OCIMF Oil Companies International Marine Forum

OCIMF MTMSA

Site Verification Guidelines (SVG)

Master SVG

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Introduction

The **Marine Terminal Management and Self-Assessment (MTMSA)** guide, was developed by OCIMF as a standardised tool for marine terminal operators to assess and improve the effectiveness of their management systems, with emphasis on the safe management of the ship/shore interface.

This MTMSA 'Site Verification Guide' (SVG) was developed to provide a tool with the following purpose:

- Guidance questions targeted to seek:
    - Field evidence that contributes to a review of specific KPIs against Best Practice Guidance, and;
    - Verification of the evaluation of the management system.
- A user definable layout that will provide for a logical question flow as the user moves around the terminal site
- Common baseline of questions to:
    - Deter ambiguity in assessment questions asked, and;
    - Aid terminal operators on industry best practice.

There is some overlap across terminal operations activities and the associated MTMSA 'Element'. Question sets have been clustered under generic topical headings. These are as follows:

- Management and Organisation
- Maintenance
- Environmental Preparedness
- Safety, Health and Fire Protection
- Terminal Layout and Physical Considerations
- Cargo Transfer
- Ship/Shore Interface
- Operations and Buoy Moorings.

The SVG question set may be retained by the marine terminal operator, and may form part of the documented evidence of the self-assessment. It is not intended that the SVG output will be published and submitted to MTIS with the MTMSA submission.

Contents

2.1.4 **The level of terminal manning is established to ensure that all operations related to the ship/shore interface are conducted safely and that emergency situations can be managed.**

- Are manpower levels adequate to ensure that operations between the jetty and vessel are monitored effectively? ☐
- Are operational standards maintained at the jetty in reduced manpower operations with the provision of CCTV/Monitoring, emergency shutdown arrangements and communications? ☐
- Are sufficient personnel available to react in an emergency to ensure that all the resources are independently and adequately manned? ☐

Notes:

5.1.1 **The terminal provides visiting vessels with information on all pertinent local regulations and terminal safety requirements, applicable to the safe management of the ship/shore interface.**

- Is a Terminal Information Book provided which includes terminal and pre-arrival information, operational information, safety and security information, environmental information and other relevant data provided to the vessel? ☐
- Is the exchange of information formalised and documented with signed receipts? ☐
- Is information provided in English? ☐

Notes:

7.1.1 **The terminal has a planned maintenance, inspection, testing and defect reporting system to ensure the integrity of equipment and systems.**

- Does all operational equipment appear to be well maintained (including pipelines, lifting equipment, lifesaving equipment, ESD systems, pollution prevention equipment, communications systems, security systems, navigational aids, mooring equipment and load? ☐

Notes:

7.1.3 **Terminal procedures require that structural surveys are undertaken as part of an integrated inspection and maintenance programme.**

- Do structural members appear free of corrosion and other defects? ☐
- Does superstructure appear to be in good condition (e.g. handrails, ladders, walkways and buildings)? ☐
- Does the jetty appear to be free from impact damage? ☐

Notes:

12.1.1 **There are comprehensive and up-to-date emergency plans that are specific to the terminal.**

- Are there comprehensive and up to date emergency plans specific to the terminal, which are complemented by contingency plans, which describes the actions to be taken for various emergency scenarios? ☐

Notes:

12.1.3 **The terminal has an emergency evacuation plan.**

- Does the terminal have an emergency evacuation plan for a vessel alongside the terminal? ☐

Notes:

12.1.5 **The terminal is equipped to respond to a Tier 1 spill.**

- Is the inventory of Tier 1 equipment complete, in good condition and ready for deployment in the event of an emergency? Is Tier 1 equipment the equipment required for a local spill? ☐
- Are MSDS Data sheets available for each different type of dispersant used? ☐

Notes:

4.2.1 There are sufficient suitable evacuation routes to meet the requirement that an alternative route is available if one is affected by fire.

• Have two evacuation routes been provided so that the primary route is the day-to-day escape route from normal work areas?	☐
• Are evacuation routes and muster points clearly indicated?	☐
• Are boats designated as the secondary means of evacuation?	☐

Notes:

4A.1.5 Provisions are in place for the containment and management of surface water, leakage and spills.

• Does the terminal have an adequate bunded area, spill tray or other method to contain spills, prevent accumulations and overflow of product?	☐
• Are sumps fitted with a level gauge and/or high level alarm to activate a pump to transfer accumulated contents to a dedicated recovery tank?	☐
• Is storm/rain water managed adequately?	☐
• Are all unused connections suitably blanked or capped?	☐
• Are all blind flanges fully bolted to prevent leakage?	☐
• Are there flanges over water, and if so, are provisions in place to contain leakage?	☐

Notes:

10.1.1 **The terminal has a comprehensive system for the management of health and safety.**

- Are safety notices clearly displayed to alert personnel to critical information, in pictogram form and highlighted by luminous or retro-reflective materials? ☐
- Are requirements for visitors, ship's crews, tugs and mooring boats adhered to? ☐
- Are hazards managed where necessary - e.g. housekeeping, trips, falls, excessive noise etc.? ☐

Notes:

10.1.3 **The terminal has procedures in place to identify risks to health and to protect personnel against them.**

- Are MSDS sheets available for all products, and chemicals handled at the terminal and handed to the vessel for all products loaded from the terminal? ☐
- Are hazardous operations adequately controlled (e.g. risk assessments, permit to work, hot work, electrical tag out etc.)? ☐

Notes:

10.1.4 **Procedures are in place to ensure that the appropriate PPE is provided and its use enforced.**

- Is adequate PPE worn by all terminal personnel including contractors/visitors (e.g. floatation devices, hard hats etc.)? ☐

Notes:

10.1.5 **The terminal provides First Aid and life-saving equipment suitable for the activities and manning of the facility.**

- Has the following First Aid and lifesaving equipment been provided throughout the terminal as appropriate, and does it appear to be in a good condition? ☐
  - Evacuation craft ☐
  - Floatation aids, including life rings and life vests ☐
  - First Aid medical equipment ☐
  - Showers and eyebaths ☐
  - Resuscitation equipment ☐
  - Emergency Escape Breathing Devices (EEBDs) ☐
  - Respiratory protective equipment ☐
  - Personal gas monitors. ☐

Notes:

10A.1.1 **The terminal has a security policy in place.**

- Is secure fencing provided to prevent un-authorized access to the terminal? ☐
- Is access to the terminal by people and vehicles managed? ☐

Notes:

10A.2.2 Procedures address the control and use of portable electronic devices and other potential ignition sources by visitors.

- Are safety notices displayed in appropriate language, clear and understandable, to meet the needs of the terminal and visiting ships staff? E.g. No Smoking, No Naked Lights, No Mobile Phones. ☐
- Is portable electrical equipment permitted under the control of a 'Permit to Work' system? ☐

Notes:

10A.3.2 Surveillance and detection equipment is used to enhance terminal security.

- Is surveillance and detection equipment available to enhance terminal security? ☐

Notes:

4.1.2 Fendering at each berth is engineered to suit the sizes of vessels expected to use the berth.

- Do fenders lie within the parallel mid-body length of the vessels, using the berth? Are fender systems intact and appear to be in good condition? ☐

Notes:

4.1.3 The terminal design includes adequate provision for access.

- Is safe and unobstructed access to the terminal provided and clearly defined for pedestrians, vehicular traffic, parking areas and emergency services? ☐
- Are pipelines and other associated terminal equipment protected by barriers to prevent accidental contact damage? ☐
- Are turning areas, escape routes and catwalks identified? ☐
- Are walkways, the inshore side of dolphins and, where possible, jetty edges protected by guard rails and, if so, in good condition? ☐
- Do emergency ladders extend from dock level to water level? ☐
- Is there safe access for remote equipment? ☐
- Have safe axle loads for vehicles been determined and posted at the entrance to the access way? ☐

Notes:

4.1.4 The terminal is provided with an appropriate level of lighting to ensure that all ship/shore operational and security activities can be safely conducted during periods of darkness.

- Is lighting adequate at the ship/shore interface, jetty structures, access routes, boat landings, emergency escape routes and perimeter fencing? ☐
- Is the surface of the water visible around the dock during darkness? ☐

Notes:

4.1.5 All electrical equipment at the terminal is provided in accordance with a site-specific area electrical classification plan.

- Are site specific electrical hazardous area classification drawings available in the facility? ☐
- Does electrical equipment at the terminal appear to be in a good condition, with approvals visible in accordance with site specific electrical classification drawings? ☐

<u>Offshore Buoy Moorings</u>

- Do batteries for telemetry and navigational aids appear to be in a good condition? ☐
- Are solar panels and wind generators used for charging batteries and, if so, do they appear to be in good condition? ☐
- Is buoy telemetry, if fitted, functional? ☐

Notes:

4.1.6 All lifting equipment is designed to take into account the maximum anticipated load for the intended service.

- Does all lifting equipment appear to be in good condition, which includes hose handling cranes, derricks, davits, gantries, gangways, loading arms, store cranes, pad eyes, shackles, blocks and any other associated lifting equipment, clearly marked with SWL, serial number and test date? ☐

Offshore Buoy Moorings

- Do winches provided for anchor chain adjustment appear to be in a good condition and working? ☐
- Does the lifting equipment of the buoy appear to be in a good condition and subject to formal inspection and testing at defined intervals? ☐

Notes:

4.1.7 The terminal's designed firefighting capability is suited to the size of vessels and the type and volume of product being handled.

- Are firefighting resources (fixed and portable), at the jetty head and dock areas, clearly identified, in accordance with industry guidance found in ISGOTT, and do they appear to be in a good condition? ☐
- Are firefighting monitors remotely operated, and is a ship shore fire connection identified and available at each berth? ☐
- Is there a remote start for firefighting pumps-water and foam? ☐
- Can FIFI tugs complement the firefighting resources independently or by connection to the terminal fire main? ☐
- Are firefighting resources provided by a third party? ☐
- Is the jetty fire main pressurized, or able to be pressurized, at short notice while the tanker is alongside? ☐

Notes:

4.4.1 Emergency lighting for work areas and access routes is available from a secondary power source.

- Is there a secondary source of power for emergency lighting for work areas and access routes? ☐

Notes:

4A.1.3 The terminal has means of electrical isolation to ensure protection against electrical arcing at the manifold during connection and disconnection of hoses or arms.

- For a jetty equipped with hoses/rigid arms for the cargo transfer, is there an electrically discontinuous hose and/ or an insulated flange in the cargo hose transfer system? The hose should be clearly marked as "Discontinuous". ☐
- Is the integrity of the insulation flange maintained? ☐
- Are bonding wires fitted? Bonding wires are not recommended as per ISGOTT ☐

Notes:

4A.1.1 The terminal has cargo transfer equipment that is designed and constructed in accordance with national regulatory requirements, industry standards and recognised codes of practices.

- Is covered storage provided for spare hoses? ☐
- Do stored hoses have end caps? ☐
- Are hoses lifted using a spreader bar? ☐
- Are hoses supported off the ground? (Protection against abrasion and sagging) ☐
- Are hose handling systems appropriate for the type of hose in use? ☐
- Are cargo marine loading arms in good condition? ☐

Notes:

4A.1.2 The terminal has a means of isolating product lines in an emergency.

- Are isolation valves fitted at the berth manifold end for each loading or unloading line? ☐
- Are additional isolation valves fitted at the shore end of each line if the berth extends from the shore? ☐
- Are non-return valves fitted to lines dedicated for unloading operations? ☐
- If the berth is not continuously manned, can isolation valves be operated remotely? ☐
- Are valve closure times set to avoid surge pressures? ☐

Notes:

4A.1.4 There is an acceptable system for draining the cargo transfer lines.

- Does the terminal have an acceptable closed system for draining/clearing the cargo transfer lines? This may be a pump back system into cargo line, drain line directly to sump, clearing with water to shore tank or gravity draining. ☐

Notes:

6.1.1 Procedures require that a systematic inspection of the berth and equipment is undertaken prior to the arrival of a vessel.

- Are cargo hoses in good condition and clearly marked for identification and certification? ☐

Notes:

6.1.2 Procedures include environmental operating limits for each berth that prescribe the thresholds for stopping transfer, disconnecting cargo and bunker connections, removing gangways and moving the vessel off the berth.

- Does the terminal have clearly defined and documented environmental operating limits for mooring and cargo transfer equipment, which are agreed during the pre-cargo operations transfer conference, and highlighted in the Terminal Information Book? ☐
- Are routine weather forecasts passed to the vessel? ☐

Notes:

6.1.3 The terminal has documented safe operating procedures for the transfer activity, including the operation of associated equipment.

- Are marine loading arms/hoses in good condition? ☐
- Are operating limits for the marine loading arms/hoses monitored? (E.g. monitoring panel in the control room) ☐
- Are cargo hoses in use rigged correctly? ☐

Notes:

4.1.1 **The terminal provides mooring equipment on berths that is appropriate in size, number and location, for the sizes of vessels using the berths.**

- Is the mooring equipment provided in the terminal appropriate, appear to be in good condition and marked with its SWL, as per the original drawings/plans? ☐
- Are shore moorings (if used) in good condition and well maintained? ☐
- Are mooring layouts acceptable, clear of obstructions at all states of tide & vessel condition, and an adequate number of bollards/hooks etc.? ☐
- Is mooring system properly insulated? ☐

<u>Offshore Buoy Moorings (The below points reference spare equipment:)</u>

- Are hawsers stored in covered facilities (or crated) and away from potential contaminants? ☐
- Is the stock of spare hawsers in accordance with the defined minimum stock requirements? ☐
- Are mooring hawser ancillary items in good condition, of sufficient quantity and maintained in protective storage? (Pick up ropes and buoys, chafe chains, thimbles, rope floats and shackles) ☐

Notes:

4.2.2 **Mooring arrangement plans, based on the results of risk analysis, are provided for all berths and for all sizes of vessels, which can be moored at those berths.**

- Are terminal mooring plans used and understood? ☐

Notes:

4.3.1 Design and load calculations are available for all mooring points.

- Are winches located at mooring points operable in both directions - forward and reverse? ☐
- Are the angular limits marked at the mooring points? ☐

Notes:

4.3.2 Arrangements exist for the remote release of individual moorings.

- Is the gang release inhibited at a remote release station for the release of vessel moorings? ☐
- Can moorings be released individually? ☐
- Can a component or electrical failure result in the release of the mooring hooks? ☐

Notes:

4.3.3 The terminal has undertaken a study to assess the use of berthing and mooring aids, such as speed of approach monitors, pilot positioning units, tension monitors, etc.

- If navigational aids are provided, do they appear to be in good condition? (E.g. Speed of approach monitors, portable pilot units, racons, navigational lights, foghorns, etc.) ☐

Notes:

5.1.4 **At terminals where vessels are berthed alongside, including barge handling terminals, procedures ensure that safe ship/shore access is maintained throughout the vessel's stay alongside, (the responsibility for which is jointly shared between the terminal and the vessel).**

- Are the arrangements for access to the vessel acceptable and is the gangway rigged according to its operating and safety criteria? ☐
- Does the terminal provide alternative arrangements for low freeboard vessels, which may require a gangway to be rigged from the jetty to the vessel? ☐
- Is provision made on the berth/jetty for safe ship/shore access? (Clear space on berth/jetty at all states of the tide) ☐
- Is a safety net provided for the gangway and a lifebuoy available? ☐
- Is lighting adequate at the gangway? ☐

Notes:

5.1.5 **Terminals should have a procedure in place to ensure that a pre-cargo transfer conference is undertaken, an industry-recommended ship/shore safety check-List (SSSCL) is completed, and that cargo transfers are conducted in accordance with agreed procedures.**

- Has the pre-cargo transfer conference been completed jointly between the terminal and the responsible ship's officer, and are documents endorsed between the two parties? ☐
- Does the conference address fully the plans for the cargo transfer operation, including expected transfer rates/pressures and emergency shutdown procedures? ☐
- Do terminal personnel board the vessel complete and sign the appropriate frequency of repetitive checks? ☐

Notes:

5.1.6 Terminal procedures require the availability of both a primary and secondary means of communication with vessels at their terminal, in an agreed common language.

• Does the terminal have a primary and secondary means of communication?	☐
• Are channels dedicated to cargo operations?	☐
• Are radio channels common to all berths within the terminal?	☐
• Do procedures require the suspension of operations in the event of communication failure?	☐
• Is communication equipment intrinsically safe where appropriate?	☐

Notes:

14.1.1 **A terminal operating a buoy mooring (single or multi-buoy) has procedures in place to ensure compliance with established practices for operations and maintenance.**

- Does the mooring buoy structure appear to be in a good condition? (E.g paintwork, ladders, fenders, mooring hooks) ☐
- Does mooring hawsers and hawser ancillary equipment appear to be in a good condition? ☐
- Does the buoy rotate easily and is the turntable well lubricated? ☐
- Does the water seal appear to be in good condition? ☐
- Are bearing covers secure and appear to be in a good condition? ☐
- Do expansion joints appear to be in a good condition, oil tight and limit bars evenly set? ☐
- Is oil leakage visible from seals? ☐
- Is the centre well compartment free of oil? ☐
- Is the buoy at the correct draft and adequately trimmed? ☐
- Is a leak detection system fitted and operational for monitoring center well bearing leakage? ☐

Notes:

14.1.4 **Support craft and, if required, tugs are of sufficient size and number.**

- Are there support craft of sufficient size and number, that are designed and capable to meet the requirements of the terminal? ☐

Notes:

14.1.5 Hawser tension and angle is visually monitored throughout the transfer operation.

- Is a deck watch in place, with communications to a responsible officer, to monitor the mooring hawser(s), relative to the bow of the tanker? ☐

Notes:

14.1.6 Procedures are in place to prevent a tanker over-running the buoy or hose string.

- Is a hold back tug utilized to prevent the tanker over-running the buoy or hose string? ☐
- Are floating hose string(s) fitted with a winker light for night visibility? ☐

Notes:

14.4.1 Consideration has been given to the use of cargo transfer equipment that may provide improved environmental protection.

- Are double carcass (DC) hoses and marine breakaway couplings (MBC) utilized, to provide improved environmental protection? ☐
- If an MBC is installed in the hose string, is it located according to the manufacturer's recommendation? ☐
- Is leak detection equipment fitted to DC hoses? ☐

Notes: