

June 2021

7. With reference to the Code of Safe Working Practices for Merchant Seamen and maintenance of lifting equipment:
- (a) state the interval between testing and who should carry out the testing; (2)
 - (b) state the name of the document where details of the vessel's lifting gear is kept; (1)
 - (c) state the meaning of SWL; (1)
 - (d) state the possible reasons for needing to take a piece of lifting equipment out of service, explaining the measures to be taken before it can be returned to service. (6)

Here's the information you requested referencing the Code of Safe Working Practices for Merchant Seamen (COSWP) and lifting equipment maintenance:

(a) Testing Interval and Tester

The COSWP doesn't specify a single interval for testing all lifting equipment. However, it highlights the importance of following the manufacturer's instructions and relevant regulations. Here's a breakdown:

- **Manufacturer's Instructions:** Lifting equipment should be thoroughly examined and tested at the intervals recommended by the manufacturer. These intervals can vary depending on the equipment type and usage.
- **Regulations:** Some countries or regulatory bodies may have additional mandatory testing requirements that supersede or supplement the manufacturer's recommendations. The Master of the vessel is responsible for ensuring compliance with all relevant regulations.

Who carries out the testing?

- **Competent Person:** The testing should be carried out by a **competent person**. The COSWP doesn't provide a specific definition of "competent person" in this context. However, it's generally understood to be someone with appropriate qualifications, knowledge, and experience in inspecting and testing lifting equipment. This could be a qualified surveyor, shore-based engineer, or a designated crew member with relevant training.

(b) Document for Lifting Gear Details

The COSWP doesn't specify a single document name. However, it's likely referring to the ship's **"Register of Lifting Appliances and Gear"**. This document should contain details of all lifting equipment on board, including:

- Type of equipment (e.g., crane, derrick, winch)
- Safe Working Load (SWL)
- Manufacturer's name and identification number
- Dates of examinations and tests
- Details of any repairs or modifications

(c) SWL Meaning

SWL stands for **Safe Working Load**. This is the maximum rated load that a piece of lifting equipment can safely handle under specified conditions. It's crucial to never exceed the SWL of any equipment.

(d) Reasons for Taking Equipment Out of Service and Returning It

There are several reasons why a piece of lifting equipment might need to be taken out of service:

- **Damage:** Visible signs of wear, tear, cracks, corrosion, or other damage that could compromise the equipment's safety.
- **Failure During Testing:** If the equipment fails to meet the required standards during a periodic inspection or test.
- **Overload:** If the equipment has been subjected to a load exceeding its SWL.
- **Suspicious Activity:** Any unexplained malfunction or unusual behavior during operation.

Measures Before Returning Equipment to Service:

Before returning equipment to service, the following steps should be taken:

- **Identify the Cause:** Investigate and identify the root cause of the problem that took the equipment out of service.
- **Repair or Replacement:** The damaged component(s) should be repaired or replaced with certified parts as needed.
- **Retesting:** The equipment should be thoroughly re-examined and tested by a competent person to ensure it meets the required safety standards before being used again.
- **Documentation:** The Register of Lifting Appliances and Gear should be updated to reflect the repairs, replacements, and retesting.

By following these guidelines and adhering to the COSWP recommendations, merchant seamen can ensure the safe operation and maintenance of lifting equipment on board vessels.

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7. With reference to the Code of Safe Working Practices for Merchant Seamen and maintenance of lifting equipment:
 - (a) outline FIVE maintenance procedures to be carried out on lifting equipment; (5)
 - (b) state who should carry out the examination of the lifting equipment, the interval between examinations and the defects that may be found. (5)

Lifting Equipment Maintenance Procedures (based on COSWP):

The COSWP emphasizes following manufacturer's instructions for specific equipment. However, here are five general maintenance procedures applicable to most lifting equipment:

1. **Pre-Operational Checks:** Before each use, a designated crew member should perform a visual inspection of the equipment, looking for:
 - Visible signs of damage (cracks, corrosion, wear)
 - Missing or loose pins, bolts, or fasteners
 - Proper lubrication of moving parts

- Functionality of brakes and safety devices
2. **Regular Cleaning and Lubrication:** At regular intervals (daily, weekly, or as per manufacturer's instructions), the equipment should be cleaned of dirt, grease buildup, and debris. Lubrication points should be refilled with the recommended grease or oil to ensure smooth operation and minimize wear.
 3. **Periodic Inspections:** More comprehensive inspections should be carried out periodically by a competent person (e.g., qualified crew member, shore-based engineer, or surveyor) as recommended by the manufacturer. These inspections may involve:
 - Non-destructive testing (NDT) techniques like ultrasonic testing to identify internal cracks or flaws.
 - In-depth examination of wire ropes, slings, and chains for wear, breaks, or deterioration.
 - Verification of the functionality of limit switches, overload protection devices, and other safety features.
 4. **Wire Rope Maintenance:** Wire ropes are critical components and require special attention. This may include:
 - Regular inspection for broken wires, corrosion, or loss of strand diameter.
 - Proper lubrication to minimize wear and corrosion.
 - Reversal of the ends on a regular basis to ensure even wear.
 - Replacement when reaching the manufacturer's recommended discard criteria.
 5. **Record Keeping:** All maintenance activities, inspections, and repairs should be documented in the ship's "Register of Lifting Appliances and Gear". This record should include:
 - Date of maintenance/inspection
 - Description of work performed
 - Details of any defects found
 - Name of the person who carried out the work

Lifting Equipment Examinations:

(a) Who: The COSWP doesn't provide a specific definition of "competent person" but generally refers to someone with qualifications, knowledge, and experience in inspecting lifting equipment. This could be a qualified surveyor, shore-based engineer, or a designated crew member with relevant training.

(b) Interval: The interval between examinations depends on the type of equipment, its frequency of use, and any relevant regulations. The primary sources for determining the interval are:

- **Manufacturer's Instructions:** Lifting equipment should be thoroughly examined and tested at the intervals recommended by the manufacturer.
- **Regulations:** Some countries or regulatory bodies may have additional mandatory testing requirements that supersede or supplement the manufacturer's recommendations.

(c) Defects: During examinations, a competent person might find various defects, including:

- **Wire rope damage:** Broken wires, corrosion, or excessive wear.
- **Cracks or deformations:** In metal components like hooks, shackles, or crane booms.
- **Malfunctioning safety devices:** Faulty brakes, limit switches, or overload protection systems.
- **Loose or missing fasteners:** Pins, bolts, or nuts that could compromise the equipment's integrity.
- **Improper lubrication:** Lack of grease or oil in critical areas leading to increased wear.

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March 2024

8. With reference to the Code of Safe Working Practices for Merchant Seamen and maintenance of lifting equipment:

- (a) state the interval between testing and who should carry out the testing; (2) ✓
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June 2020

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Here's the information you requested, referencing the Code of Safe Working Practices for Merchant Seamen (COSWP) and lifting equipment maintenance:

(a) Testing Interval and Tester

The COSWP doesn't prescribe a single testing interval for all lifting equipment. It emphasizes following two key sources for determining the testing schedule:

- **Manufacturer's Instructions:** Lifting equipment should be thoroughly examined and tested at the intervals recommended by the manufacturer. These intervals can vary depending on the equipment type and usage.
- **Regulations:** Some countries or regulatory bodies may have additional mandatory testing requirements that supersede or supplement the manufacturer's recommendations. The Master of the vessel is responsible for ensuring compliance with all relevant regulations.

Who carries out the testing?

The testing should be carried out by a **competent person**. The COSWP doesn't provide a specific definition, but it's generally understood to be someone with:

- **Appropriate qualifications:** Relevant certifications or training in inspecting and testing lifting equipment.
- **Knowledge:** Understanding of the specific equipment, its operation, and potential hazards.
- **Experience:** Practical experience in conducting inspections and tests.

This could be a qualified surveyor, shore-based engineer, or a designated crew member with relevant training certified by the appropriate authority.

(b) Document for Lifting Gear Details

The COSWP doesn't specify a single document name, but it likely refers to the ship's "**Register of Lifting Appliances and Gear**". This document should contain details of all lifting equipment on board, including:

- Type of equipment (e.g., crane, derrick, winch)
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Measures Before Returning Equipment to Service:

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- **Documentation:** The Register of Lifting Appliances and Gear should be updated to reflect the repairs, replacements, and retesting.

By following these guidelines and adhering to the COSWP recommendations, merchant seamen can ensure the safe operation and maintenance of lifting equipment on board vessels.

March 2024

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10. With reference to the International Convention for the Safe and Environmentally Sound Recycling of Ships:

(a) state the operational requirements for compliance; ✓ (4)

(b) list FOUR prohibited hazardous materials; ✓ (4)

(c) list TWO hazardous materials whose use should be restricted. ✓ (2)

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10. With reference to the International Convention for the Safe and Environmentally Sound Recycling of Ships:
- (a) state the operational requirements for compliance; (4)
- (b) list FOUR prohibited hazardous materials; (4)
- (c) list TWO hazardous materials whose use should be restricted. (2)

The International Convention for the Safe and Environmentally Sound Recycling of Ships, also known as the Hong Kong Convention (HKC), aims to ensure responsible ship recycling practices. While not yet in effect, here's what it entails:

(a) Operational Requirements for Compliance:

The HKC outlines several requirements for ship owners and recycling facilities to achieve compliant ship recycling:

- **Inventory of Hazardous Materials (IHM):** Ships must maintain a detailed IHM that identifies the type, location, and quantity of hazardous materials onboard. This allows for safe handling and removal during recycling.
- **Ship Recycling Plan (SRP):** A specific plan for each ship's recycling process needs to be developed. This plan should consider factors like waste management, worker safety, and environmental protection.
- **Recycling Facility Requirements:** Recycling facilities must be authorized and operate according to the HKC guidelines. This includes having proper equipment, trained personnel, and procedures for handling hazardous materials and pollutants.
- **Flag State and Recycling State Cooperation:** The flag state (country of registration) and the recycling state (country where the ship is recycled) have responsibilities to ensure the recycling process adheres to the Convention.

(b) Four Prohibited Hazardous Materials:

The HKC strictly prohibits the presence of certain hazardous materials in ships destined for recycling. These include:

1. **Polychlorinated Biphenyls (PCBs):** These organic chemicals were used in various applications like transformers and capacitors but are now banned due to their environmental and health risks.
2. **Hexachlorobenzene (HCB):** This persistent organic pollutant was used as a fungicide but is now banned due to its toxicity and bioaccumulation potential.
3. **Lightweight halogenated hydrocarbons (LBHs):** This category includes certain ozone-depleting substances like chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) used in refrigeration and fire suppression systems.
4. **Lead compounds:** Lead is a toxic metal historically used in paints, coatings, and other materials. Its presence requires special handling during ship recycling.

(c) Two Hazardous Materials with Restricted Use:

The HKC also restricts the use of certain materials in ships, requiring careful management during recycling:

1. **Asbestos:** This fibrous mineral was used for insulation but can cause serious health problems like lung cancer. Ships containing asbestos need specific removal and disposal procedures.
2. **Polybrominated Biphenyl Ethers (PBDEs):** These flame retardants were used in various ship materials but are now restricted due to concerns about their environmental persistence and potential health effects.

By adhering to these regulations, the HKC aims to minimize the environmental and health hazards associated with ship recycling.

Sources

www.vesselfinder.com/news/19825-Seaspan-Fleet-Achieves-IHM-Certification