Category	Certificate of Compliance Exam Guidance				
Title	Guide for Conducting Annual Certificate of Compliance Examinations				
Serial	5PTI-WI-CSNCOE-006(00)	Orig. Date	17Oct2023	Rev. Date	-
References:	(a) IMO Assembly Resolution A.1155(32), Procedures for Port State Control (b) COMDTINST 16000.73, Marine Safety: Port State Control (c) 46 USC §35				
Change Summary	The following is a list of major changes found in applicable revision. • (No current changes)				

A. Objective. This document provides guidance for Foreign Passenger Vessel Examiners (FPVEs) in the preparation and execution of Annual Certificate of Compliance (ACOC) examinations. This guidance does not limit FPVEs from expanding or modifying the examination scope provided there are reasonable grounds that do not deviate from USCG or IMO requirements.

B. Background. FPVEs are responsible for conducting Port State Control examinations in accordance with references (a) and (b), in addition to enforcing statutory requirements listed in reference (c). The ACOC exam focus is on material condition of the ship in addition to evaluating operational procedures and emergency preparedness. ACOC exam procedures were previously outlined in the FPVE Tactics, Techniques, and Procedures (TTP) 3-72.2C. This document supersedes CGTTP 3-72.2C.

C. Discussion. ACOC exams are conducted in a holistic manner, observing shipboard material condition and shipboard operations as an entire system. The size and complexity of modern cruise ships make the holistic approach a necessity to cover all areas of the ship to verify substantial compliance with the statutory requirements. The ACOC exam should take approximately five to eight hours depending on the ship size and number of PSCOs available, provided there are no major deficiencies or issues.

D. Scheduling and Pre-exam Communications.

1. The National COC Exam calendar on the CSNCOE *CGPortal Online* site shows projected COC exam dates to be requested by the ship operators or agents. The CSNCOE COC Forecast is a tool for OCMIs to forecast the potential COC workload and does not alleviate the owner or operator from scheduling the exam with the OCMI at least 30 days prior to the desired date of the exam. In no case may an exam be moved back past the expiration date on the vessel's Certificate of Compliance.
2. The lead FPVE communicates with the vessel master prior to the exam to set up logistics and organization for the exam. The lead examiner should email the master, 2 weeks prior to the exam, and utilize the email notification template on the CSNCOE *CGPortal Online* site, to discuss exam scope and request needed information in preparation for the exam.
    a. Explain the scope of the exam.
    b. Request a copy of the vessel's Passenger Ship Safety Certificate (PSSC) to include the Record of Equipment for the Passenger Ship Safety Certificate (Form P), and Continuous Synopsis Record (CSR).

c. Request a description of any modifications to the vessel since the last completed Plan Review letter.

d. Identify resources and testing equipment to be provided by the ship during the exam.

e. Request all ship's procedures and plans are available during the exam.

f. Request ship's schedule while in port (i.e., other inspections, bunkering, dive operations, maintenance, & surveys).

g. Request copies of any outstanding conditions of class or authority.

E. Preparation for ACOC Exam.

1. Prepare the following documentation to bring aboard the vessel:
    a. Certificate of Compliance (COC), CG-3585;
        i. Ensure the COC has accurate owner and operator information obtained from the vessel's Continuous Synopsis Record (CSR),
        ii. Verify total persons allowed aboard and total passengers allowed aboard as identified on the PSSC, and
        iii. Confirm COC is signed by the officer in charge, marine inspections (OCMI) or designee.
    b. Certificate of Compliance for tenders used in U.S. waters;
        i. Ensure the COC has accurate owner and operator information obtained from the vessel's Continuous Synopsis Record (CSR),
        ii. Verify total persons allowed aboard and total passengers allowed aboard as identified on the PSSC, and
        iii. Confirm COC is signed by the Officer in Charge, Marine Inspection (OCMI) or designee.
    c. Updated Vessel Critical Profile;
    d. Relevant regulations, guidance documents, and the FPVE Annual Certificate of Compliance Exam Process Guide; and
    e. Copy of the email notification sent to the vessel master and the master's reply along with any follow-on discussions.
2. The lead FPVE is responsible for assigning examiners into Team 1, Team 2, Team 3, and Team 4.
3. After having been tested at the unit, the team should bring the Scorecard tablet and associated equipment such as power charger, external encrypted hard drive, and mouse.
4. The lead FPVE will hold a pre-examination planning meeting to discuss the following:
    a. Discuss the scope of the exam;
    b. Ensure all team members will be wearing coveralls during the examination;
    c. Identifying a waste stream not examined during the previous exam and discuss which team members will conduct that verification;
    d. Review and discuss the following topics:

i. History of vessel, special notes, and statutory documents (if provided),

ii. Modifications made to the vessel, and last plan review (reviewed by Flag/RO/Marine Safety Center (MSC), and

iii. Determine most effective way for team members to communicate throughout the examination.

e. Conduct a safety brief and ensure team members feel comfortable speaking up on any safety issue in order to mitigate risks, including the following:

i. Simultaneous operations such as bunkering, divers in the water, other agencies onboard conducting verifications, and other operations or activities,

ii. Longshoreman activity, loading and traffic during hull walk,

iii. Dangers of watertight doors and consideration of crew safety,

iv. Machinery space hazards (slips, trips, and falls),

v. Electrical hazards,

vi. Crew and exam team safety during the drills. Highlight need for situational awareness during fire drills, particularly walking through areas where smoke machines are used, and safety during liferaft and lifeboat launching, and

vii. Team member Personal Protective Equipment (PPE).

F. Opening Meeting.

1. During the meeting, using the Process Guide as an aid, the lead examiner ensures understanding of all exam sequences and discusses the following points.

a. Introduce the examiner teams with areas each member is responsible for examining.

b. Confirm times for drills and set expectations for a USCG team discussion and a de-brief with vessel staff.

c. If at an embarkation port, the lead examiner should discuss evaluation of the vessel's passenger muster and agree on the most effective way to complete this verification.

d. Identify crew members needed to walk the spaces with the examination teams and the equipment they all should have available (i.e., means to test detectors and section valves, master keys).

e. Discuss any concurrent operations that could affect the exam such as bunkering, ship repairs or maintenance, diving operations, etc.

f. Determine how much crew turnover is occurring on the day of the exam.

g. Determine whether any modifications were made to the vessel since the last USCG completed Plan Review letter including:

i. Modifications reviewed by the recognized organization (RO) or USCG Marine Safety Center (MSC) that must be verified by the USCG exam team, or

ii. Modifications the vessel has carried out without RO or USCG knowledge.

h. Determine whether there are any outstanding conditions of class or conditions of statutory authority.

i. Determine whether any U.S. government agency, or other inspections are expected which could affect the exam (i.e., CBP or USPH).

2. The lead examiner should explain he or she will be the focal point of communications with the exam team.

3. Be sure to instruct the crew to energize the emergency lighting circuit for the duration of the exam.

G. Team 1 Procedures.

1. Hull Walk – (SOLAS II-1/5, II-1/18, XI-1/3; ICLL Reg. 5, 6, 7, 8)

   a. Verify draft marks at the bow and stern.

   b. Verify permanent marking of ship's identification number.

   c. Verify position of subdivision/load line markings, including:

      i. P1 (ship's keel laid on or after January 1, 2009) Principal Passenger Condition (C1 ships prior to January 1, 2009).

      ii. P2 (ship's keel laid on or after January 1, 2009) roll-on/roll-off (vessel) (RO-RO) Passenger/Cargo loading (C2 ships prior to January 1, 2009).

      iii. Deck line above the load line mark.

      iv. Proper class society markings.

      v. Subdivision mark is not submerged in salt water.

      vi. Markings are permanent and in contrasting colors.

2. Ship Certificates

   a. Review the Passenger Ship Safety Certificate (PSSC) with Form P, and any documented alternative design and arrangements, equivalencies, or exemptions.

   b. Verify other certificates are onboard, valid, and have endorsements, as necessary.

      i. Certificate of Registry

      ii. Classification Document

      iii. Continuous Synopsis Record

      iv. International Tonnage Certificate (ITC)

      v. International Load Line Certificate

      vi. ISM Document of Compliance

      vii. ISM Safety Management Certificate (SMC)

      viii. International Ship Security Certificate (ISSC)

      ix. Lifeboat/Tender Safety Equipment Certificate, as appropriate

      x. Minimum Safe Manning Certificate

      xi. International Oil Pollution Prevention Certificate (IOPP)

      xii. International Air Pollution Prevention Certificate (IAPP)

      xiii. Engine IAPP (EIAPP) (for each engine) and EIAPP Supplements

      xiv. International Energy Efficiency Certificate (IEE)

xv. International Anti-Fouling System Certificate

3. Crew Training and Certification (STCW Ch. I – VI)
    a. Examine crew licenses and corresponding Flag endorsements. Spot-check a variety of credentialed mariners.
        i. Verify that the number of licensed officers meets the Minimum Safe Manning Certificate.
        ii. Ensure license certificate numbers are found on flag state endorsement.
        iii. Verify documents are not expired.
        iv. Verify the level of competency in the document matches or exceed the requirements for the duties performed by the individual.
    b. Verify compliance with required crew training for passenger ships.
        i. Verify completion of Crowd Management Training for personnel designated on the muster list to assist passengers in emergency situations.
        ii. Verify completion of Crisis Management & Human Behavior Training for masters, chief engineer officers, chief mates, second engineer officers, and any person having responsibility for the safety of passengers in an emergency.
    c. Verify completion of Fast Rescue Boat Training for crew in charge of fast rescue boats (if equipped) in emergency situations.
    d. Examine certificate of proficiency for the designated ship security officer.

4. Logs, Records, and Manuals
    a. Review any exemptions, equivalents, or alternative arrangements approved by the Flag State in accordance with SOLAS II-1/55, II-2/17, III-38, or V-3. Share any operational procedures referenced in the approvals with the relevant COC team(s) for further examination.
    b. Review Declaration of Security (DOS) and Declaration of Inspection (DOI) for current facility interfaces.
    c. Verify the following damage control and stability plans are onboard:
        i. stability booklet,
        ii. damage control plans, and
        iii. approved onboard computer program or arrangement for shore-based support.
    d. Review the training and drill logs for completion of the following required drills:
        i. damage control drill,
        ii. security drill,
        iii. abandon ship drill,
        iv. fire drill, and
        v. emergency steering drill

e. If the ship is equipped with a Marine Safety Evacuation System (MES), verify every MES party member has been trained by participation in a full deployment of a similar system into water, either on board or ashore, at 2-year intervals, but in no case longer than 3 years.

f. Examine the following operational maintenance records:

i. Liferaft and MES, if applicable, servicing and/or inspection reports,

ii. Lifesaving equipment maintenance records,

iii. Firefighting system servicing reports, and

iv. Firefighting equipment maintenance records.

g. Verify ship has a plan for cooperation with appropriate search and rescue services in the event of an emergency in accordance with SOLAS V/7.3.

h. Review the ship's logbook for completion of emergency steering drill in accordance with 33 CFR 164. Review COTP waiver(s), if applicable.

i. Examine environmental plans and associated documents.

i. Verify Garbage Management Plan is onboard. Spot-check completion of garbage record book entries.

ii. Verify Shipboard Oil Pollution Emergency Plan (SOPEP) is approved and onboard. Spot-check completion of oil record book entries.

iii. Verify Non-tank vessel response plan (NTVRP) approval letter is valid.

iv. Verify Ballast Water Management plan is approved and onboard. Spot-check completion of ballast water records.

v. Verify Shipboard Energy Efficiency Management Plan (SEEMP) is onboard.

vi. For ships operating in applicable Alaskan waters, spot-check completion of Sewage and Graywater Discharge Record Book entries in accordance with 33CFR159.315.

j. Verify compliance with passenger vessel security and safety requirements in accordance with 46 USC §3507 and §3508, for ships authorized to carry 250 or more passengers.

i. Verify completion of log entries for all complaints of crimes.

ii. Verify completion of crime scene preservation training for designated crewmember(s).

iii. Verify installation of equipment for capturing images of passengers or detecting passengers who have fallen overboard.

5. Bridge Safety Arrangements – (SOLAS II-1/13, II-1/30, II-2/7, III)

a. Verify operation of monitoring and/or control panels for the following systems:

i. Watertight doors,

ii. Steering,

iii. Fire detection and alarm,

iv. Fire doors,

v. Ventilation, and

vi. Fixed firefighting.

b. Examine line throwing appliances and visual distress signals.

i. Verify line throwing appliance with four charges is stowed at or near the navigation bridge and is properly marked and ready for use.

ii. Verify at least 12 rocket parachute flares are stowed in watertight containers at or near the navigation bridge, and are not expired.

c. Verify Safe Return to Port (SRtP) arrangements, for ships constructed on or after 1 July 2010 having a length of 120m or more or having three or more main vertical zones.

i. Verify that control and monitoring of safety systems is available from the safety center in accordance with SOLAS II-2/23.6.

ii. If the ship is fitted with an emergency bridge/conning position, examine communications and navigation equipment.

6. Bridge Communications Arrangements – (SOLAS IV/6, IV/7, IV/13, IV/15, IV/17)

a. Examine distress panel at conning position containing either one single button that initiates a distress alert using all radio communications installations, or one button for each radio installation. Verify indication showing whether distress button(s) has been pressed. Verify installation of a visual and audible alarm distress alarm panel that provides visual and aural indication of distress alert or alerts received on board.

b. Examine Global Maritime Distress and Safety System (GMDSS).

i. Verify certificate is valid and system is compliant for sea area(s) of ship operations.

ii. Verify MMSI display on Digital Selective Calling (DSC) radios matches ship's documents.

iii. Verify completion of radio log entries.

c. Verify installation of the following communications equipment:

i. VHF radio with DSC,

ii. SAR locating devices (SART),

iii. NAVTEX receiver,

iv. EPIRB, including annual test within 3 months before PSSC expiry, and

v. Two-way SAR radiocommunications using aeronautical frequencies 121.5 MHz and 123.1 MHz

d. Examine reserve source of energy for radio installations.

i. Verify proper ventilation and temperature control for accumulator batteries.

ii. Verify operation of battery charging or UPS arrangements.

iii. Verify battery capacity checked every 12 months.

7. Bridge Navigation Arrangements – (SOLAS V/19, V/19-1, V/20, 33CFR164)

a. Examine the following navigation equipment:

i. Magnetic compass, including deviation table,

ii. ECDIS, or nautical charts and publications,

iii. Two radars on ships over 10,000 GT including true north stabilization features (9GHz/3GHz),

iv. Automatic radar plotting aid (ARPA) for ships over 10,000 GT,

v. Daylight signaling lamp,

vi. Means of taking bearings,

vii. Gyrocompass,

viii. Illuminated steering gyrocompass repeater,

ix. Illuminated rudder angle indicator, including confirmation that angle matches at all steering stations,

x. Bridge Navigational Watch Alarm System (BNWAS),

xi. Electronic echo depth sounding device with echo depth sounding recorder,

xii. Pitch indicator for bow and/or stern thrusters,

xiii. Rate of turn indicator,

xiv. Electronic position fixing device,

xv. Long Range Identification Tracking (LRIT),

xvi. Automatic Identification System (AIS), and

xvii. Voyage Data Recorder (VDR).

b. Verify display of maneuvering fact sheet on bridge with following information:

i. Turning circle diagram,

ii. Time and distance to stop,

iii. RPM or pitch speed settings, including thrusters, and

iv. Warning statement.

c. Examine Steering Arrangements.

i. Verify operating instructions permanently displayed on the bridge with block diagram showing the change-over procedures for remote steering gear control systems.

ii. Observe steering test in accordance with the ship's test procedure.

H. <u>Team 2 Procedures</u>.

1. <u>Hull Walk</u> – (SOLAS III/15, III/16)

a. Direct the crew to energize emergency lighting and verify illumination of over the side lighting in areas of survival craft launching arrangements.

b. Verify the side shell does not have any openings below the Marine Evacuation System embarkation station. Windows and side scuttles of the non-opening type may be allowed.

2. <u>Accommodations Walkthrough</u> – (SOLAS II-2/4, II-2/5, 46 USC 3507)

a. Examine fire prevention, detection, and suppression arrangements in addition to the protection of passengers on upper accommodation decks of the ship. Pay special attention to unique risk areas such as spas, salons, fitness centers, youth clubs, VIP lounges, and

galleys. Spot check passenger cabin decks to ensure a good sample of the ship, while maintaining a focus on the condition of stairways and corridors.

b. Verify waste receptacles are constructed of non-combustible materials with no opening in the sides or bottom. Combustible waste receptacles are permitted in galleys, pantries, bars, garbage handling/storage spaces, and incinerator rooms provided they are intended purely for the carriage of wet waste, glass bottles, and metal cans, and are suitably marked.

c. Verify stairway enclosures, passenger corridors, and crew corridors do not contain furniture, other than fixed seating limited to six seats on each deck in each stairway enclosure. Drinking fountains, decorative plant arrangements, statues, and other objects such as paintings and tapestries are permitted in corridors and stairways, so long as they are fixed and do not restrict the width of escape routes.

d. Verify furniture and furnishings on cabin balconies are constructed of non-combustible materials unless such balconies are protected by a fixed pressure water-spraying and fixed fire detection and alarm systems.

e. Verify compliance with passenger vessel security and safety requirements in accordance with 46 USC §3507, for ships authorized to carry 250 or more passengers.

i. Verify ship rails are not less than 42 inches above the deck. This pertains to deck-edge rails around all open-air decks at the deck edge overboard that are available for passenger use such as public decks and passenger cabin balconies.

ii. Verify passenger and crew cabin doors are fitted with peep holes or other means of visual identification.

iii. Verify passenger and crew cabin doors are equipped with security latches, and time-sensitive key technology, for ships with keel laid date after 27 July 2010.

iv. Verify the security guide is available to passengers in each passenger cabin, which may be printed or electronically available.

3. Fire Detection and Alarm System – (SOLAS II-2/7)

a. Explain expectations for examination of smoke detectors, heat detectors, flame detectors, manually operated call points, and all related alarms. Verify presence of test equipment and communications with the crewmember at the control and indicating panel. Spot-check a variety of detector types in a variety of loops to cover all Main Vertical Zones (MVZ).

b. Examine fire detectors to ensure they are not near beams, structures, and ventilation ducts where patterns of air flow could adversely affect performance.

c. Verify installation of smoke detectors in required spaces to include service spaces, control stations, accommodation spaces, corridors, stairways, and escape routes. Smoke detectors are not required in private bathrooms, public toilets, galleys, and CO_2 rooms. Verify detectors fitted in cabins are audible in the space when activated.

d. Verify installation of manually operated call points in required spaces to include accommodation spaces, service spaces, and control stations, with one call point being located at each exit. Verify manually operated call points are readily accessible and no more than 20 meters from any part of the corridor.

e. Observe testing of the detection and alarm system to ensure visual and audible fire signal at the control and indicating panel on the bridge or other continuously manned central

control station. Verify the control and indicating panel denotes the individual detector or call point activated.

4. Fire Boundaries – (SOLAS II-2/9)

   a. Examine bulkhead and deck penetrations to verify they are approved in accordance with the FTP Code or suitably insulated to the same level of the division.

   b. Verify the appropriate fire integrity of boundaries depending on the use and categorization of the space. Ensure no storage of combustibles in category 10 spaces such as HVAC spaces and electrical lockers. Ensure no storage of flammable liquids in category 7 or 13 storage lockers or storerooms.

   c. Verify sauna operating temperature range to determine if fire integrity standards apply. Saunas are hot rooms with temperatures normally varying between 80ºC - 120ºC (176ºF - 248ºF). Traditional wooden bulkhead/ceiling linings and benches are permitted in the sauna. Verify the 30 mm air gap between the oven and the non-combustible plate above the oven. Verify the 500 mm air gap between the oven and combustible linings, or a 30 mm air gap if the combustible material is protected by a non-combustible plate. Verify sauna doors open outwards by pushing open. Examine the timer installation for electrically heated ovens. If the dry pipe water-mist or sprinkler system required by FSS Code Ch. 8, contains a nozzle with a glass bulb, verify the operating temperature of the head is no more than 140ºC, which typically contains a blue colored liquid. Mauve (purple) or black colored liquid would not be compliant.

   d. Examine cabin balconies to ensure partial bulkheads separating adjacent balconies are capable of being opened by the crew from each side for the purpose of firefighting, for ships constructed on or after 1 July 2008.

   e. Observe testing of A-class fire doors to ensure they provide resistance to fire as well as to the passage of smoke and flame equivalent to that of the bulkheads in which they are situated. A-class integrity is not required for exterior doors to open deck spaces that are not embarkation, assembly, and escape routes. Doors approved without the sill being part of the frame, installed after 1 July 2010, may have a gap under the door up to 12 mm. Verify a non-combustible sill is installed under the door such that floor coverings do not extend beneath the closed door.

   f. Examine fire doors in MVZ bulkheads, galley boundaries (including roller shutters), and stairway enclosures.

      i. Verify the doors are self-closing, and latch closed such that the door may not be opened without operating the handle.

      ii. Verify the closure time for hinged fired doors between 10 – 40 seconds. Measurements of time should be recorded for non-compliant doors.

      iii. Verify closure rate of sliding fire doors between 0.1 – 0.2 m/s. Speed should be estimated by measuring distance and time, and such estimates recorded for non-compliant doors.

      iv. Verify doors are capable of individual release from a position on both sides of the door, for ships constructed on or after 1 July 2002. PSCOs should not direct a test of the central control station closing all or groups of doors, although the master may test this system as part of the fire drill.

v. Verify no hold-back arrangements are installed on doors subject to central control station release.

vi. Verify remote-release sliding or power-operated doors are equipped with an alarm that sounds between 5 – 10 seconds after the door is release and before the door begins to move, and continues sounding until the door is completely closed.

vii. Verify sliding fire doors with crash bars do not open more than 1 m from the point of contact.

5. Ventilation Systems – (SOLAS II-2/9)

a. Examine ventilation system controls and fire dampers. Spot-check a variety of ventilation systems to include galleys, cabin areas, and public spaces across multiple MVZs.

b. Verify dampers placed behind ceilings or linings are provided with an inspection hatch.

c. Examine damper controls to ensure they are capable of being closed from outside the spaces being ventilated, and easily accessible as well as prominently and permanently marked to indicate the operating position of the damper. Observe test of ventilation system controls, which can be done in HVAC spaces and at local control cabinets or boxes.

d. Examine ventilation systems in galleys. Verify readily removable grease trap for cleaning or an alternative approved grease removal system. Verify the installation of fixed fire extinguishing system within the ventilation ducts. Verify the following controls are at a position outside the galley close to the entrance to the galley:

i. Ventilation fan shutdowns,

ii. Fire damper controls, and

iii. Fire-extinguishing system controls.

e. Examine ventilation systems in laundries. Verify readily removable filters for cleaning purposes. Verify remote controls for fire dampers and ventilation fan shutdowns.

6. Fire Fighting Systems – (SOLAS II-2/10, II-2/14, FSS Code Ch. 5, Ch. 7, Ch. 8)

a. Examine the fire main by verifying fire hydrants are fitted with an isolating valve, and fire hoses together with nozzles (i.e., spray/jet type) and tools (i.e., spanner wrench). Verify fire hoses are connected to hydrants in interior locations of the ship. Observe a test of fire main at exterior locations using two fire hoses and the smallest capacity pump.

b. Examine portable fire extinguishers to ensure they are in good working order and readily available for immediate use. Verify accommodation spaces, service spaces, and control stations are provided with fire extinguishers, one of which is stowed near the entrance to the space.

c. Examine CO_2 fire-extinguishing systems. Verify components at storage location and control station are in good working order and readily available for immediate use (i.e., piping, hoses, bottles). Verify clear instructions relating to the operation of the system having regard to the safety of personnel. Verify the two separate controls are located inside a release box clearly identified for the particular space, and if the box is locked, verify the key is in an adjacent break-glass type enclosure.

d. Examine water-mist and/or sprinkler fire-extinguishing systems. Explain expectations for examination of the water-mist system and related alarms. Verify presence of test equipment and communications with the crewmember at the indicating panel. Verify control stations and nozzles are in good working order and readily available for immediate

use (i.e., section valves accessible and glass bulbs full of liquid). Verify means to prevent operation of valves by an unauthorized person (i.e., alarm or locked door). Verify list or plan showing the spaces covered at each section. Verify system is charged at the necessary pressure by checking gauges at section valves.

e. Observe a test of the water-mist and/or sprinkler fire-extinguishing system automatic pressure supply at the section valve by dropping pressure in the section and verify flow alarm signal to the indicating panel for each section tested. Spot-check a variety of sections to cover each MVZ. Observe a test of 1 wet pipe water-mist system nozzle in a control station, accommodation space, or service space by breaking the glass bulb (This test does not apply to sprinkler system nozzles). The crew may fit a bucket, sleeve, or other means to minimize water spray in the space, but water through the nozzle should still be visible.

7. General Emergency Alarm & Public Address Systems – (SOLAS II-2/12, III/6, LSA Code 7.2)

   a. Examine general emergency alarm (GA) and public address system (PA) to ensure notification to crew and passengers for safe evacuation.

   b. Verify GA is audible throughout all accommodation, normal crew working spaces, and open decks.

   c. Verify PA is clearly audible above ambient noise in all spaces where crewmembers or passengers are normally present, and at all muster stations. A PA test should be carried out when inside spaces with loud ambient noise such as arcades, casinos, and dance clubs.

8. Means of Escape – (SOLAS II-2/13, FSS Code Ch. 11, Ch. 13)

   a. Examine means of escape throughout the ship to verify safe escape routes are provided from each space or group of spaces and maintained in a safe condition clear of obstacles. There may be arrangements where safe escape routes are not provided from a restricted space (i.e., workshop within a galley or office withing a gym), and the Flag Administration has approved an equivalent level of safety such as an audible alarm to alert the crew normally occupying the restricted space. If this arrangement exists, observe a test of the alarm notification arrangements.

   b. Verify that spaces above the bulkhead deck have at least two means of escape from each MVZ or similarly restricted space (i.e., a restaurant or theater) or group of spaces (i.e., shops in an atrium or treatment rooms in a spa), at least one of which shall give access to a stairway.

   c. Examine stairways to ensure they have direct access from corridors and are clear of furniture or equipment that may cause congestion. Recall paragraph H.2.c for fire load limitations in stairways. Verify stairways are fitted with handrails on each side and are not less than 900 mm in clear width.

   d. Examine escape route corridors to ensure they are free from obstructions and are not less than 900 mm in clear width. Verify dead-end corridors are not in place, including a lobby or part of a corridor from which there is only one means of escape.

   e. Examine doors fitted in escape routes to ensure they open in way of the direction of escape, and review Flag documentation in cases where this requirement is not met. Verify that no door along any designated escape route require keys to unlock them when moving in the direction of escape.

f. Examine escape doors from public spaces (i.e., halls, dining rooms, lounges) that are normally closed to ensure they are fitted with a means of quick release upon the application of force in the direction of escape flow. Quick release mechanisms include:

i. Bars or panels extending across the width of the door,

ii. Cause the latch to release when a force is applied, and

iii. No locking device, set screw, or other arrangement that prevents latch release.

Review Flag documentation in cases where this requirement is not met.

g. Examine lighting of escape routes to ensure all alleyways (corridors), stairways, and exits giving access to muster (assembly) stations and embarkation stations are illuminated by the emergency lighting circuit, in accordance with SOLAS III/11.5. Emergency lighting fixtures are typically marked by a red dot, but this is not required.

h. Examine marking of escape routes to ensure they are marked by lighting or photoluminescent strip indicators placed not more than 300 mm above the deck. Verify that low location lighting is functional and strip indicators are not blocked to preserve marking at all points of the escape route. Verify escape route signs readily identify the escape exits from control stations, accommodation spaces, and service spaces. Escape signage may be lighted or photoluminescent, and at least one sign should be visible from all areas within the space enable passengers and/or crew to identify the routes of escape.

9. Personal Lifesaving Devices – (SOLAS III/7, III/20, III/22)

a. Examine lifebuoys to ensure they are distributed on both sides of the ship on all open decks extending to the ships side, and stowed so that they are capable of being rapidly cast loose. Verify presence of at least one lifebuoy on each side of the ship fitted with a buoyant lifeline, and lifebuoys with self-igniting lights equally distributed on both sides of the ship. Verify each lifebuoy is fitted with retro-reflective material and marked in block capital letters with the name and port of registry of the ship.

b. Examine lifejackets to ensure they are stowed in staterooms and in conspicuous places on deck or at muster stations, including the stowage of child and infant lifejackets. Verify each lifejacket is fitted with a lifejacket light and retro-reflective material.

c. Examine marking of containers, brackets, racks, and other similar stowage locations to verify they are marked with the IMO symbols indicating the devices stowed in that location. If more than one device is stowed in that location, verify the number of devices is indicated.

I. Team 3 Procedures.

1. Hull Walk – (SOLAS XI-2/4, ISPS Code A/7)

a. Verify access control for persons and their effects.

b. Verify security monitoring and communication processes.

2. Accommodations Walkthrough – (SOLAS II-2/4, II-2/5, 46 USC 3507)

a. Examine fire prevention, detection, and suppression arrangements in addition to the protection of passengers and crewmembers on lower accommodation and service decks of the ship. Pay special attention to unique risk areas such as galleys, laundries, workshops, and service areas along the I-95 deck such as bunker stations, garbage handling rooms, and medical center. Spot check crew cabin decks below the bulkhead deck.

b. Verify waste receptacles are constructed of non-combustible materials with no opening in the sides or bottom. Combustible waste receptacles are permitted in galleys, pantries, bars, garbage handling/storage spaces, and incinerator rooms provided they are intended purely for the carriage of wet waste, glass bottles, and metal cans, and are suitably marked.

c. Verify stairway enclosures, passenger corridors, and crew corridors do not contain furniture, other than fixed seating limited to six seats on each deck in each stairway enclosure. Drinking fountains, decorative plant arrangements, statues, and other objects such as paintings and tapestries are permitted in corridors and stairways, so long as they are fixed and do not restrict the width of escape routes.

d. Verify compliance with passenger vessel security and safety requirements in accordance with 46 USC §3507, for ships authorized to carry 250 or more passengers.

i. Verify sexual assault procedures with medical center team including adequate equipment and materials for medical examination, administration of anti-retroviral medications, and preservation of medical evidence. Verify the medical staff has the license and training required by §3507(d)(3).

ii. Verify passenger and crew cabin doors are fitted with peep holes or other means of visual identification.

iii. Verify passenger and crew cabin doors are equipped with security latches, and time-sensitive key technology, for ships with keel laid date after 27 July 2010.

3. Bunker Stations – (MARPOL I Reg. 13, 33CFR155, SOLAS II-1/45)

a. Verify transfer procedures are permanently posted or available at a place where the procedures can easily be seen.

b. Examine oil discharge containments around fuel and lubricating oil tank vents, overflows, and fill pipes, with a containment capacity of at least one barrel.

c. Examine standard discharge connection to ensure it includes a flange, together with bolts, nuts, and gasket.

d. Examine transfer hoses to ensure no hose defects or deterioration. Verify completion of annual static liquid pressure test.

e. Examine electrical equipment or other equipment which may constitute a source of ignition of flammable vapors to ensure they are appropriately certified for safe usage in dusts, vapors, or gases likely to be encountered.

4. Garbage Handling Rooms – (MARPOL V Reg. 4, Reg. 10, MARPOL VI Reg. 16, MEPC.244(66))

a. Verify display of MARPOL placard which notifies crew of the garbage discharge requirements.

b. Verify crewmembers are following ship's procedures for collecting, storing, processing, and disposing of garbage. Food waste may be discharged at sea, but discharge is prohibited for other garbage types such as plastics, cooking oil, lining/packing materials, paper, rags, glass, metal, bottles, crockery, and similar refuse.

c. If the ship's garbage management plan requires sorting and recycling, verify proper separation. The IMO recommended separation for recyclable material is as follows:

i. Cooking oil,

ii. Glass,

iii. Aluminum cans,

iv. Paper, cardboard, corrugated board,

v. Wood,

vi. Metal, and

vii. Plastics (including Styrofoam or other similar plastic material).

d. Verify proper separation and handling of hazardous garbage such as oily rags, light bulbs, acids, chemicals, and batteries.

e. Examine incinerator to ensure it possesses IMO Type Approval and is permanently marked with the manufacturer's name/trademark, model, and capacity. Verify garbage feeding arrangements to ensure the charging space is isolated from the fire box as long as the filling hatch is open. Verify installation of fixed local application fire-extinguishing system at the fire hazard portion of the incinerator.

5. Fire Detection and Alarm System – (SOLAS II-2/7)

a. Explain expectations for examination of smoke detectors, heat detectors, flame detectors, manually operated call points, and all related alarms. Verify presence of test equipment and communications with the crewmember at the control and indicating panel. Spot-check a variety of detector types in a variety of loops to cover all Main Vertical Zones (MVZ).

b. Examine fire detectors to ensure they are not near beams, structures, and ventilation ducts where patterns of air flow could adversely affect performance.

c. Verify installation of smoke detectors in required spaces to include service spaces, control stations, accommodation spaces, corridors, stairways, and escape routes. Smoke detectors are not required in private bathrooms, public toilets, galleys, and CO_2 rooms. Verify detectors fitted in cabins are audible in the space when activated.

d. Verify installation of manually operated call points in required spaces to include accommodation spaces, service spaces, and control stations, with one call point being located at each exit. Verify manually operated call points are readily accessible and no more than 20 meters from any part of the corridor.

e. Observe testing of the detection and alarm system to ensure visual and audible fire signal at the indicating panel on the bridge or other continuously manned central control station. Verify the control and indicating panel denotes the individual detector or call point activated.

6. Fire Boundaries – (SOLAS II-2/9)

a. Examine bulkhead and deck penetrations to verify they are approved in accordance with the FTP Code or suitable insulated to the same level of the division.

b. Verify the appropriate fire integrity of boundaries depending on the use and categorization of the space. Ensure no storage of combustibles in category 10 spaces such as HVAC spaces and electrical lockers. Ensure no storage of flammable liquids in category 7 or 13 storage lockers or storerooms.

c. Observe testing of A-class fire doors to ensure they provide resistance to fire as well as to the passage of smoke and flame equivalent to that of the bulkheads in which they are situated. A-class integrity is not required for exterior doors to open deck spaces that are not embarkation, assembly, and escape routes. Doors approved without the sill being part

of the frame, installed after 1 July 2010, may have a gap under the door up to 12 mm. Verify a non-combustible sill is installed under the door such that floor covering do not extend beneath the closed door.

d. Examine fire doors in MVZ bulkheads, galley boundaries (including roller shutters), and stairway enclosures.

   i. Verify the doors are self-closing, and latch closed such that the door may not be opened without operating the handle.

   ii. Verify the closure time for hinged fired doors between 10 – 40 seconds. Measurements of time should be recorded for non-compliant doors.

   iii. Verify closure rate of sliding fire doors between 0.1 – 0.2 m/s. Speed should be estimated by measuring distance and time, and such estimates recorded for non-compliant doors.

   iv. Verify doors are capable of individual release from a position on both sides of the door, for ships constructed on or after 1 July 2002. PSCOs should not direct a test of the central control station closing all or groups of doors, although the master may test this system as part of the fire drill.

   v. Verify no hold-back arrangements are installed on doors subject to central control station release.

   vi. Verify remote-release sliding or power-operated doors are equipped with an alarm that sounds between 5 – 10 seconds after the door is release and before the door begins to move and continues sounding until the door is completely closed.

   vii. Verify sliding fire doors with crash bars do not open more than 1 m from the point of contact.

7. Ventilation Systems – (SOLAS II-2/9)

   a. Examine ventilation system controls and fire dampers. Spot-check a variety of ventilation systems to include galleys, cabin areas, and public spaces across multiple MVZs.

   b. Verify dampers placed behind ceilings or linings are provided with an inspection hatch.

   c. Examine damper controls to ensure they are capable of being closed from outside the spaces being ventilated, and easily accessible as well as prominently and permanently marked to indicate the operating position of the damper. Observe a test of ventilation system controls, which can be done in HVAC spaces and at local control cabinets or boxes.

   d. Examine ventilation systems in galleys. Verify readily removable grease trap for cleaning or an alternative approved grease removal system. Verify the installation of fixed fire extinguishing system within the ventilation ducts. Verify the following controls are at a position outside the galley close to the entrance to the galley:

      i. Ventilation fan shutdowns,

      ii. Fire damper controls, and

      iii. Fire-extinguishing system controls.

   e. Examine ventilation systems in laundries. Verify readily removable filters for cleaning purposes. Verify remote controls for fire dampers and ventilation fan shutdowns.

8. Fire Fighting Systems – (SOLAS II-2/10, II-2/14, FSS Code Ch. 5, Ch. 7, Ch. 8)

    a. Examine the fire main by verifying fire hydrants are fitted with an isolating valve, and fire hoses together with nozzles (i.e., spray/jet type) and tools (i.e., spanner wrench). Verify fire hoses are connected to hydrants in interior locations of the ship. Examine drencher firefighting system at mooring deck locations to ensure isolation valve is readily available for immediate use and nozzles are clear of obstructions.

    b. Examine portable fire extinguishers to ensure they are in good working order and readily available for immediate use. Verify accommodation spaces, service spaces, and control stations are provided with fire extinguishers, one of which is stowed near the entrance to the space.

    c. Examine CO_2 fire-extinguishing systems. Verify components at storage location and control station are in good working order and readily available for immediate use (i.e., piping, hoses, bottles). Verify clear instructions relating to the operation of the system having regard to the safety of personnel. Verify the two separate controls are located inside a release box clearly identified for the particular space, and if the box is locked, verify the key is in an adjacent break-glass type enclosure.

    d. Examine water-mist and/or sprinkler fire-extinguishing systems. Explain expectations for examination of water-mist system and related alarms. Verify presence of test equipment and communications with the crewmember at the indicating panel. Verify control stations and nozzles are in good working order and readily available for immediate use (i.e., section valves accessible and glass bulb full of liquid). Verify means to prevent operation of valves by an unauthorized person (i.e., alarm or locked door). Verify list or plan showing the spaces covered at each section. Verify system is charged at the necessary pressure by checking gauges at section valves.

    e. Observe a test of the water-mist and/or sprinkler fire-extinguishing system automatic pressure supply at the section valve by dropping pressure in the section and verify flow alarm signal to the indicating panel for each section tested. Spot-check a variety of sections to cover each MVZ. Observe a test of 1 wet pipe water-mist system nozzle in a control station, accommodation space, or service space by breaking the glass bulb (This test does not apply to sprinkler system nozzles). The crew may fit a bucket, sleeve, or other means to minimize water spray in the space, but water through the nozzle should still be visible.

9. General Emergency Alarm & Public Address Systems – (SOLAS II-2/12, III/6, LSA Code 7.2)

    a. Examine general emergency alarm (GA) and public address system (PA) to ensure notification to crew and passengers for safe evacuation.

    b. Verify GA is audible throughout all accommodation, normal crew working spaces, and open decks.

    c. Verify PA is clearly audible above ambient noise in all spaces where crewmembers or passengers are normally present, and at all muster stations. A PA test should be carried out when inside spaces with loud ambient noise such as arcades, casinos, and dance clubs.

10. Means of Escape – (SOLAS II-2/13, FSS Code Ch. 11, Ch. 13)

    a. Examine means of escape throughout ship to verify safe escape routes are provided from each space or group of spaces and maintained in a safe condition clear of obstacles. There may be arrangements where safe escape routes are not provided from a restricted space (i.e., workshop within a galley or office withing a gym), and the Flag Administration has

approved an equivalent level of safety such as an audible alarm to alert the crew normally occupying the restricted space. If this arrangement exists, observe a test of the alarm notification arrangements.

b. Verify that spaces above the bulkhead deck have at least two means of escape from each MVZ or similarly restricted space (i.e., a restaurant or theater) or group of spaces (i.e., shops in an atrium or treatment rooms in a spa), at least one of which shall give access to a stairway.

c. Verify that spaces below the bulkhead deck have at least two means of escape, one of which is independent of watertight doors.

d. Examine stairways to ensure they have direct access from corridors and are clear of furniture or equipment that may cause congestion. Recall paragraph I.2.c for fire load limitations in stairways. Verify stairways are fitted with handrails on each side and are not less than 900 mm in clear width above the bulkhead deck, and 800 mm in clear width below the bulkhead deck.

e. Examine escape route corridors to ensure they are free from obstructions and are not less than 900 mm in clear width above the bulkhead deck, and 800 mm in clear width below the bulkhead deck. Verify dead-end corridors are not in place, including a lobby or part of a corridor from which there is only one means of escape.

f. Examine doors fitted in escape routes to ensure they open in way of the direction of escape, and review Flag documentation in cases where this requirement is not met. Verify that no door along any designated escape route require keys to unlock them when moving in the direction of escape.

g. Examine escape doors from public spaces (i.e., halls, dining rooms, lounges) that are normally closed to ensure they are fitted with a means of quick release upon the application of force in the direction of escape flow. Quick release mechanisms include:

   i. Bars or panels extending across the width of the door,

   ii. Cause the latch to release when a force is applied, and

   iii. No locking device, set screw, or other arrangement that prevents latch release.

   Review Flag documentation in cases where this requirement is not met.

h. Examine lighting of escape routes to ensure all alleyways (corridors), stairways, and exits giving access to muster (assembly) stations and embarkation stations are illuminated by the emergency lighting circuit, in accordance with SOLAS III/11.5. Emergency lighting fixtures are typically marked by a red dot, but this is not required.

i. Examine marking of escape routes to ensure they are marked by lighting or photoluminescent strip indicators placed not more than 300 mm above the deck. Verify that low location lighting is functional and strip indicators are not blocked to preserve marking at all points of the escape route. Verify escape route signs readily identify the escape exits from control stations, accommodation spaces, and service spaces. Escape signage may be lighted or photoluminescent, and at least one sign should be visible from all areas within the space enable passengers and/or crew to identify the routes of escape.

J. <u>Team 4 Procedures</u>.

1. <u>Hull Walk</u> – (SOLAS II-1/3-1)

a. Examine the condition of shell plating and overboard discharge fittings for fractures, corrosion, wastage, pitting, or other damage that affects seaworthiness.

2. Engine Control Room – (SOLAS II-1/37)

a. Explain expectations for examination of stability management, steering gear, machinery controls, ventilation, emergency power, fire fighting systems, and oil pollution prevention equipment. Verify presence of control and monitoring panels in engine control room (ECR), as much of the systems to be tested can be verified at these panels.

b. Verify at least two means of communication between navigation bridge and ECR. Observe test of engine order telegraph. Verify second means of communication is functional (i.e. talk-back system or sound-powered phone).

3. Engineering Spaces Walkthrough – (SOLAS II-2/9, II-2/13, FSS Code Ch. 3))

a. Examine fire doors in machinery space boundaries to ensure positive closure is assured by power-operated closing arrangements or by self-closing doors, with a remotely operated release and fail-safe hold-back arrangements. Self-closing fire doors in escape trunks do not need to be fitted with a remotely operated release and fail-safe hold-back arrangements.

b. Examine means of escape to verify that spaces below the bulkhead deck have at least two escape routes, one of which is independent of watertight doors. Machinery spaces other than those of category A may be provided with a single escape route if they are entered only occasionally and for spaces where the maximum travel distance to the door is 5 m or less. Examine escape trunks to ensure it is protected with A-class insulation, and has emergency lighting provisions.

c. Examine emergency escape breathing devices (EEBDs) to ensure they are situated ready for use at easily visible places within the machinery spaces. Verify donning instructions are printed on the device, and the indicator needle is in the green zone to ensure cylinder is charged for a service duration of at least 10 minutes.

4. Stability and Watertight Integrity – (SOLAS II-1/7-2, II-1/13, II-1/22-1, II-1/48)

a. Examine cross-flooding devices to ensure components are free from obstructions to allow for water level equalization. Ensure devices are installed in accordance with manufacturer specifications (i.e., no painting or coating over insulation or seams).

b. Examine watertight bulkhead penetrations (i.e., piping, cables) to ensure the watertight integrity of the bulkheads.

c. Examine watertight doors by verifying each door is with fitted with a hand-operated mechanism to open and close the door from either side of the door. Observe a test of the local mechanism to ensure sufficient power and closure time (20 – 40 s). Observe a test of the remote closure mechanism to verify the audible alarm that sounds when the door is moving, and the closure time when operated by hand gear does not exceed 90 s. Spot-check a variety of watertight doors to cover multiple MVZs and decks.

d. Examine the remote watertight door control station above the bulkhead deck to verify the indicator panel shows the door positions (i.e., open/closed).

e. Examine flooding detection system to ensure monitoring of watertight spaces below the bulkhead deck. Observe a test of at least two alarms from the monitoring panel in the ECR.

f. Examine bilge high level alarms to ensure unattended machinery spaces are monitored in such a way that the accumulation of liquids is detected. Observe a test of at least two alarms from the monitoring panel in the ECR.

5. Steering Gear – (SOLAS II-1/29)

a. Examine steering gear controls in the steering gear compartment. Verify means of communication between the navigation bridge and steering gear compartment, and a recognizable rudder angle indicator. If the steering gear uses hydraulic fluid, verify the steering gear compartment is arranged with handrails and gratings or other nonslip surfaces to ensure suitable working conditions in the event of hydraulic fluid leakage.

b. Observe a steering gear test in accordance with the ship's test procedures to verify rudder movement from 35º on either side to 30º on the other side in not more than 28 s. Observe a test of the automatic restart function of the power units after a power failure.

c. Observe a test of the following alarms to verify they are audible and visual on the navigation bridge:

i. Power failure, and

ii. Hydraulic fluid reservoir low-level alarm (if steering gear is hydraulic powered).

6. Emergency Power – (SOLAS II-1/42, II-2/4, II-2/9))

a. Examine the emergency source of electrical power to verify it will start automatically upon failure of the electrical supply from the main power switchboard. Observe a test of the automatic starting arrangements in accordance with the ship's procedures, and have the generator run for 10 minutes. Verify the required loads are being supplied from the emergency switchboard during the test (i.e., fire pumps, steering pumps, emergency bilge pump). Verify the functionality of the second independent means of starting the emergency generator. If the second means of starting includes an emergency air compressor, observe a test of the equipment to verify charging and storing arrangements.

b. Examine fire safety arrangements in the emergency generator space. Verify the remote valve closure for the emergency generator fuel tank is outside the space, and separate from other quick-closing valves. Verify A-class fire boundaries are maintained such that ventilations louvers move to the closed position when the engine is not running.

c. Examine the emergency switchboard to verify easy access and suitable guards to ensure no exposure to live parts. Verify non-conducting mats or gratings at the front and rear of the switchboard.

d. Examine the transitional source of emergency power to verify it is arranged to automatically supply the required emergency circuits. Examine battery installations to ensure they are suitably housed and efficiently ventilated. Verify the electrical installations in the battery compartment are appropriately certified for the space.

7. Fire Safety Arrangements for Fuel Oils – (SOLAS II-2/4, II-2/5)

a. Examine quick-closing valves to ensure oil fuel pipes from storage, settling, daily service, and lubricating oil tanks are fitted with a valve capable of being closed from a safe position outside the space. Verify valve mechanisms are arranged to close upon remote activation

(i.e., no blocks or tie-backs preventing closure). Observe a test of remote closing devices at the valve location near the tank to ensure closure.

b. Examine fuel oil transfer pumps, lubricating oil service pumps, oil purifiers to verify functionality of remote shutdown controls.

8. Ventilation Systems – (SOLAS II-2/5, II-2/9)

a. Examine machinery space ventilation to verify it is separate from other ventilation systems. Observe a test of the remote shutdowns of power ventilation fans, and if equipped, automatic fire damper closures.

b. Examine damper controls to ensure they are capable of being closed from outside the spaces being ventilated, and easily accessible as well as prominently and permanently marked to indicate the operating position of the damper.

9. Fire Fighting Systems – (SOLAS II-2/10, FSS Code Ch. 4, Ch. 8)

a. Examine ready availability of fire main water supply by observing a test of the automatic starting of the fire pump upon loss of fire main pressure through open anchor wash or hydrant valves. While a passenger ship is only required to be provided with 3 fire pumps, the ship may also be fitted with a topping up or jockey pump with automatic pumping capability to the fire main. If the ship is arranged with the additional pump and hydrophore tank, verify automatic starting functions as designed.

b. Verify presence of 2 portable foam fire extinguishers in each machinery space, and are spaced so that there is no more than 10 m walking distance from each extinguisher. Verify presence of portable foam applicator unit in each machinery space that meets the following specifications:

i. Foam nozzle of an inductor type capable of being connected to the fire main by a fire hose, and

ii. Portable tank containing at least 20 l (~5 gal) of foam-forming liquid with one spare tank of foam making liquid.

c. Examine fixed local application fire-extinguishing system to verify protection of the following areas:

i. Fire hazard portions of internal combustion machinery,

ii. Boiler fronts,

iii. Fire hazard portions of incinerators, and

iv. Purifiers for heated fuel oil.

Observed tests at one of the above locations to verify functionality of automatic and manual release capabilities. The crew may fit a bucket, sleeve, or other means to minimize water spray in the space, but water through the nozzle should still be visible. Verify the activation of the local application system gives a visual and audible alarm in the protected space.

d. Examine water-mist and/or sprinkler fire-extinguishing systems. Verify control panel in ECR and nozzles are in good working order and readily available for immediate use (i.e., no system faults and glass bulbs full of liquid). Verify components at pumping supply location are in good working order and readily available for immediate use (i.e., piping, hoses, bottles). Verify the presence of the following arrangements:

i. Pressure tank containing a standing charge of the required volume of fresh water,

ii. Test valve on the delivery side of the water supply pump(s), and

iii. Lockable screw-down non-return valve at the connection to the fire main.

10. Oil Filtering and Discharge Equipment – (MARPOL I Reg. 14, 33 CFR 155.450)

a. Examine Oily Water Separator (OWS) to ensure is it approved and functions in accordance with the manufacturer's specifications. Observe a test of the oil content meter to ensure oil content of effluent does not exceed 15 ppm. The test should be conducted in accordance with the test procedures rather than with unorthodox methods (i.e., sticks, tea, coffee).

b. If the ship is provided with multiple OWS units or oil content meters, verify which unit(s) is specified on the IOPP Supplement A, and limit verification to that unit(s). Some ships may be provided with multiple units listed as regulated equipment on the IOPP.

c. Verify the machinery space has a durable "Discharge of Oil Prohibited" placard posted in a conspicuous place.

11. Sewage Treatment Equipment – (33 CFR 159)

a. Examine the sewage treatment device to ensure is legibly marked with approval information and has a placard with operating instructions, safety precautions, and warnings pertinent to the device.

b. Verify the sewage treatment device is provided with an acceptable method of securing the device such as:

i. Closing the seacock and removing the handle,

ii. Padlocking the seacock in the closed position, or

iii. Using a non-releasable wire-tie to hold the seacock in the closed position.

c. Sewage may be mixed with other wastes such as gray water, through the use of an Advanced Wastewater Treatment System. If the ship is provided with this type of system, verify waste collection, processing, and discharge components are functioning in accordance with the manufacturer's specifications and the ship's Safety Management System.

K. Drills Evaluation.

1. Drill Pre-Brief

a. If the ship's crew holds a pre-brief, participate as an observer to understand the expected procedures and crew actions during fire and abandon ship drills. The PSCO should not direct the master or crew on where or how to perform the drills. The lead PSCO should ensure the team members understand their assignments for observation and communications. The PSC team should not interact with the crew during the fire drill, but should rather maintain an observer role and record observations.

2. Fire Drill – (SOLAS II-2/15, III/19, III/29, FSS Code Ch. 3)

a. Verify the fire drill meets the functional requirements of SOLAS including:

i. Reporting to stations and preparing for the duties described in the muster list,

ii. Starting of a fire pump, using at least the two required jets of water to show that the system is in proper order,

iii. Checking of fireman's outfit and other personal rescue equipment,

iv. Checking of relevant communication equipment,

v. Checking the operation of watertight doors, fire doors, fire dampers and main inlets & outlets of ventilation systems in the drill area, and

vi. Checking the necessary arrangements for subsequent abandoning of the ship.

b. Verify the presence of a printed or computer-based decision support system on the navigation bridge which provides all the information contained in the emergency plan, procedures, checklists, etc. Verify the master and crew follow the recommended actions for the fire emergency. (Team 1)

c. Observe crew actions at the staging area. Verify communications with navigation bridge/safety center, fire teams, and any other response teams. Verify fire teams and response teams prepare for duties assigned on the muster list. (Team 2)

d. Observe crew actions on-scene at the fire drill location. If the drill involves a fire team reporting to the scene of the fire, examine the fireman's outfits to ensure they consist of protective clothing, rubber/non-conductive boots, rigid helmet, flashlight, axe, and breathing apparatus. (Team 3)

e. Observe crew actions in the ECR. Verify crew demonstrate knowledge in the operation of the firefighting systems, watertight doors, and ventilation systems. If the drill is in a space that is protected by CO_2, observe the assigned crewmember who reports to the CO_2 control station for verify familiarity with discharge procedures. (Team 4)

Teams 3 and 4 should report to the staging area after confirming satisfactory drill observations. It is not necessary to remain at the assigned drill location until the completion of the drill. Here, the teams can sync up to ensure all are ready to proceed with the evaluation of passenger evacuation procedures.

3. Passenger Evacuation – (SOLAS III/6, III/11, III/19, III/25, STCW A-V/2)

a. Verify the summoning of passengers and crew to muster stations with the general emergency alarm or public address system. Review the ship's safety briefing announcement/script to verify in contains the required instructions, as outlined in section K.6.a below. (Team 1)

b. Verify crew assigned to passenger evacuation duties on the muster list report to their stations (i.e., stairways and corridors) and prepare for their duties Spot-check crew providing direct service to passengers ensure they are familiar with their duties and demonstrate the following crowd management knowledge (Teams 2 & 3):

i. Ability to give clear reassuring orders,

ii. Ability to manage passengers in corridors, staircases, and passageways,

iii. Understanding the importance of and having the ability to maintain escape routes clear of obstructions,

iv. Knowledge of methods available for evacuation of disabled persons and persons needing special assistance (i.e., passengers with medication needs or children), and

v. Knowledge of methods of searching passenger accommodation and public spaces.

c. Examine muster stations to ensure they permit ready access to the embarkation stations and have ample room for marshalling and instruction of the passengers. Verify the

alleyways, stairways, and exits to the muster stations and embarkation stations are provided with emergency lighting. Verify the following illustrations and instructions are posted at muster stations (Team 4):

i. Muster station identification,

ii. Essential actions to take in an emergency, and

iii. The method of donning lifejackets.

d. Verify effective mustering procedures. Spot-check crew assigned to muster station duties to ensure they demonstrate the following crowd management knowledge (Team 4):

i. Importance of keeping order,

ii. Ability to use procedures for reducing and avoiding panic,

iii. Ability to use passenger lists or devices for evacuation counts,

iv. Importance of passengers being suitably clothed when mustering, and

v. Ability to check that passengers have donned their life jackets correctly.

4. Abandon Ship Drill – (SOLAS III/9 – III/25, LSA Code Ch. IV – VI, STCW A-V/2, A-VI/2)

a. Verify the abandon ship drill meets the functional requirements of SOLAS including:

i. Summoning of passengers and crew to muster stations,

ii. Reporting to stations and preparing for the duties described in the muster list,

iii. Checking that passengers and crew are suitably dressed,

iv. Checking that lifejackets are donned correctly,

v. Lowering of at least one lifeboat after any necessary preparation for launching,

vi. Starting and operating the lifeboat engine,

vii. Operation of davits used for launching liferafts,

viii. Mock search and rescue of passengers in staterooms, and

ix. Instruction in the use of radio lifesaving appliances.

b. Spot-check crew members assigned to embarkation stations ensure they are familiar with their duties and demonstrate the ability to embark passengers, including disabled persons and those needing assistance.

c. Examine survival craft embarkation and launching stations to ensure they are adequately illuminated by emergency lighting, and are provided with embarkation ladder(s) or descent devices, including securing points.

d. Examine stowage of survival craft. Verify lifeboats are stowed attached to launching appliances. Verify that each liferaft is stowed with a float-free arrangement, with its painter permanently attached to the ship.

e. Examine survival craft launching/recovery arrangements to ensure means are provided for bringing davit-launched survival craft against the ship's side so that persons can safely embark. Verify launching appliances are in working order and ready for immediate use (i.e., davit arms, winch, falls). Spot-check hand gear arrangements and crew knowledge in operation of such equipment.

f. Examine marine evacuation systems (MES), if provided, to ensure launching and operating instructions are marked on or in the vicinity of the container. Verify the drill exercises the procedures required for MES deployment up to the point of immediately preceding actual deployment of the system. Verify the drill is augmented by instruction on the use of the MES using the on-board training aids.

g. Examine all lifeboats and rescue boats, including required fittings and equipment, to verify they are in working order and ready for immediate use. Verify the functionality of propulsion and steering arrangements. Verify condition of retro-reflective material and markings to include:

   i. Number of persons for which the boat is approved,

   ii. Name and port of registry of the ship, and

   iii. Means of identifying the ship to which the boat belongs and the number of the boat marked so that they are visible from above.

h. Verify crew assigned to liferaft launching and embarkation duties on the muster list report to their stations and prepare for their duties. Observe on-board training in the use of davit-launched liferafts, to include inflation and lowering. The liferaft to be inflated should be the same type and size as the required liferafts served by launching appliances.

i. Verify crew assigned to lifeboat/rescue boat launching and embarkation duties on the muster list report to their stations and prepare for their duties. Verify persons in charge of each survival craft have a list of survival craft crew and that the crew are acquainted with their duties. Verify the persons in charge are familiar with their duties and demonstrate the following survival craft knowledge:

   i. Take charge of a survival craft during and after launch (i.e., outfitting of equipment, method of launching, action to take after leaving ship),

   ii. Operate a survival craft engine (i.e., starting batteries, fuel supply, use of fire extinguisher),

   iii. Manage survivors (i.e., apportionment of food and water),

   iv. Use locating devices (i.e., EPIRB, SART, pyrotechnics), and

   v. Apply first aid (i.e., resuscitation techniques and control of bleeding and shock).

j. Examine lifeboat/rescue boat launching and recovery arrangements to verify they are in working order and ready for immediate use. Verify the launching appliance operator is able to observe the survival craft at all times, and the preparation & handling of a survival craft does not interfere with the prompt preparation & handling of any other survival craft.

5. Drill De-brief

a. The team lead should gather all PSC team members to record drill observations and summarize key feedback items to share for the fire drill, passenger evacuation, and abandon ship drill. A drill is considered satisfactory if all drill elements listed in SOLAS III/19.3.4 and 19.3.5 are met, and the crew was substantially familiar with emergency duties. Instances where individual crew member(s) were not familiar with emergency duties may not constitute a failed drill, but should be recorded as non-compliance.

b. The team lead should provide a concise report of drill feedback to include positive observations and potential deficiencies. The team should not critique crew proficiency so long as they meet the training and proficiency requirements prescribed by SOLAS and

STCW. The de-brief should not include material deficiencies, which can be shared with the responsible officer at a later time.

6. Passenger Muster – (SOLAS III/19)

    a. Verify the ship's procedure for the passenger muster and safety briefing required to take place prior to or immediately upon departure. Review the passenger safety briefing announcement script/recording to verify it includes the following instructions (Team 1):

        i. Use of lifejackets,

        ii. Actions to take in an emergency, and

        iii. Location of the ship's medical facilities.

    b. If the ship uses information cards/posters, video displays, or smartphone applications to the supplement the briefing, examine those elements to ensure the systems are functioning as intended. Verify proficiency of crew members assigned to the duty of lifejacket donning instruction. (Team 2)

L. Procedures for Ro-Ro Passenger Ships.

1. Hull Walk – (SOLAS II-1/17-1)

    a. Note the shell doors in the open position and verify positions at the bridge indicating panel.

2. Crew Training and Certification – (STCW A-V/2, A-VI/2)

    a. Verify completion of Passenger Safety, Cargo Safety and Hull Integrity training for masters, chief mates, chief engineer officers, second engineer officers, and persons assigned immediate responsibility for embarking and disembarking passengers, for loading, discharging, or securing cargo, or for closing hull openings on board ro-ro passenger ships.

    b. Verify at completion of Fast Rescue Boat training for least two crews of each fast rescue boat.

3. Logs and Records – (SOLAS II-1/23)

    a. Verify entries in the ship's logbook recording the time of the last closing of shell doors.

4. Escape Routes – (SOLAS II-2/13)

    a. Examine escape routes to ensure handrails are provided in corridors along the entire escape route. Verify escape routes are clear of obstructions, while noting that tables and chairs which may be cleared to provide open space are permitted. Escape routes need to only be kept clear of obstructions (i.e., cleaning carts, bedding, luggage, boxes of goods) when the ship is underway. Verify the mimic plans showing "you are here" position is prominently displayed in public spaces (typically stairway landings).

5. Fire Safety Protection of Vehicle, Special Category, and Ro-Ro Spaces – (SOLAS II-2/20)

    a. Examine ventilation systems to ensure effective power ventilation to give at least 10 air changes per hour (6 air changes per hour if carrying not more than 36 passengers).

    b. Verify installation of fixed fire detection & alarm and fixed fire-extinguishing systems. Verify required deck scuppers are free from blockage to ensure rapid discharge of fixed fire-extinguishing system water.

c. Verify portable fire extinguishers are provided at each deck level in each ro-ro space spaced not more than 20 m apart on both sides of the space. Verify at least 3 water-fog applicators and 1 portable foam applicator are provided in each ro-ro space.

6. Fast Rescue Boat – (SOLAS III/26)

a. Examine fast rescue boat, including required fittings and equipment, to verify they are in working order and ready for immediate use. Verify the functionality of propulsion and steering arrangements. Verify the boat is fitted with a VHF radio set which is hands-free and watertight.

M. Procedures for Polar Code Ships.

1. Ship Certificates

a. Verify the Polar Ship Certificate is onboard, valid, and has endorsement(s).

2. Crew Training and Certification – (STCW A-V/4)

a. Verify completion of basic and/or advanced training for masters and deck officers on ships operating in polar waters.

3. Logs, Manuals, and Records – (Polar Code Ch. 2)

a. Review Polar Water Operational Manual to ensure it contains ship specific limitations and procedures.

4. Safety Arrangements – (Polar Code Ch. 4, Ch. 6, Ch. 11, Ch. 13)

a. Examine galley facilities to ensure grab rails are provided on the front of cooking equipment for use by the crew during ice operations. Verify deep fat fryers are located separately from hotplates or other hot surfaces, and are provided with an oil-tight lid.

b. Examine towing arrangements to verify the ship is equipped with a line-throwing apparatus capable of delivering messenger lines of the transfer of towing equipment.

c. Examine portable water and foam extinguishers to ensure they are not located in any position that is exposed to freezing temperatures.

d. Verify adequate supplies of protective clothing and thermal insulating materials are provided.

e. Verify personal survival kits (PSK) and group survival kits (GSK) are stored so they may be easily retrieved in an emergency situation. Verify PSK and GSK inspections are carried out annually.

f. Verify the ship is provided with manual inflation pumps in a warm space in the vicinity of liferafts.

5. Navigation Arrangements – (Polar Code Ch. 12)

a. Verify the ship is provided with the following equipment:

i. A second independent echo-sounding depth device,

ii. An independent radar system that operates in the 3 GHz range,

iii. At least two searchlights controllable from conning positions, and

iv. A suitable means to de-ice conning position windows.

b. Verify the ship is provided with equipment capable of receiving ice & weather charts and displaying ice imagery.

N. Procedures for IGF Code Ships.

1. Crew Training and Certification – (STCW A-V/3)
    a. Verify completion of basic training on LFF ships for seafarers responsible for designated safety duties associated with the care, use or in emergency response to the fuel on ships.
    b. Verify completion of advanced training on LFF ships for masters, engineering officers and all personnel with immediate responsibility ships for the care and use of fuels and fuel systems.
2. Logs, Manuals, and Records – (IGF Code Ch. 18)
    a. Verify presence of the maintenance procedures for the fuel containment system and electrical equipment installed in hazardous locations.
    b. Verify presence of bunkering operations documentation including transfer procedures, emergency actions, bunker safety checklist, and bunker delivery notes.
3. Airlocks – (IGF Code Ch. 5)
    a. Examine airlocks to ensure they are mechanically ventilated at an overpressure relative to the adjacent hazardous area or space. Verify free and easy passage, and they are not used for storage.
    b. Verify the doors are self-closing without any hold-backs. Verify an audible and visual alarm system gives warning on both sides of the airlock if more than one door is moved from the closed position.
    c. Verify installation of permanently installed gas detector.
4. Control, Monitoring, and Safety Systems – (IGF Code Ch. 15)
    a. Examine gas detection system. Spot-check functionality of gas detectors to ensure audible and visual alarms on the navigation bridge or continuously manned central control station.
    b. Examine monitoring systems to ensure alarm and shutdown conditions in accordance with Table 1 of the IGF Code.

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