-2 and the ISPS Code, is in satisfactory condition and fit for the service for which the ship is intended. Source: ISPS Code, Chapter 19

Ship Security Plan

A plan developed to ensure the application of measures on board the ship designed to protect persons on board, cargo, cargo transport units, ship's stores or the ship from the risks of a security incident. Source: ISPS Code, Chapter 2

Declaration of Security

The Declaration of Security shall address the security requirements that could be shared between a port facility and a ship (or between ships) and shall state the responsibility for each. Source: ISPS Code, Chapter 2

Continuous Synopsis Record

The Continuous Synopsis Record is intended to provide onboard record of the history of the ship. It shall be in the English, French or Spanish language. Additionally, a translation into the official language of the administration may be provided. It shall be available for inspection at all times. It shall include the following information:

- The Flag
- The date the ship was registered with that flag
- The ship's identification number
- The name of the ship

- The names and addresses of the registered owner, bareboat charterer, the operator/company that carries out the safety management activities
- The Class society
- The name(s) of the Administration or recognized organization, which has issued the DOC and SMC.
- The names of the Administration or recognized organization, which has issued the International Ship Security Certificate.
- The date on which the ship ceased to be registered with that flag. Cite: SOLAS 2002 Amendments, XI-1/5

What are the requirements for the ship's identification number?

It shall be permanently marked on the hull or superstructure with the prefix "IMO" followed by the 7-digit number in accordance with resolution A.600 (15). Raised lettering, cutting in, or center punching shall permanently mark it. It shall be plainly visible and painted in a contrasting color to the hull. It can be located in any one of the following locations in a visible place:

- Stern or,
- Either side of the hull amidships above the load line or,
- Either side or front of the superstructure and
- An easily accessible place on either of the transverse bulkheads of the machinery spaces. Cite: SOLAS 2002 Amendments, XI-1/3 and MSC/Circ.1097

What does AIS stand for and what does it do?

Automatic identification system (AIS)

- AIS shall:
 - Provide automatically to appropriately equipped shore stations, other ships and aircraft information, including the ship's identity, type, position, course, speed, navigational status and other safety-related information;
 - o Receive automatically such information from similarly fitted ships;
 - Monitor and track ships; and
 - o Exchange data with shore-based facilities;

When are foreign freight ships required to have AIS?

All ships of 300 gross tonnage and upwards-engaged on international shall be fitted with an automatic identification system (AIS), as follows:

- Ships constructed on or after 1 July 2002;
- Ships engaged on international voyages constructed before 1 July 2002:
 - o In the case of ship of 50,000 gross tons and up, not later than 1 July 2004;
 - o In the case of ships of 10,000 gross tons and up but less than 50,000, not later than 1 July 2005;
 - o In the case of ships of 3,000 gross tons and up but less than 10,000 gross tons, not later than 1 July 2006;

 In the case of ships of 300 gross tons and up but less than 3,000 gross tons, not later than 1 July 2007 Cite: SOLAS 2002 Amendments, V/19.

What are the requirements of a ship security alert system?

The ship security alert system, when activated, shall:

- Initiate and transmit a ship-to-shore security alert to a competent authority designated by the Administration, which in these circumstances may include the company, identifying the ship, its location and indicating that the security of the ship is under threat or it has been compromised.
- Not send the ship security alert to any other ships.
- Not raise the alarm on board the ship.
- Continue the alert until deactivated and/or reset

XIV. GENERAL CARGO CARRIAGE

What does a shipper need to do to carry automobiles as general cargo?

A shipper can carry automobiles as general cargo if the automobiles fall into one of the following groups:

- 1. If the vehicle has an internal combustion engine which uses liquid fuel with a flashpoint of less than 38 degrees C AND the fuel tank is empty AND the engine is run until it stalls from lack of fuel
- 2. If the vehicle has an internal combustion engine that uses liquid fuel with a flashpoint of greater than 38 degrees C AND the fuel tank contains less than 110 gallons AND the fuel system does not leak
- 3. If the vehicle is stowed in a hold or compartment designated by the administration of the country in which the vessel is registered to be specially suited for vehicles
- 4. If the vehicle is powered by wet storage batteries
- 5. If the vehicle is equipped with LPG or other compressed gas fuel tanks, the tanks are completely emptied of liquid and the positive pressure in the tank does not exceed 2 bar (29 psi), the line from the fuel tank to the regulator and the regulator itself is drained of all trace of (liquid) gas, and the fuel shut off valve is closed

Source: 49 CFR 176.905 (i)

What must a ship have that carries Hazmat?

A dangerous cargo manifest (DCM) Source: 49 CFR 176.30

What is a DCM?

A dangerous cargo manifest. The DCM lists the names of the hazardous materials O/B the vessel which are in transportation. DCM requirements are found in 49CFR or in IMDG code. The DCM is kept in a designated holder on or near the vessel's bridge.

What do you look for?

It should have:

- Vessel name
- Official number
- Vessel flag
- Proper shipping names of the hazardous materials & ID numbers
- Number, description, and gross weight of each package
- Stowage location
- Classification of the material in accordance with either 49CFR172.101 table OR IMDG Code
- Any exemption information
- CITE: 49CFR176.30 & 176.31

What would you be very concerned with?

Cargo compatibility. For example, you do not want a flammable on top of a dangerous when wet. If the flammable goes up, when the fire is being fought/extinguished, water would drip down and create a whole other problem.

What type of placarding would you find on a container that carries hazardous material?

A container carrying hazmat must be placarded on four sides (front end, rear end, roadside, and street side) with placards (10.8 inch size) IAW 49CFR172.500. More placarding general info available in the Emergency Response Guidebook, also known as "the little orange book"

What does a shipper need to do to carry explosives?

For certain explosives, the shipper needs permission from the COTP for the loading and/or handling. Cite: 49CFR176.415

What are the requirements for cargo holds that carry hazmat?

Requirements are:

- Fixed gas fire extinguishing system that meets Reg. 5 of SOLAS
- Fixed gas fire extinguishing system to the satisfaction of the Administration (SOLAS Consolidated 2001 II-2/53
- Segregation requirements for containers within the cargo holds are found in 49CFR176.80

XV. GENERAL PSC

Explain the Port State Control Initiative in one sentence.

The goal of the port state control program is to identify and eliminate substandard ships from US waters. Cite: MSM, Vol. II, Sect. D, Chapter 1

What does an annual exam consist of?

An annual examination will consist of a document check, a general examination, operational testing of specific equipment (i.e. steering, firemain, and navigation equipment as a minimum) and emergency drills. If applicable, it may also include a follow-up on any outstanding discrepancies. Source: MSM Vol. II, D5-4

What does a Re-exam consist of?

A re-examination will consist of a document check and a general examination as a minimum. If applicable, it may also include a follow-up on any outstanding discrepancies. Source: MSM Vol. II, D5-5

What does a General examination entail?

The general examination should include observation of required equipment on deck, in the engine room, and in after steering. Verify the adequacy, maintenance, and operation of firefighting, pollution prevention, and other equipment required by regulations. Look for obvious safety problems. Verify that the stowage location for hazardous cargoes is accurately indicated. Source: MSM Vol. II, D5-9

What is an Expanded Examination and when is it required?

During any annual examination, reexamination, or deficiency follow-up, the boarding team should expand their examination of a vessel if their examination establishes "clear grounds" for believing that the condition of a vessel, its equipment, or crew do not correspond substantially with the particulars of the certificates. Expanded examinations should focus on those areas where "clear grounds" have been established and should not include other areas or systems unless the general impressions or observations of the boarding team support such examination. Source: MSM Vol. II, D5-19

Define "Clear Grounds."

Evidence that the ship, its equipment, or its crew do not correspond substantially to the requirements of the relevant conventions or that the master or crew members are not familiar with essential shipboard procedures relating to the safety of ships or the prevention of pollution. Source: MSM Vol. II, D1-3

Explain Control Action Authority?

Control actions must be based on the control authority provided under domestic laws or international conventions. Compliance with standards other than those implemented under law, regulation or convention cannot be mandated. It is incumbent upon the OCMI/COTP and the boarding team that they thoroughly research requirements to ensure that any control action taken is authorized under an applicable law, regulation or convention. Source: MSM Vol. II, D2-6

What are the 12 elements to be considered when deciding if a vessel should be detained?

When deciding whether the deficiencies found are sufficient to merit detention, the OCMI/COTP should assess several elements. If the results of any of these assessments are negative, taking into account the deficiencies found, the vessel should be strongly considered for detention. These elements include:

- The vessel has relevant valid documentation;
- The vessel has the crew required in the Safe Manning Document;
- The vessel can navigate safely;
- The vessel can safely handle, carry, and monitor the cargo;
- The vessel can operate the engine room safely;
- The vessel can maintain the proper propulsion and steering;
- Fires can be fought effectively in any part of the vessel;
- The vessel can be abandoned speedily and safely and rescue can be effected;
- The vessel can prevent pollution;
- The vessel can maintain adequate stability;
- The vessel can maintain adequate watertight integrity; and
- The vessel can communicate effectively in distress situations.

Source: MSM Vol. II, D2-15 and 16

Should a vessel be detained/restricted if the emergency fire pump can not provide adequate pressure?

Vessels with emergency fire pumps that can't draw suction because of a light draft should not be detained. Source: MSM Vol. II, D2-16

What is the required time frame that casework should be entered into MISLE?

For the benefit of other MSO's, enter case information as soon as possible after return to the unit. In all cases, MISLE should be updated within 48 hours of completing the boarding. Source: MSM Vol. II, D5-22

What is the required time frame that the IMO Detention Report should be completed?

The delivery of the report to the Commandant must be completed no later than 1630 on the business day following the intervention action. Source: MSM Vol. II, D2-18

Navigation Bridge

33CFR164- **SOLAS Chp. V= also mentioned in SOLAS Chp. V

- Marine charts of area being transited **(SOLAS Chp. V)
- U.S. Coast Pilot
- CG Light List
- Tide Tables
- Radar
- Illuminated magnetic steering compass (seen from center position)**(SOLAS Chp. V)
- Deviation Table
- Illuminated gyrocompass repeater (at main steering stand) **(SOLAS Chp. V)
- Illuminated rudder angle indicator
- maneuvering information (for pilot)
- Echo depth sounder ** (SOLAS Chp. V)
- Device that continuously records depth reading from Echo depth sounder
- Plotting equipment
- Block diagram and operating instructions for showing change over procedures for remote steering gear control units and steering gear power units

 **(SOLAS Chp. V)
- Indicator showing the rate of revolution of each propeller (seen from center position) **(SOLAS Chp. V)
- If fitted with controllable pitch propellers, an indicator showing pitch (seen from center position) **(SOLAS Chp. V)
- If fitted with thrusters, an indicator showing direction and amount of thrust (seen from center position) **(SOLAS Chp. V)
- Telephone or means of communication to emergency steering room **(SOLAS Chp. V)
- 10,000gt + must have second radar system and an ARPA (ARPA must have audible and visual alarms, label with the following info: name and address of manufacturer, the following statement: This device was designed and manufactured to comply with the IMO performance standards for ARPA. **(SOLAS Chp. V)
- If fitted with ARPA, a device to measure the vessels Speed and Distance **(SOLAS Chp. V)
- GPS ** (SOLAS Chp. V)
- AIS and Pilot plug with 3-prong receptacle **(SOLAS Chp. V)

SOLAS Chp. IV

- Reserve source of power (battery room)(independent of ships systems)
- EPIRB- annually tested, float free,
- GMDSS- VHF, MF, HF, NAVTEX, SAT-C
- Radio records (for all incidents regarding radios/communications)

SOLAS Chp. V- Underlined in Italics = listed in Regulations above

- Magnetic compass
- nautical charts or ECDIS with back-up means (charts)
- GPS
- Communication to emergency steering station
- daylight signaling lamp
- echo- depth sounding device
- a 9 GHz radar
- GPS capable of getting range and bearing of objects
- device to measure Speed and Distance
- Heading device that transmits information to Radar, GPS, and AIS
- -AIS, receive information (identity, type, position, course, speed
- Gyro compass at Main Steering position. Emergency Steering
- Rudder Angle, Propeller Revolution, Thrust, and Propeller Pitch Indicators at Helm
- Automatic tracking aid to plot range and bearing of other targets
- LRIT- should automatically transmit the following LRIT information: Identity of ship, Position of ship, Date and Time position was provided.
- VDR- Voyage Data Recorder
- IAMSAR Manual
- International Code of Signals
- Within 12 hours of departure- Steering gear test must be conducted (All systems)
- -Operating Instructions for steering year and change over procedures
- -Nautical charts. Publications, Sailing Directions, Light List, Tide Tables, Notice to Mariners must be adequate for intended voyage.
- Log book for navigation activities and incidents
- -Daily Reports to company (daily position, course and speed, operational status, etc...)
- 3000gt+ 3 GHz radar or second 9GHz radar, a second automatic tracking aid to plot range and bearing of other targets
- -10.000gt+ an Automatic Radar Plotting Aid (ARPA), a Heading or Track Control system to automatically control and keep to a heading and/or straight track.
- -50,000gt+ a Rate of Turn indicator, a speed and distance measuring device over ground

SOLAS Chp. III

- Lifejackets for watchstanders on bridge.
- Immersion suits readily available.
- 04 Line Throwing appliances with 04 charges.
- 03 Two-way VHF radios
- 02 SARTS (one on each side of ship)(If freefall lifeboat, one in lifeboat and one on bridge)
- 12 Rocket parachute flares
- 02 lifebuoys on each side of bridge with smoke signals. (must be able to be released from bridge)

SOLAS Chp. II-1

- Steering Gear Test and Loss of Power Alarm (30'-35' while underway in 28 seconds)

33CFR88.05

NAVRULS or 33 CFR1-124

Last updated: 12Jul2018

THE SHIPS LOG	LOGBOOK	* Pre-Arrival Checks – 12hrs prior/dep (steering, rudder angle, coms alarms, em gen, batteries, ahdastern) * Muster/Abnd Shtp/Fire/Enclused Space Drill - monthly/bimonthly * EPIRB - annualy±3 months * Crew Accommodations Insp - weekly * Marine Casualty Entries	33 CFR 164.25, SOLAS V/26, SOLAS IIV19.5, SOLAS IV115.9, ILO-147 p39/35, SOLAS V/11©
	VDR (BRIDGE) ≥ 3,000 GT const after 1 July 2002 * Verify Certificate of Compliance for annual performance test by approved facility * Can test by turning off radar data, echo sounder,		SOLAS V/20, 18.8, IMO Res A.861(20), c. MSC.214(81)
4 9	LIFE JACKETS / IMERSION SUITS / ROCKET PARACHUTE FLARES / LINE THROWING APPLIANCE	* Lifejackets - sufficient for persons on watch, whistle/light if not on imersion suit * Imersion Sults - sufficient for person on watch * Line Throwing Appliance with at least 4_ projectiales - verify exp * Rocket Parachute Flares - 12	LIFEJACKET: SOLAS III/7.2.1.4, LSA 2.2, IMERSION SUITS: SOLAS III 32.3.3, LSA 2.3.4, LINE THROWING APPLIANCE: SOLAS III/18, LSA 7.1.1, PYRO: SOLAS III/6.3, LSA 3.1
	DAYLIGHT SIGNLING LAMP	Iso GT Daylight Signalling Lamp or other means of communicating by night/day - power not solely dependent on ship power	SOLAS V/19.2.2.2
Working Deviation Table		* Deviation Table * Block Diagram * Maneuvering Diagram * Distress Signals	DEVIATION TABLE: 33 CFR 164.35¢, BLOCK DIAGRAM: 33 CFR 164.35(k), SOLAS V/26.3.1, MANOEUVERIN G CHARACTERIS TICS: 33 CFR 164.35(g), IMO Res A.601(15), SOLAS II-1/28.3. DISTRESS SIGNALS: SOLAS V/29
E	TURN ON EMERGENCY DECK LIGHTING	Must have electrical power available for: 3 hrs - every muster/embarkation and over the sides 18 hrs - service, machinery, control, steering, fp	SOLAS II- 1/43.2.1,.2
	EPIRB		SOLAS IV/7.1.6,15.9
	CHECK VDR BOX	Must have VDR	SOLAS V/20
	BATTERY ROOM		SOLAS IV/13, II- 1/43

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	LIFESAVING				
		.35m² per person, readily accessible from accom/work area, operating inst posted, adequately illuminated (3 hrs), embarkation ladder condition/size *Lifeboat Equipment: 10,000kj food/3L water per person, pyro (2 smoke, 4 rocket parachute, 6 hand), boat hooks, buckets, survival manual, quoits, fishing tackle, 109% capacity, Markings: # persons, Name, Port *Rescue Boat Equipment: 10,000kj food/3L water per person, pyro (2 smoke, 4 rocket parachute, 6 hand), search light, first aid kit, 100% capacity [If totally enclosed lifeboat 150% capacity] *Run engines (ahead/astern) *Test rudder (hard port/hard starboard) *Lower waterside lifeboat to Imbarkation line (not freefall) - 2 crew prepare for launching *Smin, launched for abandon ship < 10min *Test limit switch	MUSTER/EMBA RKATION STATION: SOLAS III/1.9,16,19, II- 1/43,2.1, LSA Code 6,1.6, LIFEBOAT: SOLAS III/31,11,13,14,20 J.6,19, LSA Code 4.4, 4.7, MSM III/31,16,1.6(5), RESCUE BOAT: SOLAS III/31,17,11,14,19 2.0, LSA Code 5.1, 4.4, DAVIT: SOLAS III/20,2,4, MSM		
- James	LIFERAFTS	* <185kg (capacity for total perstons - single open deck) *>185kg (capacity for total persons - each side of ship, 150% if ship <85m, one served by launching appliance if free-fall lifeboat) *Stowed - painter permanently attached to ship, floatfree, manual release *Markings - # persons, SOLAS, service date, length	SOLAS III/4,31,13,20,12, 16, LSA Code 4.2, MSM II/D.1.G.1.o.5		
	of painter HOUSE				
	HOSPITAL	* Separate space * Used for medical purposes only * Shower cold/hot fresh water * If no doctor: approved medicine chest/instructions	iLO-147 p38,27,31,30,26, COMDTINST 16711.12A(7)(1)(e)		
	GALLEY/STORES	* Condition of food/potable water * Cleanliness * Sufficient quantity for # of persons * Cold/hot fresh water * Ask cook for initial actions for gally fire * Exhaust Ducts gally ranges - grease trap, fire damper, fixed fire fighting, remote exhaust/supply fans, inspection hatches * Deep-Fat Cooking Equipment - auto/manual fire extinguishing w/ alarm, auto shut-off electrical power	ILO-147 p31.30,35.37, COMDTINST 16711.12A 7(1)(n), SOLAS II 2/9.7.5.2,10.6.4		
	ACCOMODATION SPACE	* Training Manuals for Firefighting/Lifesaving * Have: ventilation, heating, lighting, adequate security, protection from weather/sea, insulated heat/cold, undue noise, drainage, 2 means of escape No-steam supply, exhaust pipes	ILO-147 p33,34,38, COMDTINST 16711.12A(7)(1)(d), SOLAS II- 2/13.3.3.1		
-	STRUCTURAL FIRE PROTECTION	* Fire Control Plan * A-Class: Prevents smoke and flame (1 hour) and 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-15 (15 minutes) * B-Class: Prevents flame (30 mln) and 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. B-15 (15 minutes) B-0 (0 minutes) * C-Class: Prevents the passage of smoke between adjacent spaces.			
	2 CREW SPACES	*Have: ventilation, heating, lighting, adequate security, protection from weather/sea, insulated heat/cold, undue noise, drainage, No-steam supply, exhaust pipes *Contain: table/desk, mirror, cabinets, reading lamp *Bed: 190cm x 68cm, spring matress Not-side by side, more than 2 tiers *Showers: 1 tub/shower - 8 persons *Toilets: <800GT(3), >800-3000(4), >3000GT(6) *2 EEBDs Accomodation Space (10 minutes) *2 Means of Escape Accomudation Space	ILO-147 p33,34,38, COMDTINST 16711.12A(7)(1)(d), SOLAS II- 2/13,3,3,1		

ENGINE ROOM				
	STEERING TEST	* Types: ram, vane * Test All Steering Pumps individually or split 1/3 and 2/4 if 4 pumps (container ship). Main 35° → 30° (28s) Aux 15° → 15° (60s) * Check for hydraulic leaks, cavitation * Obtain communication with Bridge: - Verify rudder angle - Verify heading - Verify loss of power / low level alarm (capacity to recharge at least on power actuating system including reservior)	SOLAS II-1/29.1- 3,5.2,6.1,12,13,11 V/26.3, 33 CFR 164.35(k), MSM II/D.1.G.1.s(1)- (10)	
	FIXED FIRE FIGHTING	* Water Mist System: - 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 51/m2/min. - High Expansion Foam: serviced every 3 years * High Pressure CO2: valves marked with space, 2 seperate controls, posted instructions * Low Pressure CO2: stored under working pressure 18 - 2.2 N/mm², control devices/refrigeration same space, charge -95% capacity, two safety valves, Alarms - pressure low/high, refrigeration unit stops, low liquid level	WATER MIST: SOLAS II- 2/10.4,14:2, MSM II/D.1.G.1.o(6)(a) .FSS Code &2.3.3 FOAM: SOLAS II- 2/10.4,1.1.2, IMO Res MSC.327(90), MSC/Circ.670, HIGH/LOW CO2: SOLAS II- 2/10.4,1.1.1, FSS Code 5.2, MSC.1/Circ.1318, SOLAS II-2/10.4	
	EMERGENCY FIRE PUMP	* Confirm running correctly ≥ 6,000 GT - 0.27 N/mm² < 6,000 GT - 0.25 N/mm²	SOLAS II- 2/10,14	
	ENGINE ROOM (BOTTOM TO TOP)		ENGINE: SOLAS II-1/26,38, II-2/4, MSC/Circ 834 GENERATORS: SOLAS II- 1/26,47, II-2/4,	
	MAIN CONTROL	* Alarms (bilge, OWS)	SOLAS II- 1/40,45,46,47,51, 52, II-2/7	
	EMERGENCY GENERATOR	* Only test 1 start type: electrical (battery - insure charger is off), hydraulic, compressed air Manual Start (crank inertia, charged hydraulic acc, powder charge) Must be able to: 3 connecutive starts → second 3 starts	SOLAS II- 1/26,44,43, II-2/4, MSC Cire 834, MSM I/D.G.1.c.6	

DECK WALK					
	CO2 ROOM (If applicable)	Behind forward collision bulkhead Below open deck ventilation 6 air changes/hr	SOLAS II- 2/10,4,3		
	PAINT LOCKER	* Explosion Proof Lighting * Fixed Fire Fighting (>4m² if less portable CO2 acceptable) - paint not stacked above fixed fire fighting nozzles	64 CFR 147.45,,65, SOLAS H- 2/10.6.3, II- 1/45.5,,10		
•	SOPEP ROOM	* Enough Equipment * Clean/Organized	MARPOL I/37,1,,2,,3		
	DECK WALK	* Lifebuoys: name, port of registry, 1/2 w/ selfigniting lights, able to be cast loose, evenly distributed (at least 1 near stern), one on each side w/ lifeline 2x height to waterline or 30m < 100m: 8 100m: 8 100m-150m: 10 150m-200m: 12 >200m: 14 * Condition: deck, railings, piping, gasket for holds * Liferaft: >100m between nearest liferaft and extreme end must have additional one, manual release * Stowage oxygen/acetylene cytinders - in rack, upright postion, valve protection cap, vented to open air, protected from heat > 130°F * Standard Discharge Connection: 6 bolts, 6 nuts	LIFEBUOY:SOL AS III/32,4,7,1, LSA Code 2,1,1 CONDITTION: SOLAS II-1/3-1, ICLL 66 I/1 DISCHARGE CON: 33 CFR 155,430, MARPOL I/13 CYLINDERS: 46 CFR 147,60		
	INTERNATIONAL SHORE CONNECTION	* at least 1 * facilities enabling connection on each side of ship * steel/equivalent material (IN/mm²) * Parts: gasket, 4 bolts, 4 nuts, 8 washers	SOLAS II- 2/10.2.1.7, 15.2.4.1, FSS Code 2.2.2, MSM II/D.1.G.1.o.6.c		
	D	RILLS			
	MEETING WITH MASTER	Public Address only No External alarms that would alert facility Only members not on security watch or cargo ops Simulation only			
	ABANDON SHIP MUSTER	* Muster Stations close to Embarkation Stations: 35m2 per person, readily accessible from accom/work area, operating inst posted * Muster List * Lifejackets: every person + watch stations, proper domning, test lights, designed for < 140kg w/ chest < 1750 mm * Immersion Sults: every person + watch stations	SOLAS IIV19.3.4, LSA Code 6.2.2,2.2, MSM IVD.1.G.1.r(1)		
	FIRE DRILL	* Reporting to Stations, PPE, Coms, watertight doors, fire doors, ventilation * Fire Fighting Ensamble: protective clothing (water-resistant), rubber boots, rigid helmet, electric safety lamp (min life 3 hrs), axe, lifeline (30 m, snap-hook), radios (first survey after 1Jul18), 2 spare charges or 1 spare and means of recharging (1200L, function >30m, alarm < 200L)	FIRE OUTFIT: SOLAS II- 2/10,15, FSS Code 3.2.1 DRILL: SOLAS III/19.3.5, II- 2/15.2.2.3, MSM II/D.1.G.1.r(2)		

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PSC & FFVE PRE—BOARD LOOK-UPS

- How many points are added to a vessel in MISLE, following a detention?
 - o 5 points for 12 months (MSM Vol. II, Sec. D, Chap. 4)
- Where is the exam policy for detentions located?
 - o IMO Resolution 1052(27) Procedures for Port State Control
- What is the cite that give us inspection authority on foreign vessels?
 - o SOLAS 74 (2014 Cons) Chap. I, Reg. 19 B
- What is our cold weather PPE policy regarding wearing Mustangs?
 - During offshore boardings, where air TEMPARATURE IS <u>UNDER under 60 degrees</u>
 Fahrenheit (MSM Vol. II Chap. 3, B.2)(Posted on locker in the facilities room)
- What is the official designation of a deck line?
 - The deck line is a horizontal line 300 mm in length and 25 mm in breadth. It shall be marked amidships on each side of the ship, and its upper edge shall normally pass through the point where the continuation outwards of the upper surface of the freeboard deck intersects the outer surface shell... (ILLC, Annex 1, Reg. 4)
- Where is the boundary line for the COTP zone of Hampton Roads?
 - o From Cape Charles Light to Cape Henry Light. (46CFR7.50)
- What does the Quebec flag mean? (Solid Yellow)
 - The Quebec flag is the assurance by the master that the ship is free of contagious disease and a request to be inspected BY CUSTOMS
- Who generates the Ships Particulars?
 - o The vessel's owner
- What is the time requirement for changes to a vessel's CSR?
 - Changes must be submitted to the vessel within three months (SOLAS 74 (2014 Cons)
 Cap. XI-1, Reg. 5.4.2)
- What is the basic STCW training for all crew members?
 - STCW Reg. VI/1.1 (STCW Code Sec A-VI/1)
 - Safety Familiarization Training
 - o Basic Training



- Survival techniques
- Fire prevention
- Elementary first aid
- Personal safety and social responsibilities
- How long are the applications for crew licenses and endorsements valid?
 - o Three Months
 - o STCW Reg. I/10.5
- What is the STCW guidance on White List and Black List Countries?
 - o MSM, Vol II, Sec D, Chap. 1, B, 1
- How is SMPEP different from SOPEP?
 - SOPEP is required for every oil tanker of 150 GT and above and all ships of 400GT and above. (MARPOL Annex I, Chap. 5, Reg. 37.1)
 - SMPEP is required for every ship of 150 GT and above certified to carry noxious liquid substances in bulk. (MARPOL Annex II, Chap.7, Reg. 17.1)

- o If a ship with a SMPEP also requires a SOPEP, the plans may be combined under the SMPEP. (MARPOL Annex II, Chap. 7, Reg. 17.3)
- What are the Garbage Record Book changes as of March 2018?
 - Per MEPC 70 (entered into force 01MAR2018), the garbage record book will be split into two parts.
 - o Part I is applicable to all garbage other than cargo residues. The categories will include E-Waste.
 - O Part II is applicable to cargo residues for ships carrying solid bulk cargo. Cargo residues are now classified as "harmful to the marine environment" and "not harmful to the marine environment."
 - Both garbage record books now include start/stop time and locations for incineration, reception, or discharge.
 - o In the event of an accidental discharge, all ships of 400 GT and above will now be required to report in the garbage record book, the time and location of discharge, details of items lost, categories of items lost, estimated amount of items lost in cubic meters, reasonable precautions taken to prevent or minimize such discharge or accidental loss, and general remarks.
- What is the frequency requirement for <u>fire</u> and abandon ship drills carried out by the crew of a passenger vessel?
 - Fire and abandon ship drills are carried out weekly on passenger ships. Each crew member must participate monthly. (SOLAS 74 (2014 Cons) Chap. III, Reg. 30.2)
- How often are enclosed space drills to be conducted?
 - Crew members with enclosed space entry or rescue responsibilities shall participate in an enclosed space drill to be held on board the ship at least once every two menths. (SOLAS (2014 Cons) Chap. III, Reg. 19.3.3)
- What is the maintenance schedule for a fixed fire fighting system?
 - Per MSC.1/Circ. 1318: Minimum standards are a monthly visual inspection, annual onboard maintenance, and 2 to 3 year weighing of cylinders and system overhaul.
- How many months leeway does a company get to perform its annual security exercise?
 - o No more than 18 months between exercises. (ISPS Part B, Reg. 13.7)
- When are vessels required to submit a DOS in the United States?
 - At MARSEC level 2 and 3 the terminal or facility must implement and require declarations of security. (33cfr105.245(d))
- What is the diesel fuel sulfur content requirement inside the ECA?
 - o While ships are operating within the emission control area, the Sulphur content of fuel used on board ships shall not exceed 0.10% m/m on and after 1 January 2015. (MARPOL Annex VI, Chap. 3, Reg. 14.4.3
- What are the sections of a NTVRP?
 - o /33CFR155.5030(c)
 - General information
 - Notification procedures
 - Shipboard spill mitigation procedures
 - o Shore-based response activities
 - List of contacts

- Training procedures
- Exercise procedures
- Plan review and update procedures
- Geographic specific appendix for each COPT zone in which the vessel operates
- AN appendix for vessel specific information for the vessel or vessels covered by the VRP

What is the CFR COFR cite?

- 33CFR Part 138
- What is the purpose of LRIT?
 - The LRIT provides contracting governments with the identity of the vessel, the position of the vessel, and the date and time that last position was provided. (SOLAS 74 (2014 Cons) Chap. V, Reg. 19-1.3)
- What are the bridge visibility requirements?
 - 500m or 2 ship lengths ahead. Arc of visibility is 22.5 degrees abaft of both beams. Arc of visibility cannot be obstructed by more than 20 degrees from the conning position.
 (33cfr164.15(a))
- What are the lifeboat food and water requirements per person?
 - o 10,000 kj of food and 3L of water per person (LSA Code 4.4.8)
- What is the lifeboat fuel requirement?
 - Sufficient fuel to move fully-loaded at 6 knots for 24 hours. (LSA Code 4.4.6.8)
- What are the life raft pack types and their differences?
 - SOLAS A Pack and SOLAS B Pack
 - SOLAS B Pack is only used for short international voyages by passenger ships
 - SOLAS B pack contains half the rocket flares and smoke signals as SOLAS A Pack.
 - SOLAS B Pack does not contain the food, water, or scissor/tin-openers/knives required by SOLAS A Pack
 - o LSA Code 4.1.5.3
- What are the servicing requirements for a fixed high expansion foam system?
 - Foam analysis is to be conducted after 3 years in service and annually thereafter. (MSC/Circ. 670)
- How long are fuel oil samples kept?
 - Fuel oil samples are to be kept for at least 12 months. (MARPOL Annex VI, Chap. 3, Reg. 18.8.1)
- How long does the OWS record log need to be kept?
 - For a MEPC 107 OWS, the logs are typically kept for 18 months, but the retention time of log is up to manufacture specification.
- What arrangements for lit life buoys is required on a ship carrying dangerous goods?
 - o Electrical equipment shall be of a certified safe type. (Explosion proof lighting) (SOLAS (2014 Cons) Chap II-2, Reg. 3.2) حربات المنافعة المناف
- Review IMO Circular on stress points and list critical stress points.
 - Immediately forward of the engine room bulkhead
 - o Over the midships half-length
 - No. 1 Hold side shell framing top and bottom connections
 - o (MSC Circ. 1117)
- What size must a paint locker be to require a fixed fire fighting system?

- o Greater than or equal to 4 m²(SOLAS 74 (2014 Cons) Chap II-2, Reg. 10.6.3.3)
- What is the technical term for gauging steel thickness?
 - "Gaging" (NVIC 7-68)
- What is the source for up to date IMO resolutions and performance standards?

The most up to date resolutions and performance standards are provided through the IMO website and CID notes.

- Where are the stowage a segregation requirements for containers on a vessel?
 - IMDG Part I, 7.4

IMDG Part I, 7.3.4

49CFR176.83(f)

- What are the hazard classes? Where are they found?
 - 1.1-1.6 Explosives
 - o 2.1 Flammable Gases
 - 2.2 Non-Toxic Non-Flammable Gases
 - 2.3 Toxic Gases
 - o 3 Flammable Liquids
 - o 4.1 Flammable Solids
 - 4.2 Spontaneously combustible substances
 - 4.3 Substances that emit flammable gases when in contact with water
 - o 5.1 Oxidizers 1
 - 5.2 Organic Peroxides
 - o 6.1 Toxic Substances
 - o 6.2 Infectious Substances
 - o 7 Radioactive
 - o 8 Corrosive
 - 9 Miscellaneous Hazard
 - o IMDG Part I, 7.2.4
- 49CFR176.83(b)
- What are the vehicle special exemptions on a Ro-Ro?
 - O Vehicles may be stowed on a Ro-Ro with fuel tanks up to ¼ full

All vehicles must be inspected for fuel leaks and electrical faults prior to loading.

- o 49CFR176.905
- What are the firefighting requirements for <u>a RO-RO?</u>
 - o Fixed Firefighting system
 - Ignition sources stowed separate from vehicle spaces
 - Adequate Ventilation
 - o + (SOLAS 74 (2014 Cons) Chap. II-2, Reg. 20.1)

Where is the guidance for blocking and bracing on a break-bulk vessel?

o CSS Code

What is a water mist lance? Where is the requirement to have one?

- o MSC 93 (SOLAS Amendment II-2/10.7.3)
- A water mist lance is designed to penetrate the sidewall of a container and spray water for fire-fighting. Two are going to be required on container ships with stacks five high above the weather deck.

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sate pack. a for (arpor. What are the "condition after survey" cites in each of the IMO conventions we are signatory to?

o MARPOL Annex I, Chap.2, Reg. 6.4.1

o ILLC Article 15

- o STCW Chap. VIII, Reg. VIII/2.1
- SOLAS 74 (2014 Cons) Chap. I, Reg. 11(a)

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PSCE Board Look-Ups

- What is the minimum temperature at which a lifeboat engine is required to start?
 - o -15°C or 5°F
 - o LSA Chap. IV, 4.4.6.2

At what GAR score in a single category does the GAR need to be briefed to the CO?

- o 8 or above
- o SECHRINST 3500.2A
- What alarms are tested on during a local steering gear test?
 - o Loss of Power
 - o Steering Pump Low Level
 - o FFVE 840 Book, Step 7.16

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FFVE Board Look-ups

- What bulk cargos in this port are a concern in elevated temperatures?
 - Ammonium Nitrate-Based Fertilizer and Coal. (IMSBC Code, Appendix 1)

 TEXAS CITY DISASTER
- What is the required field of vision from the conning position on the bridge?
 - The Conning officer must be able to see the sea surface at least two ship lengths or 500 meters in front of the vessel, from dead ahead to 10 degrees on either side of the vessel. The view must not be interrupted more than 5 degrees. (33CFR 164.15(a)(11))
 - The horizontal field of vision must extend from dead ahead to 22.5 degrees abaft of the beam on either side of the vessel. Any obstructions must not be greater than 10 degrees individually or total not more than 20 degrees cumulatively. (33CFR 164.15(a)(2))
- What is the procedure following possible exposure to a hazardous material?
 - Following an acute exposure, the Acute Exposure Information Form (CG-6000-1 (REV. 10-10)) must be filled out and submitted with the MSDS to the medical officer. Guides to the Short Term Exposure Limits and procedures are located in COMDTINST M6000.1F, Chap. 12C
- What areas in a Ro-Ro require-10-Air Changes per hour? (FACT (THIS!)
 - 10 air changes per hour are required in Special Category Spaces on Ro-Ro ships. (SOLAS 74 (2014 cons) Chap. II-2/3.1.1.1)
- What is the schedule of inspection for high expansion foam?
 - Foam analysis is to be conducted after 3 years in service and annually thereafter.
 (MSC/Circ. 670) 3√2 → Annual
- What are the conditions that mandate the use of anti-exposure coveralls, during an off-shore exam?
 - O Anti-exposure coveralls must be used on an off-shore exam when the water temperature is below 60°E (MSM Vol II, Chap. 3, B.3)
- How can a port state control officer challenge a crewmember's competency?
 - O It is very difficult for a Port State Control officer to challenge a mariner's competency directly, without holding the current equivalent license or training. However, an exam can be expanded if information or evidence exist to show that the master or crew is unfamiliar with essential shipboard operations. (Procedures for Port State Control 2.4.2.6)

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