



Port State Control Examiner Tactics, Techniques, and Procedures (TTP)



U.S. Coast Guard
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Subj: PORT STATE CONTROL EXAMINER TACTICS, TECHNIQUES, AND
PROCEDURES (TTP)

- Ref:
- (a) Development System and Standards Tactics, Techniques, and Procedures (TTP), CGTTP 1-01 (series)
 - (b) United States Coast Guard Marine Safety Manual, Vol. II: Materiel Inspection, COMDTINST M16000.7 (series)
 - (c) United States Coast Guard Port State Control Examiner (PSCE), Performance and Qualification Standard (PQS), MPS-PQS-TCY-PSCE (series)
 - (d) Procedures for Port State Control, 2017, International Maritime Organization (IMO) Resolution A.1119(30), 20 December 2017
 - (e) SOLAS: Consolidated Text of the International Convention for the Safety of Life at Sea, 1974, and its Protocol of 1988: Articles, Annexes and Certificates, (IMO), (series)
 - (f) PSC Job Task Analysis, May 2016
 - (g) International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), Including 2010 Manila Amendments, STCW Convention and STCW Code, 2017 Edition (series)
 - (h) The International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 (MARPOL)
 - (i) United States Coast Guard Marine Safety Manual Volume I: Administration and Management, COMDTINST 16000.6 (series)
 - (j) Navigation and Navigable Waters, 33 CFR
 - (k) Foreign Freight Vessel Examiner (FFVE) Tactics, Techniques, and Procedures, CGTTP 3-72.8
 - (l) Foreign Tank Vessel Examiner (FTVE), Performance and Qualification Standard (PQS), 18 Nov 14
 - (m) Foreign Chemical Tanker Examiner (FCTE), Performance and Qualification Standard (PQS), 8 Aug 14: PQS
 - (n) Foreign Gas Carrier Examiner (FGCE) Tactics, Techniques, and Procedures (TTP), CGTTP 3-72.6

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- (o) Foreign Passenger Vessel Examiner (FPVE) Tactics, Techniques, and Procedures (TTP), CGTTP 3-72.2A
- (p) International Convention on Tonnage Measurement of Ships, 1969
- (q) International Convention on Load Lines (ILLC), 1966, as Amended by the Protocol of 1988 Convention
- (r) Merchant Shipping (Minimum Standards) Convention, 1976 (ILO 147)
- (s) International Code for Fire Safety Systems (FSS) Code
- (t) International Life-Saving Appliance (LSA) Code, Resolution MSC.48 (66)
- (u) International Ship and Port Facility Security (ISPS) Code
- (v) International Safety Management (ISM) Code, IMO Resolution A.741(18)
- (w) Vessel Screening and Targeting Tactics, Techniques, and Procedures (TTP), CGTTP 3-70.2 (series)
- (x) (CG-PSA), Conditions of Entry Verification Policy on Vessels Arriving from Ports Not Maintaining Effective Anti-Terrorism Measures policy letter 16711 of 01-18
- (y) Confined Spaces Program Tactics, Techniques, and Procedures (TTP), CGTTP 4-11.8 (series)
- (z) Ballast Water Management for Control of Non-Indigenous Species in Waters of the United States, Navigation and Vessel Inspection (NVIC) Circular 01-18 (series)
- (aa) Revised Guidelines and Specifications for Pollution Prevention Equipment for Machinery Space Bilges of Ships, Resolution MEPC.107 (49) (series)
- (bb) (CG-INV) Policy Letter 4-15: Guidance for Conducting Expanded MARPOL Investigations and Field Reference Guide
- (cc) Telecommunication, 47 CFR, Resolution A.809(19) (series)
- (dd) Adoption of the Revised Performance Standards for Survival Craft Portable Two-Way VHF Radiotelephone Apparatus, Resolution MSC.149(77) (series) 3 June 2003
- (ee) Guidelines on Annual Testing of the Automatic Identification System (AIS), MSC.1/Circ.1252 (series)
- (ff) Merchant Shipping (Minimum Standards) Convention, 1976 (ILO 147) and Port State Control (PSC), COMDTINST 16711.12A (series)
- (gg) Shipping, 46 U.S.C.
- (hh) International Medical Guide for Ships, World Health Organization (WHO), 3rd edition
- (ii) International Maritime Dangerous Goods (IMDG) Code Supplement, IMO (series)
- (jj) Guidelines for Construction, Installation, Maintenance and Inspection/Survey of Means of Embarkation and Disembarkation, MSC.1/Circ.1331, 3.8 (series)
- (kk) Guidance for Checking the Structure of Bulk Carriers, MSC/Circ. 1117 (series)
- (ll) Notes on the Inspection and Repair of Steel Hulls, Navigation and Vessel Inspection (NVIC) Circular 7-68 (series)
- (mm) Shipping, 46 CFR

- (nn) Guidance for Anchoring Equipment in Service, International Association of Classification Societies (IACS)
- (oo) Guidelines for Measures to Prevent Fires in Engine-Rooms and Cargo Pump-Rooms, MSC.1/Circ. 1321
- (pp) (CG-CVC), Guidelines for Compliance and Enforcement of the Emission Control Areas 16711 policy letter 12-04
- (qq) Electrical Installation in Ships, International Electrotechnical Commission (IEC), IEC 60092
- (rr) United States Coast Guard Marine Safety Manual, Vol. IV: Technical
- (ss) Standard Specification for Shipboard Incinerators, MEPC.76(40) (series)
- (tt) Prevention of Air Pollution From Ships, MEPC.59(33) (series)
- (uu) Federal Water Pollution Control Act (FWPCA)
- (vv) Navigation and Navigable Waters, 33 U.S.C.
- (ww) Lists of Solid Bulk Cargoes For Which a Fixed Gas Fire-Extinguishing System May Be Exempted Or For Which a Fixed Gas Fire-Extinguishing System is Ineffective, MSC/Circ. 1146 (series)
- (xx) Fixed Carbon Dioxide Fire-Extinguishing Systems, MSC.1/Circ. 1318 (series).
- (yy) Carbon Dioxide Fire Extinguishing System Safety, Navigation and Vessel Inspection (NVIC) Circular 09-00 (series)
- (zz) Adoption of the International Code for Fire Safety Systems, Resolution MSC 98(73) (series)
- (aaa) New SOLAS Requirements for Lifejackets and Immersion Suits Effective 01 July 2010, Navigation and Vessel Inspection (NVIC) Circular 03-10 (series)
- (bbb) Symbols Related to Life-Saving Appliances and Arrangements, IMO, Resolution A.760(18) (series), 17 Nov 1993
- (ccc) Measures to Prevent Accidents with Lifeboats, MSC.1/Circ.1206 (series).
- (ddd) Guidelines for the Approval of Inflatable Liferafts Subject to Extended Service Intervals Not Exceeding 30 Months, MSC.I/Circ. 1328, (series)
- (eee) Maritime Transportation Security Act (MTSA) of 2002
- (fff) Guidelines for Port State Control Officers on the International Safety Management (ISM) Code, MSC-MEPC.4/CIRC.4 (series)
- (ggg) Guidelines on Implementation by Administration, International Maritime Organization (IMO), Resolution A.1071(28)
- (hhh) Port State Control Guidelines for the Enforcement of Management for the Safe Operation of Ships (ISM Code), Navigation and Vessel Inspection Circular (NVIC) 04-05
- (iii) USCG Office of Commercial Vessel Compliance (CG-CVC) Mission Management System (MMS) Procedures, CVC2-PR-002 (series)
- (jjj) MMS Work Instruction MISLE Data Entry Requirement for Foreign Vessel Arrivals, Examinations and Operational Controls (series)

1. PURPOSE. To provide Port State Control Examiners (PSCs) and trainees with Coast Guard tactics, techniques, and procedures (CGTTP) to administer exams that comply with both domestic and applicable international ship inspection laws and regulations in order to promote safe, well-equipped foreign ships in waters subject to the United States Coast Guard's (USCG's) jurisdiction.
2. ACTION. This CGTTP publication applies to PSCs and trainees performing exams on foreign ships visiting U.S. ports of call. Internet release authorized.
3. CGTTP AFFECTED. None.
4. DISCUSSION. Ship examinations are a key activity in the port state control process, where the U.S. exercises its authority over foreign vessels in waters subject to its jurisdiction. PSC exams are intended to be of sufficient breadth and depth to validate that a ship's major systems comply with applicable international standards and U.S. requirements. Vessels that are not in substantial compliance with applicable laws or regulations are identified in an exam and the USCG imposes controls until the substandard conditions are rectified and the vessels are brought into compliance. This tactics, techniques, and procedures (TTP) publication was authored and validated by accomplished performers and subject matter experts in the field. TTP publications adhere to a life-cycle maintenance periodicity unless triggered by other revision requirements.
5. DISCLAIMER. This TTP publication is not a substitute for applicable legal requirements, nor is it itself a rule. It is intended to provide guidance for Coast Guard personnel and is not intended to, nor does it, impose legally binding requirements on any party outside the Coast Guard.
6. DISTRIBUTION. U.S. Coast Guard Force Readiness Command (FORCECOM) Training Division (FC-T) posts an electronic version of this TTP publication to the CGTTP Library on CGPortal. In CGPortal, navigate to the CGTTP Library by selecting **Training & Education**, then select the **TACTICS, TECHNIQUES, AND PROCEDURES** link. FC-T does not provide paper distribution of this publication.
7. USCG FORMS. The USCG electronic forms referenced in this publication are available on the [CGPortal](#) website.
8. REQUEST FOR CHANGES. Field feedback regarding this TTP publication, or any other located in the CGTTP Library, may be provided via email to: D05-SG-M-FORCECOM-TPTC-PRODUCTFEEDBACK@uscg.mil.

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Chapter 1: Introduction

Introduction

This chapter overviews the contents of this Coast Guard tactics, techniques, and procedures (CGTTP) publication. It also defines the use of notes, cautions, and warnings in this TTP publication. [See Appendix A: Glossary and Acronyms](#) for an explanation of terms and acronyms used in this TTP publication.

Per reference (a), Development System and Standards Tactics, Techniques, and Procedures (TTP), CGTTP 1-01 (series), *“CGTTP is NOT policy and is not used to replace or fix policy gaps.”*

In This Chapter

This chapter contains the following sections:

Section	Title	Page
A	Introduction	1-2
B	Notes, Cautions, and Warnings	1-5

Section A: Introduction

A.1. Background and Performance Objective(s)

Port State Control (PSC) is the process by which a nation exercises its authority over foreign ships in waters subject to its jurisdiction. The objective of the United States Coast Guard (USCG) PSC program is to administer ship inspection laws and regulations to promote safe, well-equipped ships that are suitable for their intended service. PSC examinations are intended to be of sufficient breadth and depth to validate that a ship's major systems comply with applicable international standards and domestic requirements, and that the crew safely operates the ship with sufficient proficiency.

A review of USCG instructions resulted in a recommendation to consolidate, update, and standardize guidance for USCG personnel conducting PSC exams. Standardized guidance enhances on-the-job training (OJT), minimizes variation of the PSC exam and requirement interpretation, and promotes effective documentation of exam results. The following references provide regulatory basis, policy and guidance for PSC exams:

- Reference (b), United States Coast Guard Marine Safety Manual, Vol. II: Materiel Inspection, COMDTINST M16000.7 (series), Chapter D, gives the USCG authority to conduct ship inspections.
 - Reference (c), United States Coast Guard Port State Control Examiner (PSCE), Performance and Qualification Standard (PQS), MPS-PQS-TCY-PSCE (series)
 - Reference (d), Procedures for Port State Control, 2017, International Maritime Organization (IMO) Resolution A.1119(30), 20 December 2017.
 - Reference (e), SOLAS: Consolidated Text of the International Convention for the Safety of Life at Sea, 1974, and its Protocol of 1988: Articles, Annexes and Certificates, (IMO), (series).
 - Reference (f), PSC Job Task Analysis, May 2016.
-

A.2. Scope	<p>The scope of this TTP publication begins when a foreign ship is scheduled for an exam and ends once the exam is completed. Procedural guidance focuses on conducting, evaluating, and documenting the exam. Content scope includes the procedural instructions for validating relevant certificates and documents, evaluating ship compliance with applicable international and U.S. regulations, and assessing the overall:</p> <ul style="list-style-type: none">• Condition of the ship.• Operation of its systems.• Competency of the ship’s crew.
A.3. Target Audience	<p>The primary audience for this TTP publication are U.S. Coast Guard PSCEs and trainees.</p>
A.4. Exclusions and Assumptions	<p>This publication minimizes pre-exam guidance with the exception of safety considerations. It also excludes tasks for performing actions covered in other TTPs, such as ship screening processes or cargo specific tasks, and instead refers the reader to the appropriate TTP on the CGPortal site for guidance.</p>
A.5. Registered Trademark Disclaimer	<p>The use of registered trademarks, including certification identifying marks, in this TTP publication does not constitute an endorsement of any products, companies, or certification entities by the USCG, the Department of Homeland Security (DHS), or the Federal Government. This TTP publication has not been prepared, approved, or licensed by any entity that created, produced or certified the products referenced herein. Therefore, any use of third-party logos, trademarks, or certification marks, is non-commercial in nature and constitutes a nominative fair use.</p>

A.6. Economy of References

The titles of the following references are considered “commonly cited references” and cited numerously within this publication. As such, these citations are referred to by their short titles for economy of reference citation.

- Reference (d), Procedures for Port State Control, 2017, International Maritime Organization (IMO) Resolution A.1119(30), 20 December 2017, is listed as:
 - Reference (d), PPSC.
 - Reference (e), SOLAS: Consolidated Text of the International Convention for the Safety of Life at Sea, 1974, and its Protocol of 1988: Articles, Annexes and Certificates, International Maritime Organization (IMO), (series), is listed as:
 - Reference (e), SOLAS.
 - Reference (b), The United States Coast Guard Marine Safety Manual Volume II: Materiel Inspection, COMDTINST 16000.7 (series), is listed as:
 - Reference (b), MSM II.
 - Reference (g), International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), Including 2010 Manila Amendments, STCW Convention and STCW Code, 2011 Edition (series), is listed as:
 - Reference (g), STCW.
 - Reference (h), The International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 (MARPOL), is listed as:
 - Reference (h), MARPOL.
 - Reference (i), United States Coast Guard Marine Safety Manual Volume I: Administration and Management, COMDTINST 16000.6 (series), is listed as:
 - Reference (i), MSM I.
 - Reference (j), Navigation and Navigable Waters, 33 CFR, is listed as:
 - Reference (j), 33 CFR.
-

Section B: Notes, Cautions, and Warnings

B.1. Overview The following definitions apply to notes, cautions, and warnings found in this TTP publication.

NOTE: **An emphasized statement, procedure, or technique.**

CAUTION: **A procedure, technique, or action that, if not followed, carries the risk of equipment damage.**

WARNING: *A procedure, technique, or action that, if not followed, carries the risk of personnel injury or death.*

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Chapter 2: Fundamental Principles

Introduction

This chapter discusses the requirements and options for PSCE development and certification. It provides the applicability of relevant regulations. In addition, it introduces PSCEs to the foundation of PSC entities responsible for creating necessary policy and guidance.

In This Chapter

This chapter contains the following sections:

Section	Title	Page
A	PSCE Training, Certification & Continuing Education	2-2
B	Applicability of Regulations	2-6
C	Policy & Guidance	2-9
D	Clear Grounds & Objective Evidence	2-11

Section A: PSCE Training, Certification & Continuing Education

A.1. Overview

Training and certification policy is outlined in Chapter 7, Section A, of reference (i), MSM I. PSCE trainees undergo a formal training process comprised of the following elements:

- Self-paced e-learning (SPeL) course.*
- PQS.
- Resident training course.
- Final assessment under the observation of an approved verifying officer (VO).
- Oral certification board.

*Currently, the only SPeL requirement is to complete the “Introduction to Confined Space Entry and Shipyard Competent Person for Marine Inspection/Port State Control” course (100028), located on the Learning Management System Portal.

New PSC courses, including SPeL, structured-on-the-job training (SOJT) and resident are being developed, which will replace the current PSC resident course.

Additionally, there are two different resident training tracks to attain PSCE certification:

- Completion of the PSC Course (501864).
- Completion of Marine Science Technician A-School between January 2010 and September 2017. Course curriculum during those years was deemed equivalent to the PSC course during the same period.

A.2. Recommended Order of Training

PSCE trainees are recommended to develop a training plan with their Marine Inspector Training Officer (MITO), or supervisor. This plan establishes estimated timelines for completion, taking into account availability of foreign ships, training opportunities, and other duties that can conflict with the training program.

After agreeing to a training plan, the trainee conducts training in the following order:

1. SPeL*
2. PQS tasks.
3. Resident training course.

4. Remaining PQS, as applicable.
5. Final assessment under the observation of an approved VO.
6. Oral certification board.

**A.3. Final
Assessment and
Oral
Certification
Board**

Final assessment:

The PSCE trainee conducts a PSC verification examination as team leader under the direct supervision of a VO. Prior to the final assessment, also referred to as a “check ride,” all PQS – except those tasks that the PQS specifically provides for deferment – is to be completed. Evaluation criteria includes:

- Preparation for the PSC examination, including review of associated screening materials, team selection, communications with involved personnel, safety briefing, and verification that team members are properly equipped to perform the exam.
- Adherence to safe work practices.
- Professionalism, temperament and clarity of communication with unit, team members, ship’s crew and others encountered in the course of the exam.
- Organization of the exam.
- Conducting the exam, per the procedures in reference (b), MSM II, and this TTP.
- Correct identification of deficiencies, if applicable.
- Appropriate use of regulatory cites for documenting deficiencies, if applicable.
- Reasonable actions appropriately matched to the severity of the deficiencies, if applicable, per reference (d), PPSC; reference (b); and this TTP.
- Thorough and clear documentation of the exam on applicable forms and in the MISLE activity.
- Outbrief of the exam.

When the final assessment is satisfactorily concluded, the VO provides his/her recommendation to the MITO or board convening authority to schedule the oral certification board.

NOTE: Some units also have the trainee complete a written test or conduct a pre-board, described below.

Pre-board:

A pre-board is conducted with the trainee and VO. This provides the trainee with an opportunity to prepare for potential oral board questions and to discuss outstanding tasks that need clarification. It also provides the VO with an informal forum to further assess the trainee's readiness for the PSCE certification.

Oral Certification Board:

An oral certification board is convened upon the recommendation of the VO that the trainee has satisfactorily completed the training, PQS, and final assessment. The board is comprised of a minimum of three members. The MITO or the Chief, Inspection Division (CID) designee serves as a board president. Additional board members include a VO and an accomplished performer with the PSCE competency. The oral board assesses the trainee's understanding of the PSCE role, and poses questions that reveal his/her ability to reason and articulate an approach to examination scenarios that are consistent with regulations and USCG policy. Judgement and maturity are also observed.

**A.4. Continuing
Education**

Other competencies:

PSCE is the initial competency for the USCG's foreign ship inspections program. To lead PSC examinations, PSCE's need to hold current competencies for the ship type being examined, such as FFVE for freight ships or Foreign Tank Vessel Examiner (FTVE) for tank ships. Each of these competencies has associated training requirements. Refer to the respective TTP and PQS for those training requirements.

Certification requirements:

- Reference (k), Foreign Freight Vessel Examiner (FFVE), CGTTP 3-72.8: TTP and PQS.
- Reference (l), Foreign Tank Vessel Examiner (FTVE), Performance and Qualification Standard (PQS), 18 Nov 14.
- Reference (m), Foreign Chemical Tanker Examiner (FCTE), Performance and Qualification Standard (PQS), 8 Aug 14.
- Reference (n), Foreign Gas Carrier Examiner (FGCE), CGTTP 3-72.6: TTP, PQS, and Gas Carrier Inspector Course (351263).
- Reference (o), Foreign Passenger Vessel Examiner (FPVE), CGTTP 3-72.2A: TTP, PQS, and Advanced Foreign Passenger Vessel Examiner Course (500317).

Additional training:

The Tank Vessel Inspector Course (100282) is not required to attain the FTVE or Foreign Chemical Tank Vessel Examiner competencies. However, it is beneficial for understanding inert gas systems, crude oil wash, and chemical tank ship operations.

Ship rider program: The FGCE and FPVE competencies have an associated ship ride requirement. As most PSC examinations are conducted at the pier or anchorage, PSCEs often do not observe the majority of ship operations, including navigation and engineering duties. The ship rider program allows trainees an opportunity to spend time aboard a working ship, observing and participating in the operation along with the crew. The trainee may be required to complete a training packet with tasks during the ship ride.

Units may provide port-specific training as well. Trainees and certified members alike are encouraged to participate in these training opportunities to become educated on regulatory or policy additions/changes, or as a refresher.

Maintaining certifications:

There is a 12-month currency requirement to maintain certifications. During this period, the PSCE completes at least one PSC examination. Refer to Section A, Chapter 7 of reference (i), MSM I, if examination opportunities are unavailable or if the PSCE competency lapses.

Section B: Applicability of Regulations

B.1. Overview This section introduces applicable international conventions, codes, and U.S. regulations as they apply to specific chapters of this TTP. These sections help PSCEs determine which regulations apply to the different portions of the examination they are conducting. Most areas of the ships are covered by multiple regulations. Subsections B.3 through B.12, below, describe which conventions, codes, and U.S. regulations apply to the relevant chapters of this TTP.

B.2. Applicability Chart For specific applicability, please see [Appendix B: IMO Applicability Chart](#). The Applicability Chart's information is validated per the Port State Control Examiner Job Aid.

B.3. Examination Pre-Brief and Initial Meeting Applicable Regulations:

- Chapter I, II-2, III, IX, XI-1, XI-2, of reference (e), SOLAS.
- Reference (p), International Convention on Tonnage Measurement of Ships, 1969.
- Reference (q), International Convention on Load Lines (ILLC), 1966, as Amended by the Protocol of 1988 Convention.
- Annex I, II, V, VI of reference (h), MARPOL.
- Parts 101, 104, 151, 155, 156, 160 of reference (j), 33 CFR.
- Reference (g), STCW.

See [Chapter 4: Examination Pre-Brief and Initial Meeting](#).

B.4. Bridge Applicable Regulations:

- Chapters III, IV, and V of reference (e).
- Parts 101, 104, 164 of reference (j).

See [Chapter 5: Bridge](#).

B.5. Crew Accommodations Applicable Regulations:

- Reference (r), Merchant Shipping (Minimum Standards) Convention, 1976 (ILO 147).
- Parts 6 and 160, of reference (j).
- Reference (s), International Code for Fire Safety Systems (FSS) Code.

See [Chapter 6: Crew Accommodations](#).

B.6. Deck/Cargo

Applicable Regulations:

- Reference (q), International Convention on Load Lines (ILLC), 1966, as Amended by the Protocol of 1988.
- Chapters II-1, II-2, III, XII of reference (e), SOLAS.
- Reference (t), International Life-Saving Appliance (LSA) Code, Resolution MSC.48 (66).
- Annex I and V of reference (h), MARPOL.
- Reference (s), International Code for Fire Safety Systems (FSS) Code.
- Parts 151, 155, 156, and 165 of reference (j), 33 CFR.

See [Chapter 7: Deck/Cargo](#).

B.7. Machinery Spaces

Applicable Regulations:

- Chapter II-1, II-2, III, V, of reference (e).
- Reference (q).
- Annex I and Annex VI of reference (h).
- Parts 151, 155, and 156, of reference (j).

See [Chapter 8: Machinery Spaces](#).

B.8. Fire Systems

Applicable Regulations:

- Chapter II-2 of reference (e), SOLAS.
- Reference (s).

See [Chapter 9: Fire Systems](#).

B.9. Lifesaving

Applicable Regulations:

- Chapters III and V of reference (e).
- Reference (t).

See [Chapter 10: Lifesaving](#).

B.10. Drills

Applicable Regulations:

- Chapter II of reference (e), SOLAS.
- Parts 101 and 104 of reference (j), 33 CFR.
- Annex I, II of reference (h), MARPOL.
- Chapter XI-2 of reference (e).
- Reference (u), International Ship and Port Facility Security (ISPS) Code.
- Reference (g), STCW.

See [Chapter 11: Drills](#).

B.11. Security

Applicable Regulations:

- Chapter XI-2 of reference (e).
- Reference (u).
- Parts 101 and 104 of reference (j).

See [Chapter 12: Security](#).

B.12. Safety Management

Applicable Regulations:

- Chapter IX of reference (e).
- Reference (v), International Safety Management (ISM) Code, IMO Resolution A.741(18).

See [Chapter 13: Safety Management](#).

B.13. PSC Enforcement

Applicable References:

- Reference (d), PPSC.
- References (b), MSM Vol. II.

See [Chapter 14: PSCE Enforcement](#).

Section C: Policy & Guidance

C.1. Overview This section introduces PSCEs to the individual components of the IMO and USCG responsible for developing policy and guidance related to PSC.

C.2. IMO As a specialized agency of the UN, IMO is the global standard-setting authority for the safety, security, and environmental performance of international shipping. The IMO consists of an assembly, a council, and five main committees:

- The Maritime Safety Committee (MSC).
- Marine Environment Protection Committee (MEPC).
- Legal Committee.
- Technical Cooperation Committee.
- Facilitation Committee.

For further information regarding the structure and responsibility of the IMO, visit the [IMO website](#).

C.3. Coast Guard The U.S. is a member state of the IMO and enforces the conventions we are signatory to on foreign ships operating in U.S. waters. Three main components of the Coast Guard drive how PSCEs enforce the regulations:

- Headquarters (Policy and Oversight):
 - Coast Guard Office of Commercial Vessel Compliance (CG-CVC).
 - Coast Guard Marine Safety Center.
 - Coast Guard Office of Design and Engineering Standards (CG-ENG).
 - Coast Guard Office of Operating & Environmental Standards (CG-OES).
- District (Oversight and Coordination):
 - District Prevention Inspections and Investigations (DPI).
 - Legal.

- Local Unit (Regulatory Enforcement):
 - Captain of the Port (COTP)/Officer in Charge of Marine Inspection (OCMI).
 - Chief, Prevention Division (CPREV).
 - Chief, Inspections Division (CID).
 - PSC Branch Chief.
 - PSCO.

NOTE: **Positions dependent upon structure and size of unit.**

C.4. Hierarchy of Compliance

The responsibility for safety and security on ships trading internationally is a collaboration of multiple parties and regulatory authorities. Regulations set forth by the IMO and contracting governments are only effective if they are complied with by the company and crew onboard each ship. The hierarchy of each entity is listed below:

- Ship's crew.
- Management/operator, charterer, owner.
- Certificate Issuing Authority.
- Administration/Flag State.
- Contracting Government PSC.

Combined, these entities are sometimes referred to as the marine safety net, meaning that if an issue is not addressed by one entity, another one is in place to identify it. PSC is the last safety net, when others fail.

Section D: Clear Grounds & Objective Evidence

D.1. Overview

PSCEs encounter deficiencies in the course of their duties that require additional evaluation to determine the extent and severity of the issue. A couple of terms that relate to these observed deficiencies are clear grounds and objective evidence. The terms are related, but are applied in different context, as defined below.

D.2. Clear Grounds

The PSCE is required to establish clear grounds to expand the examination. Reference (d), PPSC, refers to this process as a more detailed inspection. Clear grounds exist when a deficiency or failure to comply with a requirement is noted during the course of a PSC exam. Reference (d), defines clear grounds as evidence that a ship, its equipment, or its crew does not correspond substantially with 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. Examples of clear grounds include:

- Crewmembers' lack of ability to communicate with each other.
- Observation or general impressions of serious deficiencies, such as those related to firefighting, lifesaving, or pollution prevention equipment.

NOTE:

The term clear grounds does not apply in the context of ISM-related deficiencies. For technical and operational deficiencies related to the Safety Management System (SMS), the term objective evidence applies.

D.3. Objective Evidence

This term is used in consideration of observations made by PSCEs when evaluating the effectiveness of SMS implementation onboard a ship. Reference (v), International Safety Management (ISM) Code, IMO Resolution A.741(18) defines objective evidence as quantitative or qualitative information, records or statements of fact pertaining to safety or to the existence and implementation of a safety management system element, which is based on observation, measurement or test and which can be verified.

D.4.
Grounds for
Detention

Detentions are associated with substandard ships or ships on which substandard conditions are present. Appendix 2 of reference (d), PPSC, and reference (b), MSM II, D, provide examples of deficiencies that can be detainable. Examples include absence or failure of critical lifesaving equipment, disabled fire detection systems, or observed systematic lack of maintenance that poses a safety hazard. These are distinguished from equipment that is simply broken and that requires correction prior to movement/departure. Generally, if a ship has been identified as substandard, it represents a serious threat to personnel, property and/or the environment. [Chapter 14: PSC Enforcement](#) addresses detentions and other control actions.

Chapter 3: Pre-Exam Tasks

Introduction

This chapter discusses PSCE preparations to conduct prior to the exam. In addition, this section identifies potential hazards PSCEs can encounter and ways to mitigate threats to the team.

In This Chapter

This chapter contains the following sections:

Section	Title	Page
A	Ship Screening	3-2
B	Pre-Arrival Certificates & Documents	3-3
C	Hazard Recognition & Mitigation	3-5
D	Exam Preparation	3-11

Section A: Ship Screening

A.1. Identifying Ships Posing a Risk The USCG uses targeting processes to prioritize foreign ships for PSC examinations, based upon compliance history and identified risk factors. When applied consistently, the PSC targeting processes encourage compliance, and can identify important issues prior to the ship's arrival.

A.2. Additional Guidance on Vessel Screening Refer to reference (w), Vessel Screening and Targeting Tactics, Techniques, and Procedures (TTP), CGTTP 3-70.2 (series), located in [CGPortal](#) for further guidance on ship arrival process.

Section B: Pre-Arrival Certificates & Documents

B.1. Introduction This section focuses on certificate and document review prior to ship arrival and prior to the PSC exam. Additional information regarding certificates and documents is provided in [Chapter 4: Examination Pre-Brief & Initial Meeting, Section B: Certificate, Document & Plan Review](#).

B.2. Reviewing the Notice of Arrival (NOA) Information A significant number of issues can be identified during the screening process, prior to the ship's arrival. Reviewing the Notice of Arrival (NOA), required to be submitted per Part 160 of reference (j), 33 CFR, is a critical part of this process.

The NOA is required for all foreign ships in commercial service and foreign ships not in commercial service (yachts) more than 300 GT. The NOA includes:

- Ship information, including name of owner, operator and charterer.
- Voyage information (last five foreign ports of call).
- Cargo information.
- Identification and embarkation information for crewmembers and others on board.
- Operational condition of equipment required for safe navigation, such as steering gear and radars.
- ISM certificate notice.
- International Ship Security Certificate (ISSC) notice.
- Tank Vessel Response Plan (VRP)/Non-Tank Vessel Response Plan (NTVRP) notice.
- Certificate of Financial Responsibility (COFR) operator.

NOTE:

Incomplete submission of the NOA entails follow-up with the ship or ship's agent prior to arrival and a COTP order restricting the ship's entry can be issued pending submission and review of the updated NOA.

The last five ports of call information can qualify the ship for a Conditions of Entry (COE) examination, see reference (x), (CG-PSA), Conditions of Entry Verification Policy on Vessels Arriving from Ports Not Maintaining Effective Anti-Terrorism Measures policy letter 16711 of 01-18, for more information.

- Review the NOA and verify the ISM DOC and Safety Management Certificate (SMC) information, as well as the ISSC and VRP/NTVRP. Also verify that the ship is approved for the specific COTP zone in which it is going to be operating. Take note of expiration dates and whether the certificate is an interim or full-term certificate and is within the required date ranges. If any of the certificates listed on the NOA indicate expiration, request copies from the ship to verify validity. The VRP/NTVRP approval letter can be accessed via the Homeport link at <https://homeport.uscg.mil/missions/vrp-status-board>.
 - Also review all the reported information on the NOA to identify if any shipboard equipment is listed as not-operational. If identified, additional information might be needed from the ship to assess the risk to the port and control actions might be appropriate, as per reference j, 33 CFR. Ascertain if the ship intends to make repairs to the non-operational equipment during the port call.
 - Print a copy of the NOA and the Vessel Critical Profile from MISLE to bring on the exam for additional verification.
-

Section C: Hazard Recognition & Mitigation

C.1. Overview PSCEs are exposed regularly to a variety of hazards. Some of these hazards can result in immediate serious or lethal consequences to your health. Many can result in delayed and/or long-term health problems. The ability to correctly recognize, evaluate and control these workplace hazards is paramount to safely completing assigned duties. A thorough knowledge of these hazards, coupled with good situational awareness is the only way to ensure the safety of the examination team. Utilizing the GAR 2.0 assessment prior to conducting the exam ensures hazards are identified and actions are taken to mitigate potential risk.

C.2. PPE As per reference (i), United States Coast Guard Marine Safety Manual Volume I: Administration and Management, COMDTINST 16000.6 (series), Level D PPE is the minimum level of safety for each PSCE while conducting PSC exams.

Each PSCE is required to wear:

- Coveralls, with USCG marking.
- Hardhat.
- Hearing protection.
- Eye protection.
- Safety gloves.
- Safety toe boots.
- Personal radiation detector.
- Sunscreen.
- 4-gas meter.
- High-visibility safety vest for facility transit.
- Lifejacket/anti-exposure coveralls, depending on a ship's location and best practice.

NOTE:

According to best practice, the use of coveralls helps to ensure a consistent uniform for all Coast Guard crewmembers, as ODUs or other uniforms cannot be worn by civilian PSC examiners. PSCOs are encouraged to wear coveralls while conducting PSC exams because they are recognized as the universal uniform for PSCOs worldwide and convey a non-verbal message to the industry that USCG PSCOs are approachable and willing to work with industry in a collaborative way to ensure safety and environmental compliance.

**C.3. Mitigating
Potential
Environmental
Hazards**

Some hazards that could be encountered during a PSC exam include:

- **Confined spaces:** Defined as a space large enough and configured so that an employee can enter and perform assigned work. This space also has limited or restricted means for entry or exit and is not designed for continuous employee occupancy. Examples include, but are not limited to, pump rooms, compressor rooms, and below-deck-bow-thruster rooms (potential location for emergency fire pumps) that require climbing a vertical ladder for entry/exit, and other space with only one way in or out. Hazards associated with confined spaces include:
 - Oxygen deficient/enriched atmosphere.
 - Flammable atmosphere.
 - Extreme heat/cold.
 - Engulfment hazard.
 - Excessive noise.
 - Slick/wet surfaces.
 - Tripping hazards.
 - Falling objects.
 - Rapidly changing atmosphere.

WARNING:

There are many hazards associated with confined spaces that pose a threat to the health and safety of personnel who enter confined spaces. To avoid serious injury or death, team members will not enter any confined space without following the specific safe work practice contained in reference (i), MSM I.

NOTE:

Additional confined space entry procedures for compressor rooms are found in reference (n), FGCE TTP, CGTTP 3-72.6 and in reference (y), Confined Spaces Program Tactics, Techniques, and Procedures (TTP), CGTTP 4-11.8 (series).

Non-confined spaces: Examples of non-confined spaces that pose a hazard on vessels include, but are not limited to: CO₂ storage rooms, machinery spaces, flammable storage lockers, paint rooms, and battery rooms. Before entering these spaces, ensure the space has been adequately ventilated and that the ventilation is in operation, wear a properly calibrated/bump tested 4-gas meter, and wear hearing protection. Potential hazards include:

- O₂ deprivation due to leaking CO₂.
- Flammability.
- H₂S.
- Toxicity.
- Noise.

C.4. Embarkation Hazards

Ship embarkation/disembarkation: There are two common locations a ship is embarked/disembarked – either at sea or at a facility.

There are three main means of embarkation:

- Pilot ladder.
- Gangway.
- Accommodation ladder.

Use a heaving line to hoist bags: Bags are not worn while embarking and disembarking on pilot ladders. The exam team makes an on-scene decision to embark/disembark the ship taking into account the weather, sea condition, ship operations, and crew/ship safety. If the team decides boarding the ship is too hazardous, postpone the exam to a later, safer time. When embarking/disembarking, ensure a ship's officer is in attendance at the ladder with life-saving appliances ready for immediate use and a portable radio for communication with the bridge.

Pilot ladder: Ensure pilot ladders are constructed and rigged per IMO requirements, as per reference (e), SOLAS.

Pilot ladders need to be:

- Clean.
- Properly fitted with spreaders.
- Clear of all discharges, outlets, and any outboard fittings, to avoid fouling the launch.
- The distance that the bottom of the ladder is required to be above the water, is advised by the launch operator.
- The distance from the waterline, to the point of access, cannot exceed 9 meters.

WARNING:

If boarding a ship using a water taxi or crew boat, once the person begins the climb on the pilot ladder, the transfer boat moves to ensure that if the member falls they would land in the water. A fall from a significant height onto the boat could result in substantial injury or death.

Gangway: Some ships also have an aluminum gangway to use when an accommodation ladder does not work due to pier layout. Before embarking/disembarking, ensure gangway is adequately secured and is in good condition.

Accommodation ladder: Ships are required to have two accommodation ladders on each side of the ship. These ladders are sometimes used in conjunction with a pilot ladder if the distance from the waterline to access point is greater than 9 meters. The accommodation ladder needs to have a roller at the bottom of the stairs that sits on the pier to allow for ship movement, the ladder also needs to have a safety net hanging underneath. Most accommodation ladders have a max incline of 55 degrees.

C.5. Cargo Hazards

Cargo hazards: PSCEs are going to come across numerous hazards associated with ship cargo operations. Things to be aware of include:

- Identify cargo and any associated hazards prior to conducting exam.
- Vehicles and equipment transiting on facility roadways. Be mindful of sudden maneuvers and abrupt stops of straddle cranes, dump trucks and heavy equipment.
- Be aware of hazardous/non-hazardous zones on tank ships and adhere to all onboard policies for use of mobile phones and smoking areas.
- Ensure all radios and flashlights are intrinsically safe if working in hazardous atmospheres. Reference (qq), Electrical Installation in Ships, International Electrotechnical Commission (IEC), IEC 60092, defines intrinsically safe as a circuit which any spark or thermal effect is incapable of causing ignition of a mixture of flammable or combustible material in air under prescribed test conditions. For further guidance, refer to reference (d), PPSC.
- Ensure 4-gas meters are on and tested daily prior to each use in the field.
- Obtain Safety Data Sheets (SDS) before leaving the office, if possible.

WARNING:

Never walk under overhanging containers or working cranes on bulk carriers when loading/offloading cargo. Also be aware of loose cargo gear. For further guidance, see reference (k), Foreign Freight Vessel Examiner (FFVE) Tactics, Techniques, and Procedures (TTP), CGTTP 3-72.8 (series).

C.6. Other Health Hazards

General health/sanitation: PSCEs ascertain, upon meeting with the ship master, the health of the crew. If anyone is sick onboard, ensure the team is aware and:

- Maintains distance from sick individual.
- Sanitizes hands frequently and limit exposure to water droplets from coughing, talking, and sneezing.

Heat/cold stress: Wear layers of breathable materials, stay hydrated and limit time in environment.

NOTE: If notified by ship's agent, inquire about actions being taken.

C.6.a. Asbestos

Asbestos:

- Be mindful of asbestos that is commonly found in engine rooms used for lagging and pipe/boiler insulation.
- If there appears to be friable asbestos, (loose and easily pulverized with hand pressure) do not continue to be in the space and notify lead examiner to discuss further course of exam.



Figure 3-1 Friable asbestos

Section D: Exam Preparation

D.1. Overview

Prior to departing the office for a PSC Exam, review previous MISLE activities for any outstanding deficiencies, special notes, any operational controls, and past deficiency history. Reviewing MISLE activities provides a snapshot of the ship's compliance history, safe operating practices, and any other conditions which need further attention during an exam. A [PSC Exam Checklist](#), [Certificate Recording Sheet](#), and [ECA Spot Check](#), can be found in the Appendix of this TTP. These are good references to help PSCEs prepare for the exam.

D.2. Prepare for the Exam

Prior to conducting an exam, review the following ship's information to determine the scope of the examination:

- Ship's name.
- Flag.
- Recognized Organization (RO).
- Call sign.
- Keel laid date.
- National Ballast Information Clearinghouse (NBIC) Report.
- Tonnage.
- Date and port of last Coast Guard exam.
- Recent spills.
- EQUASIS for associated parties and exam history with other PSC authorities.
- User fees as applicable.
- Outstanding and previous deficiencies.
- Status of certificates and documents.
- Vessel Critical Profile.
- Special Notes.

A check of the ship's history in MISLE indicates whether certain information needs to be confirmed or updated during the exam to keep MISLE records current. MISLE can also indicate if the ship has outstanding deficiencies that require correction. Create a MISLE activity.

NOTE:

When a ship is identified for a PSC exam through the targeting process, schedule the exam in MISLE via the arrivals screen. This ensures the PSC exam is associated with the MISLE-generated exam priority.

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Chapter 4: Examination Pre-Brief & Initial Meeting

Introduction This chapter discusses the initial meeting with the ship's master and crew which serves to outline the purpose and scope of the exam.

In This Chapter This chapter contains the following sections:

Section	Title	Page
A	Exam Scope & Requirements	4-2
B	Certificates & Documents	4-4
C	Manuals, Plans & Records	4-13
D	Crew Certificates of Competency & Proficiency	4-17

Section A: Exam Scope & Requirements

A.1. PSCE Standards

As PSCEs, maintain the utmost professionalism and integrity. These standards are what define our PSCEs and are what foreign ship operators have come to expect when entering United States ports. There are ship masters and ship representatives who are never going to agree with deficiencies during a PSC exam. PSCEs need to maintain standards and de-escalate any potential situation. For additional guidance, please refer to reference (b), MSM II and reference (d), PPSC.

PSCEs are expected to have:

- Good officer presence.
- Familiarization of regulations/policy.
- Clear understanding and articulation of the scope of the exam and its requirements.

A.2. Initial Meeting with Vessel Master

The initial meeting with the master and senior officers is important to set the stage for a successful PSC exam. Communicate to the master the scope of the exam, types of drills to be conducted, and operational tests of various equipment.

Observe who else is on board, such as the owner/operator representatives, classification society, flag state representative, and other government agencies. Understanding the roles of each representative and other governmental agencies can help facilitate our exams through cooperation.

A.3. Example Introduction

Example introduction to ship master and senior officers.

Best practice:

“Good morning Captain. Welcome to “Port of Exam.” My name is “_____” and (introduce the rest of the PSCE team). We are here today to conduct a Port State Control Exam. I hope your voyage went well. Did you experience any heavy seas? (Listen for any oddities or concerns.) Is the crew all healthy and fit for duty? Is all machinery and equipment in good running order? (If so, take note and conduct further inspection as needed.) Do you have any outstanding condition of class? (If so, inquire further. Is it an item that needs further attention?) Are there any other operations going on, such as (fuel transfer) bunkering?” (Bunkering ops potentially limits the ability to lower lifeboats.)

“Here is a quick breakdown of the exam. The exam will consist of three main parts. First, we will review the ship’s certificates and documents, and officer credentials. Next, my team will split into two teams. One team will head up to the bridge and check navigational equipment, followed by a walkthrough of the house and a check of lifesaving equipment. The second team will start their exam in the engine control room (ECR) and will conduct a walkthrough of the engine room. Operational tests of the following can take place: steering gear system, high-level bilge alarms, an engine room fire alarm, and the Oily Water Separator (OWS). Afterwards, we will regroup here – generally in the Ship’s Office or Captain’s cabin – conduct a pre-brief for a fire drill and an abandon ship drill. We’ll go over the specifics of the drills at that time. Do you have any questions? No? Great! Let’s get started.”

Section B: Certificates & Documents

B.1. PSCE Checklist

When verifying certificates and documents, it is good to understand which operation each officer onboard is responsible for overseeing. Use the [PSC Exam Checklist](#) to verify documents and certificates and fill out a Vessel Particulars form with current information for certificates and documents. Updated information is entered into MISLE.

B.2. Ship Documents

Examiners need to verify the ship's statutory certificates and endorsements for validity. Once verified, the examiner conducts a material exam to ascertain that the ship's arrangements and crew are substantially compliant with relevant certificates. Refer to reference (b), MSM II; reference (d), PPSC; and reference (e), SOLAS, for additional guidance.

Verify the following certificates:

- Certificate of Registry.
 - Classification Document.
 - SOLAS Cargo Ship Safety Construction Certificate.
 - SOLAS Cargo Ship Safety Equipment Certificate.
 - SOLAS Cargo Ship Safety Radio Certificate.
 - International Tonnage Certificate (ITC).
 - International Load Line Certificate.
 - Document of Compliance.
 - Safety Management Certificate.
 - Minimum Safe Manning Certificate.
 - International Oil Pollution Prevention Certificate.
 - International Air Pollution Prevention Certificate.
 - Continuous Synopsis Record (CSR).
 - International Ship Security Certificate.
-

B.3. Certificate of Registry

The Certificate of Registry indicates that the ship is documented with the issuing flag administration. Refer to reference (b), MSM II, and reference (d), PPSC, for additional guidance.

The Registry provides the following information on the ship:

- Ship owner's name and address.
- Ship name.
- Country of registry.
- Year built.
- Service.
- Type of propulsion.
- Where the ship was built.
- Call sign.
- Length, breadth, and depth.
- Horsepower.
- **Validity:** Certificate might or might not have an expiration date.
- **Endorsement/survey requirements:** None required.

B.4. Classification Document

A certificate of class is not required by regulation. However, the marine industry uses the document as verification that the ship conforms with the society issuing the certificate of class. Classification societies establish and maintain technical standards for the construction and operation of ships. The certificate of class lists notations or symbols that signify the standards to which the ship is built. If the Minimum Safe Manning Certificate indicates that the manning is reduced due to operating with an unmanned engine room, review the certificate of class to ensure there is a notation that indicates the ship is fitted with automation, remote monitoring and control systems, and propulsion control is primarily from the navigation bridge. For example, the notation "Automated Control System Certified for Unattended Engine Room," is listed on a certificate of classification issued by the American Bureau of Shipping (ABS) Class document. Refer to reference (b) and reference (d), for additional guidance.

- **Validity:** Not to exceed five years, concurrent with other SOLAS documents.
 - **Endorsement/Survey Requirements:** Annually endorsed concluding surveys.
-

**B.5. SOLAS
Cargo Ship
Safety
Construction
Certificate**

A Safety Construction Certificate is issued to cargo ships 500 Gross Tonnage (GT) and over and meets international regulations for construction and maintenance. Additional guidance on SOLAS certificates can be found in reference (e), SOLAS.

Verify the following information:

- Type of ship.
- Any exemptions that have been issued.

NOTE:

A common exemption regarding the construction certificate is the requirement for fixed firefighting in the cargo holds of bulk carriers. Particular attention is to be given to cargo hold hatch seals and natural ventilation seals.

- Last dry dock date.
- Last two inspections of ship's hull.
- **Validity:** Not to exceed five years.
- **Endorsement/Survey Requirements:** Annual surveys +/- 3 months of the certificate's anniversary.

**B.6. SOLAS
Cargo Ship
Safety
Equipment
Certificate**

A Safety Equipment Certificate is issued to cargo ships 500 GT and over and meets international regulations for required safety equipment/apparatus onboard. Supplement the certificate with a Record of Equipment, Form E. Additional guidance on SOLAS certificates can be found in reference (e).

Some of the information found on the certificate includes:

- Type of ship.
- If any exemptions have been issued.
- Number of lifeboats, type (open or closed, motored), and total number of crew accommodated.
- Rescue boat(s).
- Number of lifebuoys and associated lights.
- Number of lifejackets.
- Number of immersion suits.
- Search and Rescue locating devices.
- Electronic Chart Display and Information System (ECDIS), Automatic Identification System (AIS), Voyage Data Record (VDR).

- Daylight signal lamp.
 - Fire safety systems, appliances, and fire control plan.
 - **Validity:** Not to exceed five years.
 - **Endorsement/Survey Requirements:** Annual surveys +/- three months of the certificate's anniversary.
-

**B.7. SOLAS
Cargo Ship
Safety Radio
Certificate**

A Safety Radio Certificate is issued to cargo ships 300 GT and above and meets international regulations for required radio installations. The certificate is supplemented by a Record of Equipment, Form R. Additional guidance on SOLAS certificates can be found in reference (e), SOLAS.

Some of the information found on the certificate includes:

- Sea areas in which ship is certified to operate.
 - Primary radio systems.
 - If any exemptions have been issued.
 - Emergency Position Indicating Radio Beacon (EPIRB), International Maritime Satellite (INMARSAT), Search and Rescue Transponder (SART), Navigational Telex (NAVTEX).
 - Shore-based maintenance.
 - Number of persons required for radio installation.
 - **Validity:** Not to exceed five years.
 - **Endorsement/Survey Requirements:** Annual surveys +/- 3 months of the certificate's anniversary.
-

**B.8. ISM
Document of
Compliance
(ISM-DOC)**

Issued by the administration or RO to the ship's ISM company in compliance with the requirements of reference (e), SOLAS, and reference (v), International Safety Management (ISM) Code, IMO Resolution A.741(18). A copy of the DOC is kept onboard the ship and can be issued by another contracting government at the request of the administration. Interim certificates are to be issued for a period not to exceed 12 months.

- Information:
 - Name and address of the company.
 - Ship type.
 - **Validity:** Not to exceed five years.
 - **Endorsement/Survey Requirements:** Annual surveys +/- three months of the certificate's anniversary.
-

B.9. ISM SMC

The SMC indicates the ship's SMS is approved per reference (e), SOLAS, and reference (v), International Safety Management (ISM) Code, IMO Resolution A.741(18). Verify the *original* certificate is onboard the ship. Interim certificates are issued for a period not to exceed six months.

Information:

- Ship's name.
- Distinctive numbers or letters.
- Port of Registry.
- GT.
- IMO number.
- Name and address of company.
- **Validity:** Not to exceed five years.
- **Endorsement/Survey Requirements:** Subject to at least one intermediate verification between the second and third anniversary dates of the certificate.

B.10. ITC

An ITC lists the admeasured cargo carrying capacity of a ship. GT ITC is used to determine applicability of certain regulations. For additional guidance, refer to reference (p), International Convention on Tonnage Measurement of Ships, 1969.

An ITC is issued to every ship that is:

- Registered in a country party to the tonnage convention.
- At least 79-feet in length.
- Engaged on a foreign voyage.

Information:

- Length, breadth, depth.
 - GT, Net Tonnage (NT), date and place of original measurement.
 - **Validity:** Indefinite unless flag is changed. Certificate remains in force not to exceed three months if the ship changes flag.
 - **Endorsement/Survey Requirements:** No endorsements/surveys required.
-

**B.11.
International
Load Line
Certificate**

An International Load Line Certificate is required for ships 79 feet (29 meters) or greater in length and engaged in international voyages. Exemption certificates are issued to ships qualifying under Article 6 of reference (q), The International Load Line Convention (ICLL), 1966, as Amended by the Protocol of 1988 Convention. Verify load line marking on the side of hull matches the diagram on the certificate.

Information:

- Plimsol marking.
- Routes permitted under the survey.
- **Validity:** Not to exceed five years.
- **Endorsement/Survey Requirements:** Annual surveys +/- 3 months of the certificate's anniversary.

NOTE:

Ships can have more than one load line welded on the hull and can have more than one load line certificate onboard, typically secured in the safe, when authorized by the Flag Administration.

**B.12. Minimum
Safe Manning
Document**

The Minimum Safe Manning Document is issued by the administration to ships 500 GT and above. There is no standard format. Refer to references (b), MSM II; reference (e), SOLAS; and reference (g), STCW, for additional guidance.

Information:

- Ship's name.
- Port of Registry.
- Distinctive number or letters.
- IMO number.
- GT.
- Main propulsion power.
- Type.
- Trading area.
- Machinery space, indicate whether machinery space is attended or not.
- A table showing the numbers and grades of personnel required to be carried, together with any special condition or limitations based on the particulars of the ship or the nature of the service upon which it is engaged. Engineering personnel can be reduced based on automation as indicated on the classification document.

- If the document is not in English, then a translation into English.
 - **Validity:** No requirement, but ought to be recorded if any.
 - **Endorsement/Survey Requirements:** No endorsements/surveys required.
-

**B.13.
International Oil
Pollution
Prevention
Certificate**

The International Oil Pollution Prevention Certificate is issued to oil tankers 150 GT and above, and to other ships 400 GT and above to note compliance with Annex I of reference (h), MARPOL. The certificate is supplemented by:

- A Record of Construction and Equipment for Ships, other than Oil Tankers, **Form A** or,
- A Record of Construction and Equipment for Oil Tankers, **Form B**.

Compare max throughput of the OWS with Oil Record Book (ORB) to ensure accuracy. Take note of tanks identified on Certificate with tanks noted in ORB, tanks and capacities need to match.

Information:

- Type of ship.
 - Date of building contract, date keel was laid, and date of delivery.
 - Shipboard Oil Pollution Emergency Plan (SOPEP).
 - Shipboard Marine Pollution Emergency Plan (SMPEP).
 - Standard discharge connection.
 - OWS throughput and unit approval standards, such as MEPC, IMO Resolutions.
 - OWS alarm and auto stopping device.
 - Incinerator, if fitted.
 - Sludge (3.1 tank), tank's location and capacity.
 - Number of slop tanks (tankers).
 - Capacity of tanks used to retain oily water mixtures (3.3 tanks).
 - Segregated Ballast Tanks (SBT), Dedicated Clean Ballast Tanks, Crude Oil Washing (tankers).
 - **Validity:** Not to exceed five years.
 - **Endorsement/Survey Requirements:** Annual surveys +/- 3 months of the certificate's anniversary.
-

**B.14.
International Air
Pollution
Prevention
(IAPP)
Certificate**

Issued after an initial or renewal survey to any ship 400 GT and above engaged in voyages to ports or offshore terminals under the jurisdiction of other parties. The IAPP indicates the ship complies with Annex VI of reference (h), MARPOL.

- **Validity:** Not to exceed five years.
- **Endorsement/Survey Requirements:** Annual surveys +/- 3 months of the certificate's anniversary date.
- Verify supplement to IAPP.
- For each applicable marine diesel engine $\geq 130\text{kW}$ or an engine that undergoes a major conversion after 01JAN2000, not applicable to emergency use marine diesel engines.

B.15. CSR

The CSR provides an onboard record of the history of the ship's associated parties. The CSR is issued by the administration to each ship that is entitled to fly its flag. Refer to reference (e), SOLAS, for additional guidance.

Verify that any changes are recorded in the CSR so as to provide updated and current information together with the history of the changes. If the ship changes flag, owner, management or bareboat charter, the CSR is to be updated accordingly. CSR updates are sequential, and the previous certificates will also be on board.

Validity: The ship retains all CSRs from the date of first ownership or after July 1, 2004.

Endorsement/Survey Requirements: Not annually surveyed or endorsed.

NOTE:

As per reference (e), the administration has three months to issue a new CSR after any change has been made.

B.16.
ISSC

An ISSC is issued after an initial or renewal security verification. The ISSC indicates the ship has an approved ship security plan per the ISPS code. The certificate is issued by the administration or a Recognized Security Organization (RSO) on behalf of the administration. Interim certificates are valid for up to six months. Refer to reference (e), SOLAS, and reference (u), The International Ship and Port Facility Security (ISPS) Code, for additional guidance.

Information:

- Ship's name.
 - Distinctive numbers or letters.
 - Port of registry.
 - GT
 - IMO number.
 - Name and address of Company.
 - **Validity:** Not to exceed five years.
 - **Endorsement/Survey Requirements:** Complete at least one intermediate verification. If only one intermediate verification is required by the administration, it takes place between the second and third anniversary date of the certificate.
-

Section C: Manuals, Plans & Records

C.1. Manuals and Plans

The following section focuses on the different manuals, plans and records foreign ships are required to carry. These items are verified during the PSC exam. Refer to reference (b), MSM II, or reference (d), PPSC, for additional guidance.

C.2. Garbage Management Plan/Record Book

Every ship 100 GRT and above, and every ship certified to carry 15 or more people, is required to have a Garbage Management Plan. Verify this document is in the working language of the crew – in either English, French or Spanish – and has a designated person in charge of carrying out the plan. Ensure completed records have been maintained for at least two years and each completed page has been signed by the ship master and the officer in charge. Ensure no plastics are discharged into the sea, each discharge to the reception facility has a receipt of discharge, and each entry for incineration/discharge includes the date/time/type of garbage/estimated amount. Refer to reference (h), MARPOL, for additional guidance.

C.3. SOPEP

Oil tankers of 150 GT or more, and all ships of 400 GT or more, carry a SOPEP approved by the administration. Refer to reference (h), for additional guidance.

C.4. SMPEP

Chemical tankers of 150 GT and above certified to carry noxious liquid substances in bulk carry a SMPEP approved by the administration. Ships can combine a SMPEP for noxious substances with a required SOPEP and call it the “Shipboard Marine Pollution Emergency Plan,” as per reference (b). Refer to reference (h), for additional guidance.

C.5. Non-Tank Vessel Response Plan (NTRVP)

Self-propelled ships of 400 GT or greater using oil for main propulsion, other than tank ships, and operate on the Navigable Waters of the US are required to have a NTRVP approved by the USCG. The NTRVP approval is valid for five years unless otherwise stated, and is verified when the ship submits Notice of Arrival (NOA). Ensure local 24-hour command center for your Sector is correct, Oil Spill Removal Organization (OSRO) and Salvage and Marine firefighting contracts are identified and in place, and verify qualified individual (QI) notification drill has been conducted. Refer to reference (j), 33 CFR, for additional guidance.

C.6. Tank Vessel Response Plan (VRP)

Ships constructed to carry, or that carry oil in bulk as cargo and operate on the navigable waters of the U.S., are required to have a VRP approved by the USCG. The VRP approval is valid for five years unless otherwise stated, and is verified when the ship submits the NOA. Ensure local 24-hour command number for your Sector is correct, OSRO and Salvage and Marine firefighting contracts are identified and in place and verify QI notification drill has been conducted. Refer to reference (j), for additional guidance.

**C.7. Bunker
Delivery Notes**

Verify ship is maintaining bunker delivery notes onboard for a minimum of three years after fuel delivery. Fuel samples also accompany each bunker delivery note and need to be maintained onboard for at least 12 months from the time of delivery or until fuel is consumed, whichever is later. Refer to reference (h), MARPOL, or reference (j), 33 CFR, for additional guidance.

**C.8. Ballast
Water
Management
(BWM) Plan and
Records**

Applies to all ships equipped with ballast tanks and operate in the waters of the U.S. Use the table in reference (j), § 151.2035(b), in determining applicability for the installation of a ballast water treatment system. Also look in MISLE special notes to determine if an extension letter has been issued to the ship. Ensure the ballast water information report follows the submittal guidelines in § 151.2060 of reference (j), and can be verified using the link within MISLE. Refer to reference (z), Ballast Water Management for Control of Non-Indigenous Species in Waters of the United States, Navigation and Vessel Inspection (NVIC) Circular 01-18 (series), for additional guidance.

C.9. ORB

A comprehensive examination of the ORB sets the tone for an engine room examination tracking the flow of oily waste, (3.1 tanks). This allows you to account for where the sludge and oily water is moved to/from and disposal. Environmental crimes often lead back to ORB entries. Ships process waste differently. Annex I, Appendix III of reference (h), states that limited accuracy of tank measurement devices, temperature variations, and clingage affects accuracies of readings. Refer to reference (j), for additional guidance.

Best practice:

- Review several consecutive weeks of soundings (3.1 tanks) to account for the movement/disposal of sludge. Keep in mind that some tanks increase due to auto-generation of sludge (for example, purifier cleaning cycles). This can only be accounted for by comparing weekly accumulations for consistency.
- Take notes of OWS operational entries (D.15.1 code) in the ORB for verification per reference (aa), Revised Guidelines and Specifications for Pollution Prevention Equipment for Machinery Space Bilges of Ships, Resolution MEPC.107 (49) (series), to compare with history on OCM. The crew's operational test might not be recorded in the ORB but can reflect in the OCM history. Refer to the front of the ORB for operational codes.
- If ship is approved to burn sludge in the incinerator as a method of disposal, verify logbook entries of use against material condition of the equipment.

- Compare ship bunker delivery notes (fuel receipts) with entries (H.26 code) in ORB for consistency.
- If expanding the exam to account for disparities of tank levels, ensure that the ship's sounding tables are used and know that rough logs can account for disparities. Take care not to compromise evidence of environmental crimes, it is best to consult with unit investigative officers. For further guidance, refer to [Appendix C: Sample ORB Logbook Entry](#), and reference (bb), CG-INV Policy Letter 4-15: Guidance for Conducting Expanded MARPOL investigations and Field Reference Guide.

C.10. Secondary Certificates

Verification of secondary certificates during the documentation portion of the exam allows the PSCE to check for evidence of proper maintenance and servicing of installed equipment onboard the ship. This allows the PSCE to get a "snapshot" of what to expect when conducting the walk around the ship. Verify servicing documents match inspection papers and stickers on liferafts, fixed firefighting systems and portable fire extinguishers. Refer to reference (d), PPSC, for additional guidance. The following records/logs/documentation are considered secondary certificates:

- Liferaft Servicing Certificate, for further guidance see [Chapter 10: Lifesaving](#).
- Long-Range Identification Tracking (LRIT) conformance test report.
- Fixed and portable firefighting appliance servicing certificates.
- Foam Analysis. If a ship uses high (interior) or low (exterior) expansion foam, a foam analysis is used to determine serviceability of the foam concentration. The first test is completed three years after installation and on a yearly cycle thereafter, unless the foam concentrate is renewed.
- Shore-Based Maintenance Agreement for Global Maritime Distress and Safety System (GMDSS), if applicable.
- VDR, Annual Performance Test.
- Medical Logbook. It is common to inquire about the health of the crew during the initial meeting with the ship's captain. To avoid the potential of exposure to ill crew members, a best practice is to review the medical logbook prior to conducting the material examination of the ship.

C.11. Crew Familiarization

STCW requires ship's crew to be knowledgeable in the basic ship specific characteristics and procedures that the company and administration have set forth. Typically, there are sections to be completed within 24 hours, within two weeks of reporting to the ship, or prior to conducting shipboard assigned duties as per SMS. Refer to reference (g), STCW, for additional guidance.

C.12. Fire and Lifesaving Training

Onboard training in the use of ship's fire and lifesaving appliances is given as soon as possible, but no more than two weeks after a crewmember joins the ship. Training includes operation and use of liferafts, first-aid for hypothermia and other relevant first-aid procedures, lifesaving instructions for severe weather/sea conditions and operation of all fire extinguishing appliances. Refer to reference (g), and reference (e), SOLAS, for additional guidance.

C.13. Rest Hours

The 2011 Manila Amendments to the STCW increased the required amount of rest that each seafarer is required to have in a 24-hour and seven day period. Each seafarer is required to have 10 hours of rest in a 24-hour period with one block being at least six hours in length and no more than 77 hours of work in a seven day period. Verify that records are available to PSC authorities for review. Ask the Master, Chief Officer or Chief Engineer how the rest records are being maintained and who enters the information into their record recording medium. Ensure individual rest hour records are made available to each crewmember for review. Refer to reference (g), for additional guidance.

Section D: Crew Certificates of Competency & Proficiency

D.1. Introduction

This section provides procedures to check crew certificates and proficiencies. Refer to reference (g), STCW, for additional guidance.

D.2. Crew Manning

Make sure the ship has the appropriate number of licensed officers and crewmembers as per the Minimum Safe Manning Certificate.

Verify the following:

- License holder meets or exceeds the STCW job code as noted on the Minimum Safe Manning Certificate.
- Navigation watch officer STCW certificates have endorsement for radar and GMDSS, or a radio officer is on board.
- The crew list matches the NOA.
- Crewmembers are medically fit for duty by checking their medical certificates.

D.3. Certificates of Competency, Flag State Endorsement and Proficiency Certificates

Certificates of Competency attest to a mariner's ability to act in a specified capacity aboard the ship. They are issued by ship's Flag Administration and are valid for periods of up to five years.

If the ship's flag differs from that of the country that issued the mariner's Certificate of Competency, ensure the mariner has both a Certificate of Competency and a Flag State Endorsement. A Flag State Endorsement is a certificate issued by a the ship's Flag Administration to a mariner accepting the validity of a mariner's Certificate of Competency issued by another country. It authorizes the mariner to sail aboard the ship by accepting the mariner's Certificate of Competency as a license equivalent to one issued by the ship's Flag Administration.

NOTE:

A mariner's certificate of competency does not have to be the mariner's nationality or flag of the ship. The certificate of competency is typically issued in the country where the mariner conducted seafarer training.

Verify the following:

- Ensure all crewmembers possess basic safety training documents for:
 - Personal survival techniques.
 - Fire prevention & basic firefighting.
 - Elementary first aid.
 - Personal safety & social responsibility.
 - Security awareness.

Basic safety training documents need not be issued by the ship's Flag Administration.

- Ensure the Certificate of Competency is issued by the ship's Flag Administration or the Flag State Endorsement references an identification or control number associated with the original officer's National License.
- Make sure documents are current and signed.
- Ensure the endorsement has been issued against a license from a STCW White List country. The White List can be found on the IMO website, www.imo.org. White list countries have licensing standards that comply with the provisions of the STCW Convention.
- Officers and crewmembers with specialized duties can have additional training documents and endorsements that include:
 - Advanced first aid.
 - Advanced firefighting.
 - Survival craft & rescue boat operation.
 - Crisis management.
 - Security officer and oil, chemical or gas tanker operations.

NOTE:

An application for an endorsement suffices as a valid endorsement provided the ship's Flag Administration has accepted the application. Applications for endorsement, when accompanied by a letter of acceptance from the ship's Flag Administration, are valid for a period of three months from the date the application was submitted. Endorsements are issued for up to five years and become invalid if the original Certificate of Competency expires or is revoked by the issuing Flag Administration.

**D.4. Letters
of Dispensation**

In circumstances of exceptional necessity, a formal dispensation can be issued to permit an adequately qualified seafarer to serve on a specific ship for a specified period, not to exceed six months, at a higher level than their current Certificate of Competency allows. This can occur when a crewmember is removed from the ship for medical reasons and a replacement crewmember is unavailable where the ship is currently located or for other extenuating circumstances.

NOTE:

The dispensation is required to be in writing and cannot be issued to a master or chief engineer except in circumstances of force majeure and then only for the shortest possible period.

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Chapter 5: Bridge

Introduction

This chapter discusses requirements and procedures for conducting an examination of navigational equipment normally found on or near the bridge. Assess the condition and functionality of the ship's equipment, and crew competency to ascertain the ship's location, speed and direction in order to arrive at the scheduled port or place of destination.

Navigational equipment found malfunctioning or inoperable can have serious consequences for safe navigation and emergency communications. Equipment found inoperable could warrant control actions such as requirements to repair prior to the ship's departure or a letter of deviation. Due to the importance of navigational equipment, it is usually the most well-kept area of the ship.

In This Chapter

This chapter contains the following sections:

Section	Title	Page
A	Administrative	5-2
B	Operational Tests	5-3
C	Navigational Equipment	5-8
D	Life-Saving Appliances	5-10

Section A: Administrative

A.1. Bridge Logbook

Check the bridge logbook for pre-arrival/departure test, per §164.25 of reference (j), 33 CFR.

- Check logbook for dates of emergency steering drills (if not conducted quarterly, then 48 hours prior to entry.)
- Confirm Emission Control Area (ECA) compliance (verify engine room and bridge logs are identical.)

NOTE:

Ship's logbooks can be examined during the administrative exam along with all the required statutory certificates, plans and documentation.

A.2. Publications

A ship's publications can be electronic, but ensure they are:

- Up-to-date.
- Written in a language understood by the navigational officers.

Publications to check for include:

- US Coast Pilot.
- Sailing Directions.
- Lightlist.
- Tide Tables.
- Rules of the Road.

A.3. Charts

Ensure navigational charts are corrected, up-to-date, and appropriate scale for the areas transited. If the primary means of navigation is ECDIS, verify that a secondary independent source of power is provided.

A.4. SOLAS Drills

See [Chapter 11: Drills](#), for additional details.

- Check to make sure SOLAS drills are conducted, if not done during the initial meeting (administrative exam).
 - Check lifeboat logs for maneuvering in water.
-

Section B: Operational Tests

B.1. Steering Test

It is recommended to conduct the steering tests in coordination with the engine room (E/R) team to verify rudder angles, communications, and alarms.

Verify the following, as applicable:

- Confirm gyro repeater, communications, rudder angle, and alarms tested.
- Perform steering test as crew would normally test; ensure all pumps are activated, rudder moved port to starboard and all modes of steering tested.
- Controllable Pitch Propeller (CPP), additional instrumentation on bridge.
 - The pitch of a propeller is fully controllable from the navigation bridge under all sailing conditions, including maneuvering, as per reference (e), SOLAS, if machinery space is periodically unattended.
 - Check indicators for propeller speed and pitch position, in the case of controllable pitch propellers.
- Azipod propulsion system, test movement of each pod.
- Special requirements for tankers, capable of restarting within 45 seconds.
- Block diagram and emergency steering instructions.

Best practice: Ask the crew how they test their steering gear in order to ensure each pump is in working order. Each pump needs to be started and secured from the bridge. Keep in mind the bridge control is an electric means of controlling the local pumps. Verifying the rudder port and starboard movement is sufficient. Test the 30 to 35 degree time on the bridge in 28 seconds. Verify power failure alarm and low-level oil alarm, both audible and visual.

B.1.a. Follow-up and Non Follow-up Defined

Non follow-up mode requires positive control at the helm, as it bypasses the feedback between the helm and steering gear.

Follow-up entails moving the helm control to the desired degrees port or starboard; the steering gear moves up to that designated setting. Follow-up is often used with auto pilot.

**B.2. Emergency
Fire Pump**

Witness operation of two hoses located furthest and highest from pump and ensure there is adequate pressure from the hydrant.

Possible reasons for inadequate hydrant pressure:

- Anchor wash could be open.
- Leaks in fire main.
- Incorrectly aligned valves.
- Performance of pump.

Be mindful of leaks. Leaking fire hoses can lead to a rupture.

WARNING:

Hoses/nozzles that are tied to the rails unmanned could come undone when pump is energized and cause a safety concern.

Ensure the emergency fire pump is the only one operational when being tested. Reference (e), SOLAS, requires a remote start for the main fire pump at the bridge for unattended machinery space (UMS), however, administration could require a remote start even if ship is not approved UMS. Some ships have a remote switch or indicator for the emergency fire pump. In this case, verify the indicator light is on for the emergency pump only. If it doesn't have an indicator for emergency, verify that the main fire pump, or general service pump, is not lit on when testing the emergency fire pump.

NOTE:

If pump cannot be tested due to depth below the keel, for reasons such as low tide or loading conditions, take into consideration bottom type before mandating the crew energize the pump. On a muddy bottom when a ship has minimal depth below the keel, this could lead to mud being pumped throughout the fire main and could also lead to clogged sea strainers. Account for this in MISLE narrative as item not examined. Best practice is to review operational logs.

B.3. X-Band (9 GHz) and S-Band (3 GHz) radar including Automatic Radar Plotting Aid (ARPA)

Radars display a picture of surrounding objects and land by receiving a return signal that is transmitted. ARPA is software that interprets these signals and the objects that get “pinged” in the process. This information can be processed by the ARPA to give an object’s speed, distance, course and closest point of approach. A target that is identified by a double bracket or square represents an ARPA acquired target. A target that is identified by a triangle represents an Automatic Identification System (AIS) acquired target and displays amplifying information such as the ship’s name and Maritime Mobile Service Identity (MMSI) number.

- Secure AIS feed and acquire target using ARPA and account for bearing, speed, distance.
- Acquire same target using AIS feed and compare information.

NOTE:

SARTS transmissions are only received on X-Band, unless AIS SARTS.

CAUTION:

Do not have crew energize radar if cargo operations prohibit. Pilot card can be referenced to verify operational condition of radars.

B.4. Emergency Communications

GMDSS equipment and Search and Rescue communication devices are a last resort to an emergent situation on board a ship in distress. Emergency communication equipment discovered inoperable or missing could warrant a detention in some cases if not reported. Conduct/observe the following:

- Verify operational test of DSC per GMDSS logbook or administration requirements (ship-to-shore or ship-to-ship).
 - Verify the International Code of Radio Signals. Use the code to determine coastal station MMSI#.
 - Ensure test is not a self or loop test by MMSI#.
 - INMARSAT – Ship Security Alert System (SSAS) and LRIT are usually transmitted through INMARSAT.
 - NAVTEX functional – Verify through logs/receipts. INMARSAT can provide NAVTEX information by manually retrieving.
 - Search and Rescue Locating device.
 - Check SARTs battery expiration.
 - If over 500 GT and fitted with freefall/stern launch lifeboat, one SART needs to be in lifeboat.
-

B.5. EPIRB

EPIRB works by satellite and is fitted with a float-free hydrostatic release unit.

- Check battery expiration on the unit.
- Category 1, self-activating.
- The test mode only ensures battery works. The manufacturer can limit the amount of times EPIRB is tested annually for battery preservation.

CAUTION:

If an accidental activation occurs, contact local command center.

B.6. Lifeboat Radios

See reference (cc), Telecommunication, 47 CFR, Resolution A.809(19) (series), and reference (dd), Adoption of the Revised Performance Standards for Survival Craft Portable Two-Way VHF Radiotelephone Apparatus, Resolution MSC. 149(77) (series) 3 June 2003, for additional information.

Perform operational test of lifeboat radios and verify:

- High visibility color.
- Check power source.
 - Batteries for the radios are normally intended to be replaceable by the user and are fitted with spare batteries. Verify spare batteries are not easily confused with other radio batteries not intended for distress situations.
 - Batteries intended as non-user replaceable do not come with spare batteries.
 - Examine radios to ensure no indication of usage. Radios need to support an operational life of eight hours.

NOTE:

Check spare batteries for emergency-use-only seal.

**B.7. Sources
of Energy**

GMDSS battery room.

- In the event of failure of the ship's main and emergency sources of electrical power, the reserve source or sources of energy are capable of supplying power to radio communications as identified in reference (e), SOLAS.
 - Verify batteries are suitably housed, efficiently ventilated, and in serviceable condition. Ensure electrical fixtures are appropriately certified for safe usage for the vapors or gases likely to be encountered, as per reference (e).
-

Section C: Navigational Equipment

- C.1. Overview** Performance standards for radio communications and navigation equipment are found in reference (e), SOLAS.
-
- C.2. AIS** AIS displays ship's particulars, such as call sign and ship's name, and correct ship's information. Verify the following:
- Ship's navigational status.
 - Crew members onboard.
 - Annual test report, as per reference (ee), Guidelines on Annual Testing of the Automatic Identification System (AIS), MSC.1/Circ.1252 (series).
 - Nearby ships.
 - AIS usually has an input to ARPA.
-
- C.3. Echo Depth Sounder** Compare recorded depth with charts/ECDIS and tide tables, taking into account the ship's draft.
- Recording device/data storage:
 - Verify the history of recording device and its data storage.
 - If possible, record on paper or other means, the following information:
 - The depth(s).
 - The associated time for 12 hours.
- Ensure there is a means to retrieve the recorded information.
-
- C.4. Global Positioning System (GPS)** Ensure GPS is present and operational. The ship's GPS usually has a feed into both radars' ARPA to provide speed over ground which is necessary if the speed log becomes inoperable for the software to function.
-
- C.5. Indicator/Alarms** Check the following:
- Ventilation indicators.
 - Watertight door/ramp indicators.
 - Water ingress alarms.
 - Smoke extraction sample system, (could be located in designated fire space, locker or CO₂ room).
-

**C.6. Bridge
Navigational
Watch Alarm
System
(BNWAS)**

Verify BNWAS is operational.
If at berth or anchor, system can be disabled.

NOTE:

If fitted with motion sensors, ensure no mechanical means are installed to deceive the system.

C.7. VDR

Look for error codes and verify with code list.

- Verify annual test report.
- Ensure capsule is stored in the float-free or fixed position when required.

NOTE:

You are being recorded at all times while on the bridge.

**C.8. Fire
Detection
Control Panel**

Check for zone isolation/disablement. Zone isolation/disablement sometimes occurs in specific cargo holds during cargo operations.

- Ensure there are no faults with system.
- If present on bridge, observe E/R fire detection alarm test.

**C.9.
Gyrocompass**

Verify coordinates and repeaters match gyrocompass to ensure consistency.

**C.10. Magnetic
Compass**

Verify deviation table validity.

- Ships are required to have a secondary gyrocompass and magnetic compass, ensure there is a spare. Ships are required to have a spare magnetic compass, as per reference (e), SOLAS.

**C.11. Emergency
Lighting**

Energize lights prior to deck walk. Verify:

- Emergency lighting in embarkation/lifesaving stations and egress routes around the ship.
 - Emergency lighting is tested during each abandon ship drill.
-

Section D: Life-Saving Appliances

D.1. Lifejackets and Immersion Suits

Verify there is an adequate number of lifejackets and immersion suits for watchstanders.

Refer to [Chapter 10: Lifesaving](#), in this TTP, for additional guidance.

D.2. Distress Flares

Ensure there are 12 rocket parachute flares on the bridge.

D.3. Line-Throwing Appliances

Confirm there are four lines and four charges.

- Check expiration dates associated with the charges, make sure they are valid.
-

D.4. Quick-Release Buoy

Quick-release buoy, verify the following:

- Releasable from the bridge.
- Expiration dates.
- Smoke and light functionality.
- Weight of quick-release buoys, ought to be greater than or equal to 4kg.
- Ship name and registry for the buoys.

NOTE: **The quick-release buoy location is based on the ship design and size.**

Chapter 6: Crew Accommodations

Introduction

Living and working conditions for crew are an important aspect of the PSC examination. The International Labour Organization, as an agency of the United Nations, has determined that seafarers are entitled to safe living and working conditions aboard ship, to include accommodations and provisions. This chapter describes the requirements for safe living and working conditions aboard the ship.

In This Chapter

This chapter contains the following sections:

Section	Title	Page
A	Living Spaces	6-2
B	Workspaces	6-5

Section A: Living Spaces

A.1. Background The U.S. is signatory to reference (r), The Merchant Shipping (Minimum Standards) Convention, 1976, International Labour Organization (ILO), (C147), ILO C147, which prescribes minimum standards for ships. However, the U.S. is not signatory to the Maritime Labour Convention (MLC). The MLC incorporates reference (r), along with other labor conventions and contains provision for enforcement. It is possible that during the exam, the PSCO encounters a MLC certificate. This attests that the ship has been surveyed and found to meet the standards prescribed by the MLC. Because the U.S. is not signatory to the MLC, deficiencies related to living and working conditions cannot be written to the MLC certificate or issuing authority. If other conventions, such as ICLL, SOLAS or STCW do not apply, follow the guidance in reference (r), and reference (ff), The Merchant Shipping (Minimum Standards) Convention, 1976 (ILO 147) and Port State Control (PSC), COMDTINST 16711.12A (series).

For issues addressed by reference (r), cite the appropriate section of the convention, with reference (gg), Shipping, 46 U.S.C., as the enforcement authority. For those areas where the USCG lacks authority, such as conditions of employment or wages, refer to the Department of Labor per reference (ff).

Other organizations, such as the Seamen's Church Institute and the International Transport Workers Federation can be consulted for other areas of crew employment not governed by law or regulation.

NOTE: **Ports and Waterways Safety Act (PWSA) authority has been moved by the 2018 CG Authorization Act from 33 U.S.C. 1223(b): Special Powers to 46 USC 70002. The former is cited in reference (ff).**

**A.2.
Sleeping Berths**

During this examination, verify the following:

- Living spaces have adequate ventilation, which includes heat and sufficient air movement in all conditions. Verify there are no rags, paper, or cardboard stuffed in the ventilation vents, as this constitutes a fire hazard.
- Living spaces have electric reading lamps and operation of lamps at the head of the berth.
- The sleeping room has a table or desk, a mirror, a place for toiletry items, bookrack, coat hooks, an individual locker and drawer or equivalent for each occupant.

NOTE:

Air-conditioning is not required. If no air-conditioning, verify insect screens are on windows.

**A.3.
Mess-Rooms
and Recreation
Spaces**

During an inspection of the mess-rooms and recreation spaces, the PSCE:

- Observes tables and seats for the amount of crew that are likely to use it at one time.
- Ensures there is adequate place for utensils and proper facilities for washing utensils.
- Verifies the Company representative telephone number is posted in this area.

NOTE:

SOLAS training and firefighting manuals are usually located here, the lounge, or individual state rooms. Spot check during the exam.

**A.4. Sanitary
Facilities**

Observe and verify:

- Proper operation of required number of toilets, wash basins, and showers.
- Sanitary accommodation has floors of an easily cleaned and durable material, with proper drainage.
- Fresh hot and cold water.
- Toilets screened for privacy if there are multiple water closets in one compartment.

**A.5. Laundry
Facilities**

Check facilities for washing clothes and drying them. This can include wash sinks and an adequately ventilated and heated space, with a means of hanging clothes.

NOTE:

Verify washing machines and dryers located in the laundry facility are properly secured to ensure they do not fall on ship's crew or create a fire risk (lint).

A.6. Hospital Space

During the examination of a ship's hospital space:

- Check that the ship has a medicine chest.
- Spot-check medicine to ensure it has not expired and that expired medicines are separated and properly disposed of, such as shore disposal or incineration.
- Verify that controlled medicines are kept apart from other medicines, in a locked compartment, preferably in a room that is locked when unoccupied.
- Check medical log to see if anyone has been sick and if medications have been given out for an extended time.
- The hospital space needs its own water closet for the exclusive use of the occupant, if not inside the space, then adjacent to it and locked.
- Verify the hospital is not being used for anything other than medical purposes.

NOTE:

Reference (hh), the International Medical Guide for Ships, published by the World Health Organization (WHO) on behalf of the ILO, IMO, and WHO, provides guidance for treatment of injuries and illnesses, and carriage of medical equipment and medicines.

NOTE:

If the ship carries dangerous goods, the Medical First Aid Guide found in reference (ii), International Maritime Dangerous Goods (IMDG) Code Supplement, IMO (series), requires the ship to carry medical oxygen in the hospital.

Section B: Workspaces

B.1. Workspaces

When walking through work spaces during the exam, verify:

- Warning signs stating that protective equipment is to be worn before entering spaces, are posted.

NOTE:

If the engine room is protected by CO₂, ensure warning signage is posted on the entrance of the engine room door.

- Warning signs are posted for any space that has special hazards and signs are also posted to indicate where smoking is forbidden.
- Machinery has proper guards to protect crew, such as railings and shields for machinery.
- In battery room, proper PPE if ship conducts maintenance of batteries.

B.2. Galley

Examine the galley for an overall impression, including operation of ventilation, lighting, cleanliness, grease accumulation, and freshwater system, both hot/cold.

- Observe the cold storage and ensure there is adequate food for the length of the next voyage. While conducting this exam, you can speak to the cook about receiving stores that are adequate and in a timely manner.
- While in cold storage, verify there is an alarm or a means of escape from the space.

NOTE:

Ensure the galley and provision stores are free of insects and vermin.

- Ask the crew basic questions including how often they clean the vent hood, what to do in case of fire, and where the firefighting equipment is found in the galley.
- Check the comminuter (food grinder) to ensure crew are not using while in port.
- Cooking oil and trash needs to be properly disposed of according to the Garbage Management Plan.

- Examine deep fat fryer:
 - If equipped with a deep fat fryer, ensure there are two thermostats with an alarm for each.
 - Verify installation of fixed firefighting appliance, if applicable.
-

B.3.
Means of Escape

At all levels you need to have two widely separated means of escape from restricted spaces. Verify:

- EEBDs are located in the engine room (check for over-pressurization) and at least two in the accommodation space. The number of EEBDs in the engine room is based on the administration and the location can be verified with the fire control plan.
 - Engine room has two sets of steel ladders separated as far as practical.
 - No dead-end corridors greater than seven meters in length.
 - Stairwells clear of slipping or tripping hazards and with handrails firmly affixed.
 - Exits clearly marked.
-

Chapter 7: Deck/Cargo

Introduction

This chapter discusses the evaluation of a ship's deck, hull, and cargo operations per the general requirements of reference (e), SOLAS, and reference (q), The International Convention on Load Lines (ILLC), 1966, as Amended by the Protocol of 1988 Convention. Safety is paramount while conducting a walk or sending the crew out on the exposed deck of the ship. Maintain situational awareness throughout this evaluation. Cargo specific requirements are found in relevant codes of reference (e). For further information, see reference (k), Foreign Freight Vessel Examiner (FFVE) Tactics, Techniques, and Procedures (TTP), CGTTP 3-72.8 (series).

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Section A: Hull Inspection

A.1. Overview Examine visible areas of the hull for any vulnerabilities and defects. Refer to reference (q), International Convention on Load Lines (ILLC), 1966, as Amended by the Protocol of 1988 Convention, for additional guidance.

A.2. Examine Anchor Verify anchor(s) are present and observe the condition of the visible anchor chain.

- Refer to reference (j), 33 CFR, or local regulated navigational area for specific anchor requirements.
- The purpose of the anchor is to secure a ship to the seabed in shallow water. Reasons for doing this can be:
 - The ship has to wait until a berth becomes available.
 - To load or discharge cargo when a port does not have a berth alongside for the ship.
 - To help in maneuvering.
 - In an emergency, to avoid grounding.

A.3. Examine Area Surrounding Ship Hull Examine the area surrounding ship and ship's hull for traces of pollution.

- Pay particular attention to all hull penetrations and markings in the area to determine location.
- Look for hoses, piping, or any other devices that could be used for illegal overboard discharges.

A.4. Examine Hull Markings Examine hull for:

- Draft marks.
- Load lines.
- During examination of load lines, inspect the following:
 - Placement of lines.
 - Ensure load lines are painted white or yellow on a dark background or in black on a light background and permanently affixed.
 - If ship has multiple load lines, verify the painted load line matches the certificate in use by using the free board measurement.
 - Ensure different stencils were used on each side of the ship. The lines which indicate the assigned load line extends forward of the plimsol ring. If timber freeboards are assigned, ensure the timber load lines extend abaft of the plimsol ring.

- Ship name and homeport on the stern.
- IMO Number visibility. The location of this number can be in multiple spots.

**A.5.
Pier/Waterside
Examination**

Check hull for insets, fractures, corrosion, wastage, and pitting or damage to the extent that it could impair ship seaworthiness. Refer to reference (b), MSM II, for additional guidance.

- Ensure there are no improper repairs or unapproved appendages. Verify with conditions of class/class observations.
- Assess vulnerability of areas of hull and potential for unlawful entry/access to ship.
- Examine:
 - Access ladders.
 - Gangways.
 - Ramp doors.
 - Side scuttles.
 - Windows.
 - Ports.
 - Mooring lines.
 - Pierside bollards/cleats, if applicable.
 - Cranes and hoisting gear.
 - Gangway nets, refer to reference (e), SOLAS, and also use guidance contained in reference (jj), Guidelines for Construction, Installation, Maintenance and Inspection/Survey of Means of Embarkation and Disembarkation, MSC.1/Circ.1331, 3.8 (series).
 - Examine hull fouling and BWM plan implementation.
 - Ensure that organisms and sediment are removed from anchors, anchor chains and haws pipes.
 - Ensure there is a clean hull at waterline, meaning there is no algae, barnacles, etc.
 - Examine anti-fouling certificate (Tributyltin-free). Tributyltin phased out in 2008 due to its harmful effect on the marine life.

A.6. Insets

Best practice for excessive insets that need to be addressed:

- Sharp insets are those that are obviously sharp, where the plate forms an angle of less than 135 degrees, or 2.5” depth/1’ span, in any direction.
- If the inset is smooth (1” deep/1’ span, <4” max depth) repair or deficiency is not required.

NOTE:

There is not a set guideline, or regulation, for PSCEs to compare a ship’s hull to while conducting the mission. There are multiple guidance publications, including reference (kk), Guidance for Checking the Structure of Bulk Carriers, MSC/Circ. 1117 (series), and reference (ll), Notes on Inspection and Repair of Steel Hulls, Navigation and Vessel Inspection (NVIC) Circular 7-68 (series).

Section B: Ship Structure & Stability

B.1. Topside Integrity

It is important to evaluate various aspects of a ship's structure for vulnerabilities that could affect its stability. Conduct a thorough examination of a ship's topside equipment and structural components. Refer to reference (b), MSM II, and reference (q), International Convention on Load Lines (ILLC), 1966, as Amended by the Protocol of 1988 Convention.

B.2. Rails and Bulwarks

Ensure guardrails or bulwarks are at least 1 meter (m) from the deck; a lesser height is acceptable if the administration is satisfied there is adequate protection. Refer to reference (q), for additional guidance.

The opening below the lowest course of the guardrails cannot exceed 230mm, or 9 inches. The other courses cannot be more than 380mm, or 15 inches, apart.

This comes into play if any guardrails are missing or damaged from cranes.

In addition, ensure satisfactory means are provided for the protection of the crew in getting to and from their quarters, the machinery space, and all other parts used in the necessary work of the ship.

B.3. Structural Integrity

Examine the structural integrity of the hull, determine cause of damage or deterioration and request a class report if necessary. Refer to reference (b), reference (q), and reference (ll), Notes on the Inspection and Repair of Steel Hulls, Navigation and Vessel Inspection (NVIC) Circular 7-68 (series), for additional guidance.

Assess the severity of any of the following, as it could impair the ship's seaworthiness:

- Fractures.
- Corrosion.
- Excessive wastage.
- Pitting.
- Excessive doublers, a piece of steel welded on top of the hull to cover or conceal a hole.
- Postage stamp inserts. Inserts larger than 12"x12" are allowed per International Association of Classification Societies (IACS) Recommendation 47. Inserts smaller than 12"x12", or multiple inserts in the same area, could indicate a larger internal structural or design problem.

- Cement boxes.
- Soft patches.
- Welding burn marks or other evidence of recent repair work.
- Frame pulling away.
- Holes in main decks.
- Leaks/patching on ballast tanks.
- Bulkheads/decks excessively warped.

NOTE:

Determine if the ship is enrolled in the Enhanced Survey Program. See reference (k), Foreign Freight Vessel Examiner (FFVE) Tactics, Techniques, and Procedures (TTP), CGTTP 3-72.8 (series), for further guidance.

B.4. Storage Spaces

Inspect the paint/flammable liquid locker:

- Depending on the size of the locker, determine what appropriate fire extinguishing arrangement is required and properly installed. Refer to reference (e), SOLAS, for additional guidance. Be mindful of the hazards with each fire-extinguishing medium, or foam.
- Verify electrical installations are explosion-proof with no exposed wiring and ground protection in place.
- Proper ventilation is present. Ensure the motor, if mechanical, is certified safe or located outside the space.
- Contents of the locker are properly stored to prevent spillage and do not directly block access to fire-extinguishing medium. If multiple chemicals/paints are located within the same locker, ensure proper segregation is in place.

Inspect the oxygen and acetylene cylinder storage:

- Oxygen and acetylene tanks are typically kept in a locked locker attached to the superstructure on the back deck. They are not stowed inside the ship due to their volatile capabilities. The lines are permanently affixed and lead to the workshop in the Engine Room. Look for excessive quantities of oxygen and acetylene. Maximum quantities allowed in the U.S. are contained in §§ 147.70 and 147.85 of reference (mm), Shipping, 46 CFR. The need to carry excessive quantities potentially indicates a more serious maintenance problem onboard the ship.

- Ensure bottles are secured to prevent falling and that valve protection caps are in place on bottles that are not in service. Proper ventilation in the space prevents accumulation of vapors and decreases the possibility of excessive heat exposure to the bottles.

B.5. Mooring Arrangements

Inspect parts of the anchor and windlass:

- Foundations: Look for cracks around the base of the anchor assembly, bench framing members, or missing parts.
- The majority of anchor windlasses on deep draft ships are hydraulically- driven. The hydraulic pumps are typically inside the bosun stores. Verify guards are in place over moving parts and containment of oil is in the proper storage/service tank.

WARNING:

Hydraulic oil is not flammable. However, excessive leaking leads to a slipping hazard and loss of pressure in the system.

- Ensure brake pads on the anchor windlass are sufficient. There is going to be wear on the pad or it might be covered in paint. The brake pad needs to be replaced prior to metal on metal contact which could result in a runaway anchor.
- Verify no missing or wasted deck fittings and components of the anchor assembly.
- If the anchor windlass is electrically-driven, ensure all electrical components are secure and properly grounded, meaning no exposed wiring. If hydraulically-driven, ensure there is no excessive leakage that would prevent normal working operations.
- Examine the exposed anchor chain for wastage. Recommendation 79 of reference (nn), Guidance for Anchoring Equipment in Service, International Association of Classification Societies (IACS), provides class requirements for anchoring equipment. For each link in the anchor chain, there is a center stud which has one end welded and the other is loose. This allows for the link to expand/contract depending on the force applied. If the center stud is completely free, then it needs to be replaced. Keep in mind, a single link cannot be replaced. If a link has been determined wasted or unacceptable, the entire shot needs to be replaced at the kenter shackle.
- Verify primary containment around all exposed hydraulic piping and that containment is provided with a mechanical plug, to allow for the drainage of any accumulated water.
- If the anchors are deployed, ask the Ship's Security Officer (SSO) if anchor guards are required to be installed at Security Level 1, or current Security Level, while in port.

Mooring winches/capstans:

- Normally, the winches are incorporated with the anchor windlass on the bow of the ship. However, they are standalone on the stern. Check for the same criteria as the anchor windlass.
- Condition of the mooring lines. Ensure the eyes are braided and that there are no knots tied in the lines.

NOTE:

Knots used to make splices or eyes in lines can reduce the line's breaking strength by 60 to 80 percent.

Section C: Watertight & Weathertight Integrity

- C.1. Hatch covers** Cargo hatches need to be designed to ensure water cannot penetrate in any sea condition and have to be weathertight. Deficient items can include wasted covers/ventilation closures, wasted or loose gaskets, wasted compression bar, and missing dogs. Refer to reference (kk), Guidance for Checking the Structure of Bulk Carriers, Maritime Safety Committee MSC/Circ. 1117 (series), for areas of focus. Deficient items could warrant an expanded exam consisting of a weathertightness test. Refer to Hatch Cover Maintenance and Operation: A Guide to Good Practice by David Byrne, North of England P&I Association Limited, 1998, for additional inspection techniques and testing methods.
-
- C.2. Closures** Examine closures, ventilation inlets/exhaust, to ensure they are watertight or weathertight, depending on their location. In addition, ensure closures for spaces protected by fixed gas firefighting systems are capable of being closed from outside the protected space. Deficient items could include wasted closures, wasted or loose gaskets, and missing dogs.
-
- C.3. Scuttles** Ensure side scuttles, or windows, to spaces below the freeboard deck or to spaces within the superstructure, are fitted with hinged closures that can be closed and secured watertight.
-
- C.4. Watertight Doors/Ramps** Ensure watertight doors have indicators showing their position (open or closed) on the navigation bridge, if applicable. Ensure doors are labeled stating they are not to be left open at sea. Examine the doors/ramps as you would any other watertight/weathertight opening. Clear grounds would allow the examiner to conduct a chalk test, or other testing method, to ascertain whether or not the door/ramp closes as designed.
-

**C.5. Tank Vents
and Ventilation
System**

While examining ventilation systems, verify:

- Natural ventilation: Constructed of steel or equivalent material and able to be secured in the closed position.
 - Mechanical ventilation: Ensure the equipment is operational and that guards cover moving parts. Remote controls are located outside the space; a requirement of International Maritime Solid Bulk Cargoes (IMSBC) Code, dependent on the cargo.
 - Tank vents, to include cargo ballast and fuel, are used to prevent over-pressurization. Ensure they are materially sound and spot-check the operation of the closing device. Field personnel are seeing more ships with installed pressure/vacuum valves on their heavy weather ballast tank – typically the center tank - #4 cargo hold – to prevent implosion or explosion during ballast operations. This is a secondary safety method to control pressure in the tank and is not required. However, it needs to be inspected if the crew relies on it as a safety device.
-

Section D: Means of Embarkation & Escape

D.1. Accessibility

- Ensure all emergency exit openings/hatches/doors are clear of obstacles and are maintained in a safe condition. If the emergency exit is coming from a restricted space, ensure an access is provided to allow an individual to open the door from the inside, while maintaining security access control from the exposed deck.
- Ensure watertight integrity of the door/hatch. An escape door is an access door into the skin of the ship. Treat as a potential water ingress source.

D.2. Emergency Lighting Arrangements

Emergency lighting will be in all the spaces listed in reference (e), SOLAS, and should work for a period of 18 hours. The majority of the lights that are designated as Emergency Lights are the normal lights throughout the ship. After meeting with the captain, have a deck officer turn on all deck emergency lighting. While conducting the deck walk, verify all the lights are operational. Have vessel's crew replace any lights that are non-operational.

- Ensure that emergency routes are marked and illuminated. Verify the following:
 - Emergency exits are properly marked.
 - Signage is correct, adequate and as per the Fire Control and Safety Plan.
 - Ensure the luminescent stickers are visible in the dark. To test the stickers, place your flashlight against the photo luminescent sticker for a few seconds and remove. Ensure the pattern of the flashlight is illuminated. If not, it needs to be replaced.
-

Section E: Pollution Prevention

E.1. Standard Discharge Connection

Examine the standard discharge connection:

- The shore connections for oil (bilge water/sludge) are fitted with a standard discharge connection that can connect to shore facilities when discharging oil. There is a separate discharge pipe for bilge and sludge. Ensure you check both shore connections for evidence of use that matches the ORB. For example, if the ORB states they discharge to a shore facility once a month, but the standard discharge connection has been painted over for an extended period, consider expanding your MARPOL examination.
- The size of the connection and associated flange is specific so it can be utilized internationally. For dimensions, refer to Annex I, Regulation 13 of reference (h), MARPOL.
- Unified interpretations are adopted resolutions on matters arising from implementing the requirements of MARPOL. They are located at the end of each Annex referred to throughout the regulations to provide clarification of, or define, terms utilized throughout MARPOL to standardize implementation and enforcement. Unified interpretations also provide clarification of acceptable arrangements installed prior to the implementation of existing regulations.

E.2. Small Discharge Containment

Verify containment around vents and manifolds are free of debris, standing water or product that reduces the overall size of the containment. Ensure it is structurally sound and no alterations have been made to the containment, with a drain plug that is secured by mechanical means.

- There is an assumption that the ship was constructed per the regulations, therefore as a PSCE you are not measuring and ensuring each containment meets the specs. However, observation of anything in the containment or modifications during the deck walk is to be noted and expanded upon.

NOTE:

Containment size: Every ship has a fixed container or enclosed deck area under, or around, each fuel oil or bulk lubricating oil tank vent, overflow, and fill pipe, with the following capacities:

Ships 300-1600 GT have a capacity of at least ½ barrel.

Ships > 1600 GT have a capacity of at least one barrel.

**E.3. Oil Spill
Clean-Up
Equipment**

Spot-check that the equipment listed in the approved SOPEP is physically in the locker and has not been taken/tampered with. This equipment is specifically designated for oil spill clean-up. Verify oil dispersant drums have a tamper-resistant seal still in place and oil-soaked absorbent pads are not being stowed inside the locker.

**E.4. Garbage
Management**

Review the garbage management plan during the paperwork portion of the examination to get an understanding where the garbage stowage locations are around the ship. Ensure garbage is separated by type, such as plastic, food, paper, etc., per the ship's garbage management plan. Ensure garbage placards stating what can be thrown overboard are posted throughout the ship.

Ensure accumulation of garbage is solely in garbage storage locker/deck location. If an abundant amount of garbage is located throughout the ship, then review last shore discharge/incineration. If deemed excessive, disposal enforcement is potentially necessary. Waste receptacles are to be constructed of non-combustible materials, as per reference (e), SOLAS.

Section F: Deck Walk/Cargo Hazards

F.1. Cargo

For further detailed guidance, see reference (k), Foreign Freight Vessel Examiner (FFVE) Tactics, Training, and Procedures (TTP), CGTTP 3-72.8 (series).

- Each cargo listed in the IMSBC Code, IBC Code, IGC Code, IMDG Code, and Annex I of reference (h), MARPOL, has hazards associated with the carriage of the product. Be mindful of any potential hazards encountered when conducting the deck walk, such as flammable or toxic materials. During the team pre-boarding meeting, ask the lead examiner to identify any cargo hazards that are on the cargo deck of the ship.
- ALWAYS ensure the proper PPE is worn and 4-gas meters have been calibrated/bump-tested prior to leaving the office.
- Examine bulk hazardous material.
 - Ensure that it is stowed/secured per cargo securing manual.
 - Ensure that special requirements listed in applicable regulatory code/convention are being followed.
- Examine containerized/packaged hazardous material.
 - Ensure containers are stowed/secured as specified in stowage plan and dangerous cargo manifest.
 - Evidence of unsafe/damaged containers.
 - Evidence of leaking/damaged packages.
 - Proper placards posted.
 - “No smoking” signs posted where necessary.
- Ensure deck cargo is stowed so that any opening which is in the way of cargo and gives access to and from the crew’s quarters, the machinery space, and all other parts used in the necessary work of the ship, can be properly closed and secured against the admission of water.

NOTE:

If shipping damaged containers to another location for repair, ensure they are properly stowed. Main structural members that are damaged can substantially reduce the structural integrity of the container resulting in tier load failure.

F.2. Cargo Operations

PSCEs need to maintain situational awareness at all times during the deck walk. Do not walk under cranes, crab claws, over transfer hoses or anywhere on the cargo deck area that increases the risk of injury. Find an alternative to achieve compliance during the examination or modify the deck walk to maintain safety.

NOTE:

PSCO can only halt cargo operations when warranted to include:

- ◆ Intermediate danger to personnel, crew, or environment.
- ◆ Operating in violation of cargo specific regulations.
- ◆ Flagrant security violations.
- ◆ Testing of cargo-related systems.

NOTE:

If any portion of the exam is not completed, document in the MISLE narrative. This allows for the subsequent examination the following year to cover the missed portion.

F.3. Bunkering Operations

Ships often need to take on fuel oil and lube oil while in port. Fuel oil is either transferred from a bunker barge alongside or from a shore connection from the facility. Transfer hoses and transfer pipe system need to be of adequate serviceability and not bulging, torn or leaking, and tested as per §156.170 of reference (j), 33 CFR.

Depending on the amount purchased, some ships have cylinder and hydraulic oil delivered in drums transferred aboard by crane and stowed or pumped into tanks.

WARNING:

At any point, if the PSCE observes an unsafe operation that puts the crew, ship or environment in danger, stop the bunkering operation and address the hazard.

F.4. Weather

Take the proper precautions when going on a deck walk or sending the ship's crew on deck to avoid hazards associated with the changing weather.

NOTE:

Modify the ship exam and document it in MISLE if changes result in an incomplete examination.

F.5. Shipboard Operations

A typical ship has between 20 to 25 crewmembers with 5 to 10 able/ordinary seamen that are tasked with maintaining the ship. While in port, the deck department is busy preparing the ship for loading/unloading cargo or conducting routine work on the ship. Be mindful of tools, hoses or other means of conducting maintenance while walking around the ship.

F.6. Electrical

Observe any exposed/damaged electrical wiring or fixtures throughout the deck walk. All electrical components need to have a grounding wire and protection against damage. Ensure there is no exposed wiring and all connections are in junction boxes. Keep in mind any hazardous locations onboard the ship where ignitable concentrations of flammable gases, vapors or liquids can exist all of the time, some of the time, or under normal operating conditions. Verify that electrical components in these areas are certified safe for the environment they are installed in.

F.7. Security

Refer to [Chapter 12: Security](#), for additional guidance.

- Ensure measures are in place throughout the ship to prevent unauthorized access to the ship and superstructure.
 - Ensure access areas are locked or otherwise secured.
 - When there is a conflict between safety and security, ensure safety is not compromised. For example, the door leading to the steering gear room is listed as "restricted area" and "access restricted." However, it is an escape route from the engine room. Ensure means are provided to address both concerns.
-

Chapter 8: Machinery Space Examination

Introduction

This chapter discusses requirements and procedures for conducting an examination of machinery spaces. Assess the condition of the machinery and the electrical installations to ensure they are capable of providing sufficient continuous power for propulsion and auxiliary services. Be cognizant of potential electrical shock and fire hazards.

Reference (b), MSM II, is the primary policy for USCG PSC exams and the equipment test requirements. Regulatory requirements for the equipment can be found in reference (e), SOLAS.

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Section A: Steering Gear

A.1. Background During examination of the machinery spaces, form an impression of the standard of maintenance. Frayed or disconnected wires, disconnected or inoperative reach rods, quick closing valves or machinery trip mechanisms, missing valve hand wheels, evidence of chronic steam, water and oil leaks, dirty tank tops and bilges, extensive corrosion of machinery foundations, or a large number of temporary repairs, including pipe clips or cement boxes, could be indicative of poor maintenance. Deficient items warrant an expanded examination of the engine room logbook and investigation into the record of machinery failures and accidents and a request for running tests of machinery.

WARNING:

Make note of and ensure unobstructed access from means of escape from machinery space.

A.2. Overview Steering gear failures on all classes of foreign ships have caused serious marine casualties and pollution incidents in U.S. waters. The engineering portion of the steering gear examination is conducted in coordination with the PSC examiner conducting the navigation safety examination. Refer to reference (b), MSM II, and reference (e), SOLAS, for additional guidance.

A.3. Conducting the Examination Refer to reference (b), MSM II, for additional guidance.

Examine condition of system:

- Check for indications of potential failures involving excessive leakage of hydraulic fluid or air in the system.
 - Check for looseness in hydraulic piping and hose connections, fasteners, or couplings.
 - Check for frayed electrical wiring or evidence of arcing.
 - Check for unusual noises during operation.
 - Check for evidence of insufficient maintenance. Examples include makeshift repairs, painted-over lube fittings, and deficient maintenance which has the potential to adversely affect operation of the steering gear.
-

A.4. Communications	<p>The ship is equipped with a means of communication between the navigation bridge and the steering gear compartment. Typically, ships meet this requirement by use of a fixed sound-powered telephone but a handheld VHF radio is also permissible. The verification can be conducted between the PSC examiner conducting the navigation safety examination and the PSC examiner conducting the steering gear examination and provides an opportunity for the team to acknowledge initiating the operational test of the steering gear system.</p>
A.5. Operational Test	<p>Witness operational test of controls from the navigation bridge: The examination team is to consult each other before initiating an operational test to ensure both team-members know how the test is going to proceed. The examiner conducting the navigation safety check manages the operational test ensuring that the steering gear can actuate the rudder, by use of each pump individually, to 35 degrees port and starboard in either mode of operation, either follow-up/non follow-up. In addition, the test needs to ensure that the rudder can be actuated from 35 degrees on either side, to 30 degrees on the other side, in 28 seconds or less. Verify the rudder angle is consistent with the rudder angle indicators on the bridge. Refer to reference (b), MSM II, and reference (e), SOLAS, for additional guidance.</p>
A.6. Hydraulic Fluid Storage	<p>Each hydraulic pump has a hydraulic fluid reservoir, equipped with a low-level alarm to indicate fluid leakage. The alarm signals on the navigation bridge audibly and visually. Check with the PSC examiner conducting the navigation safety check to verify alarms after the ship's engineering crew simulates the alarm. In addition, verify that the arrangement is equipped with a fixed storage tank and fixed piping with sufficient capacity to refill at least one hydraulic fluid reservoir.</p>
A.7. Steering Gear Instructions	<p>Verify content of steering gear instructions.</p> <ul style="list-style-type: none">• The instructions are posted in the steering gear compartment.• The instruction contains a block diagram of the steering system and changeover procedures for the remote steering gear control systems and steering gear power units.• It is good practice to review the instructions before conducting a local function test to understand the process of changing control from remote to local.
A.8. Power Failure	<p>In the event of a power failure to any of the steering gear power units, an audible and visual alarm is given on the navigation bridge, when required, as per reference (e). This requirement can be checked by asking the ships' engineering personnel to simulate power failure. The alarms are normally checked by shutting off the breaker on each power unit distribution panel.</p>

A.9. Non-slip Surfaces

Verify non-slip arrangements of the steering gear compartment. Ensure compartment arranged so that crewmembers have working access to the steering gear machinery and controls in the event of hydraulic fluid leakage. The arrangement includes handrails and gratings or other non-slip surfaces.

A.10. Gyrocompass

Verify gyrocompass repeater heading. If a gyrocompass repeater is required in the steering compartment, the examiner checks the reading on the gyrocompass repeater against the main gyrocompass. Again, this requires coordination with the examiner conducting the navigation safety examination.

A.11. Local Test

Witness a functional system test from local control. Ensure the ship's engineering crew is familiar with local operation of the steering gear. Some PSCOs request the crew to conduct the test by locally actuating the rudder from 15 degrees on either side, to 15 degrees on the other side. This test fulfills the intent of the local test, but understand that the 60-second time requirement is only for auxiliary steering systems and ships with two or more identical power units are not required to be equipped with auxiliary steering systems.

Section B: Propulsion Engines

B.1. Overview

While it is not possible to determine the complete condition of propulsion machinery without performance trials, the PSCO should only require operational tests or trials if there is evidence from the PSCO's general impressions or observations that serious deficiencies with the machinery exist. The crew normally conducts these tests/trials with the presence of the ship's classification society or flag-state representative.

B.2. Conducting the Examination

A propulsion engine consists of five main systems:

- Fuel.
- Cooling.
- Lubrication.
- Air.
- Exhaust.

For additional information on the individual components of the fuel, cooling, lubrication, and air systems, refer to [Section C: Auxiliary Machinery Installations](#), in this chapter. Any leaks observed in these five systems initiates an expanded examination to determine if/when the engineering crew plans to conduct repairs and if they are following the Company's Safety Management System or preventive maintenance plan. Refer to latest edition of Ship Knowledge (series), for propulsion machinery nomenclature.

- Verify the installation of machinery covers and guards. Ensure propulsion machinery is installed with devices that protect the crew from moving parts, hot surfaces with temperatures above 220°C such as turbo chargers, steam lines, exhaust manifolds, and other hazards. Ensure covers and guards are intact and in good material condition.
- For ships constructed after 01 Feb 92, verify that high-pressure fuel lines are double-jacketed. Ensure fuel delivery lines are protected with a jacketed piping system, double-walled, between the high-pressure fuel pumps and the fuel injectors. Verify the jacketed piping system has the ability to collect leaks and signal an alarm in the event of a fuel line failure.
- Verify that the ship's crew controls leaks of flammable liquids. Examine fuel pipe/fuel line fittings and injectors for evidence of leaks. Evidence of leaking fuel systems could include oil-soaked rags on the main engine and oil-soaked fuel pipe lagging.

- Verify the ship has operating and maintenance instructions and engineering drawings that are in a language understood by the engineering staff.

NOTE:

Be aware of signs of maintenance such as open air scavenger boxes, pulled cylinder liners, and open access covers.

Section C: Auxiliary Machinery Installations

C.1. Overview

Auxiliary machinery includes systems and associated machinery that supplement the main engine and are necessary for its operation. The equipment in this section is provided in duplicate, meaning there are two or more pieces of the same equipment, within the machinery space. An easy way to identify potential issues with these pieces of equipment is to compare a particular item to its partner, such as comparing all parts of the #1 feedwater motor/pump, to the #2 feedwater motor/pump. If they are not identical looking, there could potentially be an issue with one of the items.

C.2. Conducting the Examination

Reference (e), SOLAS, lists the systems to consider for redundancy. Additional guidance can be found in reference (b), MSM II, which addresses these examinations generally. Examine the following systems and associated machinery to ensure they can supplement the propulsion machinery to be operational, even with one of the components of the system out of order.

Examine main service generators and prime movers.

- Verify that no less than two generating sets can supply the ship's maximum required electrical load to maintain normal operations. Refer to the [Propulsion Engines](#) section of this chapter, and examine the engines as you would examine the main engine.

NOTE:

Some ships such as those carrying refrigerated cargoes require additional generators.

- Visually examine sources of steam supply to include steam tracing lines, reducing and relief valves, and pressure gauges.
- Visually examine condensate pumps and the arrangements to maintain vacuum in condensers.
- Visually examine boiler feedwater systems to include associated pumps, motors, piping, freshwater generating, and storage capacity.
- Visually examine sources of lubricating oil pressure for the main and auxiliary engines. Items include pumps, motors, purifiers that cannot be bypassed, piping and storage.
- Visually examine sources of water pressure to include valves, piping, pumps, and motors. Understand that excessively leaking electrically-driven pumps could constitute a shock hazard.
- Visually examine the mechanical air supply of boilers.

- Visually examine air compressor and receiver used for starting or control purposes, paying particular attention to the condition of associated piping and any reducing and relief valves.
- Visually examine the hydraulic, pneumatic, or electrical means for control in main propulsion machinery, including controllable pitch propellers. This includes the remote control from the engine control room, equipment required for local control, and pumps and motors used for hydraulic supply on ships fitted with a controllable pitch propeller.

C.3. Emergency Generators and Prime Movers

Examine emergency generators and prime movers.

- Verify ships are supplied with a source of emergency electrical power. This is usually accomplished with an emergency generator set, however smaller ships can be fitted with accumulator batteries, (a.k.a. rechargeable batteries). Visually examine the emergency switchboard to verify the equipment listed in reference (e) SOLAS, is supplied with an emergency power supply.
- If the emergency power source is a generating set, verify that the engine has two starting sources. A best practice is to test the primary means of starting the emergency generator. The PSCO can expand the exam and test the second independent means if appropriate.

CAUTION:

Load testing of the Emergency Generator only takes place as part of an expanded exam. Equipment damage of sensitive components, such as navigational equipment, could occur.

Section D: Fuel Delivery Systems

D.1. Overview

Fuel delivery systems are similar on most ships and are examined for material condition. Excessive accumulation of leaking fuel oil can pose a serious fire risk to the ship and its crew. In general, the fuel originates in storage tanks below the cargo holds. It is then transferred to a settling tank in preparation to be purified. Once purified, it is stored in a service tank where fuel pumps draw from it for use in the main engine ship service generators and auxiliary boiler.

D.2. Examinations

When checking for material condition, be mindful of:

- Leaking fuel pumps.
- Fuel delivery lines, seals, and fuel rails.
- Overall condition of purifiers and associated piping in the purifier space.
- Buckets or catchments used to contain leaking fuel and origin of source.
- Oil-soaked lagging could indicate excessive fuel leaks.

NOTE:

Be aware of quick closing valves on fuel oil tanks in excess of 500 liters. These are required to be operated from a remote location outside of the space (normally located in the fire control room), as a fire prevention measure. This regulation is grandfathered per reference (b), MSM II, which states that installations prior to May 14, 1998, with a capacity of 500 to 1000 liters, do not have to meet this requirement.

If holdback or blocking devices are found in place, expand the exam to include other valves, maintenance records, and consider conducting an operational test.

CAUTION:

Prior to conducting any operational tests, ensure no operating equipment is being supplied by the valve being tested.

**D.3.
Purifier Space**

Spaces containing the fuel and lube oil purifiers pose a significant fire risk due to the amount of heated fuel transferred throughout the space. Refer to reference (oo), Guidelines for Measures to Prevent Fires in Engine-Rooms and Cargo Pump-Rooms, MSC 1/Circ.1321, for additional guidance.

Leaks are common throughout the space. Develop an understanding of what is acceptable and not acceptable, taking into account the potential fire risk. Pay particular attention to oil-soaked lagging and catchments placed under leaking equipment or piping. Quick closing valves are commonly found in this space as well as fuel tanks adjacent to it. The purpose of a quick closing valve is both fire prevention (in the case of securing fuel to an adjacent space in the event of a fire) and firefighting (in the case of a space that is on fire.)

**D.4. MARPOL
Annex VI
Compliance**

Fuel changeover procedures:

Ships operating within the North American Emission Control Area are required to use compliant low sulfur fuel per Annex VI of reference (h), MARPOL. Ships are required to follow their own fuel oil changeover procedures which generally vary from ship to ship. Verify the following:

- Bunker delivery notes showing compliant fuel was received.
- Ship-specific fuel changeover procedures were followed. Physically determine valve alignment and location.
- Changeover logs/records.
- Fuel piping, pumps, flanges, and fittings for excessive leaks.

NOTE:

Excessive leaking due to operating on low sulfur fuel can result in propulsion irregularities, reduction in RPMs, or main/auxiliary engine failure (Marine Casualty).

Refer to reference (pp), (CG-CVC), Guidelines for Compliance and Enforcement of the Emission Control Areas 16711 policy letter 12-04, and the [PSCE Exam Checklist](#) for further guidance on conducting an expanded examination.

Section E: Electrical Installations

E.1. Overview

This section covers the examination of the ship's electrical equipment. The main purpose of electrical examinations is to ensure the adequacy and reliability of shipboard electrical systems, to improve personnel safety by minimizing electrical shock hazards, and to minimize the danger of fire originating within the electrical system.

Reference (qq), Electrical Installation in Ships, International Electrotechnical Commission (IEC), IEC 60092, refers to a series of International Standards for electrical installations in seagoing ships and incorporates good practices and coordinates, as much as possible, existing rules. Reference (qq) also consists of approximately 28 parts specific to various electrical components, apparatuses, and equipment that would be found on ships. As a PSCE, it is not your job to know all of these standards, but at a minimum, know that they do exist.

NOTE:

Verify all electrical equipment is certified safe for use in the atmospheric conditions present in the space the equipment is installed, as per reference (b), MSM II. If the PSCE is unfamiliar with this equipment, discuss with the VO or MITO.

E.2. Main and Emergency Switchboards

Check switchboards for ease-of-access and ensure they allow ample space for a person to stand at the switchboard and work on it while "live" and not be cramped in the working space. Check also for non-conducting mats or gratings that are placed at the front and rear. In addition, ensure overload protection devices (circuit breakers) are not held closed using a blocking device and the rating for each circuit breaker is permanently indicated (labeled) at the location of the circuit breaker.

Handrails and drip shields are not mentioned in SOLAS, therefore, give considerable thought when a potential deficiency is found exclusively for these items. Know that there are class rules, as well as IEC standards that discuss, at a minimum, how switchboards are designed.

WARNING:

Ensure sides, rear, and front of switchboards are suitably guarded to prevent danger to personnel.

**E.3. Motor
Controllers**

Motor controllers are only mentioned in reference (e), SOLAS, within the definition of the steering gear control system. A motor controller consists of a relay or “contactor,” which is used to connect the motor to the alternating current line from the switchboard. Examine the controllers to ensure:

- There is no visible damage, either internal or external.
- There is no liquid dripping from the motor controllers.
- Verify there are proper cable connections to the enclosure.
- Check for any visible signs of ship alterations, such as utilizing the power from the enclosure to feed power to a newly installed component.

NOTE:

If the PSCE observes locked out or tagged out equipment, determine reason.

**E.4. Examine
Lighting**

Examine lighting to ensure there is adequate illumination throughout the parts of the vessel that are accessible to the ship’s crew and passengers. Verify that emergency lighting is, at a minimum, adequate enough to safely exit or enter a space. Examine lighting to ensure there are no cracked lenses, loose or missing bolts/hangers, or broken/exposed wiring.

**E.5. Hazardous
Lighting**

Hazardous (classified) locations are those areas where fire or explosion hazards could exist due to the presence of flammable gases or vapors, flammable liquids, combustible dust, or ignitable fibers or flyings. When electrical equipment is installed in these locations, special precautions are to be taken to ensure that the electrical equipment is not a source of ignition.

Reference (e), lists four spaces where flammable mixtures are liable to collect:

- Hazardous locations.
- Accumulator batteries (rechargeable).
- Paint lockers.
- Acetylene stores, or similar spaces.

The electrical equipment installed in the above mentioned spaces needs to meet the proper classification designation and be properly marked as such.

NOTE:

Refer to reference (qq), Electrical Installation in Ships, International Electrotechnical Commission (IEC), IEC 60092, for further guidance. For additional information on hazardous locations, refer to reference (rr), United States Coast Guard Marine Safety Manual, Vol. IV: Technical.

Section F: Piping

F.1. Overview The engineering compartment has piping systems for many different systems, including heavy fuel oil, diesel oil, lube oil, saltwater, freshwater, sewage, bilge, and sludge systems. Although it is not required, industry practice uses a common coloring scheme to identify different systems. The following chart shows the more common system colors. Look for flanges and valve handles painted in these colors to identify which type of piping you see.

NOTE: Colors can differ from ship to ship.

Heavy Fuel Oil	Dark Red
Diesel, Gas Oil, and Low Sulfur Fuel Oil	Magenta
Lubrication Oil	Yellow
Seawater for Cooling	Green
Freshwater for Cooling	Blue
Fire Main	Red
Sewage	Black

Figure 8-1 Example piping system color identification

F.2. Conducting the Examination Generally, piping can be examined the same way for all systems. Visually examine the pipes, valves, valve handles, and fittings for material condition. Examiners need to pay particular attention to fresh paint, salt build-up, drip stains, unauthorized catch bins/buckets, and unauthorized patches and temporary repairs. Although temporary repairs and soft patches do not necessarily constitute a deficiency, the examiner needs to gain information regarding permanent repairs and determine if the temporary repair is sufficient for the ship's intended voyage.

In addition, visually examine fuel piping and associated insulation (lagging) for leaks. Oil-soaked lagging that is actively dripping can be evidence of persistent leaks that could pose a fire hazard.

NOTE: Pay particular attention to saltwater piping due to potential corrosion.

Section G: Pollution Prevention

G.1. Overview PSCOs are to verify compliance with all applicable pollution prevention regulations. During examinations, the PSCO completes an in-depth look at the ship pollution prevention systems including examination of fuel and lubricating oil systems, waste oil handling systems, oil or liquid hazardous material transfer procedures (as applicable), garbage handling procedures, declarations of inspection, and marine sanitation devices.

G.2. Discharge Placard Look for the discharge of oil placard posted conspicuously in the machinery space.

G.3. OWS The OWS is used to process the ship’s bilge water. The bilge water is directed through the equipment using a fixed piping system and oil is either filtered or centrifugally separated from the water and sent to a holding tank commonly named the “bilge separator oil tank” or “sludge tank.” The remaining water, referred to as effluent, is allowed to be directed overboard as long as the oil content is no more than 15 parts per million (ppm) at the point of discharge. Verify installed equipment meets the IMO approval standard based upon ships’ keel laid date. Figure 8-2, below, compares the two most common approval types: 107(49), and the older, 60(33).

MEPC 60(33) / MEPC 107(49)

Topics	60(33)	107(49)
Cleansing agents	Cleansing agents used for cleaning purposes in machinery spaces should be agents that do not affect the performance of the OWS; and care should be taken that the bilge water is fed to the filtering equipment after emulsion has broken.	Uses some of the same verbiage of 60(33), but adds, with the possibility of emulsified bilge water always present the 15 ppm Bilge Separator must be capable of separating the oil from the emulsion to produce an effluent with an oil content not exceeding 15 ppm.
Training / Maintenance	None	Training: Ship’s staff training should include familiarization in the operational and maintenance of the equipment. Maintenance: Routine maintenance of the 15 ppm Bilge Separator and the 15-ppm Bilge Alarm system should be clearly defined by the manufacturer in the associated Operating and Maintenance Manuals. All routine and repair maintenance to be recorded.
Meter Response Time	20 seconds	5 seconds
Alarm Device	Should be fitted with an alarm device, which can be set to operate automatically at any pre-stated value, either to alert the crew or to operate control valves. Should operate automatically if at any time the meter should fail to function.	Should operate automatically if at any time the 15 ppm Bilge Alarm should fail to function.
Data Recording	None	Should record date, time, and alarm status, and operating status of the 15 ppm Bilge Separator. Should store the data for at least 18 months and should be able to display or print a protocol for official inspections.
Tampering	None	Beyond essential requirements, require the breaking of a seal and alarm is activated whenever clean water is used for cleaning or zeroing purposes.
Automatic Stopping Device	None	Used to automatically stop any discharge of the effluent exceeding 15 ppm. The operation of the Automatic Stopping Device should be as short as possible and in any case not more than 20 seconds. (Commonly referred to, as the 3-way valve, but an OWS may not necessarily have a 3-way valve).
Sampling Points	Required	Required

Figure 8-2 MEPC comparison chart

For an examination conducted under an approval standard, as per reference (aa), Revised Guidelines and Specifications for Pollution Prevention Equipment for Machinery Space Bilges of Ships, Resolution MEPC.107 (49) (series), verify the following:

- Under this standard, the oily water monitoring/bilge alarm equipment is designed to store data for up to 18 months and able to display or print protocol for inspectors. Spot-check to ensure that the stored operation matches those recorded in the ORB, keeping in mind that the equipment's records could be recorded in Greenwich Mean Time/Coordinated Universal Time while the ORB could be in ship's time.
- Ensure that the OWS and oil content meter (OCM) are approved by the ship's administration, as per Annex I of reference (h), MARPOL. This is normally conducted during the certificates/documentation portion of the examination via the supplement to the IOPP.
- Ensure the 15-ppm monitor/bilge alarm is sealed to prevent willful manipulation of overboard discharge data. At each IOPP Certificate renewal, or every five years, an authorized equipment testing company ensures the accuracy of the 15-ppm oily water monitors and/or bilge alarms. The testing company provides the ship with a calibration certificate. Ensure the serial number on the calibration certificate matches the serial number on the monitor/bilge alarm measuring cell.
- It is not necessary to witness an OWS test unless tampering or malfunctioning is suspected, or if the manufacturer's calibration certificate is more than five years old.

NOTE:

An important feature of an OWS, approved under reference (aa), is that an OCM must activate and prevent the effluent from being discharged overboard when clean water is used for flushing or calibration of the unit.

For equipment meeting older standards, an operational test of the OWS is required by the PSCO using consultation from the manufacturer's operations manual. For additional performance support, view the USCG YouTube video, [#CGHowTo Operate a Oily Water Separator](#).

- During the operational test, ensure great care is exercised by the ship's crew to prevent overboard releases of oil, even if such efforts require the separation of pipe or flanges after the discharge control devices.
- Allow for 15-20 minutes for the operational test. If the OWS is operated regularly, it will generally be trouble-free. If issues are encountered, consult the manufacturer's manual if available.

- Verify the fluid entering the OWS for processing comes directly from the bilge holding tank or rose box, and is not diluted by open sea or freshwater connections.
- Ensure there is no dilution of the processed oily-water sample line to the OCM. The OCM outlet fluid is going to be visible as well. Some systems use a three-way ball valve, which is correctly positioned to prevent any dilution of the OWS discharge sample to the OCM.

For all approval types, spot-check to ensure the approved bilge-water piping diagram accurately reflects the bilge water piping system to include any modifications made. If the OWS equipment uses consumable filter elements, such as coalescing media, recording paper, etc., verify that reasonable quantities of these consumables are onboard. In addition, the OWS manufacturer's recommended spare parts also need to be onboard.

NOTE:

For further guidance, see reference (bb), CG-INV Policy Letter 4-15: Guidance for Conducting Expanded MARPOL Investigations and Field Reference Guide, for conducting expanded MARPOL exams. Notify chain of command.

G.4. Incinerator

Incineration is a method of disposing of sludge. Sludge and waste oil are generated from a properly operating OWS, from fuel and lube oil purification, and other main engine sources. Incinerators installed on or after January 1, 2000, must be approved by the Flag Administration, based on reference (ss), Standard Specification for Shipboard Incinerators, MEPC.76(40) (series). Incinerators installed between March 26, 1998, and December 31, 1999, also require administration approval per reference (tt), Prevention of Air Pollution From Ships, MEPC.59(33) (series). Installations completed before March 26, 1998, do not need approval. Review the Supplement to the IOPP to determine if an incinerator is installed for sludge disposal since some ships only use incinerators for garbage disposal.

Closely examine the firebox refractory (fire brick). Fireboxes that are too clean with minimal deposits indicate that the equipment is not regularly used. Alternatively, thick carbon deposits throughout the furnace area can indicate excessive heat and running the machine at too high or over capacity. When the unit is used to burn solid wastes, ash and other debris can be visible on the furnace floor. The waste oil nozzle is likely to have some carbon deposits, which are evidence of use. Carbon deposits on the outside of the firebox access door indicates an improperly insulated door.

Examine electrical components for loose connection and frayed wires.

Examine fuel/sludge piping for leaks and unauthorized modifications. Consult the approved sludge-system pipe diagram and the incinerator manufacturer's operation manual for verification.

G.5. Sewage Treatment Systems

Reference (uu), of the Federal Water Pollution Control Act (FWPCA), § 312, as amended per § 1322 of reference (vv), Navigation and Navigable Waters, 33 U.S.C., requires marine sanitation devices (MSDs) to prevent the discharge of untreated or inadequately treated sewage into U.S. waters. The FWPCA requires a certified, operable MSD on every ship with an installed toilet. Installed toilets that are not equipped with a MSD, and that discharge raw sewage directly over the side, are illegal. As per reference (uu), § 312, the FWPCA directs the Coast Guard to certify MSDs and reference (j), 33 CFR, Part 159, sets out equipment construction and operation requirements. Verify that the MSD is in operable condition.

Ships are required to have a Type II or Type III system. Examine the MSD data plate or approval certificate to verify certification type.

NOTE:

Type III systems are holding tanks and do not have certification. They are considered certified by design.

Ensure that disinfectant chemicals or other consumable supplies needed to operate the device, if required, are stocked on the ship. Hazardous substances, as defined in reference (mm), Shipping, 46 CFR Part 147, that are used to process sewage must be labeled and handled as such.

Ensure there are no suspicious accumulations of liquid or leaks around the treatment plant. Foul odors are indicative that the system is leaking.

Visually examine fixed sanitary plumbing for unauthorized modifications.

If treated sewage is not authorized to be discharged in your unit's jurisdictional boundary, ensure the system is secured in a manner that prevents discharge of treated or untreated sewage.

NOTE:

Consult reference (j), § 159.7, to determine if treated sewage is authorized to be discharged in your unit's jurisdictional boundary.

G.6. Bunkering/Internal Transfer Procedures

Ensure the engineering crew is provided with oil transfer procedures that meet the requirements of reference (j), §155.750. Designate a member of the crew, in writing, who is in charge of transfer operations. In addition, verify that all oil transfer systems are tested as per reference (j), §156.170.

Section H: Unattended Machinery Space

H.1. Overview This section covers the requirements for ships certified to operate with a periodically unattended machinery space. Refer to reference (e), SOLAS, for more information.

H.2. Conducting the Examination Ensure the ship is provided with documentary evidence attesting to its fitness to operate with a periodically unattended machinery space. This evidence is usually an annotation on the ship's Classification Document and allowance on the ship's Minimum Safe Manning document. Refer to [Chapter 4: Examination Pre-Brief & Initial Meeting, Section B: Certificates & Documents](#), in the TTP for more information regarding these two documents.

Verify the following:

- Ensure the engineers' alarms are operational. This system provides an audible alarm and visually indicates each fault requiring attention. Verify that alarms are provided in the engine control room, the engineer's public rooms, in each of the engineer's cabins, and the navigation bridge.
 - Ensure the system is continuously powered and has battery back-up power supply.
 - Ensure the presence of an oil mist detection system or engine temperature monitors. Look for faults on the alarm panel.
 - Spot-check the bilge high-level alarms.
 - Ensure automatic firefighting systems are readily available/operational.
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Chapter 9: Fire Systems

Introduction

This chapter discusses the firefighting systems examination and provides an overview for a ship's firefighting equipment. See reference (k), Foreign Freight Vessel Examiner (FFVE) Tactics, Techniques, and Procedures (TTP), CGTTP 3-72.8 (series), for further detailed guidance. Also refer to and observe safety precautions per:

- Reference (e), SOLAS.
- Reference (s), International Code for Fire Safety Systems (FSS).

In This Chapter

This chapter contains the following sections:

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C	Fire Detection Systems	9-5
D	Firefighting Systems	9-7
E	Firefighting Equipment	9-10

Section A: Fire Control Plan

A.1. Overview Fire Control Plans provide information for the crew and shore-based firefighters about fire stations, fixed and portable firefighting equipment, fire detection and alarm systems, sprinkler systems, ventilation systems (including damper location, fans, and controls), location of fire-resisting bulkheads (“A”, “B”, or “C” class divisions), and means of egress from those spaces. Ensuring the fire control plan is updated as the ship ages or is modified and that the plan is properly located, adequate and consistent with the equipment onboard is crucial to ensuring crews can successfully deal with emergencies.

A.2. Fire Control Plan

Verify the the following:

- Ship’s name matches the current name of the ship.
- Plan has been examined/approved by class or flag.
- Plan or booklet is in the language(s) required by the administration, and English or French, per reference (e), SOLAS, if the language(s) required by the administration are neither of these.
- Pen and ink changes indicate equipment location changes.

NOTE:

Legible pen and ink changes, accepted by class, are allowed until the plan is reprinted.

A.3. Fire Control Plan Location

Plans and/or duplicates are posted at embarkation areas, crew accommodations, wheelhouse and ECR.

A.4. Fire Boundaries

Spot-check the following, for conformance with the fire control plan. Ensure bulkhead penetrations, doors, vents, etc. are operational and/or properly sealed to the same standard as the bulkhead:

- Location of Class A fire boundaries is consistent with SOLAS requirements found in reference (e), SOLAS.
 - Control stations.
 - Machinery spaces.
 - Stair towers.
 - Galley.
 - Cargo spaces.
 - RO-RO vehicle spaces.

**A.5. Verification
of Equipment**

Spot-check the following:

- Signage reflects the correct equipment and positions on the ship.
 - Placement of equipment on the plan matches physical location on the ship. Identify any areas that require additional equipment placement.
 - Fire alarms, manual and automatic.
 - Fire stations, fire hydrants, and hoses.
 - Fire extinguishers.
 - International shore connection.
 - Fire dampers and damper control stations.
 - EEBD.
 - Location of fire gear lockers and firefighter's outfits.
 - Sprinkler stations.
 - Flame/heat/smoke detectors.
-

Section B: Fire Prevention & Structural Fire Protection

B.1. Overview Structural fire protection reduces the risk of damage to the ship, cargo, environment, and injury of personnel in the event of a fire. To limit the spread of fire, the ship is divided into vertical and horizontal zones. Combined with thermal boundaries and the restricted use of combustible materials, survivability of the ship is increased.

B.2. Conducting the Exam Verify the ship is constructed and maintained in a condition that minimizes the risk of fire:

- Compliance with Structural Fire Protection (SFP) requirements.
 - Method IC, IIC, or IIIC. For a detailed description of construction methods, refer to reference (e), SOLAS.
- SFP boundaries are intact and constructed per fire control plan.
- Ensure no unapproved modifications to bulkheads, decks, doors, or SFP modifications.
- Evaluate fire door operation. Take particular note of doors that are self-closing as they are commonly tied open or have been modified with hold back hooks. Consult the ship's fire plan to determine what type of door was installed and approved.
- Verify electric cable/pipe penetrations are compatible with fire control boundaries.
- Verify operational tests of ventilation system controls.
- Verify housekeeping practices to minimize combustibles.

NOTE:

Ship's crew routinely run new electrical wiring or retrofit electrical/telecommunications wiring throughout the ship. Ensure any bulkhead or deck penetrations have been repaired with approved material that meets the boundary requirements for the space.

Section C: Fire Detection Systems

- C.1. Overview** Fire detection and alarm systems detect fires in the space of origin and provide a visible and audible alarm to indicate the location of a fire. Early detection of fires provides a greater possibility of survivability for the ship and safe escape of personnel. Detectors throughout the ship are wired to a fire control panel that provides visual and audible alerts. When activated, detectors send a signal to the fire control panel in a location manned around the clock, usually on the bridge. There can also be fire alarm panels in other manned spaces, such as the engine room, cargo control room or gangway, which possibly are the only manned spaces at times when the vessel is in port.
-
- C.2. Records and Certificates** Verify the following:
- System approved by administration.
 - Periodic servicing reports are available and up-to-date.
 - Ensure manufacturer instructions are available and the crew understands the instructions.
-
- C.3. Conducting the Exam** Examine the following:
- Verify service spaces, control stations, corridors, stairways, and escape routes within accommodation spaces are provided with fire detection.
 - Ensure there are two sources of power for the detection system.
 - Randomly select smoke detectors in high-risk areas to ensure they are operational.
 - *Smoke Detectors* react to visible, mainly light-colored smoke that generally occurs during early stages of slow smoldering fires prior to an increase in temperature. They are required in stairways, corridors and escape routes.
 - *Heat Detectors* respond to an abnormal increase in temperature. They are available with various set points and designed to activate between temperatures of 129°F (54°C) and 178°F (78°C). They also activate when a sudden rise of temperature is sensed, greater than 1.8°F (1°C) per minute.

WARNING:

Heat actuated detectors can be used in fire extinguishing systems (CO₂ or Hyper Mist) that are designed to actuate automatically. Automatic activation of CO₂ systems could result in a life-threatening situation. Prior to testing heat actuated detectors, verify the detector being tested is not part of a automatically activated extinguishing system. It is imperative PSCEs know how to identify if a system is going to be actuated by the testing of a detector. Refer to reference (xx), Fixed Carbon Dioxide Fire-Extinguishing Systems, MSC.1/Circ. 1318, for additional guidance.

- *Flame Detectors* are designed to react to infrared radiation emitted by flames. A flame detector can often respond faster and more accurately than a smoke or heat detector due to the mechanisms it uses to detect the flame.
- Periodically test fire detection and fire alarm systems by means of equipment producing hot air at the appropriate temperature, or smoke or aerosol particles having the appropriate range of density or particle size, or other phenomena associated with incipient fires to which the detector is designed to respond.
- Verify detectors are of a type such that they can be tested for correct operation and restored to normal surveillance without the renewal of any component.
- Manually-operated call points.
- Verify alarms at control station and throughout the ship.
- Examine Control Panel:
 - Visual and audible fire signals.
 - Free from fault indications.
 - Means to manually acknowledge alarm and fault signals.

NOTE:

If the fire control panel indicates isolated zones or detectors, ensure the crew is conducting fire rounds/watches in those zones.

CAUTION:

Cigarettes, direct flames, and high-heat producing devices are not to be used to conduct tests unless recommended by the manufacturer's test procedures. It is unacceptable to use test methods that could damage the detector.

Section D: Firefighting Systems

D.1. Overview Firefighting systems provide active protection to a ship in the event of a fire. They consist of various types of extinguishing methods from manual hose systems to automatic water, gas, or foam systems. Verifying the servicing, arrangement, and maintenance of these systems is vital to ensuring the ship's ability to extinguish fires.

D.2. Records and Certificates

Examine the following:

- Firefighting equipment maintenance and service logs/reports, on portable and fixed systems. Examine service logs and reports to determine what equipment was inspected and serviced, the dates of inspection/service, tests performed, and if there are any outstanding issues that weren't addressed. Reference (e), SOLAS, requires that firefighting systems and equipment be periodically tested to the satisfaction of the administration. Testing (and servicing) is often performed by third-party companies.
- Exemption certificate, if issued, as indicated on the Safety Equipment Certificate (SEC):
 - Administration exemption certificate for cargo spaces of ships constructed and solely intended for the carriage of ore, coal, grain, unseasoned timber, or non-combustible cargoes which are deemed by the administration to be of low fire risk per reference (e), SOLAS, and reference (ww), Lists of Solid Bulk Cargoes For Which a Fixed Gas Fire-Extinguishing System May Be Exempted Or For Which a Fixed Gas Fire-Extinguishing System is Ineffective, MSC/Circ. 1146 (series).
 - Granted only if the ship is fitted with steel hatch covers and effective means of closing ventilators and other openings leading to the cargo spaces.
 - Verify that a list of cargoes permitted to be carried is attached to the exemption certificate.

D.3. Conducting the Exam

Spot-check the following in accordance with reference (b), MSM II:

- Verify fire protection equipment provided for the location or space.
- International shore connection.
- Two pumps are present, including remote start operation.

- There are no excessive leaks from mechanical seal, valves, or flanges.
- The main piping, fittings, and nozzles are in good condition, free of excessive corrosion, pitting, and holes, and unauthorized temporary repairs.
- Adequate pressure is provided at the hydrant per reference (e), SOLAS.
- Fire hose stations.
- Able to deliver firefighting water from two nozzles to all parts of the ship. If there is a doubt, have crew demonstrate.
- Fixed fire-extinguishing system.
- Space-sealing capabilities where fixed gas systems are present.
 - Examine the fixed pressure water spraying and water mist fire extinguishing systems.
 - System arranged as indicated on fire control and/or general arrangement plan(s).
 - Sprinkler pump arranged for automatic activation.
 - Flow test pump(s) for proper pressure and capacity.
 - Visually inspect sprinkler heads focusing on areas where sprinklers are subject to oily or dirty environments (galley, engine room, purifier room).
 - The system's manual valve(s) are lined up properly ensuring system activates from a remote location as designed, for example, the main freshwater valve.
- Fixed high-pressure or low-pressure CO₂ extinguishing systems.
 - System is arranged as indicated in fire control and/or general arrangement plan(s).
 - Evaluate testing and inspection procedures required by reference (xx), Fixed Carbon Dioxide Fire-Extinguishing Systems, MSC.1/Circ. 1318.
 - Operating instructions posted at control stations(s).
 - Visually examine system components, piping and controls.
 - Release controls and distribution valves secured to prevent accidental discharge.
 - Alarms and indicators present and operational.
 - Safety relief valves present and untampered.
 - Verify storage room arrangements including ventilation and space closures for protected space openings.

- Additional items for low-pressure CO₂ extinguishing systems.
 - Refrigeration compressors (primary and alternate) are operational.
 - Contents of CO₂ tank checked by tank level indicator.
 - The system's manual valve(s) are lined up properly ensuring system activates from a remote location as designed, for example, the main isolation valve.

WARNING:

Due to risk of serious bodily harm or death that could result from mistakes or miscommunication, examiners are not to engage in, or witness, CO₂ system testing unless the procedures contained in reference (yy), Carbon Dioxide Fire Extinguishing System Safety, Navigation and Vessel Inspection (NVIC) Circular 09-00 (series), are followed.

- Fixed low-expansion foam extinguishing system (required for deck foam systems).
 - System is arranged as indicated in the fire control and/or general arrangement plan(s).
 - Verify quantity, concentration, periodic testing and performance of foam concentrate.
 - Verify operation of the foam concentrate pump.
 - Examine the system's manual valve(s) are lined up properly ensuring system activates from a remote location as designed, for example, the main sea water valve or foam isolation valves. Refer to reference (yy), for additional guidance.
 - Fixed high-expansion foam extinguishing system.
 - System is arranged as indicated in the fire control and/or general arrangement plan(s).
 - Verify quantity, concentration, periodic testing and performance of foam concentrate.
 - Verify operation of the foam concentrate pump.
 - Examine the system's manual valve(s) are lined up properly, ensuring system activates from a remote location as designed, for example, the main sea water valve or foam isolation valves.
-

Section E: Firefighting Equipment

- E.1. Overview** Ensure that firefighting equipment aboard the ship is properly located, maintained and is consistent with the regulations.
-
- E.2. Conducting the Exam** Examine the following:
- Fire hoses and nozzles.
 - Locations consistent with fire control plan.
 - Proper stowage, includes spanner wrench.
 - Adequate length, quantity to reach all areas of the ship.
 - Maintained in serviceable condition.
 - Portable fire extinguishers.
 - Locations consistent with Fire Control Plan.
 - Verify proper stowage.
 - Maintained in serviceable condition.
 - Proper type and quantity of spare charges.
 - Firefighting equipment/technical lockers.
 - Ensure inventory conforms to reference (e), SOLAS, and reference (s), International Code for Fire Safety Systems (FSS) Code, for additional guidance.
 - Verify lockers are illuminated from an emergency power source.
 - Ensure firefighting equipment is stowed in widely separated spaces (more than one location).
 - A firefighter's outfit consists of a set of personal equipment and a breathing apparatus which includes:
 - Two-way portable radio communications, as applicable, provided for each member of the fire patrol and emergency response teams.
 - Protective clothing material that shields skin from fires, radiated heat, burns, and scalding by steam.

- Boots made of rubber, or another electrically non-conducting material.
- Rigid helmet providing effective impact protection.
- Electric safety lamp, hand lantern.
- Axe with high-voltage insulated handle.
- Self-contained compressed air-operated breathing apparatus capable of functioning for at least 30 minutes. All cylinders are interchangeable.
- Fireproof lifeline at least 30 meters long and equipped with a snap hook to attach to the apparatus.
- Verify means to refill air bottles onboard the ship is provided, as applicable.
- If fitted with firefighter's outfits specifically to be used for training, ensure suits are clearly marked and distinguishable from actual firefighting outfits.

NOTE:

Ensure all items in the locker are stowed and ready for immediate use and clearly marked.

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Chapter 10: Lifesaving

Introduction

This chapter discusses requirements and procedures for conducting an examination of lifesaving appliances and arrangements. Regulatory requirements are contained in reference (e), SOLAS, and reference (t), The International Life-Saving Appliance (LSA) Code, Resolution MSC.48 (66). Assess the condition of lifesaving equipment and arrangements, ensuring they are in working order and ready for immediate use before the ship leaves port and at all times during the voyage.

In the event lifesaving equipment needs to be utilized (likely during a worst case scenario) it has to function as designed. Only working lifesaving equipment can save lives. Be mindful of this throughout the material examination of the equipment and take into account the crew's familiarity and training with use of lifesaving equipment.

In This Chapter

This chapter contains the following sections:

Section	Title	Page
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B	Personal Lifesaving Appliances	10-3
C	Muster & Embarkation	10-6
D	Survival Craft	10-7
E	Equipment Approvals	10-16

Section A: Communications

A.1. Overview Regulatory requirements for communications include lifeboat radios, search and rescue locating devices, distress flares, emergency communications, alarm systems, and public address systems (cruise ships). Refer to [Chapter 5: Bridge](#), for additional guidance, as these items are typically examined while on the ship's bridge. Reference (o), Foreign Passenger Vessel Examiner (FPVE) Tactics, Techniques, and Procedures (TTP), CGTTP 3-72.2A (series), provides guidance for cruise ship examinations.

A.2. General Alarm Systems General alarms are used to notify persons on the ship of an emergency situation (or drill), and to summon crew to muster station(s). Verify the following:

- When general alarm is sounded, all entertainment sound systems are interrupted and automatically turned off for the duration of the emergency alarm.
 - Audible alarm is sounded throughout the accommodations and normal crew working spaces.
 - No sound dampening devices are installed on speakers.
-

Section B: Personal Lifesaving Appliances

B.1. Overview Personal lifesaving appliances are potentially the last safety item that can save a life; there are numerous documented accounts of lives lost when these items were not available, not used or didn't perform as advertised. Personal lifesaving appliances include lifejackets, immersion suits, anti-exposure suits and lifebuoys. Verify required quantities with the SOLAS Safety Equipment Certificate, Form E.

B.2. Lifejackets Lifejackets are to be provided for all persons onboard, including non-crew members. Additional lifejackets are to be provided for watchstanders on the ship's bridge, in the engine control room, at remotely located survival craft stations, and, in general, manned areas where access to individual lifejacket stowage could be impeded during an emergency.

Verify the following:

- Stowage per the fire and safety plan.
- Serviceable condition, with no unapproved modifications. Unapproved modifications can compromise the serviceability of the lifejacket (for example, cylindrical lights inserted into lifejacket by cutting a 1 ½-in.-by-3-in. hole, markings covering retro-reflective tape).
- Lifejacket lights are functional or battery expiration date if light cannot be tested. A best practice is to test the lights on the lifejackets stowed specifically for the watchstanders. During the abandon ship drill, have the crew members test lights on their personal lifejackets.
- Whistle function.
- If provided, annual shore-based servicing for inflatable lifejackets.

NOTE:

SOLAS amendments require lifejackets and immersion suits placed on board ships on or after July 1, 2010, to be approved to new requirements. Existing equipment need not be replaced provided it remains in serviceable condition per reference (aaa), New SOLAS Requirements for Lifejackets and Immersion Suits Effective 01 July 2010, Navigation and Vessel Inspection (NVIC) Circular 03-10 (series).

B.3. Immersion Suits

Immersion suits provide thermal protection from the elements, in addition to buoyancy. They are required for every person on board cargo ships, including non-crew members. Additional immersion suits are to be provided for watchstanders on the ship's bridge, in the engine control room, at remotely located survival craft stations, and, in general, manned areas to where access to individual suit stowage could be impeded during an emergency. See reference (o), Foreign Passenger Vessel Examiners (FPVE) Tactics, Techniques, and Procedures (TTP), CGTTP 3-72.2A (series), for cruise ship requirements.

NOTE:

Immersion suits may not be required by the administration if the ship, other than a bulk carrier, is constantly engaged in warm climates.

Verify the following:

- Stowage per the fire and safety plan.
- Type of immersion suit. Some immersion suits are worn in conjunction with a lifejacket.
- If not worn in conjunction with a lifejacket, verify immersion suit lights and whistles.
- Serviceable condition – check adhesion seals along seams adjoining the zipper to the suit and ensure there are no unapproved modifications.
- Appropriate size for the crew members.

NOTE:

If the immersion suit is worn in conjunction with a lifejacket that requires tying of knots, have the crew unpack and don the immersion suit and lifejacket within two minutes. In most cases, securing a lifejacket while wearing the immersion suit is challenging to don within the required time frame.

B.4. Anti-Exposure Suits

Verify the following:

- Provided for every person assigned to crew the rescue boat.
 - Fitted lights are functional.
-

B.5. Life Buoys

Lifebuoys are often examined during the deck walk. Verify the following:

- Required number and physical location per fire and safety plan, (if provided).
- Easily accessible and capable of being rapidly released. In some cases, the light on the lifebuoys can be stowed in a weathertight box that requires additional action impeding it being rapidly cast loose, such as removing wingnuts or unlocking a padlock.
- Man overboard buoys, refer to [Chapter 5: Bridge](#).
- Serviceable condition, including grab lines, color, and retro-reflective material.
- Vessel's name and registry are marked on lifebuoys.
- At least two lifebuoys have buoyant lifeline.
- Spot-check function of lights.

NOTE:

In some cases, the crew might remove or tie down lifebuoys due to heavy seas. Ensure lifebuoys are returned to their required locations.

Section C: Muster & Embarkation

C.1. Overview Ships are provided locations to muster persons onboard and embark in survival craft when abandoning ship. When transiting the accommodations of the ship, look for signs that clearly mark exits and the directions to the muster area(s).

C.2. Muster and Embarkation Stations

At the muster and embarkation station(s), verify the following:

- No obstructions impeding evacuation routes or muster area(s).
 - Adequately illuminated by emergency lighting.
 - IMO markings guiding to embarkation station or muster routes are easily seen under emergency lighting (most are photo luminescent), as per reference (bbb), Symbols Related to Life-Saving Appliances and Arrangements, IMO, Resolution A.760(18) (series), 17 Nov 1993.
 - If davit launched liferafts are onboard, embarkation has enough space to accommodate a stretcher.
 - Muster List or Emergency Instructions:
 - Instructions, posters and signs for survival craft are legible and understood by the crew.
 - Substitutes for key persons who could become disabled or incapacitated.
 - Emergency instructions can be easily seen by emergency lighting.
-

C.3. Embarkation Ladders

Verify the following:

- Sufficient length to reach water in lightest seagoing condition.
 - Ladders provided at each survival craft location, including remotely located survival craft.
 - Condition of ladder(s), including attachments to deck, ropes, rungs, and fasteners.
 - No unauthorized repairs.
 - If embarkation ladder condition is questionable, deploy over the side to ensure serviceable condition prior to re-stowing.
-

Section D: Survival Craft

D.1. Overview Survival craft include lifeboats, rescue boats, liferafts and marine evacuation systems. Verify required quantities with the SOLAS Safety Equipment Certificate, Form E.

D.2. Lifeboats Lifeboat exams are among the most important you perform as a PSCE. When other equipment and systems fail, a functioning lifeboat can be the deciding factor that allows a seafarer to return safely home. Rarely used except to abandon ship, lifeboats have earned a bad reputation for causing injuries and deaths during drills. This is unfortunate, considering that the purpose of the lifeboat is to allow people to safely abandon ship during an emergency.

Properly maintained lifeboats and launching appliances rarely fail. Crews can be apprehensive about exercising lifeboats due to lack of maintenance or if they are unfamiliar with operation. It is incumbent upon PSCEs to be familiar with not only the regulatory requirements for lifeboat features, maintenance and drills, but also with the safety features of the equipment to ensure it is ready for the crew to use, and it is safe for the PSCE to enter the lifeboat for examination.

WARNING:

Do not enter the lifeboat if it appears unsafe. Never ride in the lifeboat while lowering or during launch.

D.2.a. Safety Features Summarized

Verify that appropriate safety features are in place, which can include the following for a gravity-launched pivot davit:

- Davit arms are fully in the upright position, with securing pins in place, preventing release of davit arms.
 - Falls in good condition.
 - Lifeboat hanging vertically, floating blocks securely seated in the notch of each davit arm, and lifeboat secured in the cradle by the gripes.
 - Lifeboat release hooks in the closed position, with O-Ring securely seated in the lifeboat release hooks.
 - Inspection pins or maintenance strops in place at the release hook for the examination (remove afterwards).
-

D.2.b. Examine
the Lifeboat Davit
System

Conduct a visual exam of the davit and lifeboat and verify the lifeboat is secured. Also take note of the surroundings, such as condition of the deck and handrails.

NOTE:

Damaged handrails could indicate lifeboat damage, either from dropping or banging into the side of the ship.

Examine the following equipment, paying additional attention to moving parts and those that require lubrication:

- Davit arms with safety pins securing them in place.
- Pivot points.
- Floating blocks.
- Sheaves able to freely turn, evenly spaced with falls riding in the groove.
- Falls are required to be replaced within five years, or more frequently if damaged. Look for broken wires or burrs, thinning/stretching, and verify falls are evenly spooled on the winch drum.
- Winch and controls (including remote pull).
- Proximity/limit switch.
- Gripes.

D.2.c. Examine
the Lifeboat
Exterior

Examine the boat hull and canopy for general condition, unapproved repairs/modifications (new paint or resin different from the original color can indicate unauthorized repairs.) Reference (ccc), Measures to Prevent Accidents with Lifeboats, MSC.1/Circ.1206 (series), discusses who is authorized to conduct repairs. Examine markings, including number of persons lifeboat is approved for, ship's name and port marked on each side, means of identifying the ship to which the lifeboat belongs and visible from above. Be mindful of recent work as markings and retro are occasionally overlooked.

Also examine the following:

- Release hooks (approved type) and mounting hardware. Verify cam is in the fully-closed position, and indicator points to the closed position.
- Rub rail. Is it damaged/missing (potential point of water ingress)?
- Doors, hatches and windows/viewing ports.
- Skates and pudding pads (any damage hidden under them)?

- Keel cooler tubes, if applicable.
- Hydrostatic unit (for offload release).
- Exhaust port.
- Hand grab ropes.
- Float plug.

Examine the steering/propulsion unit and have the crewmember perform an operational test. Have operator start engine, demonstrate propeller forward, reverse, and steering side-side (engine ought to start using only battery power, with charger unplugged, and be able to run five minutes out of the water). Verify no damage to directional nozzle, propeller, shaft, and mounting hardware.

D.2.d.
Examine the
Lifeboat Interior

Examine the interior of the lifeboat, verifying seating arrangements and condition of lifeboat equipment, including equipment for operation and interior lighting. Verify presence of operating instructions. Spot-check equipment and provisions/rations required by the LSA Code using the inventory list provided by the crewmember responsible for maintenance (typically the third officer). Conduct expanded exam of any hull damage identified while outside the lifeboat.

WARNING:

If entering the lifeboat as part of the exam, have crew add inspection pins or secure lifeboat to the davit arms with maintenance strops. (Remove them afterwards for the lifeboat to be ready for immediate use.)

D.2.e. Lifeboat
Deficiencies

While conducting the examination, try to have the deck officer and/or engineer responsible for maintaining the lifeboat available to demonstrate operation, answer questions, or perform maintenance/minor adjustments, if needed. When writing deficiency requirements, consider the operation of the lifeboat; if the deficiency renders it unavailable for immediate use, correct prior to the ship's departure. The following are some expanded exam items:

- Release mechanism: Mounting hardware corroded, damaged cables and conduit.
- Remote cable and associated hardware to lower the lifeboat snagged or damaged.
- Engine stalls, difficulty starting, rough idling: Battery, starter, fuel system, throttle cable, engine oil, belts, exhaust.
- Fuel type.

NOTE:

While lifeboat engines typically run on marine diesel or truck fuel, those operating in cold climates ought to have lifeboat fuel, a high-grade distillate that doesn't gel at cold temps, or appropriate additives.

- Engine runs but propeller doesn't turn: Linkage to propeller shaft.
- Steering: Also, verify secondary/tiller.

**D.2.f. Lifeboats
for Tank Ships**

In addition to the above requirements, lifeboats on tank ships carrying flammable cargoes have fire protection. These protections shall provide for the number of persons inside the lifeboat for a period of no less than eight minutes, as per reference (t), International Life-Saving Appliance (LSA) Code, Resolution MSC.48 (66). If the lifeboat is installed with a water spray system, conduct a visual exam of piping, connections and discharge nozzles, checking for blockages in the nozzles and wastage of the piping. Means shall be provided to flush the system with freshwater and can be utilized to test the system upon expansion, as per reference (t). Typically, the water spray system requires being in the water in order to run the spray and is fitted with a hose for flushing. Furthermore, if the ship carriers' cargoes emit toxic vapors, verify the lifeboat is fitted with a self-contained air support system. As a best practice, verify the following:

- Identify number of bottles in system, setting of regulator and relief valve, and verify posted operating instructions.
- Have crewmember turn one bottle on, watch gauge to ensure pressure on gauge matches bottle. Turn valve for bottle off, pause for a few seconds to ensure no "blow-by" or drop in pressure. If satisfactory, bleed off and repeat on other bottles.
- Common errors include blow-by at manifold, leaking connections, inoperable gauges, improper settings or bottles not charged, and crew unfamiliarity with the system.

**D.2.g. Freefall
Lifeboats**

Bulk carriers constructed on or after July 1, 2006, are required to carry a freefall lifeboat to provide for rapid abandonment by the persons onboard. Launching arrangements differ from a gravity-pivot davit. The freefall davit has a downward slope, and release procedures often entail a series of pumps on a lever from inside the boat, which positions the boat on the launching system rails, at which point it quickly slides down the rails and enters the water. Videos of freefall lifeboat launching are available online.

Reference (e), SOLAS, provides different requirements for the schedule of operation for freefall lifeboats. All lifeboats are required to be operated in the water at least once every three months. Freefall lifeboats can be lowered into the water versus launching, and then operated.

In addition, if not launched, simulated launching (approved by the administration) can be carried out at least once every six months as an alternative.

While examining the freefall lifeboat, also verify the following:

- Search and rescue locating device (SART) is provided inside the lifeboat.
- Lifeboat is secured in a manner that prevents unintentional release prior to entering (if entering the boat).

NOTE: **Freefall lifeboats are not designed for small children or infants. Ensure a proper evacuation plan for non-crew members.**

WARNING: *Due to location of most stern launch lifeboats, carbon monoxide can build up in lifeboat from the ship's exhaust.*

D.2.h. Open Lifeboats

Rarely encountered anymore during a PSC exam, they occasionally are onboard older ships. See the applicable version of SOLAS based upon the ship's keel laid date, as these boats precede the LSA Code. Other considerations for open lifeboats include:

- Deterioration due to exposure.
- At least one lifeboat has mechanical propulsion.
- The secondary lifeboat can have other means of propulsion, human or sail.
- Drain plugs installed.

D.2.i. Testing the Lifeboats

A best practice is to witness the lifeboat tests during the lifesaving portion of the exam with only essential operating crew present. Some PSCEs prefer to lower the boats during the abandon ship drills, but this requires more crew and the nervousness of the crew could be higher during the drill.

CAUTION: **Examine the lifeboat and davit system prior to lowering, as additional damage or equipment failure can sometimes be avoided if identified prior to operation.**

Lower the lifeboat. Ensure that when lowered, there are no persons in the lifeboat and examiner is mindful to place themselves in a safe location while observing in anticipation of any potential accident.

- On cargo ships, the lifeboat shall be capable of being launched in 10 minutes after abandon ship signal is given, as per reference (e), SOLAS.
- During launching and lowering, observe movement of the launching system components.
- **Brake test:** If lifeboat launching arrangements are such that all crew would board the lifeboat prior to abandoning the ship, ensure that when the brake is freely released by the crewman from the lifted position, no additional assistance or force is used for setting the brake.

Have the crew test the proximity (limit) switch.

WARNING:

When conducting lifeboat tests, refer to reference (ccc), Measures to Prevent Accidents With Lifeboats, MSC/CIRC. 1206 (series), for guidance regarding personnel safety.

D.3. Rescue Boats

Rescue boats are designed to rapidly deploy and recover in the event of a man overboard, when minutes count. Reference (e), requires launch within five minutes, and recovery within five minutes. Rescue boats are also frequently used to marshal liferafts or MES rafts. Some ships are equipped with separate rescue boats, others designate a lifeboat as a rescue boat. If the ship employs the latter, verify that the launching appliance meets the time requirements for a rescue boat.

NOTE:

A lifeboat with a rescue boat designation often has a two-speed winch, capable of quicker launching and recovery speeds to meet rescue boat requirements.

If the rescue boat is protected by a tarp, or equipment is stowed separately to protect from weathering, that could factor into the time required to launch. Consider these factors, along with the knowledge, organization and responsiveness of the crew when deciding if it is necessary to time the launching. If the drill is timed, ensure all essential personnel assigned to the rescue boat operation are present.

D.3.a. Testing the Rescue Boat

Have crew demonstrate how they test the engine, and observe propeller operation ahead and astern, and steering port and starboard. If necessary, have crew provide cooling water prior to starting engine if an outboard.

CAUTION:

If testing a water cooled outboard engine, ensure water is run through the unit during testing, otherwise cooling pump failure could result.

D.3.b. Launching Appliance

Verify the launching appliance does not depend on any means other than gravity or stored mechanical power which is independent of the ship's power supplies. Have the crew turn out the boat from the stowed position and swing out the davit arm if practicable. Test the limit switch.

WARNING:

Limit switch failures on rescue boat davits can cause death or severe injury in the event that the falls part due to continued winch tension after the boat has been retrieved.

D.3.c. Rescue Boat Equipment

Spot-check equipment required by the LSA Code. Verify markings: Number of persons the rescue boat is approved for, ship's name and port marked on each side, means of identifying the ship to which the rescue boat belongs to, visible from above, and approval plate. Also verify that the rescue boat has sufficient fuel to operate four hours at six knots.

D.3.d. Fast Rescued Boats

These are capable of making 20 knots or more of speed. Verify rescue boat crew have endorsements to operate the fast rescue boat.

D.3.e. Inflatable Rescue Boats

Ensure chambers are fully inflated at all times. In colder climates, the air inside tends to compress.

D.4. Liferafts

Liferafts are required for 100 percent of persons onboard. This is commonly met by providing 100 percent capacity of each side of the ship (for a total of 200 percent capability) unless the crew proves they are able to easily transfer liferafts from one side of the ship to the other. Verify required number and physical location with lifesaving arrangement plan, if provided. Examine the following:

- General condition of liferaft canister, weathertight to ensure no intrusion of elements, no cracks, deterioration of plastic, and sealed.
- Stowage height and painter length appropriate for distance to water in lightest seagoing condition.
- Verify fitted with "SOLAS A PACK," however, "SOLAS B PACK," (contains less gear) can be used on passenger ships engaged on short international voyages, as per reference (t), International Life-Saving Appliance (LSA) Code, Resolution MSC.48(66), 4.1.5.3.
- Stowage: Ready to launch within five minutes.

- If ship is fitted with a freefall lifeboat, the liferafts on at least one side are served by launching appliances.
- If fitted with a davit launched liferaft, examine the davit for operational readiness. Verify crew training in launching is provided within four months.
- Davit launched liferafts are able to be boarded within three minutes.
- Servicing requirements:
 - Serviced at an approved facility within previous 12 months, extensions of up to five months can be granted by Administration beyond the 12 month servicing interval.
 - Verify consumables are not expired if extension is given. Liferaft servicing certificate often provides expiration dates of consumables.
- Use of liferafts with intermediate service intervals.
 - Some administrations have accepted and approved the use of newer liferafts with extended service intervals. These liferafts are commonly found on cruise ships but are less common on cargo ships. Guidelines for these liferafts are found in reference (ddd), Guidelines for the Approval of Inflatable Liferafts Subject to Extended Service Intervals Not Exceeding 30 Months, MSC.1/Circ. 1328 (series).
 - Servicing not to exceed 30 months as long as the hermetic seal is not compromised.
 - Manufacturer requires, at minimum, annual shipboard humidity and CO₂ charge checks. Readings are normally recorded and kept onboard.
 - Onboard inspections are done by a qualified individual who has been adequately trained and certified by the liferaft manufacturer.
 - If any discrepancies are found, refer to service requirements established by the manufacturer.
- Float-free arrangements:
 - Painter attached to ship/weak link. Verify installation meets manufacturer's specifications which can be verified in reference (e), SOLAS, Training Manual.

- Mechanical hydrostatic releases serviced within previous 12 months by approved facility, extensions of up to five months can be granted by Administration beyond the 12 month servicing interval.
- Hydrostatic unit approved type for the liferaft.
 - Less than 25 persons, more than 25 persons, (not EPIRB or VDR).
 - Expiration date.

NOTE:

Hammar© H2O hydrostatic release units are replaced every two years, and do not require servicing. During installation, the date of expiration (same month, two years later) is marked on the device.

- Liferaft (bow or stern) 100 meters from the closest survival craft can be securely fastened so as to permit manual release, as per reference (e).

**D.5. Marine
Evacuation
Systems (MES)**

MES enable mass evacuation from a ship in a controlled manner. Due to the rarity of marine evacuation systems on cargo ships, refer to reference (o), FPVE TTP, for additional guidance.

Section E: Equipment Approvals

E.1. Overview

Lifesaving appliances and arrangements required by reference (e), SOLAS, shall be approved by the Flag Administration, per that chapter. It is a common misconception that the IMO approves equipment, but in fact, there is no IMO entity with that responsibility. Rather, the IMO, through regulation establishes equipment standards, but defers to administrations to establish and enforce testing and approval criteria for regulated equipment, which is conducted at approved labs.

E.2. Mutual Recognition Agreement (MRA)

The European Union, via the European Commission (EC), has established a MRA program where equipment approvals are recognized by member states (administrations). The USCG has a MRA with the EC, where certain equipment approved by the EC is accepted as meeting USCG equipment approvals and vice versa. The Marine Equipment Directive 2014/90/EU (MED) created a 'wheelmark' which is recognized internationally as a label for approved equipment. For a complete listing of USCG approved equipment, refer to the [USCG Maritime Information Exchange \(CGMIX\)](#). Additionally, the [MarED Product Database](#) contains approved equipment and certified products with the wheelmark.



Figure 10-1 Marine Equipment Directive wheelmark

NOTE:

Ships are fitted with equipment approved by their administration. In many cases, this equipment does not have a USCG approval number. A notable exception are those ships required to be fitted with a USCG approved ballast water treatment system by reference (j), 33 CFR § 151.2025.

Chapter 11: Drills

Introduction

This chapter discusses the emergency drills required by foreign freight ships, including drill requirements and the frequency these drills need to be completed.

For additional information, refer to:

- Reference (b), MSM II.
- Reference (c), United States Coast Guard Port State Control Examiner (PSCE), Performance and Qualification Standard (PQS), MPS-PQS-TCY-PSCE (series).
- Reference (e), SOLAS.
- Reference (g), STCW.

In This Chapter

This chapter contains the following sections:

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A	Fire Drill	11-2
B	Abandon Ship Drill	11-5
C	Enclosed Space Entry Drill	11-7

Section A: Fire Drill

A.1. Fire Drill Overview

PSCOs witness fire drills to evaluate the crew's ability to effectively respond to a fire. Discuss the drill with the ship's safety officer (often the chief officer) beforehand, allowing that person to specify the location and scope. This discussion aligns performance expectations.

A.2. Fire Drill Frequency

Verify drills are completed monthly and within 24 hours of leaving port (if there has been a crew changeover of 25 percent or more since the last drill). The PSC team is evaluating the crew's ability to effectively fight a fire onboard the ship. Refer to reference (e), SOLAS, for additional guidance.

NOTE:

Unless there is an immediate safety risk, refrain from telling the crew how to run their drills or how to fight the fire.

Drill logs are not required to be written in English but are authorized to be written in the working language of the crew. Refer to the official logbook for drill entries. The logbook can provide the dates the drills were conducted. Review the drill logs to ensure drills are being conducted in various locations throughout the ship.

NOTE:

If the crew takes pictures of their drills, go through previous drills. The same exact picture for multiple drills indicates gun decking could be taking place.

A.3. Drill Brief

Any drill should, as far as practicable, be conducted as if there were an actual emergency, as per reference (e), and reference (b), MSM II. Thus, the PSCO needs to understand the crew's course of action during the drill which includes any action simulated. In spaces provided with fixed fire suppression systems, the crew would normally engage the fire suppression system which ideally would extinguish the fire with no need of a firefighting team. Afterwards, a team would be sent to investigate the cause of the fire and ensure that it is extinguished.

Instead of explaining simulated electrical/ventilation or determining charged hoses, ask the Captain or fire party leader what they are simulating and what to expect during their observation.

The PSCO and ship master discuss details of the drills, including:

- The drill location.
- Exempted personnel due to cargo operations or watch duties.
- Explain that the ship can simulate electrical/ventilation isolation.
- Determine if hoses are to be charged based on location (interior/exterior).
- Unless there are extenuating circumstances, at least two crewmembers dressed in firefighter's outfit and on air utilizing a self-contained compressed air breathing apparatus.

NOTE:

Ships are required to provide sufficient spares on board to conduct drills. If spares are not provided, ensure the ship is able to fill the bottles onboard.

A.4. Witness Fire Drill

Witness the drills as per reference (e), SOLAS; reference (b), MSM II; and reference (d), PPSC.

- Determine if the drill is of sufficient scope to demonstrate crew competence. Have all crewmembers, except those engaged in cargo operations or on watch, participate.
- Observe the alarm indication (if activated) on the fire alarm panel and the responses of the ship's officers. A normal procedure is to send an officer or fire patrolman to investigate. The PSCO goes to the location and describes the fire situation, such as smoke, flames, etc., to the investigator and then observes how the crew reports the fire to the bridge or damage control center. At this point, most ships sound the crew alarm to summon the firefighting parties and the remainder of the crew to their stations.
- Observe the firefighting party arriving on scene, breaking out their equipment, and fighting the simulated fire. Crew members are to report back to the bridge, as appropriate.
- Examine the firefighting team for proper donning of protective equipment and use of their equipment. Officers make sure that all of the firefighting gear is compatible, meaning firefighters can properly wear the protective suit, the helmet, the air mask and breathing apparatus, and the lifeline. Merely mustering the emergency crews with their gear is not sufficient.
- If fitted with firefighting outfits designated for training use, ensure outfits are identical to the actual firefighting outfits. If not, observe drill using actual outfits.

NOTE:

If lifeline attached to anything other than the D-ring firefighter's belt, ensure that piece of equipment is also fireproof.

- If the crew is unfamiliar with their duties or incapable of safely responding to a shipboard fire, halt the drill and notify the ship's master that the drill was unsuccessful and additional training and/or additional exercises are necessary. Provide the crew with at least one additional opportunity to complete the drill.
- If lack of performance warrants ship detention, cite the crew's lack of familiarity with essential shipboard operations as the reason for detention.
- If language barriers among the crew interfere with adequate verbal communication, the drill can be deemed unsatisfactory.
- **Best practice:** Do not run the abandoned ship drill in conjunction with the fire drill, (for example, fire is out of control). This subconsciously trains the crew to have their full and dedicated attention on the fire in a real life fire emergency situation.
- **Failed drill:** Ensure a reasonable amount of time is given so the crew can demonstrate a successful drill (second opportunity). Keep in mind, in the event of an actual fire, time is very critical in the control and mitigation of a fire. When briefing the Captain and/or fire party leader of the initial failed drill, provide general observations when explaining the failed drill in order to determine whether the crew has been trained already and is not just responding to the PSCO's observations.

NOTE:

Ensure all equipment used during drills is immediately returned to its fully operational condition and any faults/defects discovered are remedied.

Section B: Abandon Ship Drill

B.1. Abandon Ship Drill Frequency

Witness the drill as per reference (e), SOLAS.

- Ensure drills are completed monthly and within 24 hours of leaving port with a crew changeover of 25 percent or more.
- Verify rescue boats are launched and maneuvered in the water once every three months. SOLAS requires monthly launching of rescue boats not exceed every three months. This is for rescue boats only, not lifeboats that are also designated rescue boats.
- Verify lifeboats are launched and maneuvered in the water once every three months. See [Chapter 10: Lifesaving](#), for additional guidance on lifeboats.

NOTE:

Freefall lifeboats are also required to be operated in the water every three months. See reference (e) and [Chapter 10: Lifesaving](#), for additional guidance on launching freefall boats.

B.2. Drill Brief

Conduct the drill brief as per reference (b), MSM II.

Ensure:

- The master knows that no crewmembers board the lifeboats during the drill.
- Crew members know their responsibilities during the drill.
- Crew members properly don the lifejackets and show proper operation of lifejacket lights and whistle.
- For additional lifesaving guidance refer to [Chapter 10: Lifesaving](#).

B.3. Witness Abandon Ship Drill

Witness the drill as per reference (b); reference (d), PPSC; and reference (e).

- Verify crew is properly mustered at their stations and check muster lists for accuracy.
- Verify crewmembers tasked to bring equipment (e.g., SART) are mustered with the equipment.
- Check that the crew has properly donned lifejackets.
- Determine if crewmembers are able to communicate with each other.

- Ensure that crewmembers are familiar with abandon ship procedures/duties and the proper use of ship's lifesaving equipment.
 - Lower lifeboats, when practicable, to the embarkation deck. Ensure freeboard area from the lifeboat to the waterline is clear of any obstruction.
 - Verify the lifeboat engines start properly (this may be witnessed during the lifeboat examination).
 - If the crew is unfamiliar with their duties or incapable of safely operating the lifesaving equipment, halt the drill and notify the ship's master that the drill was unsuccessful and that additional training and/or additional exercises are necessary. Provide the crew with an additional opportunity to complete the drill.
 - If crew performance warrants ship detention, cite the crew's lack of familiarity with essential shipboard operations as the reason for detention and detail specific observations that led to the failure.
 - If language barriers among the crew interfere with adequate communication, the drill can be deemed unsatisfactory.
-

Section C: Enclosed Space Entry Drill

**C.1.
Enclosed Space
Entry and
Rescue Drill**

Verify the ship conducted enclosed space entry drills as per reference (e), SOLAS.

- Verify drills have been completed once every two months.
- When reviewing the drill logs, ensure that an actual drill was completed.
- Tabletop drills or training videos are not authorized in lieu of conducting an actual drill.
- If crew entered an enclosed space during their drill, ensure an enclosed space entry permit was filled out, as per ship's SMS.
- Review the calibration logs for the multi-gas meter required during the drill.
- If the ship does not have calibration gas onboard, ensure they have an entry in their procedures, which authorizes the use of a shore company to complete the calibration, as per the manufacturer's instructions.

NOTE:

The enclosed space entry drill is not normally witnessed during a PSC exam. However, if the drills have not been performed as per reference (e), witness the drill, ensuring the proposed drill does not pose a safety risk to the crew or PSC team.

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Chapter 12: Security

Introduction

This chapter discusses the evaluation of a ship's security program, the different security levels and shipboard security procedures, including the roles and responsibilities associated with shipboard personnel and the company. In most cases, the SSO is the main contact for documentation, records and questioning.

The IMO worked with the United States in response to the World Trade Center attacks and implementation of reference (eee), Maritime Transportation Security Act (MTSA) of 2002, which led to Parts 101 to 106 of reference (j), 33 CFR, and ISPS regulations. The regulations are similar because they were written concurrently.

In This Chapter

This chapter contains the following sections:

Section	Title	Page
A	Security Plan	12-2
B	Security Levels & Access Control	12-4
C	Security Procedures	12-6
D	Security Roles	12-10

Section A: Security Plan

A.1. Overview

The following sections encompass the evaluation of a ship's security program per the general requirements of reference (e), SOLAS; reference (u), The International Ship and Port Facility Security (ISPS) Code; and reference (j), 33 CFR Part 104. In most cases, the SSO is the main contact for documentation, records and questioning.

A.2. Applicability of Regulations

The ISPS Code, reference (u), is subject to reference (e).

- Part A – Mandatory section, there are numerous regulations in this part that state, “taking into account the guidance given in part B of this guide.” If the specific regulation/requirement is listed in part B, it is up to the administration of the ship to enforce it or not on their ships. The specific requirements that the ship is required to follow are listed in their Ship Security Plan (SSP). See Section 13, for details on expanding into the SSP.
- Part B – Recommended section. The guidance given in Part B of reference (u), is to be taken into account when implementing the regulations in reference (e), and the mandatory provisions in Part A.

Navigation and Navigable Waters, 33 CFR, reference (j), Part 104:

- Foreign Vessels that have a valid International Ship Security Certificate confirming that the verifications required by Part A, Section 19.1 of reference (u), have been completed, are deemed in compliance with reference (j), Part 104, **except for:**
 - 104.240 Maritime Security (MARSEC) Level coordination and implementation.
 - 104.255 – Declaration of Security.
 - 104.292 – Additional requirements for passenger ships and ferries.
 - 104.295 – Additional requirements for cruise ships.

NOTE:

33 CFR regulations use the term “vessel”, such as vessel security officer, vessel security plan, versus the ISPS Code that uses the term “ship”, such as ship security officer, ship security plan. When you are on an international vessel enforcing the ISPS Code, ensure you are using the correct terminology.

A.3. SSP

A foreign ship's SSP is:

- Protected from unauthorized access.
- Approved by the administration.
- "Clear grounds" is established before asking the ship master or SSO for permission to see the SSP. Clear grounds is limited to the specific section of the SSP that you call into question. Regardless of established clear grounds, the sections listed in reference (u), ISPS Code, Part A, 9.8.1, are considered confidential information and cannot be accessed without approval from the contracting governments concerned, such as the Flag State. Clear grounds criteria is not established by a single requirement, such as, "Crewmember didn't check 100% of IDs."
 - Why is it important to know what a SSP provides when we are not able to look at that section of the plan?
 - It is extremely important that you are proficient in the required parts of a SSP since in many cases, you are not be able to look at the SSP.
 - Noncompliance with the ISPS Code is discovered by interviews or scenarios, eyewitness inspection of procedures in place, and the strict consultation of all available guidance, including the appropriate job aid.
 - In the ISPS Code, clear grounds is based on evidence or reliable information or a report.
 - Rely upon documenting the behavior that you see during the exam with your knowledge of the ISPS Code. Behavior such as unattended posts, multiple access points to restricted areas, lack of evidence of visitor control or package screening, which you carefully document as evidence.

A.4. Non-SOLAS Vessels

Ships that are not subject to reference (e), SOLAS, may comply with the Alternative Security Program in reference (j), 33 CFR Part 104, a bilateral arrangement approved by the Coast Guard or they must meet the regulations in Parts 101-104 of the 33 CFR.

If a ship is required to meet MTSA regulations, then their SSP is approved by the Coast Guard and is available for full inspection by the USCG during examinations.

Section B: Security Levels & Access Control

B.1. Crewmember Positions

When dealing with security, there are three types of crewmembers onboard the ship:

- Ship Security Officer.
 - Ship Personnel with security duties.
 - Ship Personnel without security duties.
-

B.2. Sample Questions for Ship Security Officer

Sample questions to ask the ship security officer:

- How often is the security equipment calibrated?
- How do you coordinate security activities with the port facility?
- When would you limit shore to ship access to only one access point?
- How often do you audit security activity?
- Who is the Company Security Officer?
- Do you have 24/7 contact information for this person? (Ask to see information.)
- How often do you hold security drills, training, or exercises?
- When was the last time you conducted a security drill, training session or exercise?
- How do you report security breaches or incidents?
- What do you do if someone tries to bring an unauthorized weapon on board the ship? Dangerous substance? Dangerous device?
- How do you prevent unauthorized persons from coming on board?
- Who on board is assigned security duties?
- When was the last time the SSP was reviewed?
- Was it updated? (Ask to see record of the update, but NOT the plan.)
- What do you do to search persons and their belongings when they come on board?

- What are your procedures to search unaccompanied baggage? How do these become more rigorous if security level increases?
 - How do you monitor the security of the ship when underway? When pierside? At anchor?
 - Do you have procedures in place to bring on board additional security personnel? Describe those procedures.
 - Do you have procedures in place to ensure security for cargo handling? Describe those procedures.
 - How do you safeguard the SSP?
-

B.3. Sample Questions for Crew with Security Duties

Sample questions to ask crewmembers with security duties:

- Who is the Ship Security Officer?
 - When was the last time you participated in a security drill, training session, or exercise?
 - How do you report security breaches or incidents?
 - What do you do if someone tries to bring an unauthorized weapon on board the ship? Dangerous substance? Device?
 - How do you prevent unauthorized persons from coming onboard?
 - What do you do to search persons and their belongings when they come onboard?
 - What are your procedures to search unaccompanied baggage?
 - How do you monitor the security of the ship when underway? When at pierside? At anchor?
-

B.4. Sample Questions for Crew without Security Duties

Sample questions to ask crewmembers without security duties:

- Who is the Ship Security Officer?
 - What do you do if you come across a suspicious package?
 - What do you do if you come across an unauthorized person onboard the ship?
 - What is your responsibility if there is a security incident onboard?
-

Section C: Security Procedures

**C.1.
ISPS/MTSA
Requirements**

Verify access control to the ship, to include:

- Guards/watchstander at opened side shell doors.
- Interface between shore and ships, Declaration of Security (DOS), if required.
- Crew knowledge with respect to ship security.
- Measures in effect to prevent weapons, dangerous substances, and devices from getting onboard.
- Screening of passengers, crew, and associated luggage.
- Screening of stevedores, shore personnel attending the ship.
- Cargo supply screening.
- Security communications.
- Gangway watch checks the identity of all persons seeking to board the ship and confirming their reasons for doing so by checking joining instructions, passenger tickets, boarding passes, work orders, etc.

NOTE:

Although not a requirement, the industry standard is to have a physical gangway watch. A ship is required to monitor access control as per their approved SSP. Simply not having a gangway watch does not meet “clear grounds.” However, if the exam team is able to access restricted areas, such as the bridge, steering gear, or engine room, then clear grounds have been met to expand the security exam into the ship’s requirements for access control.

NOTE:

Properly identified law enforcement officials on official business are not to surrender their government issued ID cards or firearms, and are exempt from baggage and government vehicle searches. The access needs of law enforcement officials are not always adequately addressed by the SSP. Therefore, do not attempt to “test” security procedures by fabricating or refusing to show credentials or by simulating the smuggling of prohibited items in baggage or government vehicles.

C.2. Security Aspects

Verify the ship's security program per the general requirements in reference (e), SOLAS; reference (u), The International Ship and Port Facility Security (ISPS) Code; and reference (eee), Maritime Transportation Security Act (MTSA) of 2002, as applicable for the ship as outlined in reference (b), MSM II, D, for targeting and exam policy, paying particular attention to:

- Performance of ship security duties.
- Access control to the ship.
- Control of embarkation of persons and their effects.
- Authorized access to and monitoring of restricted areas.
- Monitoring deck areas and areas adjacent to the ship.
- Supervision of the handling of cargo and ship stores.
- Ready availability of security communications.

The following is also checked:

- Verify records are protected against unauthorized access.
- Spot-check the SSO's knowledge by asking relevant questions about the security personnel, procedures, and training.
- Spot-check a crewmember with security responsibilities' knowledge by asking them questions about the security personnel, procedures, and training.
- Ship's ability to change MARSEC or ship's security level at any given time.

C.3. Access to Restricted Areas

Verify the following:

- Authorized access to and monitoring of restricted areas.
- Signage is posted at entrance.

C.4. Other Items

Confirm the following security documents:

- International Ship Security Certificate. If interim, confirm it is issued for the reasons listed in reference (u), Part A, 19.4.1.
- Intermediate endorsement, on either the second or third anniversary of the expiration date.
- CSR on board, verify it has been kept up-to-date.
- Verify STCW crew familiarization. Ensure the following:

- Familiarization is conducted by SSO or equally qualified person.
- Seafarers with designated security duties received the security familiarization before being assigned such duties.
- Before being assigned to shipboard duties, all crew members possess security-related familiarization training, to be able to:
 - Report a security incident, including piracy or armed robbery, threat, or attack.
 - Know the procedures to follow when they recognize a security threat.
 - Take part in security-related emergency and contingency procedures.
- DOS, if applicable.
 - ISPS states it is required, as per the contracting government.
 - Ships must conduct a DOS as per reference (j), 33 CFR Part 104.255. Those required to complete a DOS include cruise ships, transporting Certain Dangerous Cargo (CDCs) in bulk at MARSEC 1; all other ships at MARSEC 2/3.

NOTE:

MARSEC level definitions correspond with security levels in the ISPS code.

**C.5.
Hull Markings**

IMO number is marked accordingly on the outside and inside of the ship.

**C.6. LRIT of
Ships**

LRIT was developed as a means of enhancing maritime security by providing information on ship identity and its current location in sufficient time for the contracting government to evaluate the security risk posed by a ship off its coast and to respond, if necessary. Contracting governments can request LRIT information from foreign-flag ships transiting within 1,000 nautical miles (NM) of their coasts or intending to enter their ports.

Ships are required to transmit LRIT information four times daily and at six-hour intervals. This LRIT information includes:

- The ship's identity.
- The ship's location, latitude and longitude.
- The date and time of the position.

Every ship has to have a LRIT conformance test. Failure to have it is grounds for a detention. It is a one and done test that does not have to be updated unless the specifics of the ship change.

See reference (e), SOLAS, for regulatory requirements.

**C.7.
Ship Security
Alert System
(SSAS)**

Every ship is required to have a SSAS to initiate and transmit a ship-to-shore alert.

- The SSAS is capable of activation from the navigation bridge and at least one other location.
- Verify the SSO is able to provide records of testing the SSAS.

NOTE:

Physical locations of activation points are confidential and not privy to PSC personnel.

**C.8. Security-
Related Records**

Training, drills and exercises.

- Security threats and security incidents.
- Breaches of security.
- Changes in security level.
- Communications relating to the direct security of the ship, such as specific threats to the ship or port facilities the ship is in, or has been in.
- Internal audits and reviews of security activities.
- Periodic review of the ship security assessment.
- Periodic review of the SSP.
- Implementation of any amendments to the plan.
- Maintenance, calibration and testing of any security equipment provided on board, including testing of the SSAS. Testing procedures are not authorized to be viewed by PSCEs without contracting government approval.

NOTE:

Ensure the records and SSP are protected from unauthorized access. The length of time records are required to be onboard is determined by the administration.

Section D: Security Roles

D.1. SSO Ensure the SSO has the proper endorsement or credentials, as per reference (g), STCW.

**D.2. All
Shipboard
Personnel** Ensure all seafarers have security-related training and instruction, as per reference (g).

Chapter 13: Safety Management

Introduction

This chapter discusses the principles of safety management and assists the PSCE with verifying the effectiveness of the ship's SMS. Safety management focuses on the development and effective implementation of a safety and environmental protection policy. The ship's SMS is the collection of policies and procedures used to carry out that policy.

In This Chapter

This chapter contains the following sections:

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A	SMS Requirements	13-2
B	Verifying Compliance	13-5
C	Reviewing the SMS Audit Report	13-8

Section A: SMS Requirements

A.1. Overview Reference (e), SOLAS, implements the ISM Code, which provides the regulatory requirements for the SMS. It is applicable to all ships carrying 12 or more passengers internationally, and cargo ships of 500 GT and upwards.

A.2. Certificate Requirements The PSCE verifies that the ship has a valid DOC and SMC, as per Code 13 of reference (v), International Safety Management (ISM) Code, IMO Resolution A.741(18). The DOC is issued to the company responsible for the day-to-day operation of the ship, and attests to that company complying with reference (v). The DOC is issued for a period of up to five years, by the administration or RO, and is subject to an annual verification.

NOTE: **The DOC onboard the ship is a copy, not the original certificate.**

The SMC attests to the shipboard management operating as per an approved SMS. The SMC is issued for a period of up to five years, by the administration or RO, and is subject to a mid-period verification between the second and third year of the certificate anniversary.

Additionally, ships are subject to internal safety audits performed by the company or by auditors on behalf of the company, in periods not to exceed 12 months, as per reference (v).

A.3. ISM Code Reference (v), is straightforward with clearly defined regulatory categories that an approved SMS is supposed to include.

These consist of:

- **Regulation 1** contains definitions, SMS objectives, and practical requirements the SMS addresses. When verifying practical requirements for a SMS, be mindful of the functional requirements provided in 1.4. These include:
 - Procedures to ensure safe operation and protection of the environment.
 - Defined organizational structure and communication.
 - Emergency procedures.
 - Procedures for reporting casualties and nonconformities.
 - Auditing provisions.

- **Regulation 2** is the company's safety and environmental protection policy.
- **Regulation 3** requires the name of the company responsible for day-to-day operations of the ship – the company listed on the DOC – to the administration.
- **Regulation 4** requires a designated person, sometimes referred to as the DP or DPA – designated person ashore. The DP is an essential safety and environmental position, and needs to have access to the highest levels of management within the company. The DP is independent from the port captain, port engineer, or superintendent positions, as those have a vested interest in the ship meeting operational and cost metrics.
- **Regulation 5** provides the expectations for the master's responsibility and authority. The master is the most knowledgeable person onboard regarding the SMS, and occupies a critical position with its implementation, and communications between the ship and shore-based management. Additionally, this regulation recognizes the master's judgement/discretion in safety and environmental matters where the SMS is silent or would make the situation worse.
- **Regulation 6** requires the ship be manned with appropriately qualified and credentialed seafarers. It also is the primary regulation for crew training and understanding of the SMS, including the requirement for the SMS to be in the working language of the crew.

NOTE:

The entire crew often does not have, nor does it need, access to the SMS in its entirety. Rather, there are some procedures applicable to all, such as emergency procedures, with other sections that are based upon position, for example the navigation section for deck officers, deck maintenance section for the bosun, and fuel procedures for engineering officers.

- **Regulation 7** is frequently used for key shipboard operations, such as navigation, cargo operations, and engineering procedures.
- **Regulation 8** relates to emergency preparedness, identification of hazards, and drills. It can include general information, such as how to abandon ship. It can also include potential emergencies and appropriate responses for cargoes carried, routes transited, and types of ports visited.

- **Regulation 9** requires reporting and analysis of nonconformities, accidents and hazardous occurrences. Many companies have in place a forum for reporting safety issues, including near misses and safety suggestions. However, reporting alone is not enough. The ultimate goal of a functional SMS is continual improvement concerning safety and environmental protection. Continual improvement entails the ship/company identifying nonconformities and areas where the SMS is outdated or ineffective. Once identified, analysis is used to determine why the issue exists and its extent. Appropriate changes are recommended, implemented, and analyzed for effectiveness. In other words, there is a feedback loop. Therefore, if no nonconformities are identified, then the SMS cycle is incomplete.
- **Regulation 10** is one of the most-used by PSCEs, as it requires the ship be maintained as per regulations such as SOLAS, MARPOL and the SMS. It also provides for maintenance systems.
- **Regulation 11** provides for collection of the SMS into controlled documents, such as documents with current revision dates, into locations where they are known and used as required by the crew. The SMS can be referred to as a safety management manual, or can be kept separately under other titles.
- **Regulation 12**, referred to previously in section [A.2 Certificate Requirements](#) of this chapter, requires the company to perform internal audits on board and ashore at intervals not exceeding 12 months. Additionally, it makes provision for what is to be audited, who is to conduct the audits, and for corrective actions.
- **Regulation 13 and 14** concern certification requirements for the DOC, SMC, and interim certificates. Interim certificates can be issued when a company assumes a new ship class or type of operation, or when a ship changes ownership or management. The interim certificates effectively recognize that a SMS has been provisionally approved, but recognizing that it takes time to develop and implement a fully-functional SMS. An interim DOC can be valid up to 12 months, and an interim SMC up to six months.

NOTE:

The interim SMC can be extended an additional six months by the administration.

- **Regulation 15** refers to how the SMS verification audits are to be conducted.
 - **Regulation 16** provides for the form of the DOC and SMC.
-

Section B: Verifying Compliance

B.1. Overview During a typical PSC examination, the PSCE inspects the DOC and SMC during the document check. If no operation or technical deficiencies are identified during the other portions of the examination, there is no need to go into the SMS, as the DOC and SMC will be accepted as proof of conformity to reference (v), International Safety Management (ISM) Code, IMO Resolution A.741(18). However, there can be instances when it is advisable to expand the PSC examination to review specific SMS procedures.

B.2. When to Expand into SMS Procedures Reference (fff), Guidelines for Port State Control Officers on the International Safety Management (ISM) Code, MSC-MEPC.4/Circ.4 (series), summarizes the extent of SMS verification during a PSC exam. Annex 1.3 states, “PSCOs do not perform safety management audits. PSCOs conduct inspections, such as examinations of ships, which are a sampling process and give a snapshot of the vessel on a particular day.”

The PSCE is to exercise judgement when deciding to expand. For example, a single burnt-out lightbulb might simply need replacement, because lightbulbs do not have a definite “replace by” date or indicators that they are nearing the end of their service life. Asking to see documentation related to lightbulb servicing in this instance would be excessive. Therefore, when the PSCE decides the identified operational or technical deficiencies warrant expanding the examination into SMS procedures, the PSCE focuses on those procedures related to the observed deficiencies. For example, significant deterioration of a lifeboat davit system could entail reviewing the maintenance procedures and frequency in the SMS.

In contrast with the PSCE’s examination, an audit is more substantial. During an audit, several shipboard processes are audited, personnel questioned, and the findings are documented in an audit report and briefed to the auditee, with an appropriate follow-up period to address non-conformities.

Reference (ggg), Guidelines on Implementation by Administration, International Maritime Organization (IMO), Resolution A.1071(28), provides educational and technical standards for lead auditors to meet, including:

- Qualification from an administration-recognized institution in a relevant field of engineering or physical science.
- Qualifications from a marine or nautical institution and relevant seagoing experience as a ship's officer.
- ISM training.
- At least five years of experience in areas relevant to the technical or operational aspects of safety management, and participation in at least three initial or renewal verifications.

NOTE:

When a decision to expand an examination to include SMS procedures is made, it is recommended that PSCEs consult with a knowledgeable member of their office who has experience with ISM audit observation and if possible, a Coast Guard internal auditor designation.

B.3. What to Review

Per reference (hhh), Port State Control Guidelines for the Enforcement of Management for the Safe Operation of Ships (ISM Code), Navigation and Vessel Inspection Circular (NVIC) 04-05, provides guidance on how to expand the examination in the SMS when a technical or operational deficiency is identified. A good vantage point to approach this expansion into the SMS is to start with the deficiency and try to determine if they are addressed by the SMS through a series of questions and considerations. Other deficiencies that are operational in nature, related to safety of personnel, the ship and environment can have a slightly different approach to the inquiry.

B.4. SMS Non-Conformities and Control Actions

A non-conformity (NC) is the non-fulfillment of a specified requirement as per reference (v), International Safety Management (ISM) Code, IMO Resolution A.741(18), or the ship's SMS. NC are addressed differently than operational or technical deficiencies. Deficiency correction usually entails "fixing" or providing something, such as replacing or repairing equipment, or updating a muster list. By contrast, NC often require analysis to determine the cause of the problem, could entail changes to procedures, a period of management review, implementation, and confirmation that the changes were effectively implemented. ROs typically provide companies three months to implement corrective actions. When NC are identified by the PSCE, the PSCE can require an internal audit. During a subsequent examination a few months after issuing the ISM-related deficiency, the PSCE can verify that the internal audit was performed, and verify that effective corrective actions were implemented.

NOTE: **The PSCE does not have authority to examine internal audit reports, just to verify that they were performed.**

Major NC are those that pose a serious safety threat or risk to the marine environment and require immediate corrective action, or those that indicate lack of effective, systematic implementation of reference (v), International Safety Management (ISM) Code, IMO Resolution A.741(18). Major NC are detainable per Appendix 8 of reference (d), PPSC. When detaining due to an ISM-related deficiency, the PSCE can require that an external audit be performed prior to departure. The PSCE examines the external audit report to determine if the auditor recognized the detainable ISM deficiencies as major NC, what immediate corrective actions were taken, and what, if any, additional NC and were observed. This chapter discusses how to review the external SMS audit report in [Section C: Reviewing the SMS Audit Report](#).

Section C: Reviewing the SMS Audit Report

C.1. Overview At the conclusion of a SMS audit, the lead auditor provides a copy of the audit report to the party who requested the audit and briefs the findings. It is recommended that PSCEs consult with a knowledgeable member of their office who has experience with ISM audit observation, and, if possible, attend the external audit as an observer.

C.2. What to Look For As discussed in [Section B: Verifying Compliance](#), of this TTP, the PSCE does not have authority to examine internal audit reports, but does have authority to review external audit reports, issued by the RO or administration. When the PSCE requires an external audit as part of an ISM-related detention, he or she reviews the audit report.

A cursory review of the audit report verifies who conducted the audit, when the audit was conducted, and the reason for the audit. Additional details include:

- A summary of the audit.
- Who participated in the audit.
- The extent of the audit.
- What activities were audited, or what activities the audit was limited to.
- Findings from the audit.
- Major NC, if applicable.
- NC, if applicable.
- Observations.
- Period for the company to propose/take corrective actions (CA).
- Immediate CA taken, or required to take to address an ISM-detention.

C.3. CAs The external auditor can be from the same RO that the ship is classed with. However, ensure the audit report reads differently than a class report, because the auditor is not acting in a surveyor capacity. A class surveyor can identify technical or operational deficiencies and issue a condition of class, to be addressed in a certain manner, by a certain period, to remain in good standing with that organization. However, CA are proposed and taken by the company, after reviewing the audit report, conducting additional internal investigations as needed to substantiate the report and the extent of the NC, and to determine what process changes need to take place to effectively address the issue.

When reviewing an audit report and subsequent documentation required by an ISM detention, the PSCE notes what immediate corrective actions were taken to address the major NC. NC with a longer period of correction can be followed up with in a subsequent examination a few months later, to determine whether CA were taken, and their effectiveness.

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Chapter 14: PSC Enforcement

Introduction

This chapter provides guidelines for the application and enforcement of regulations during a PSC examination, followed by appropriate methods for documenting and reporting the examination's outcomes.

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Section A: Expanding the Exam

A.1. Overview

When deficiencies are observed during the course of the examination, it can be necessary to expand the examination to determine the extent, cause and possible effects on other equipment, people or processes. Questions to ask include:

- How did this item become non-compliant with the regulations?
- How long has the crew known about it?
- What steps are they taking to address the deficiency?
- How serious is the deficiency, and is it safe/prudent to allow the ship to depart prior to correction?

Consider that even ships with good maintenance programs occasionally experience equipment failures and deficiencies. This is where critical thinking comes into play. Ask yourself what is the nature and scope of the deficiency. For example, a burnt-out emergency lightbulb can simply be replaced to address the deficiency. However, multiple emergency lights that do not work can indicate a lack of maintenance or an electrical problem. Compare systemic problems or similar deficiencies that can in turn relate to the ship's safety management system.

A.2. When to Expand

When clear grounds exist, expand the examination. Reference (b), MSM II, D1, defines clear grounds, which is related to the term nonconforming ship, as evidence that the ship, its equipment or crew are in nonconformance with regulatory requirements. Expanded exams need to focus on areas where clear grounds have been established, and not delve into other systems or processes unless the PSCO's observations or impressions clearly lead there. Reference (b), D1, provides examples and questions to ask crewmembers during an expanded examination. Also consider Appendix 2 of reference (d), PPSC, and reference (b), D2, when evaluating the severity of a deficiency and determining appropriate actions.

A.3. How to Expand

How to expand the examination is dependent upon the circumstances. In general, start with "what" or "how many/how much" to determine the extent of the issue. For example, if a fire hose leaks during testing, test another fire hose. If that hose leaks, test additional fire hoses. If it becomes apparent that the issue is much larger than initially thought, for example four of five fire hoses tested leak, consider contacting the RO to witness additional testing.

The next step is to determine “why” the hoses are leaking:

- Are they poorly maintained, for example, are they not allowed to dry properly or have excessive exposure to heat or the elements?
- Are they of questionable manufacture, for example, are brand new hoses leaking?
- Is the water pressure too high?

Also, try to determine if the crew was aware that the hose leaked and whether they attempted corrective action.

Finally, if the issue warrants expanding into the ship’s safety management system, determine:

- If procedures are in place.
- If the crew is following them, and if not, why.

Bear in mind that reference (v), International Safety Management (ISM) Code, IMO Resolution A.741(18), does not require procedures for every single function or piece of equipment on the ship. Be reasonable when considering whether a document would be necessary for key shipboard operations or maintenance of the ship and equipment. See [Chapter 13: Safety Management](#), of this TTP for additional guidance.

Section B: Deficiency Writing

B.1. Overview	<p>Written deficiencies provide a record of the observed conditions identified during the PSC examination. The PSCO documents deficiencies whenever requiring a correction to address the issue, including corrections made in response to the PSCO's comments during the course of the examination, such as adjusting fire doors to latch properly, documented as action code 10.</p>
B.2. Conditions of Class	<p>Generally, if the ship brings a current, outstanding condition of class to the PSCO's attention, a deficiency is not issued, because the ship's certificate issuing authority is already aware of the issue, and has determined a pathway to compliance. However, the PSCO can request to view the outstanding conditions, if accessible, to confirm that the problem was appropriately identified and effective interim measures are in place.</p>
B.3. Storm Damage	<p>Damage sustained due to weather conditions/sea state during transit to the port of examination needs to be assessed to ensure that appropriate safety measures are enacted. However, care needs to be taken to document the damage as such that it does not unnecessarily identify the damage as a pre-existing condition due to lack of maintenance or actions on the part of the crew. Damage affecting load lines, safety equipment, or machinery that can negatively impact the safety of the ship or crew needs to be documented, and the certificate issuing authority brought onboard for an assessment. However, in this instance, detention would be inappropriate.</p>
B.4. Requirements for Deficiency Writing	<p>Reference (b), MSM II, D1, provides policy for deficiency writing. PSCOs must document deficiencies on the U.S. Coast Guard Port State Control Report of Inspection, Form CG-5437B, providing a description of the deficiency in a direct, succinct statement that contains two elements:</p> <ul style="list-style-type: none">• The regulatory standard the ship does not meet.• Why the ship does not meet the regulatory standard. <p>List deficiencies on the Form B in order of severity, with the most severe first. Generally, these correspond with action codes, such as 30, 17, 40. If multiple deficiencies have the same action code, categorize according to the perceived level of consequence, for example non-functioning lifeboat davit versus a few spoiled lifeboat rations. Prior to issuing the deficiency, read it in its entirety to ensure:</p>

- Applicability to the ship.
- That it clearly identifies how the ship or crew did not meet the standard.
- The regulation is cited correctly.
- That the action code is reasonable and issued to the right parties to verify correction. Generally, the certificate issuing authority, and in the case of severe deficiencies that require correction prior to departure, the USCG.

**B.5. Deficiency
Description
Examples**

CG-CVC's monthly Chief, Inspection Division (CID) notes, available on the CG-CVC-1 CG Portal site, under the Domestic Vessel Inspections Library, [Archive of monthly CID notes](#); the PSC Historical Message Log, available on the CG-CVC-2 CGPortal website, under the PSC Policy and Guidance, policy folder, [PSC historical message log](#); and [recent CID notes](#) available on the CG-CVC's Mission Management System site, all provide examples of well-written PSC deficiencies. A couple of examples follow:

1. Rescue boat shall be stowed in a state of continuous readiness for launching in not more than five minutes. The davit used for launching the rescue boat and davit launched inflatable liferaft was not operating properly. The davit continuously lost hydraulic pressure within approximately one to two seconds when the slewing control was activated; Total slewing time of six minutes from stowed to launch position. The slewing time from the stowed rescue boat position to the davit launched liferaft stowed position was approximately eight minutes. The intermittent operation of the davit hydraulics delays the launching of the rescue boat and inflatable liferaft beyond the time allowed. Cite: Reference (e), SOLAS (14) III/14.1. (17ac)
 2. While ships are operating within an emission control area, the sulphur content of the fuel oil used onboard ships does not exceed 0.10 percent m/m (mass of sulphur dioxide per total mass of the emission) after 01 January 2015. Bunker delivery notes showed for a period of over two years, from 02 March 2016 to 11 July 2018, the range of sulphur content from 0.30 % m/m to 0.318 % m/m. This fuel oil was being used within the United States Caribbean Sea Emission Control Areas. A sample tested by a third party fuel supplier confirmed that last product bunkered was above the permissible limit. Cite: Reference (h), MARPOL VI/14.4.3 (30ac).
-

Section C: Control Actions

C.1. Overview

Control actions need to be based upon relevant laws, regulations or conventions. Applicable U.S. laws and regulations, such as Chapter 701 of reference (gg), Shipping 46 U.S.C., and Chapter 25 § 1221 of reference (vv), Navigation and Navigable Waters, 33 U.S.C., provides domestic authority for the USCG to exercise control over ships, both U.S. and foreign, in areas subject to U.S. jurisdiction.

C.2. International Control Authorities

To place control actions on a ship under international regulations, the U.S. has to be signatory to the applicable convention that those regulations are under. Furthermore, the PSCO has to ensure that the regulations are applicable to the ship. Reference (b), MSM II, D2, provides a list of international conventions, and the PSC regulatory (control) authorities for those conventions. These control authorities are also found in reference (d), PPSC. Some authorities, such as reference (e), SOLAS, or Article 21 of reference (q), International Convention on Load Lines (ILLC), 1966, as Amended by the Protocol of 1988 Convention, are relatively straightforward. Others, such as reference (r), Merchant Shipping (Minimum Standards) Convention, 1976, International Labour Organization (ILO), C147, require additional support.

NOTE:

Most flag states are now signatory to the MLC, but the U.S. is not. Because the U.S. is not signatory to the MLC, the USCG lacks authority to enforce the provision stated on the ship's MLC certificate, and cannot write MLC deficiencies. However, the U.S. is one of a dwindling number of flag states signatory to reference (r), which is incorporated, along with other labor conventions, in the MLC. Therefore, the USCG can enforce the ILO C147 provision on ships that are signatory to the MLC. To do so, the PSCO must also cite the PWSA, 46 USC 70002, per reference (r), and reference (ff), The Merchant Shipping (Minimum Standards) Convention, 1976 (ILO 147) and Port State Control (PSC), COMDTINST 16711.12A (series), as ILO 147C lacks its own enforcement provisions. See [Chapter 6: Crew Accommodations](#), in this TTP, for additional guidance.

C.3. Control Options

Deciding which control action(s) to apply is dependent upon the circumstances, and needs to take into account perceived risk and consequences to the ship, port, and environment. As a general rule, if the risk or consequences entail coordination of resources, or resides with higher decision-making authority than the PSCO, then an accurate description is briefed up the chain of command as soon as needed to allow for actions to be taken in a reasonable time. In other words, don't be the highest ranking person holding on to that information if it needs to go further.

Reference (b), MSM II, D2, provides examples of control actions, with deficiencies and circumstances that can warrant a particular control, for example, an incomplete NOA can warrant denial of entry until the required information is provided and vetted, while a ship with a nonworking radar can be issued a Letter of Deviation (LOD), requiring daylight transit in fair weather. For egregious offenses that violate U.S. laws and regulations, civil penalties can also be imposed. However, in the PSC examination program, civil penalties are the exception, not the rule. The PSCO's unit needs to exercise temperance and discretion when assigning control actions which could have tremendous associated costs and delays.

NOTE:

On rare occasions, it might be necessary for the PSCO to take immediate action for the safety or security of personnel, for example, halting cargo operations when a potentially life-threatening issue is observed. In this type of situation, the PSCO is to contact the unit as soon as it is safe to do so.

C.4. Detention

Detention is a significant control action, reserved for substandard ships, or ships presenting substandard conditions, with the additional repercussions of notifying the IMO of the action. PSC Authorities have access to the information, which is shared on the EQUASIS database, accessible via account login, or, to USCG members, via MISLE, under the external links tab for the ship. Deficiencies which warrant detention are listed in Appendix 2 of reference (d), PPSC, and reference (b), which also contains the procedures for detention reporting.

C.5. Detention Review and Reporting

Unit detention review and reporting policy is provided in D2 of reference (b), MSM II. The PSCO's unit conducts the first level of review, often at the CID level. The unit verifies that Form A is accurately completed, with ship details, owner, operator, charterer addresses – and IMO numbers, if applicable – and relevant certificates. These details can be confirmed with the NOA and CSR. Additionally, the unit reviews the Form B, ensuring deficiency-writing requirements in D1 of reference (b), and this chapter are met, and each detention deficiency clearly and objectively describes a detainable deficiency provided for in Appendix 2 of reference (d), PPSC.

The unit is also responsible for accurately documenting the examination, and the factors which led to the decision to detain, in the MISLE activity. More follows in [Section D: Documentation & Reporting](#), of this chapter. Once the unit completes detention review, it makes the notifications required in reference (b), MSM II, D2. It is recommended that units employ their district's prevention staff inspections and investigations branch (dpi) to further review the detention and associated MISLE activity prior to making the required notifications.

NOTE:

Photographs and videos, scanned into the MISLE activity's documents, are useful for showing detention reviewers the observed conditions that were present during the examination. Along with the narrative, they paint the picture that supplements the deficiency descriptions on the Form B, helping reviewers to understand why the decision was made to detain, particularly when the deficiency description doesn't clearly articulate how the ship's condition met the threshold for detention.

When the required notification is received, the Coast Guard Office of Commercial Vessel Compliance, Port State Control Division, (CG-CVC-2), conducts detention validation per reference (b), D3, and reference (iii), USCG Office of Commercial Vessel Compliance (CG-CVC) Mission Management System (MMS) Procedures, CVC2-PR-002 (series). The detention review board reviews the Form A and B, MISLE activity details and additional correspondence requested by CG-CVC-2. On occasion, poorly justified detentions, those with non-applicable detention cites and those that do not meet the criteria in reference (d), PPSC, Appendix 2, have been invalidated by CG-CVC-2. When the decision to invalidate is made, the unit is notified via their district (dpi) staff.

If the detention is borderline, due to insufficient justification, the unit can be provided with an opportunity to submit photographs, if not previously provided, and to provide more substantial detail in the MISLE activity narrative.

C.6. Appeal

CG-CVC is the final agency office for appeals. CG-CVC-2 responds to two primary types of appeals: Association and merit (validity). Appeals are processed per reference (b), MSM II, D3, and reference (iii), USCG Office of Commercial Vessel Compliance (CG-CVC) Mission Management System (MMS) Procedures, CVC2-PR-002 (series). Appeals transmitted to the USCG via email are acceptable.

C.7. Association Appeals

Association appeals are made directly to CG-CVC-2 from the appellant, often the RO, on the basis that they cannot reasonably be assigned responsibility for the detainable conditions found by the PSCO. For example, a class society might appeal association with a ship detained for a lifesaving equipment deficiency that was identified nine months after the safety equipment survey. In this appeal, the class society provides CG-CVC-2 with documented evidence that the equipment in question was functioning and met requirements on the date of the survey.

C.8. Merit Appeals

Merit appeals follow the process outlined in Subpart 1.03 of reference (mm), Shipping, 46 CFR, and are based upon the premise that the actions taken by the PSCO were applied in error, excessive or inappropriate. The appellant has up to 30 days to appeal an action taken to the cognizant OCMI in writing. The OCMI responds in writing, with the reasons for granting or denying the appeal. If the appellant wishes to go further, an appeal can be made to the cognizant district commander, via the OCMI. The OCMI transmits the appeal to the district (dpi) staff with an accompanying memo, explaining the rationale for denying the appeal. If the district commander denies the appeal, the appellant can appeal to CG-CVC via the district. The district also provides a memo explaining the rationale for denying the appeal, if there are reasons in addition to those provided by the OCMI, and includes appeal correspondence with the OCMI and district. As the final agency office for appeals, CG-CVC responds in writing to the appellant, either granting or denying the appeal. If the appeal is granted, the detention or control actions successfully appealed are removed from the ship's record.

Section D: Documentation & Reporting

D.1. Overview

Accurate and thorough documentation is an essential element of the PSC examination. The USCG's MISLE database is the primary tool for the documentation. The MISLE activity is the encompassing collection of documentation for a particular examination.

In summary, the MISLE activity captures the details of the examination. It includes the following information:

- Who.
- What.
- When.
- Where.
- Why.
- How.

It contains legal records of the Coast Guard's involvement with regulated parties, maritime stakeholders, and the public. Redacted versions of these records are also available to the public via the Port State Information Exchange and in greater detail through the Freedom of Information Act process. Considering these facts, PSCEs need to ensure that MISLE activity work is accurate, appropriately records the examination details, and is well-written and free of careless errors. Ensure units have documented quality review processes in place, which are per MMS procedures.

D.2. Document the Examination

The MISLE 5.0 Training Materials tab on CGPortal provides access to user guides with step-by-step procedures for navigating MISLE. The MISLE Vessel Users Guide, located in the Vessels folder, and the Vessel Inspection User Guide, located in the Activities folder, is referred to when users are unfamiliar with a particular feature or category in MISLE.

Prior to the PSC examination, in conjunction with the ship screening process, a MISLE activity is opened for the ship, with the estimated date, time and location of the examination, and a team lead is assigned. Following the examination, or in the case of an expanded examination where one or more operation controls are assigned, or deficiencies are issued with correction required prior to departure, the MISLE activity is to be populated further by a team member.

NOTE:

The lead PSCO for the examination is responsible for the content of the MISLE activity.

Documentation is recorded in two locations: Vessel details, and in the activity itself. In vessel details, select “edit vessel” and, at a minimum, update the following tabs:

- General information.
- Identifications.
- Propulsions.
- Associated parties.
- Construction details, such as keel laid, delivery dates.
- Ballast system.
- Tonnage and dimensions.
- Communication and navigation.
- Emergency data.
- Certificates, including the certificate issue and expiration dates, issuing information.
- Special notes.

In the vessel activity, at a minimum, update the following tabs:

- General information.
- Details, such as each examination type and the date performed.
- Locations.
- Associated parties.
- Inspection results.
- Deficiencies, if applicable.
- Radiation details.
- Involved personnel, such as team members.
- Documents, such as Form A and Form B, class reports, other documents generated in the course of the examination are scanned here.
- Operational controls, if applicable.
- Special notes.

Reference (jjj), MMS Work Instruction MISLE Data Entry Requirement for Foreign Vessel Arrivals, Examinations and Operational Controls (series), provides additional information about what is required to successfully complete a MISLE ship inspection activity.

For additional guidance, please refer to [Appendix D: PSCE Pre-Exam Checklist](#).

Appendix A: Glossary and Acronyms

ABS	American Bureau of Shipping.
AIS	Automatic Identification System.
ARPA	Automatic Radar Plotting Aid.
BNWAS	Bridge Navigational Watch Alarm System.
BWM	Ballast Water Management.
CA	Corrective Action(s).
CDC	Certain Dangerous Cargo.
CFR	Code of Federal Regulations.
CG-CVC	Coast Guard Office of Commercial Vessel Compliance.
CG-CVC-2	Coast Guard Office of Commercial Vessel Compliance, Port State Control Division.
CGTTP	Coast Guard tactics, techniques, and procedures.
CID	Chief, Inspections Division.
COE	Conditions of Entry.
COFR	Certificate of Financial Responsibility.
COMDTINST	Commandant Instruction.

COTP	Captain of the Port.
CPP	Controllable Pitch Propeller.
CPREV	Chief of Prevention.
CSR	Continuous Synopsis Record.
DHS	Department of Homeland Security.
DoA	Document of Authorization.
DOC	Document of Compliance.
DOS	Declaration of Security.
DP	Designated person.
DPA	Designated person ashore.
dpi	District Prevention Inspections & Investigations Branch.
DSC	Digital Selective Calling.
EC	European Commission.
ECA	Emission Control Area
ECR	Engine Control Room.
ECDIS	Electronic Chart Display and Information System.
EEBD	Emergency Escape Breathing Device.
EPIRB	Emergency Position Indicating Radio Beacon.
E/R	Engine Room.

FCTE	Foreign Chemical Tanker Examiner.
FFVE	Foreign Freight Vessel Examiner.
FGCE	Foreign Gas Carrier Examiner.
FOUO	For Official Use Only.
FPVE	Foreign Passenger Vessel Examiner.
FSS	Fire Safety Systems.
FTVE	Foreign Tank Vessel Examiner.
FWPCA	Federal Water Pollution Control Act.
GAR	Green-Amber-Red.
GMDSS	Global Maritime Distress and Safety System.
GMT	Greenwich Mean Time, synonymous with Universal Time Coordinated.
GPS	Global Positioning System.
GRT	Gross Registered Tons.
GT	Gross Tonnage.
IACS	International Association of Classification Societies.
IAPP	International Air Pollution Prevention Certificate.
IBC	International Bulk Chemical Code.
IEC	International Electrotechnical Commission.
IGC	International Gas Carrier Code.

ILLC	International Load Line Convention.
ILO	International Labour Organization.
IMO	International Maritime Organization.
IMSBC	International Maritime Sold Bulk Cargoes Code.
INMARSAT	International Maritime Satellite.
IOPP	International Oil Pollution Prevention Certificate.
ISM	International Safety Management Code.
ISPS	International Ship and Port Facility Security Code.
ISSC	International Ship Security Certificate.
ITC	International Tonnage Certificate.
LOD	Letter of Deviation.
LRIT	Long-Range Identification and Tracking.
LSA	Lifesaving Appliances Code.
mm	millimeter.
MARPOL	The International Convention for the Prevention of Pollution from Ships.
MARSEC	Maritime Security Directive.
MED	Marine Equipment Directive.
MEPC	Marine Environment Protection Committee.
MES	Marine Evacuation Systems.

MISLE	Marine Information for Safety and Law Enforcement database.
MITO	Marine Inspector Training Officer.
MLC	Maritime Labour Convention.
m/m	mass of sulphur dioxide per total mass of the emission.
MMS	U.S. Coast Guard Mission Management System.
MMSI	Maritime Mobile Service Identity.
MOU	Memorandum of Understanding.
MRA	Mutual Recognition Agreement.
MSC	Maritime Safety Committee.
MSD	Marine Sanitation Device.
MSM II	The United States Coast Guard Marine Safety Manual, Volume II: Material Inspection (series).
MTSA	Maritime Transportation Security Act.
NAVTEX	Navigational Telex.
NBIC	National Ballast Information Clearinghouse.
NC	Non-conformity.
NM	Nautical Miles.
NOA	Notice of Arrival.
NTVRP	Non-tank Vessel Response Plan

NT	Net Tonnage.
OCM	Oil Content Meter.
OCMI	Officer in Charge Marine Inspection.
ODU	Operational Dress Uniform.
OIC	Officer-in-charge.
OJT	On-the-job training.
ORB	Oil Record Book.
OSRO	Oil Spill Removal Organization.
OWS	Oily Water Separator.
PPE	Personnel protective equipment.
ppm	parts per million.
PPSC	Procedures for Port State Control.
PQS	Performance qualification Standard.
PSC	Port State Control.
PSCE	Port State Control Examiner.
PSCO	Port State Control Officer.
PWSA	Ports and Waterways Safety Act.
QI	Qualified Individual.
RO	Recognized Organization.

RSO	Recognized Security Organization.
SARTS	Search and Rescue Transponder System.
SBT	Segregated Ballast Tank.
SDS	Safety Data Sheets.
SEC	Safety Equipment Certificate.
SFP	Structural Fire Protection.
SMC	Safety Management Certificate.
SMPEP	Shipboard Marine Pollution Emergency Plan.
SMS	Safety Management System.
SOJT	Structured-on-the-Job training.
SOLAS	Safety of Life at Sea.
SOPEP	Shipboard Oil Pollution Emergency Plan.
SPeL	Self-Paced e-Learning.
SSAS	Ship Security Alert System.
SSO	Ship's Security Officer.
SSP	Ship Security Plan.
STCW	International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers.
TTP	Tactics, techniques, and procedures.

UMS Unattended machinery space.

U.S.C. United States Code.

USCG United States Coast Guard.

UV Ultraviolet.

VDR Voyage Data Recorder.

VHF Very High Frequency.

VO Verifying officer.

VRP Tank Vessel Response Plan.

Appendix B: IMO Applicability Chart

IMO Applicability Dates:

Reference	Dates
1974 SOLAS (2014 Consolidated)	
Chapter (I)	All Ships
Chapter (II-1)	01 JAN 09
Chapter (II-2)	01 JUL 02
Chapter (III)	01 JUL 98
Chapters (IV-XII)	All Ships
1974 SOLAS (2009 Consolidated)	
Chapter (II-1)	01 JAN 09
Chapter (II-2)	01 JUL 02
Chapter (III)	01 JUL 98
1974 SOLAS (2004 Consolidated)	
Chapter (II-1)	01 JUL 86
Chapter (II-2)	01 JUL 02
Chapter (III)	01 JUL 98
1974 SOLAS (2001 Consolidated)	
Chapter (II-1)	01 JUL 86
Chapter (II-2, III)	01 JUL 98
1974 SOLAS (1997 Consolidated)	
Chapters (II-1, II-2 Part A,C,D, III)	01 JUL 86
Chapter (II-2 Part B)	01 OCT 94
1974 SOLAS (1981 Amendments)	
Chapters (II-1, II-2, III)	01 SEP 84
1974 SOLAS (Unamended)	25 MAY 80
1960 SOLAS	Prior to 25 MAY 80

<p>74 SOLAS 2014 Consolidated contains all amendments entered into force up-to 01 Jul 14. The following Amendments (resolutions) have entered into force since it was published. www.imo.org MSC 365(93) MSC 366(93)</p>	<p>01 JUL 15 01 JUL 15</p>
<p>FSS CODE (2015 edition) The following Amendments (resolutions) have entered into force since it was published. www.imo.org</p> <p>MSC 206(81) MSC 217(82) Annex 1 MSC 217(82) Annex 2 MSC 292(87) MSC 311(88) MSC 327(90) MSC 339(91) MSC 367(93)</p>	<p>01 JUL 10 01 JAN 08 01 JAN 10 01 JAN 12 01 JUL 12 01 JAN 14 01 JUL 14 01 JAN 16</p>
<p>LSA Code (2017 edition) The following Amendments (resolutions) have entered into force since it was published. www.imo.org</p> <p>MSC 293(87) MSC 320(89) MSC 368(93)</p>	<p>01 JAN 12 01 JAN 13 01 JAN 16</p>
<p>ITC 1969</p>	<p>18 JUL 82</p>
<p>Load Line 1966 Load Line 88 Protocol</p>	<p>21 JUL 68 03 FEB 00</p>

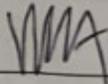
<p>Load Line (2005 edition) contains all amendments entered into force up-to 2003 Amendments. The following Amendments (resolutions) have entered into force since it was published. www.imo.org</p>	
MSC 172(79)	01 JUL 06
MSC 223(82)	01 JUL 08
MSC 270(85)	01 JUL 10
MSC 329(90)	01 JAN 14
MSC 356(92)	01 JAN 15
MSC 375(93)	01 JAN 16
<p>MARPOL 2017 Consolidated contains all amendments entered into force up-to 2011 Amendments. The following Amendments (resolutions) have entered into force since it was published. www.imo.org</p>	
MEPC 190(60)	
MEPC 193(61)	
MEPC 194(61)	01 AUG 11
MEPC 200(62)	01 JAN 14
MEPC 201(62)	01 FEB 12
MEPC 202(62)	01 JAN 13
MEPC 203(62)	01 JAN 13
MEPC 216(63)	01 JAN 13
MEPC 217(63)	01 JAN 13
MEPC 235(65)	01 AUG 13
MEPC 246(66)	01 AUG 13
MEPC 247(66)	01 OCT 14
MEPC 248(66)	01 JUL 15
MEPC 251(66)	01 JUL 15
	01 JUL 15
	01 SEP 15
<p>STCW (2017 edition) contains all amendments entered into force up-to 2011 Amendments. The following Amendments (resolutions) have entered into force since it was published. www.imo.org</p>	28 APR 84
MSC 373(93)	01 JAN 16
MSC 374(93)	01 JAN 16

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Appendix C: Sample ORB Logbook Entry

NAME OF SHIP: SEALAND PHILADELPHIA
 DISTINCTIVE NUMBER OR LETTERS: APPDS
 IMO NUMBER: 9383247
 MACHINERY SPACE OPERATIONS

DATE (dd-MONTH-YYYY)	CODE (letter)	ITEM (number)	Record of operations/signature of officer in charge of operation concerned
02-JUNE-2019	C	11.1	SLUDGE TANK
		11.2	9.1 m ³
		11.3	2.3 m ³
			<u>P. V. Dobush CIE 02-JUNE-2019</u>
02-JUNE-2019	C	11.1	WASTE OIL TANK
		11.2	30.8 m ³
		11.3	8.8 m ³
			<u>P. V. Dobush CIE 02-JUNE-2019</u>
02-JUNE-2019	C	11.1	ME DIRTY L.O TANK
		11.2	36.6 m ³
		11.3	7.1 m ³
			<u>P. V. Dobush CIE 02-JUNE-2019</u>
02-JUNE-2019	C	11.1	INCINERATOR WASTE OIL TANK
		11.2	1.1 m ³
		11.3	0.4 m ³
			<u>P. V. Dobush CIE 02-JUNE-2019</u>
02-JUNE-2019	I		DWS OSM 15ppm ALARM TEST CARRIED OUT
			<u>P. V. Dobush CIE 02-JUNE-2019</u>
03-JUNE-2019	D	13	0.7 m ³ BILGE WATER FROM ENGINE ROOM
			BILGE WELLS
		14	START 10:30 STOP: 11:30
		15.3	TO BILGE SETTLING TANK, RETAINED IN TANK 7.1 m ³
			<u>P. V. Dobush CIE 03-JUNE-2019</u>

Signature of Master: 

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Appendix D: PSC Pre-Exam Checklist

PSC Activity Check Sheet		Activity #:
Vessel Name: _____ Activity Type: _____		
IMO#: _____ Date: _____ Location: _____		
Team Lead: _____ x _____		
Inspectors: _____		
Submitted By: _____ Submission Date: _____		
<input type="checkbox"/> Change Activity Status to "Submitted For Review" <input type="checkbox"/> Enter Casework in Stats		
Case Reviewer: _____ Review Date: _____		
<input type="checkbox"/> Closed "Approved Inspection" (Complete 7 Days from Exam date)		
<p>Complete Within 24 Hours:</p> <p>Activities Tab</p> <p><i>General Information:</i></p> <input type="checkbox"/> Title/Description <input type="checkbox"/> Status <input type="checkbox"/> Point of Contact <input type="checkbox"/> Start Date/Time <input type="checkbox"/> Narrative <p><i>Details:</i></p> <input type="checkbox"/> Inspection Type <p><i>Locations:</i></p> <input type="checkbox"/> Select Facility/Point <p><i>Inspection Results:</i></p> <input type="checkbox"/> Inspection Results <i>(Select Show Security Items Only if only ISPSII)</i> <input type="checkbox"/> Deficiencies (If any) <p><i>Radiation Details:</i></p> <input type="checkbox"/> Radiation <p><i>Involved Personnel:</i></p> <input type="checkbox"/> Local Team Members (√ Lead) <p><i>Special Notes:</i></p> <input type="checkbox"/> Ballast Water Exam Notes <i>(Retention Date +10 years)</i> <hr/> <p>Edit Vessels Tab</p> <p><i>Associated Parties:</i></p> <input type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Class Society <input type="checkbox"/> RSO	<p>Edit Vessels Tab</p> <p><i>General Information:</i></p> <input type="checkbox"/> Vessel Name <input type="checkbox"/> Classification <input type="checkbox"/> Call Sign <input type="checkbox"/> Type <input type="checkbox"/> Flag <input type="checkbox"/> Subtype <input type="checkbox"/> Color: Cabin/SS (<i>Superstructure</i>) <p><i>Identifications:</i></p> <input type="checkbox"/> IMO <input type="checkbox"/> MMSI <p>Propulsion:</p> <input type="checkbox"/> Configuration (<i>Slow speed diesel</i>) <input type="checkbox"/> System (<i>Diesel Direct</i>) <input type="checkbox"/> Ahead/Astern HP (<i>1kw=1.341hp</i>) <p><i>Construction:</i></p> <p>-Details:</p> <input type="checkbox"/> Delivery Date <input type="checkbox"/> Keel Laid Date <p>Hull:</p> <input type="checkbox"/> Hull Color <p>Ballast:</p> <input type="checkbox"/> Type (<i>Water</i>) <input type="checkbox"/> Capacity <input type="checkbox"/> Units (<i>Metric Tons (Liquid)</i>) <p>Tonnage And Dimensions:</p> <p>-Dimensions:</p> <input type="checkbox"/> Length Between Perpendiculars (<i>LBP</i>) <input type="checkbox"/> Design Draft (<i>Summer</i>) <input type="checkbox"/> Deadweight (<i>MT</i>) <input type="checkbox"/> Displacement (<i>MT</i>) <p>-Formal Tonnage:</p> <input type="checkbox"/> Measurement Org. (<i>Class</i>) <input type="checkbox"/> Tonnage Certs √ ITC <p>-Dimensions</p> <input type="checkbox"/> ITC/Convention √ L/B/D -Tonnage - ITC/Convention <input type="checkbox"/> GT ITC <input type="checkbox"/> NT ITC	<p>Edit Vessels Tab</p> <p><i>Certificates: (Deactivate Exp)</i></p> <input type="checkbox"/> Certificate of Registry <input type="checkbox"/> Classification Document <input type="checkbox"/> CSR <input type="checkbox"/> IAPP <input type="checkbox"/> Int. Load Lines <input type="checkbox"/> IOPP <input type="checkbox"/> ISSC <input type="checkbox"/> ISM-DOC <input type="checkbox"/> ISM-SMC <input type="checkbox"/> MSM <input type="checkbox"/> SOLAS- Construction <input type="checkbox"/> SOLAS- Equipment <input type="checkbox"/> SOLAS- Radio <input type="checkbox"/> Tonnage Cert., Int. <input type="checkbox"/> Dangerous Goods DOC <input type="checkbox"/> COC (Tank & Passenger) <input type="checkbox"/> COF (Chemical) <p>Scanned Documents:</p> <input type="checkbox"/> Forms A&B <input type="checkbox"/> (Form -A/B-XXMAYXX) <input type="checkbox"/> COC (Renewal or Initial) <hr/> <p style="text-align: center;">Casework Order</p> <input type="checkbox"/> Form A/B <input type="checkbox"/> COC <input type="checkbox"/> Certificates <input type="checkbox"/> Ship Particulars <input type="checkbox"/> CSR <input type="checkbox"/> VCP <input type="checkbox"/> NOA <input type="checkbox"/> ECA <input type="checkbox"/> COC Payment <input type="checkbox"/> Other Documents
NOTES: _____		

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Appendix E: PSC Exam Checklist

PLEASE PROVIDE THE FOLLOWING FOR EXAMINATION

ALL SHIPS	
Ship's Certificates and Documents	
Officer Licenses - National and Flag Endorsements	
Conditions of Class/Non-Conformities	
Flag State and/or Class Exemption Certificates	
Last USCG Inspection Report (Form A and B)	
VRP (Vessel Response Plan) / with USCG Approval Ltr.	
Shipboard Oil Pollution Plan Manual	
Vessel General Permit/NPDES with Notice of Intent	
Ship Security Rclds. (Exercise, Drills, DOS, Logs, Train.)	
Garbage Management Plan	
Garbage Record Book Part I and II and Disposal Rcpts.	
Ballast Water Management Plan / NBIC submission	
BTWS/AMS approval/extension letter	
Ballast Water Record Book	
Oil Record Book (Part I)	
Bunker Delivery Notes	
Oil Transfer Procedures (33 CFR 155.720)	
Hydrostatic Test Records for Fuel/ Lube Oil Bunker Lines	
Engine Log Book and ECA Fuel Changeover Proc./Log	
Drills/Trainig Records	
Fire, Abandon Ship, Pollution, Enclosed Space/Rescue	
STCW Crew Familiarization Training	
Crew Rest Records	
Ship Energy Efficiency Management Plan	
Fixed/Portable Firefighting Certificates	
Fixed Foam Analysis Reports (if applicable)	
Liferaft Servicing Certificates	
Shore-Based Maintenance Agreement	
VDR Annual Performance Test	

BULK CARRIERS / CONTAINER / RORO SHIPS	
Grain Loading Manual / Document of Auth.	
Enhanced Survey Program Restrictions	
Dangerous Cargo Manifest, In-Bound Transit	
Cargo Securing Manual	

OIL TANK SHIPS	
Oil Record Book (Part II)	
Current Intertanko Questionnaire 88 (Q88)	
Cargo Transfer Procedures (33 CFR 155.720)	
Vapor, Oxygen and LEL Meter Calibr. Letters	
VECS Manual & Approval Letter / VOC Man.	
Inert Gas System Manual	
Crude Oil Washing Manual	
Oil Discharge Monitoring & Control Sys. Man	
IPPC for Carriage of NLS in Bulk, if applicable	
SMPEP for NLS	
Procedures & Arrangements Manual	
Cargo Record Book	

CHEMICAL TANK SHIPS	
International Certificate of Fitness - Chemical	
Procedures & Arrangements Manual	
SMPEP for NLS	
Cargo Record Book	
Cargo Stowage Plan	

PASSENGER	
Passenger Ship Safety Certificate / Form P	
Lifeboat/Tender Safety Equip. Certificate	

PROVIDE COPY	
Ship's Particulars	
IMO Crew List	
Continuous Synopsis Record (most recent/latest)	
Last 10 Ports of Call	
Marine Chemist Certificate (if applicable)	

GAS CARRIER	
International Certificate of Fitness - Gas	
Allowable Loading Limits & Temperatures	
Setting Cargo Tank Pressure Relief Valves Doc	
Subchapter "O" Endorsement (SOE)	
Certificate of Inhibition	

This PSCE Checklist is provided as a reference and is not a comprehensive list.

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Appendix F: ECA Spot Check

Sector LA/LB MARPOL Annex VI ECA Spot Check		
INITIAL	Description	References
	Does vessel use <0.1% SOx fuel to meet compliance. or Does vessel have equivalent controls to meet compliance	Continue Checksheet or Refer to CG-CVC Policy Letter 12-04, Para. 5.b for further guidance
	Is vessel aware of new North America Emission Control Area requirements mandating <0.1% SOx fuel at 200NM? Does vessel have relevant Fuel Changover procedures on board?	MARPOL Annex VI, Reg 14
	Review logs and coordinates. Bridge: LAT: _____ LONG: _____ Engine: LAT: _____ LONG: _____ Did the vessel changeover to <0.1% SOx fuel prior to entering the North America Emission Control Area (ECA)? YES ___ NO ___ (Use Policy Letter and Job Aid for noncompliance)	MARPOL Annex VI, App VII (Approximatley 200NM from shore) CG-CVC Policy Letter 12-04 USCG ECA Job Aid
	Review Bunker Delivery Notes for <0.1% and <3.5% SOx fuels. Determine amount of fuel onboard: _____ Are they scheduled to bunker compliant fuel: _____	MARPOL Annex VI, Reg 18.7 USCG ECA Job Aid
	Interview C/E (Review logs if necessary to verify) Determine fuel burned per day inport: _____ Approximate burned per hour underway: _____ Approximate needed to depart or reach next port: _____	USCG ECA Job Aid
	<input type="checkbox"/> Vessel is ECA Compliant	

*Ensure each block is verified and initialed

MISLE Casework Instructions (If deficiencies or violations were identified use Policy Letter 12-04 for MISLE Case)
 Sub-activity: MARPOL Annex VI Survey
 Inspection Results to be checked: Documentation, Operations/Management, and Pollution Prevention/Response
 Narative example: Date - Conducted MARPOL Annex VI exam aboard M/V NAME HERE at Port of Los Angeles Berth 230. Verified compliance with North America ECA requirements. Exam complete

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Appendix G: Certificate Recording Sheet

	~Certificate/Document Status~			
	Issued By Port	Issued Date	Expired Date	Issuing Agency
Certificate of Registry				
Classification Document				
CSR				
Int. Air Pollution Prev.				
Int. Load Lines Cert.				
Int. Oil Pollution Prev.				
Int. Ship Security Cert.				
ISM-DOC				
ISM-SMC				
Minimum Safe Manning				
SOLAS Construction				
SOLAS Equipment				
SOLAS Radio				
Tonnage Cert., Int.				
Dangerous Goods-DOC				
Certificate of Fitness				
NLS Certificate				

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