OCIMF Report Template

MO(D)U Jackup

7106
1.0.03
General information
Vessel/unit particulars

1.1.1 Name of the vessel/unit
   Note: Prefixes (MV, SS etc.) must not be used unless they are actually a part of the registered name of the vessel/unit. The name must be entered exactly as it appears on the Certificate of Registry.

1.1.2 IMO Number

1.1.3 Reg number

1.1.4 VIN (Vessel Identification Number)

1.1.5 Country of registration of vessel/unit
   If a change of country of registration has taken place within the past 6 months, record the date of change and the previous country of registration in the Comments.

1.1.6 Gross tonnage
   State if vessel/unit has not been measured.

1.1.7 Date vessel/unit delivered

1.1.8 Date of most recent major conversion, if applicable
   Provide brief details of most recent major conversion.

1.1.9 Date of inspection
   Note: If the inspection extends to two or more days, record the circumstances in the comments.

1.1.10 Place of inspection

1.1.11 Name of the company commissioning the inspection

1.1.12 Time the inspector boarded the vessel/unit

1.1.13 Time the inspector departed the vessel/unit
   If the inspection took place over two or more days, in two or more sessions, or was carried out by more than one inspector, record the arrival and departure details in the chapter end Additional Comments.

1.1.14 Name of the inspector

1.1.15 Vessel/unit activity at time of inspection
   If activity not listed select other and enter activity into comments

1.1.16 Is an up to date OCIMF OVPQ available on board?

1.1.18 Geographic region vessel/unit normally operates in

1.1.19 Name of the vessel/unit's operator
   Note: For the purpose of the OVID Programme, an ‘Operator’ is defined as the company or entity which exercises day to day operational control of, and responsibility for, a vessel/unit and, where applicable, holds the Document of Compliance under which the vessel/unit is named. The registered owner of a vessel/unit may or may not be the operator.

1.1.20 E-mail address of the operator

1.1.21 Date the current operator assumed responsibility for the vessel/unit
Additional Comments

1.99 Additional Comments

If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific questions in the Chapter, the Inspector should include such additional comments in this section. Information of a non-confidential nature related to the circumstances surrounding the inspection should also be recorded here. Examples are the presence of the Operator's superintendent, unusual operations that hampered or curtailed the inspection, etc.
Certification and Documentation

Certification

2.1.1 Are all the Class statutory certificates listed in the guidance, where applicable, valid and have the annual and intermediate surveys been carried out within the required range dates?

Inspector should undertake a spot check of certificates to validate OVPQ data. Certificates may include the following:
- Certificate of Registry
- Certificate of Class
- Interim Certificate of Class
- Continuous Synopsis Record
- Document of Compliance. Note: where applicable, the issuing authority for the DoC and the SMC may be different organisations, but the name of the operator of the MO(D)U must be the same on both. There should be a copy (which need not be a certified copy) of the DoC on board.
- Safety Management Certificate
- Safety Equipment Certificate
- Safety Radio Certificate
- Safety Construction Certificate
- IOPP Certificate
- Load line Certificate
- International Ship Security Certificate
- International Tonnage Certificate
- Minimum Safe Manning Document
- MO(D)U Safety Certificate
- Ship Sanitation Certificate
- International Sewage Pollution Prevention Certificate
- International Air Pollution Prevention Certificate
- International Anti-Fouling System Certificate
- Helideck Certificate of Survey

2.1.2 Name of Classification society.

If the MO(D)U has changed class within the past 6 months, record the previous classification society and the date of change as an Observation. State if MO(D)U is not classed.

2.1.3 Name of P and I Club.

The name of the owner should be the same as that on the Certificate of Registry. A P and I Club Certificate of Entry should be provided to prove membership for the current year, which usually begins on the 20th February.
Safety Management

2.2.1 Does the MO(D)U have a formal safety management system?

The Company should ensure that the safety management system operating on board the MO(D)U contains a clear statement emphasising the Master or OIM's authority. The Company should establish in the safety management system that the Master or OIM's has the overriding authority and the responsibility to make decisions with respect to safety and pollution prevention and to request the Company’s assistance as may be necessary. The inspector should undertake a spot-check of the list of contents of the procedures manuals to ensure that they are:

- relevant to the MO(D)U;
- user friendly;
- written in the working language of the crew. And that they at least contain:
  - a safety and environmental policy;
  - emergency procedures;
  - a description of the OIM's and crew’s responsibilities;
  - procedures for reporting non-conformities and for corrective action;
  - maintenance programmes;
  - procedures for auditing and reviews;
  - programmes of drills. The programme of drills must at least include emergency procedures for all credible emergency situations, such as, collision, grounding, flooding, heavy weather damage, structural failure, critical machinery failure, emergency towing, rescue from enclosed spaces, serious injury and medivac, and in addition abandon ship, man overboard, pollution clean up and ship security, including dealing with terrorism and piracy. Occasionally the operator’s procedures are available only in computerised versions. Ascertain whether there is adequate access for all personnel to a computer and whether training has been given to all personnel in accessing the operator’s procedures using one. In any case, a hard copy of the operator’s navigation procedures should be available on the bridge. Make an Observation if paper and electronic systems differ.

2.2.2 Where appropriate, is there objective evidence that the safety management system complies with the requirements of the ISM Code?

If Vessel is ISM certified evidence would be by issuance of DOC and SMS certificates. If MO(D)U is not required to comply with ISM does it operate under an SMS which incorporates similar elements as ISM. Is there evidence of an independent verification of the vessels SMS where it is not ISM certified?

2.2.3 Does the operator's representative visit the MO(D)U at least bi-annually?

Record the date of the last visit. Verify that office managers have visited the MO(D)U to undertake a formal review of the safety management system within the last six months. Frequent visits by rig managers and superintendents for operational purposes should not be confused with formal SMS visits.

2.2.4 Is a recent operator's SMS audit report available and is a close-out system in place for dealing with non-conformities?

Note: Satisfactory evidence should record that corrective action was taken to rectify non-conformities. A close-out system, which includes a time limit for corrective action, informing the operator when completed and the operator ensuring that it has been, should be in place and the inspector should ensure that the required actions have been made within the required time. Operator’s audit observations should not be used as a means to record Observations unless there is no evidence of a close out system in place, at which point those observations should be listed in this question only.

2.2.5 Does the OIM review the safety management system and report to the operator on any deficiencies?

Record frequency of review and make an Observation if no formal notification of the review has been submitted to the company.
Class Documentation and Survey

2.3.1 Date of departure from the last dry-dock or underwater inspection.
State whether dry docking or underwater survey. In addition, if the last dry docking/underwater survey was unscheduled, record the date and the reason.

2.3.2 Is the MO(D)U free of conditions of class or significant recommendations, memoranda or notations?
Record any conditions of class or significant recommendations, memoranda or notations of any nature, including due dates as an Observation.

2.3.3 Has the MO(D)U undergone dry docking since the last Underwater Inspection in Lieu of Drydocking (UWILD)?
Classification Societies can allow up to four UWILDS in succession. Inspector to note the number of UWILD's undertaken and last time MO(D)U was dry docked.

Publications

2.4.1 Are the publications listed in the guidance, as applicable to the MO(D)U, available?
The inspector should verify that all listed publications appropriate to the MO(D)U's size, operations and region of operation are provided.
- SOLAS Consolidated Edition and Amendments
- International Ship and Port Facility Security Code
- International Safety Management Code
- MARPOL 73/78 Consolidated edition
- MO(D)U Code 79/89/2009
- International Medical Guide for Ships (or equivalent)
- IMDG Code
- IATA Dangerous Goods Regulations
- International Convention on Load Lines
- Fire Safety Systems (FSS) Code
- International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual Volume III (Mobile Facilities)
- IMO Code on Alerts and Indicators
- Ballast Water Management Convention
- Global Maritime Distress and Safety System (GMDSS) Manual (Applicable to Installations with GMDSS Installed)
- International Chamber of Shipping (ICS) Guide to Helicopter/Ship Operations
- Mariner’s Weather

2.4.2 Are the documents listed in the guidance, as applicable to the MO(D)U, available?
Documents appropriate to the MO(D)U's operations may include:
- Guide to Helicopter/Ship Operations
- Guidelines for the Safe Packing and Handling of Cargo to and from Offshore Locations
- Cargo Securing Manual
- Code of Safe Practices for Merchant Seamen
- UKOOGA Guidelines for the Management of Helideck Operations
- CAP 437 Offshore Helideck Landing Area Guidance on Standards
- MSF Guidance Documents

Additional Comments

2.99 Additional Comments
If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific questions in the Chapter, the Inspector should include such additional comments in this section.
Crew and Contractor Management

General

3.1.1 Are both crew and third party personnel required to comply with the MO(D)U's safety management system in full?
While on board the MO(D)U, all contract personnel should work within the MO(D)U's SMS and permit to work system. On board a MO(D)U this is often covered in the introduction briefing to the unit.

3.1.2 Is there a process in place to ensure that any proposed bridging documents integrate effectively with the MO(D)U's safety management system?
Check that the process provides guidance on addressing any conflicts between the MO(D)U's SMS and charterer's requirements. Check also that there is a formal means of verification that the MO(D)U's crew understand the contents of the bridging document.

3.1.3 Are both crew and contractors required to comply with the MO(D)U's drug and alcohol policy and testing regime?
While on board the MO(D)U, all contract personnel should comply with the MO(D)U’s D and A policy, except if the Contractor’s policy is more restrictive.

3.1.4 Is the drug and alcohol policy based on 'zero tolerance' (requiring zero Breath Alcohol Content(BAC) and zero drug content) for all on board the vessel/unit?
This would include zero blood alcohol content when boarding the MO(D)U at any time or being in possession at any time while on board.

3.1.5 Is there a 'for cause' and 'post incident' testing requirement?
If the answer is not 'Yes' an observation should be made.

3.1.6 Does the operator have a policy for unannounced drug and alcohol testing?
Verify if compliance against the policy can be demonstrated. Document the last recorded date of unannounced testing.

3.1.7 Is there a common language stipulated for on-board communication?
Record which language is stipulated.

3.1.8 Is there a system for ensuring communications between the MO(D)U's crew and third parties?
Where a common language is not spoken by all on board, arrangements should be in place to ensure the effectiveness of communications, without risking mis-understanding or ambiguity, at all times. This should include information on muster stations, emergency alarms and emergency procedures.

3.1.9 Is the safety management system documentation in the common language?
Record which language is utilized and if it is consistent with the language documented in 3.1.7.

Crew-specific

3.2.1 Does the manning level meet or exceed that required by the Minimum Safe Manning Document issued by the Flag Authority?

3.2.2 Is there a process to define the number of personnel required to be on board to perform anticipated marine operations?
There should be sufficient personnel to manage all planned concurrent marine operations with proper oversight as if each operation was a stand-alone duty.

3.2.3 Do documented procedures address scenarios which may require down-manning of non-essential personnel from the MO(D)U?
There should be specific groups identified as critical or non-critical with a hierarchy for controlled evacuation should it be deemed necessary, for example, if LSA equipment is compromised or on the onset of heavy weather.

3.2.4 Are personnel appropriately qualified for the marine operations and equipment on board?
There should be documentary evidence that competency has been assessed by an appropriate authority for marine specialised positions such as Helideck crews; FRB crews; etc. (Inspectors should refer to the training and competency matrix for the unit)
3.2.5 Is there a competence assessment process for the crew on board?
Describe whether formal or informal, and who is responsible for assessments

3.2.6 Does the company operate a formal appraisal for onboard personnel involved in marine operations?
Comment if it is a developmental system; record an Observation if there is insufficient guidance for the assessor and/or the assessees cannot respond formally within the process.

3.2.7 Is HSSE awareness one of the appraised behaviours?
State who makes the assessment.

3.2.8 Do all personnel maintain hours of rest records and are the hours of rest in compliance with company or flag state requirements?
Inspector to determine and comment if hours are reported to shore management for verification compliance

3.2.9 Are provisions made to provide the MO(D)U's crew with medical and first aid training and facilities?
There should be documentary evidence of training courses and competency assessments. This assumes there will be dedicated Medic on board a drilling unit

3.2.10 Has the OIM/Barge Engineer received training for move operations and to include jacking and pre-load?
Inspector to comment on what type of training received e.g. Jacking control, stability, simulator, etc.

3.2.11 If the OIM has been newly-hired within the last 12 months, did he receive appropriate pre-command training, including documented understanding of the Company's expectations?
In-house induction in Company expectations and requirements may be demonstrable with an Appointment Letter indicating date of office visit / induction.

3.2.12 Has the OIM received formal documented training for the navigational equipment fitted on board?

3.2.13 Does the company have a documented disciplinary process which facilitates removal of personnel from the MO(D)U if deemed to be a risk?
This should include, as a minimum, non-compliance with SMS provisions, anti-social behaviour; alcohol/drug use; or ill discipline. Check that the OIM has authority to take appropriate action and that he is required to inform the MO(D)U's operators of action taken.

3.2.14 Does the company have a medical policy in place?
This should specify medical requirements for unit personnel; when to report issues; vaccination requirements; who is responsible for welfare on board; and reporting of prescription and non-prescription drugs. MO(D)U's also have MERP (Medical Emergency Response Plan) which supports Medical Policy and is important document for remote locations.

3.2.15 Does the company promote high standards of housekeeping and hygiene awareness, particularly in food handling and storage?
Confirm company procedures address all issues, including segregation of area from work dress to rest/recreational dress; appropriate provision of toilet facilities; linen changes weekly or better; and that good health and hygiene practices are publicised and enforced.
Contractor-specific

3.3.1 Is there evidence of training contractor personnel in the content of the MO(D)U's safety management system?

Look for records of training and sample responses from contractors. This question only applies to contractors who would sail on the vessel in some capacity and not those that come on board to conduct repairs/services during a port visit. HSSE induction, PTW training etc?

3.3.2 Is there evidence of all contractors being familiarised with the MO(D)U’s emergency procedures and requirements?

This may be part of the initial induction process, and should include personal reference documents. Use the on board briefing as a start point and attend emergency drill conducted during the inspection period.

3.3.3 Are contractor personnel encouraged to be involved in the MO(D)U’s safety management processes, such as safety meetings?

Look for evidence of participation or documented input to the agendas. If positively excluded from input, make comment as an Observation. The Inspector should where possible attend Safety meetings and Pre Touring Meeting to determine contractors attendance.

3.3.4 Are the contractor personnel qualified for their operations and the equipment placed on board the MO(D)U?

Is there evidence that contractor staff have appropriate training and "rules of engagement" for their equipment?

3.3.5 Are procedures in place to verify the adequacy of contractor personnel’s equipment before first use?

This should include the contractors equipment on board the MO(D)U.

3.3.6 Have any additional hazards associated with contractor's operations and equipment been identified and risk assessed and appropriate control measures put in place?

Control measures should include appropriate medical training. This should include all the contractors operations and equipment on board the MO(D)U.

3.3.7 Are contractors aware that they must comply with shipboard (unit) accident/incident reporting and investigation processes?

There should be a clear understanding that accidents and incidents amongst the contractor crew must be reported.

3.3.8 Do contractors supply appropriate PPE?

Does the PPE provided conform to the requirements of the work instructions, JSA’s, PTW’s, etc. for the work to be performed on board and including equipment retire/renewal processes.

Additional Comments

3.99 Additional Comments

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Navigation

4.1.1 Is there a documented procedure in place for entry of a vessel entering into the MO(D)U 500 m safety zone?
Procedure should include the use of checklists to confirm bridge and engine-room status of the support vessel entering the 500m zone and to limit operational activities on board the support vessel, such as hot work, while in the 500 meter / safety zone.

4.1.2 Are there procedures in place for entry of a MO(D)U into the 500m zone of a surface installation or subsea asset?
For mobile offshore units the inspector is to look for procedures for the unit to move within the 500 meter radius of a surface asset, sub-surface asset or well location and, the procedures for allowing another vessel such as a PSV to enter the unit 500 meter safety radius.

4.1.3 Does the operator provide guidance on minimum under keel clearance?
Look in operators navigation procedures which may be in Marine Operations Manual or within Marine Compliance Manuals or similar

4.1.4 Are the log book/rough log books maintained and is a record kept of all the marine operations while on station and navigational activities whilst on tow?
The inspector may accept logs in either written or electronic format where flag state permits electronic recording.

4.1.6 Are there written standing orders between OIM and Barge Engineer?
Notes: Standing Order Books should be checked to ascertain that all marine operational staff are instructed as to their responsibilities. Standing orders should be written to reflect his own requirements particular to the MO(D)U and the experience of the crew aboard at the time.

4.1.7 If there are standing orders in place, are they countersigned as being read and understood?

4.1.8 Has a system been established to ensure that nautical publications and charts, paper and/or electronic, for the intended voyage are on board, current and corrected up-to-date?
An on board chart and publication management system is recommended to ensure that records are kept of what charts and publications are carried and when they were last corrected. Note relating to the specific use of electronic charts. Verify that the MO(D)U has a system to renew nautical charts with up to date charts before and every rig tow and/or that the rig towmovers mobilise an up to date electronic system.

4.1.9 Was a comprehensive passage plan available for the previous voyage?
Review previous rig move plan

4.1.10 Are the factors necessary to identify a standby (soft pin) area location defined in the MO(D)U's Policies /Procedures?
Factors to be taken into account include loss of tow MO(D)U propulsion, adverse weather, prevailing wind and tide and conflicting traffic/infrastructure. Check last rig tow plan with regards to soft pin areas.

4.1.11 Does the company policies/procedures include closest point of approach (rocks, facilities, wrecks etc.) in voyage planning?

4.1.12 Is all navigation equipment in good order?
Note: Regardless of whether a MO(D)U is required by legislation to carry specific navigational equipment, if equipment is fitted then it should be operational. Random checks should be made to ensure that equipment is operational.

4.1.13 Are navigation lights in good order?
Note: Primary and secondary systems should be in good order, and there should be a procedure to check the navigation light failure alarm. Check both primary and secondary power supplies and verifying that blown lamps initiate an alarm.

Additional Comments

4.1.9 Additional Comments
If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific questions in the Chapter, the Inspector should include such additional comments in this section.
Safety and Security Management

General

5.1.1 Are all crew members aware of the identity and contact details of the Designated Person Ashore or appropriate shore-based contact?

Look for signage on board the unit detailing the DPA details. DPA data is sometimes given out during the arrival briefing. Question staff and crew during the visit if they are aware of who the DPA is.

5.1.2 Has a MO(D)U safety officer/HSE representative been designated and trained to undertake this role?

Note: One of the primary functions of the Safety officer/HSE Representative is to inspect all areas of the MO(D)U on a regular basis for safety compliance and to report any deficiencies noted. The purpose is to raise awareness, prevent accidents and to identify regular occurrences that might require the operator’s intervention on a fleet-wide basis. The function of the Safety officer/HSE Representative may not involve equipment maintenance, although it does include identifying equipment deficiencies. Safety officer/HSE Representative training can include in-house or formal shore based training. Training records must match the job description for the Safety officer/HSE Representative within the Safety Management System. The Safety officer/HSE Representative should work closely with any project-appointed HSE personnel.

5.1.3 Are designated Personnel familiar with the operation of fire fighting, life saving and other emergency equipment?

Note: Personnel should be familiar with the operation of the fixed fire fighting systems, the main and emergency fire pumps, the donning and use of breathing apparatus and oxygen resuscitation equipment. Appropriate records should be maintained.

5.1.4 Is personal protective equipment provided as required?

Note: PPE may include as boiler suits, safety footwear, eye and ear protection, safety harnesses, fall arrestors, and chemical protective equipment etc. Procedures should include the company's requirements for the inspection and replacement of PPE.

5.1.5 Are the PPE requirements for tasks clearly defined?

Documented guidance relating to the use of PPE specific to the task should be provided. Operators may specify a minimum PPE standard for any work then identify additional requirements based on the specific risks presented by the work to be performed. This may be in the form of a PPE matrix or be identified with Task Risk Assessments, Work Instructions, Job Safety Analysis or equivalent documents and processes. Work sites should be clearly marked and signage posted to indicate particular PPE requirements where applicable. The inspector shall identify the processes present or absent to substantiate his response.

5.1.6 Are personnel using PPE as required?

Inspectors shall verify by sampling and observation if the processes and practices documented and applied in question 5.1.5 for the use of PPE specific to the task are being implemented by personnel.

5.1.7 Are regular safety meetings held, are the minutes recorded and does the operator provide shore management responses?

Safety meetings are intended to permit discussion among the MO(D)U’s supervisory personnel and workforce where these relate to safety. Regular committee safety meetings should not be used for the purposes of instruction or training.

5.1.8 Does the MO(D)U have documented procedures for Man Overboard scenarios?

Check arrangements for raising the alarm and for deploying flotation and recovery equipment. How are personnel made aware of actions in the event of a Man Overboard event? Is this covered in Safety Induction upon arrival?

5.1.9 Is there a procedure for the reporting, investigation and close-out of accidents, incidents, non-conformities and near misses?

Note: Port state inspection deficiencies should be recorded as non-conformities.

5.1.10 Are smoking restrictions in place and are they being adhered to?

Restrictions should include specific controls when the MO(D)U is in the 500 m safety zone.

5.1.11 Is there an effective inspection and testing programme in place to ensure that all portable electrical equipment used on board is maintained in a satisfactory condition?

Reference: IEE Code of Practice for In-service Inspection and Testing of Electrical Equipment. Inspector to comment upon system in place and frequency of inspection regime.

5.1.12 Is all loose gear on deck, in stores and in internal spaces properly secured?
5.1.13 Does the safety management system address the control of hazardous substances used on board the MO(D)U?

This to include the handling, storage and disposal of materials such as lithium batteries, radioactive sources and biocides, together with appropriate formal training and qualification.

Medical

5.2.1 Is the hospital clean and tidy and ready for immediate use?

Check that the space is not being used for storage or alternative accommodation.

5.2.2 Is an alarm system fitted in the hospital and is it regularly tested?

Document where testing regime is specified or a company requirement. If no alarm fitted, inspector to comment upon system in place to raise the alarm for medical support.

5.2.3 Does the MO(D)U have a designated medic or crew member to provided medical care on board?

State which persons is designated. On board a MO(D)U there is normally a defined medic/doctor position.

5.2.4 Is there a system for verifying and checking medical stores?

Record date last checked and by whom.

5.2.5 Are first aid kits readily available and subjected to regular inspection to confirm their contents?

Check in Planned Maintenance System to determine if the inspection and restocking is included. Check the fire and safety plan for the minimum number and distribution of first aid kits.

5.2.6 If cardiopulmonary resuscitation (CPR) equipment, including oxygen resuscitators and defibrillators is carried, is it in good condition and regularly tested?

Check in PMS to determine if the inspection and testing is included.

5.2.7 Are personnel trained in the use of CPR equipment/ Oxygen resuscitators and defibrillators?

Check training and medical records. verify how training is conducted e.g. mannequin hands on or theoretical training?

5.2.9 Is medical advice available 24hrs a day?

Dedicated Medical advice should be in place and available 24hrs a day. Emergency numbers should be posted or readily available.

5.2.10 Is there a formal medical evacuation plan in place?

There should be evidence of a documented medical evacuation plan is place and this should be used during appropriate drills. Confirm if in bridging document or stand alone procedure and is the process understood?

Management of Change

5.3.1 Is there a documented procedure in place for the management of change?

The procedure should apply to work arising from temporary and permanent changes to organisation, personnel, systems, process, procedures, equipment, products, materials or substances, and laws and regulations. Work should not proceed unless a Management of Change process is completed which should include, as applicable:

- A risk assessment conducted by all impacted by the change.
- Development of a work plan that clearly specifies the time scale for the change and any controls.
- Measures to be implemented regarding:
  - Equipment, facilities and process - operations, maintenance, inspection procedures.
  - Training, personnel and communications.
  - Documentation
  - Authorisation of the work plan by the responsible person(s) through to its completion. Inspector to verify if guidance provided as to when an MOC is required to be raised?

5.3.2 Is there evidence to demonstrate that the MoC process is being applied in accordance to MoC procedure?

For example, the addition or removal of MO(D)U or contractor equipment and related changes to procedures.

5.3.3 If any equipment required by operations is retro-fitted or temporarily installed, is there a formal process for assessing the integrity of connections to the MO(D)U's systems?

May include the requirement for Class and or flag approval. MO(D)U systems could include hydraulic, electrical, air, water, drainage and safety systems, such as fire detection.
Drills, Training and Familiarisation

5.4.1 Is there a procedure for the safety induction of new personnel, including contractors?
On-board training in the use of life-saving appliances, including survival craft equipment and in the use of the MO(D)U’s fire extinguishing appliances shall be given as soon as possible after a person joins a MO(D)U.

5.4.2 Are emergency drills being carried out regularly?
Lifeboat and fire drills should be carried as required by the flag State. Check that all personnel on board are required to routinely participate in drills. Note: Emergency procedures should at least include collision, grounding, flooding, heavy weather damage, structural failure, fire, explosion, gas or toxic vapour release, critical machinery/equipment failure, re-start after partial or total power failure, rescue from enclosed spaces, serious injury and helicopter operations. Drills should include seabed foundation failure (punch through) and Jacking System Failure.

5.4.3 Is regular training in the use of life-saving equipment being undertaken and are appropriate records maintained for each person on board?
All personnel shall be given instructions which shall include but not necessarily be limited to:
- Use of lifejackets and thermal protective aids;
- Launching and operation of survival craft;
- Problems of hypothermia, first-aid treatment for hypothermia and other appropriate first-aid procedures;
- Special instructions necessary for use of the MO(D)U’s life-saving appliances in severe weather and severe sea conditions.

5.4.4 Are ‘grab bags’ available in cabins?
Grab bags may contain, for example, smoke hoods, torch/flashlight or chemi-luminescent sticks or gloves as an aid for personnel to escape from smoke-filled accommodation.

5.4.5 Do MO(D)U specific emergency procedures exist covering, for example, fire, explosion, grounding, pollution, loss of stability, etc?
The Emergency Response Plan should include the following:
* Effective management structure in the event of an emergency
* Identification of onshore facilities
* Linking arrangements with contractor plans, national authorities, local administration, local emergency and support services
* Identification of key personnel and their contact details
* Resource information
* Detailed and comprehensive evacuation plans including facility shutdown and securing procedures (This will include hurricane evacuation if appropriate.)
* A training program
Where applicable, the Emergency Response Plan should address the following emergency scenarios:
* Fire and explosion on-board
* Major escape of flammable and/or toxic vapours, gases, oil or chemicals
* Grounding, collisions and unintended contacts
* Enclosed space rescues
* Casualty evacuation and treatment
* Loss of stability, watertight integrity
* Loss of station keeping
* Emergency disconnect
* Helicopter incidents including crashing on deck
* Meteorological hazards such as hurricanes, squalls, high winds, electrical storms, wave height
* Security breaches including criminal and terrorist activities, sabotage and threats against MO(D)U or facilities
* Rack Phase Difference
* Seabed foundation failure (punch through)
* Jacking System Failure
Ship Security

5.5.1 If MO(D)U has an approved SSP, has a ship security officer been designated and do they hold appropriate certification?

STCW, Regulation VI/5 - Mandatory minimum requirements for the issue of certificates of proficiency for ship security officers

1 Every candidate for a certificate of proficiency as ship security officer shall:
   1 have approved seagoing service of not less than 12 months or appropriate seagoing service and knowledge of ship operations; and
   2 meet the standard of competence for certification of proficiency as ship security officer, set out in section A-VI/5, paragraphs 1 to 4 of the STCW Code.

2 Administrations shall ensure that every person found qualified under the provisions of this regulation is issued with a certificate of proficiency.

5.5.2 If the MO(D)U is NOT required to have an approved SSP because of unit type, are there Security Procedures in place?

5.5.3 Is a deck watch being maintained to prevent unauthorised access?

Note: Are there processes/procedures in place to prevent unauthorized access to the unit. Inspector to note what processes/procedures in place. Is MARSEC level displayed. MO(D)U's manned 24/7.

5.5.4 If required, are security drills carried out at regular intervals?

To ensure the effective implementation of the provisions of the ship security plan, drills should be conducted at least once every three months. ISPS Code, Part B, 13.6

5.5.5 Are personnel aware of the function of the ship security alert system and how to operate it?

Under no circumstances should enquiries be made as to the system details or location of activation points. All ships constructed after 1st July 2004 shall be fitted with a ship security alert system. (SOLAS XI-2/6.1.1) The ship security alert system shall, when activated, initiate and transmit a ship-to-shore security alert to a competent authority, which in these circumstances may include the Company*, identifying the ship, its location and indicating that the security of the ship is under threat or it has been compromised. (SOLAS XI-2/6.2.1) It shall not send the security alert to other ships or raise the alarm on board and it shall continue until deactivated or reset. (SOLAS XI-2/6.2.2, 3 and 4) The ship security alert system shall be capable of being activated from the navigation bridge and in at least one other location. (SOLAS XI-2/6.3.1) * Note: OVID defines Company as the vessel Operator.

Control of Work

5.6.1 Does the MO(D)U operate a documented permit to work system?

A permit to work system should:
• Cover all areas of the MO(D)U.
• Address MO(D)U crew and contractor work scopes.
• Define the scope of work.
• Identify hazards and assess risk.
• Establish control measures to eliminate or mitigate hazards.
• Link the work to other associated work permits or simultaneous operations.
• Be authorised by the responsible person(s).
• Communicate the above information to all involved in the work.
• Ensure control over the return to normal operations.

The system should cover, as a minimum, the following activities:
• Hot work.
• Confined space entry.
• Hazardous tasks.
• Work involving high voltages.
• Working at height and over the side.
• Lock Out/Tag Out processes.
• The need for multiple permits.

5.6.2 Does the PTW system specify roles and responsibilities?

E.g. Performing authority, Area Authority, Isolating Authority, Gas Tester, Fire Watch and Enclosed Space standby
5.6.3 Is there a register recording permits issued and isolations performed?
As best practice the register should record the permit number, area of work, summary of task, date/time permit is issued, revalidated and finally cancelled on completion of work. For isolations, the register should record the isolation certificate number, summary of equipment isolated date/time of issue and final cancellation.

5.6.4 Does the PTW system specify when shore management approval is required prior to work being carried out?
The system should require company management approval for higher risk activities, such as hot work in identified hazardous areas.

5.6.5 Are the period of validity and requirements for revalidation specified on the permit?
Best practice limits a permit's validity to specified individuals on a single shift without formal revalidation.

5.6.6 Do personnel receive formal training in the use of the PTW system?
Training to include specific training on an individual's roles and responsibilities.

5.6.7 Does the PTW system include an audit process?
Examples are audits by Safety Officer Safety officer/HES Representative and OIM as well as those conducted by shore management representatives during MO(D)U visits. Check that there is an effective process of monitoring permit compliance on day-to-day basis.

5.6.8 Does the PTW or SMS include a "Stop the Job" policy or statement?
The policy or statement should develop and encourage a “Stop the job” culture if anyone feels unsafe or uncertain about any aspect of a task or operation.

5.6.9 Does the PTW system include an effective isolation (Lock Out/Tag Out) process?
Any work on energy systems - mechanical, electrical, process, hydraulic and others - should not proceed unless:
• The method of isolation and discharge of stored energy are agreed and executed by a competent person(s).
• Any stored energy is discharged.
• A system of locks and tags is utilised at isolation points.
• A test is conducted to ensure the isolation is effective.
• Isolation effectiveness is periodically monitored (is there evidence of positive isolation?) Check also if a long-term isolation record is maintained and if there is evidence of a policy for the temporary re-instatement of systems.

5.6.10 Are effective procedures in place to ensure safe work on high voltage systems and do they address appropriate access arrangements?
High Voltage is generally deemed to be >1000 volts (or less if company specifies).

5.6.11 If the MO(D)U has high voltage equipment, are staff suitably trained and been deemed competent to perform maintenance on it?
Check for evidence of ETO and Electricians having High Voltage training. In HV switchboard rooms check for HV rubber gloves suits and insulating hooks
Guidance update: HV Training and Awareness
Procedures should be in place and staff should be aware of potential hazards associated with high voltage systems. Procedures may include, but are not limited to:
• Awareness training to understand the risks of high voltage electricity
• Safe system of work for maintenance - procedures
• Repairs/maintenance of high voltage equipment only conducted by competent persons
• Use of Lock Out / Tag Out system and warning signs during maintenance or repair
• Medical emergency procedures
5.6.12 Are there specific procedures in place for any hot work on board?

Hot work' is defined as any work involving sources of ignition or temperatures sufficiently high to cause the ignition of a flammable gas mixture.

In conducting hot work:
• the workspace and bilges shall be clean, dry and free of oil
• the workspace and enclosed spaces should be tested immediately prior to starting the Hot Work and shown to have an LEL of less than 1 per cent
• all meters used shall be properly calibrated and their function tested just prior to being used
• the atmosphere should be monitored and ventilated throughout the hot work
• fire resistant blankets should be used to shield other areas and prevent sparks from falling to lower levels
• fire hoses should be rigged and charged with water at all times

5.6.13 Are users of welding equipment specifically trained and qualified for the equipment found on board?

5.6.14 If electric welding equipment is provided, is it in good order, inspected regularly and are written safety guidelines available on site?

Welding and other equipment used for hot work should be carefully inspected before each occasion of use to ensure that it is in good condition. Where required, it must be correctly earthed. Special attention must be paid when using electric arc equipment to ensure that:
• Electrical supply connections are made in a gas free space.
• Existing supply wiring is to carry the electrical current demand without overloading, causing heating.
• Insulation of flexible electric cables is in good condition.
• The cable route to the work site is the safest possible, only passing over gas free or inserted spaces.
• The welding return lead should be connected as near as practicable to the welding arc; metal rails, pipes and frames should not be used as part of the welding circuit unless they are a part of the work piece itself.

5.6.15 If gas welding and burning equipment is provided, is it inspected regularly and in good order?

Check records of inspection. Confirm that flashback arrestors are fitted and in good order.

5.6.16 Are spare oxygen and acetylene cylinders stored apart in a dedicated storage and is the storage in a clearly marked, well-ventilated position outside the accommodation and machinery spaces?

Oxygen and Acetylene should be kept in separate compartments except in the case of the cylinders that are in use, which may be stored in the same compartment. Cylinders should be stowed away from heat sources and should not be in heavy traffic areas to prevent accidental knocking over or damage from passing or failing objects. Valve caps should remain on cylinders not connected for use. Full and empty cylinders should be segregated. Cylinders should be stored with the valve end up.

Storage areas should be free of combustible material and not exposed to salt or other corrosive chemicals. Check whether there is a procedure in place to verify the contents of gas cylinders.

5.6.17 Are there procedures in place covering the use of portable electrical equipment on deck?

Procedure should also include controls on the use of wandering leads and their inspection and maintenance requirements. 

5.6.18 Are all spaces that are classed as 'enclosed spaces' identified and clearly marked?

An enclosed space is any enclosed area that:
- Is large enough for personnel to enter.
- Has limited or restricted means of entry.
- Is not designed for normal or continuous occupancy.

It can be any space of an enclosed nature where there is a risk of death or serious injury from hazardous substances or dangerous conditions (e.g. lack of oxygen, machinery located within the space, etc.). Enclosed spaces include cargo tanks, bulk tanks, ballast tanks, fuel tanks, water tanks, lubricating oil tanks, slop and waste oil tanks, sewage tanks, cofferdams, duct keels, void spaces and trunkings, pipelines or fittings connected to any of these. They also include any other item of machinery or equipment that is not routinely ventilated and entered, such as boilers and main engine crankcases. Procedures should ensure that no person shall enter any enclosed space unless all other alternatives to entry have been considered.
5.6.19 Are there specific procedures in place for enclosed space entry?

Procedures should ensure that no person shall enter any enclosed space unless all other alternatives to entry have been considered and:

- A valid entry permit has been issued (Note: some permit systems may require a work permit in addition to an entry permit for work conducted in an enclosed space).
- Lock Out/Tag Out of pipework and machinery has been completed with fully completed isolation tags and locks in place (as required).
- The work space has been tested and found gas free.
- Ventilation is maintained throughout entry and the atmosphere is monitored.
- Lighting, including a back-up source and safe access has been provided.
- During the hazard assessment phase, the MO(D)U’s contingency plan for enclosed space rescue should be reviewed to ensure it is appropriate for the specific entry, its contents discussed and the necessary equipment readily available.
- An experienced person should be standing by who is capable of initiating the alarm/response procedure.
- Communications procedures have been agreed.

MO(D)U Code IMO RESOLUTION MSC.358(92) (Adopted on 21 June 2013) requires that by 1st Jan 2015 14.13 Enclosed space entry and rescue drills. Crew members with enclosed space entry or rescue responsibilities should participate in an enclosed space entry and rescue drill to be held on board the unit at least once every two months.

Each enclosed space entry and rescue drill should include:
1 checking and use of personal protective equipment required for entry;
2 checking and use of communication equipment and procedures;
3 checking and use of instruments for measuring the atmosphere in enclosed spaces;
4 checking and use of rescue equipment and procedures;
5 instructions in first aid and resuscitation techniques.

5.6.20 Are portable gas and oxygen analysers provided appropriate to the MO(D)U’s operations and are they calibrated and in good order?

Check calibration records and that tests and inspections are included in the MO(D)U planned maintenance system. Check the availability of span gas on board. Inspector to record last calibration and frequency required.

5.6.21 Are personnel on-board trained and competent in the use and calibration of portable oxygen and gas analysers?

Records should be maintained; check expiration of calibration gas. Where calibration is performed ashore, the inspector shall record this as an observation and document the interval of the last calibration and the next planned calibration date.

5.6.22 Are there specific procedures covering working at height or over side work?

A permit may be required, for example, when any worker is:

- Exposed to a possible fall of two metres or more.
- Working near an exposed edge.
- Working outside of the MO(D)Us side railings.
- Working over the MO(D)U’s side.
- Using scaffolding.

Lifting Equipment
5.7.1 Are up-to-date records maintained for the regular inspection, maintenance and testing of all lifting devices?

E.g. chain register/lifting appliance register, planned maintenance system, etc.

Lifting devices include:

- Pedestal cranes.
- Mobile cranes.
- Overhead gantry cranes.
- Loose lifting gear - chain hoists, lever hoists, slings, shackles, pendants etc.
- Wire line masts.
- Draw works and travelling blocks.
- Lifts for persons or goods.
- Abseiling equipment.
- Sling-sets attached to containers or pieces of equipment.
- Runway beams and pad eyes to which lifting equipment is anchored or fixed.
- Emergency escape equipment found on offshore installations such as lifeboats (including any davits, winches, ropes, etc.) and Donuts. Periodic inspection should be carried out in accordance with the relevant legislation and such inspections may be carried out by third parties. All equipment, which requires thorough examination should have been identified. Prior to using lifting equipment for the first time a thorough examination should be carried out, unless the equipment has not been used before and is not more than 12 months old. A thorough examination must be carried out if the safety of the lifting equipment is dependent upon installation or assembly conditions. All lifting equipment deteriorates in use and therefore a thorough examination must be carried out. Examples of thorough examination intervals are:
  - Every 6 months if the equipment is used for lifting persons.
  - Every 6 months for lifting accessories (slings, shackles etc.).
  - Every 12 months for all other lifting equipment (chain hoists, lever hoists etc.). A thorough examination should also be carried out following exceptional circumstances which may have jeopardised the safety of the equipment, for example, following an overload or change out of a major load path item. In addition to thorough examinations, where user risks have been identified inspections should be carried out. The inspection should include visual checks and function tests and be carried out by persons competent to do so.

5.7.2 Is an inspection and maintenance programme in place for other lifting equipment such as wire or webbing slings, shackles, eyebolts etc.?

This may be in the form of on board inspection regimes, change out on a 6 monthly basis of a rigging locker or the attendance of 3rd party inspection companies who catalogue and inspect all loose lifting gear and provides databases of equipment linked to inspection certificates and history either by CD or on line systems.

5.7.3 Are test certificates available on-board for all items of loose lifting equipment including wire or webbing slings, shackles, eyebolts, etc.?

Throughout the life of any piece of lifting equipment it must be accompanied by a valid certificate to show that it has been manufactured properly and, subsequently received thorough examination, to ensure continued integrity and fitness for safe use. For small items of equipment such as small shackles, batch certificates may be issued.

5.7.4 Are safety devices associated with lifting appliances fully operational?

E.g. emergency stops, load and overload indicators, etc.

5.7.5 Are cranes, derricks, pad eyes and other securing points clearly marked with their SWL?

Safe Working Load (SWL) - the maximum load that the equipment may safely lift. If it is not possible to mark the equipment with the SWL, a coding system or labels may be used. If the SWL is dependent upon the configuration of the equipment, the SWL for each configuration should either be marked on the equipment or the information kept with the equipment where it is readily available to the operator, for example load-radius charts. Where the SWL changes with the operating radius of the equipment, a load-limiting device may need to be fitted to inhibit the equipment and provide visual and/or audible warnings. Any structural element of a piece of lifting equipment which can be separated from the equipment (boom section, slew ring, etc.) should be marked to indicate the equipment of which it is a part. Where a number of accessories are brought together and not dismantled, for example a spreader beam with slings and shackles, the assembly should be marked to indicate its safety characteristics. Lifting equipment and accessories should be marked with any relevant safety information such as the thickness of plates, which may be lifted with a plate clamp. Lifting equipment designed for lifting persons should be marked as such and the carrier should display the SWL and maximum number of persons, which may be carried.
5.7.6 Are all items of lifting gear marked with a unique identification?

The equipment should be hard-stamped - e.g. ferrules on wire slings: affixed with a metal plate - e.g. chain hoist; or painted onto the equipment - e.g. runway beams.

5.7.7 Is a colour-coding or alternative system in use to identify inspected lifting equipment?

Check that it is being adhered to, i.e. no evidence of wrong colour/non-coded equipment in use, that non-coded/wrong colour equipment is segregated and access to same is denied. Where there is more than one winch in a drilling derrick it may be possible for a winch, which has not been designated for man-riding, to be used for lifting of persons. In such a case all winches shall be clearly marked as either being suitable for lifting of persons or not.

5.7.8 Is there a programme for routine testing, i.e. start-up, daily, weekly and monthly checks of lifting equipment?

Including the use of check lists. Inspectors should verify that checklists for equipment are in use and where defects are identified they are being addressed via the MO(D)U maintenance supervisor and the RMS/PMS.

5.7.9 Is there a procedure requiring that all lifting operations are properly planned?

The plan will need to address the risks identified during a risk assessment and should identify all resources, procedures and responsibilities necessary for safe operation. The degree of planning will vary considerably depending on the type of lifting equipment and complexity of the lifting operation and degree of risk involved. There are two elements to the plan: the suitability of the lifting equipment and the individual lifting operation to be performed. As a means of minimising risk, the plan should consider the following areas:

- Working under suspended loads.
- Breakdown in communication during blind lifting.
- Attaching/detaching the load.
- Environment and location.
- Proximity hazards.
- Lifting persons with non-dedicated equipment
- Overloading.
- Pre-use checks by the operator.
- Deterioration in the condition of lifting accessories.
- The experience, competence and training of all associated personnel. Following a risk assessment and preparation of a standard instruction or procedure, the person using the equipment can normally plan routine lifts on an individual basis. A routine plan should be reviewed on a regular basis to ensure that it remains valid. For any lifting operation it is necessary to:
  a) Ensure that a risk assessment is in place.
  b) Select suitable equipment for the range of tasks.
  c) Plan the individual lifting operation Particular responsibilities are placed on the deck crew and crane operator to ensure that radio communication is maintained, especially during blind lifting.

Lifts utilising cranes, hoists, or other mechanical lifting devices should not commence unless:

- An assessment of the lift has been completed and the lift method and equipment has been determined by a competent person(s)
- Operators of powered lifting devices are trained and certified for that equipment.
- Rigging of the load is carried out by a competent person(s).
- Lifting devices and equipment have been certified for use within the last 12 months (at a minimum).
- The load does not exceed dynamic and/or static capacities of the lifting equipment.
- Any safety devices installed on lifting equipment are operational.
- All lifting devices and equipment have been visually examined before each lift by a competent person(s).

5.7.10 Does the MO(D)U have a system in place for the quarantine of damaged or uncertified lifting equipment?

Check for a quarantine area on board the unit, Inspector to document if the quarantine area is secure from reuse once items are deposited. Inspectors may be advised that damaged equipment is destroyed to prevent reuse and should check for procedures that document this requirements and examples /records of equipment with drawn from service and destroyed.

5.7.11 Is there a company policy/procedure for blind lifts?

During a blind lift, the load cannot be watched by the crane operator for the complete cycle of the operation. To mitigate this additional level of risk additional following safety precautions are put in place and documented.

5.7.12 Are any personnel elevators (lifts) on-board the MO(D)U inspected and certified in date?

Are any personnel elevators (lifts) on-board the vessel included in the MO(D)U’s PMS? Inspectors are to verify the last inspection date and sight testing certification. In many cases the test certificates is posted within the lift.
**Offshore Personnel Transfer**

5.8.1 Does the MO(D)U have documented personnel transfer and manriding procedures?

A risk assessment should be carried out to confirm that the equipment can be used safely. A means of communication must be provided between the passenger and the lifting equipment operator. May be hand signals but radio communication is preferred. The equipment must be manned at all times during person-lifting operations. Reliable means of rescue available in the event of equipment failure. Appropriate supervision is made available for the operations. If a crane is to be used for lifting persons then the following must be in place: Free-fall capability lock-out. Hoisting and lowering limiters. Rated capacity indicator and limiter. Schedule of daily inspections of the crane or winch and carrier by a competent person. Adequate instruction for all persons involved - passenger, operator, supervisor, etc.

5.8.2 Are all personnel transfer and manriding baskets subjected to an inspection and certification regime?

Sight certification and inspection records. Is the pax transfer baskets in date for inspection. Inspectors are to document the periodic inspection regime in place for this equipment.

5.8.3 Have all personnel involved in lifting/man riding operations undergone training to carry out such operations?

Inspector to determine who performs the training of personnel involved in lifting/man riding operations.

5.8.4 Where fitted, is the offshore personnel gangway certified and subject to an inspection programme?

5.8.5 Is there a formal check system for confirming who crosses the gangway, and is there an effective back up check system to ensure discrepancies are raised and addressed?

All procedures/checks should be positive action type, not a default system. A secondary check process should also be in place as a back-up. The Inspector should make an Observation if positive and secondary systems are not effectively operated.

**Life Saving Appliances**

5.9.1 Are MO(D)U -specific life-saving equipment training manuals available?

A training manual shall be provided in each crew mess room and recreation room, or in each cabin. (SOLAS III/35.2) The training manual shall contain instructions and information, in easily understood terms illustrated wherever possible, on the life-saving appliances provided in the MO(D)U and on the best methods of survival. Any part of such information may be provided in the form of audio-visual aids in lieu of the manual. The following shall be explained in detail: May not be required on a moored MO(D)U as not SOLAS-MO(D)U Code does not require. If a drillship this would apply:

- Donning of lifejackets, immersion suits and anti-exposure suits;
- Muster at assigned stations;
- Boarding, launching and clearing the survival craft and rescue boats;
- Method of launching from within survival craft;
- Release from launching appliances;
- Illumination in launching areas;
- Use of all survival equipment;
- With the assistance of illustrations, the use of radio life-saving appliances;
- Use of drogues;
- Use of engine and accessories;
- Recovery of survival craft and rescue boats, including stowage and securing;
- Hazards of exposure and the need for warm clothing;
- Best use of survival craft facilities in order to survive;
- Methods of retrieval, including the use of helicopter gear;
- All other functions contained in the muster list and emergency instructions; and
- Instructions for repair of the life saving appliances. (SOLAS III/35.3)
5.9.2 Are MO(D)U specific life saving equipment maintenance instructions available and are weekly and monthly inspections being carried in compliance with applicable MO(D)U Code and SOLAS requirements?

The following tests and inspections shall be carried out weekly and a report of the inspection shall be entered in the log-book:
- All survival craft, rescue boats and launching appliances shall be visually inspected to ensure that they are ready for use. The inspection shall include, but is not limited to, the condition of hooks, their attachment to the lifeboat and the on-load release gear being properly and completely reset;
- All engines in lifeboats and rescue boats shall be run for a total period of not less than 3 minutes, provided the ambient temperature is above the minimum temperature required for starting and running the engine. During this period of time, it should be demonstrated that the gearbox and gearbox train are engaging satisfactorily. If the special characteristics of an outboard motor fitted to a rescue boat would not allow it to be run other than with its propeller submerged for a period of 3 minutes, it should be run for such a period as prescribed in the manufacturer's handbook. In special cases, the Administration may waive this requirement for ships constructed before 1 July 1986;
- Lifeboats, except free-fall lifeboats, on cargo ships shall be moved from their stowed position, without any persons on board, to the extent necessary to demonstrate satisfactory operation of launching appliances, if weather and sea conditions so allow;
- And the general emergency alarm shall be tested. (SOLAS III/20.6) All lifeboats, except free-fall lifeboats, shall be turned out from their stowed position, without any persons on board if weather and sea conditions so allow. (SOLAS III/20.7.1)

Monthly inspections. Inspection of the life-saving appliances, including lifeboat equipment, shall be carried out monthly using the checklist required by regulation 36.1 to ensure that they are complete and in good order. A report of the inspection shall be entered in the log-book. (SOLAS III/20.7.2) Instructions for on-board maintenance shall be easily understood, illustrated wherever possible and as appropriate, shall include for each appliance:
- A checklist for use when carrying out the monthly inspections required by SOLAS III/20.7.2 and III/36.1;
- Maintenance and repair instructions;
- A schedule of periodic maintenance;
- A diagram of lubrication points with the recommended lubricants;
- A list of replaceable parts;
- A list of sources of spare parts; and
- A log for records of inspections and maintenance. (SOLAS III/36)

5.9.3 Are muster lists displayed on-board?

Muster lists and Station Bills shall be exhibited in conspicuous places throughout the MO(D)U including the navigation bridge, engine room and crew accommodation spaces. (SOLAS III/8.3) The muster list shall show the duties assigned to the different members of the crew including:
- closing of the watertight doors, fire doors, valves, scuppers, side scuttles, portholes and other similar openings in the ship;
- equipping of the survival craft and other life-saving appliances;
- preparation and launching of survival craft;
- general preparations of other life-saving appliances;
- muster of passengers;
- use of communication equipment;
- manning of fire parties assigned to deal with fires; and
- special duties assigned in respect to the use of fire-fighting equipment and installations. (SOLAS III/37.3) The muster list shall specify which officers are assigned to ensure that life-saving and fire appliances are maintained in good condition and ready for immediate use. (SOLAS III/37.4) The muster list shall specify substitutes for key persons who may become disabled, taking into account that different emergencies may call for different actions. (SOLAS III/37.5) The muster list shall be prepared before the MO(D)U proceeds to sea. (SOLAS III/37.7)
5.9.5 If MO(D)U has lifeboats, is there a maintenance and test schedule for lifeboat on-load release gear?

Lifeboat on-load release gear shall be:
- Maintained in accordance with instructions for on-board maintenance as required by regulation 36;
- Subjected to a thorough examination and operational test during the annual surveys required by regulations I/7 and I/8 by properly trained personnel familiar with the system; and - operationally tested under a load of 1.1 times the total mass of the lifeboat when loaded with its full complement of person and equipment whenever the release gear is overhauled. Such overhauling and test shall be carried out at least once every five years. (SOLAS III/20.11.2) A change to the MO(D)U Code (adopted by Resolution MSC.387(94) as new paragraph 14.12.4.3) now allows operators to use alternative drill methods, provided they are following the draft Guidelines on Alternative Methods for Lifeboat Drills on MO(D)Us (MSC.1/Circ.1486 12 Jan 2015).

Units certified to the 1979 and 1989 MO(D)U Codes may also apply these guidelines. This requires the operator to demonstrate compliance with the requirements of MSC 1/Circ.1486.

The guidelines include requirements for equipment maintenance, inspections, servicing, and personnel competence and training in accordance with the Recommendations for the Training and Certification of Personnel on Mobile Offshore Units (Resolution A.1079 (28)).

Note: Of particular importance in the checking of lifeboats is the on-load release system fitted to enclosed lifeboats and the maintenance routines for them. A high percentage of accidents at sea are attributed to lifeboats and their release systems. Particular attention should be paid to the adherence to manufacturer’s maintenance requirements.

5.9.6 If MO(D)U has lifeboats, are the lifeboats, including their equipment and launching mechanisms, in good order?

Each survival craft shall be stowed in a state of continuous readiness so that two crew members can carry out preparations for embarkation and launching in less than 5 minutes. (SOLAS III/13.1.3) Each lifeboat shall be launched with its assigned operating crew aboard and manoeuvred in the water at least once every three months during an abandon ship drill. (SOLAS III/19.3.3.3) In the case of a lifeboat arranged for free-fall launching, at least once every three months during an abandon ship drill, the crew shall board the lifeboat, properly secure themselves in their seats and commence launch procedures up to, but not including, the actual release of the lifeboat (i.e., the release hook shall not be released). The lifeboat shall then either be free-fall launched with only the required operating crew on board, or lowered into the water by means of the secondary means of launching with or without the operating crew on board. In both cases, the lifeboat shall thereafter be manoeuvred in the water by the operating crew. At intervals of not more than six months, the lifeboat shall either be launched by free fall with only the operating crew on board, or simulated launching shall be carried out in accordance with the guidelines developed by the Organization. (SOLAS III/19.3.3.4) Emergency lighting for mustering and abandonment shall be tested at each abandon ship drill. (SOLAS III/19.3.3.9) Falls used in launching shall be inspected periodically (Refer to Measures to prevent accidents with lifeboats (MSC.1/Circ.1206) with special regard for areas passing through sheaves, and renewed when necessary due to deterioration of the falls or at intervals of not more than 5 years, whichever is the earlier. (SOLAS III/20.4.1) Each free-fall lifeboat shall be fitted with a release system which shall be designed to test the release system without launching the lifeboat. (LSA Code IV/4.7.6.4) Each lifeboat shall be clearly marked with the number of persons for which the lifeboat is approved and the name and port of registry. Means of identifying the ship to which the lifeboat belongs and the number of the lifeboat shall be marked in such a way that they are visible from above. (LSA Code IV/4.4.9) Notes: It is very important to check the lifting hooks and their associated structure, in particular the connections to the lifeboat keel. These are occasionally found to be severely wasted. Lifeboat equipment is detailed in the LSA Code IV/4.4.8 and the general requirements for enclosed lifeboats in the LSA Code IV/4.6, although under SOLAS III/32.3.5 the totally enclosed lifeboats carried on ships constructed before 1st July 1986 need not comply with the requirements of the LSA Code IV/4.6. Amendments to SOLAS III/19 (Emergency training and drills) and 20 (Operational readiness maintenance and inspections) came into force on 1st July 2006. The amendments concern the conditions in which lifeboat emergency training and drills should be conducted and introduce changes to the operational requirements for maintenance, weekly and monthly inspections so as not to require any persons to be on board, and servicing of launching appliances and on-load release gear.

5.9.7 Is there a procedure in place for the periodic inspection of davits, fall wires and brake mechanisms?

Check the PMS includes these items and addresses the periodic replacement of fall wires.

5.9.8 Are lifeboat (if fitted) and life raft operating instructions displayed?

Posters or signs shall be provided on or in the vicinity of survival craft and their launching controls shall:
- Illustrate the purpose of the controls and the procedures for operating the appliance and give relevant instructions or warnings;
- Be easily seen under emergency lighting conditions; and
- Use symbols in accordance with resolution A.760, as amended by MSC.82. (SOLAS III/9.2).
5.9.9 If the MO(D)U has a lifeboat designated as a rescue boat, is the rescue boat, including its equipment and launching arrangement, in good order?

   Lifeboats which are designated as rescue boats shall be stowed in a state of continuous readiness for launching in not more than 5 minutes. (SOLAS III/14.1)

   Notes: Rescue boat equipment is detailed in the LSA Code V/5.1.2.2, 3 and 4. With respect to launching equipment, rescue boats should comply with the requirements of the LSA Code 4.4.7.6 (by LSA Code 5.1.1.1) and either have two release capabilities, one off-load and one on-load, or only one if the rescue boat can only be released when waterborne. The on-load release shall be:
   - Protected against accidental or premature use;
   - To prevent a premature on-load release, on-load operation of the release mechanism should require a sustained and deliberate action by the operator;
   - To prevent an accidental release the mechanical protection (interlock) should only engage when the release mechanism is properly and completely set;
   - The release mechanism shall be so designed that crew members in the lifeboat can clearly observe when the release mechanism is properly and completely reset;
   - Clear operating instructions should be provided with a suitable worded warning notice;
   - Where a single fall or hook system is used for launching, the above requirements need not apply and a single capability to release the rescue boat only when it is waterborne will be adequate.

   Does the unit have sufficient personnel assigned to operate the rescue craft? Inspector to sample the records for persons currently aboard the unit and their relief (back-to-back) for the minimum required rescue boat training and certification. Inspector to examine training and drills records to ascertain if the assigned personnel have experience operating the installed equipment.

5.9.10 If the MO(D)U is equipped with a Fast Rescue Boat is the equipment in good order and regularly maintained. Is the Fast Rescue Boat being launched in accordance with the requirements of the MO(D)U code requirements?

   A fast rescue boat should be launched at intervals of 1 month where circumstances permit and at a maximum interval of 3 months. State the last date of exercise and confirm that there are sufficient personnel on board allocated to the boat with Fast Rescue Boat Training SOLAS 19 3.3.6 states.

5.9.11 Are life rafts in good order?

   Is the last inspection date visible and less than 1 year old, container free from apparent defects and the life raft stowed uninhibited for emergency deployment/release?

5.9.12 Are hydrostatic releases, where fitted, correctly attached and in good order?

   Every life raft shall be stowed with its painter permanently attached to the ship. (SOLAS III/13.4.1)
   Each life raft or group of life rafts shall be stowed with a float-free arrangement so that each floats free and if inflatable, inflates automatically when the ship sinks. (SOLAS III/13.4.2) Life rafts shall be so stowed as to permit manual release of one raft or container at a time from their securing arrangements. (SOLAS III/13.4.3) Note: Some hydrostatic release manufacturers recommend that each life raft is fitted with its own individual hydrostatic release unit (HRU), to prevent the possibility, where more than one life raft is utilising the same release, of one of the life rafts breaking the weak link before the second or subsequent life rafts have inflated. Where more than one life raft is attached to a single HRU, each of the rafts must be fitted with its own weak link. Life rafts stowed in the forward part of the vessel do not require a HRU.

5.9.13 Are survival craft portable VHF radios and Search and rescue Radar Transponders in good order and charged?

   All lifeboats should carry a two-way VHF radiotelephone apparatus. In addition, at least two such apparatuses should be available on the MO(D)U, so stowed that they can be rapidly place in any life raft. All two-way VHF radiotelephone apparatus should conform to performance standards not inferior to those adopted by the Organization.
5.9.14 Are lifebuoys, lights, buoyant lines, quick release mechanisms and self-activating smoke floats, SARTS and EPIRBS in good order?

Cargo ships shall carry not less than the following numbers of lifebuoys:
- Under 100 metres in length – 8;
- between 100 metres and under 150 metres – 10;
- between 150 metres and under 200 metres – 12;
- 200 metres and over – 14. (SOLAS III/32.1.1) Lifebuoys shall be:
  - So distributed as to be readily available on both sides of the ship and as far as practicable on all open decks extending to the ship’s side;
  - At least one shall be placed in the vicinity of the stern; and
  - So stowed as to be capable of being rapidly cast loose and not permanently secured in any way. (SOLAS III/7.1.1) At least one lifebuoy on each side of the ship shall be fitted with a buoyant line, equal in length to not less than twice the height at which it is stowed above the waterline in the lightest seagoing condition, or 30 metres, whichever is the greater. (SOLAS III/7.1.2) Not less than one half of the total number of lifebuoys shall be provided with self-igniting lights; Not less than two of these shall also be provided with lifebuoy self-activating smoke signals capable of quick release from the navigating bridge; Lifebuoys with lights and those with lights and smoke signals shall be distributed equally on both sides of the ship and shall not be the lifebuoys provided with lifelines. (SOLAS III/7.1.3) Lifebuoys intended to operate the quick-release arrangement provided for the self-activated smoke signals and self-igniting lights shall have a mass sufficient to operate the quick release arrangement. (LSA Code II/2.1.1.7)"

Verify date of rechargeable batteries and spare lithium batteries carried and date of expiry not exceeded. SARTS battery dates to be in date.

5.9.15 Are lifejackets in good order?

A lifejacket shall be provided for every person on board and, in addition, a sufficient number of lifejackets shall be carried for persons on watch and for use at remotely located survival craft stations. The lifejackets carried for persons on watch should be stowed on the bridge, in the engine control room and at any other manned watch station. (SOLAS III/7.2.1) The lifejackets used in totally enclosed lifeboats, except free-fall lifeboats, shall not impede entry into the lifeboat or seating including operation of the seat belts in the lifeboat. (SOLAS III/7.2.3) Lifejackets selected for free-fall lifeboats and the manner in which they are carried or worn, shall not interfere with entry into the lifeboat, occupant safety or operation of the lifeboat. (SOLAS III/7.2.4) Make an Observation if more than one type of lifejacket is carried on board.

5.9.16 Are lifejacket donning instructions displayed?

Ensure instructions include all types of lifejacket carried on board. Reference SOLAS Part B reg 8 and MO(D)U Code 89 14.10 .

5.9.17 If MO(D)U is outfitted with immersion suits, are the immersion suits in a satisfactory condition?

An immersion suit or an anti-exposure suit, of an appropriate size, shall be provided for every person assigned to crew the rescue boat. If the ship is constantly engaged in warm climates where, in the opinion of the Administration thermal protection is unnecessary, this protective clothing need not be carried (SOLAS III/7.3) An immersion suit complying with the requirements of section 2.3 of the LSA Code shall be provided for every person on board the ship. These immersion suits need not be required if the ship is constantly engaged on voyages in warm climates where, in the opinion of the Administration, immersion suits are unnecessary. (SOLAS III/32.3.2) If a ship has any watch or work stations which are located remotely from the place or places where immersion suits are normally stowed, additional immersion suits shall be provided at those locations for the number of persons normally on watch or working at those locations at any time. (SOLAS III/32.3.3)

5.9.18 Are pyrotechnics, including line throwing apparatus, in date and in good order?

Not less than 12 rocket parachute flares shall be carried and be stowed on or near the navigation bridge. (SOLAS III/6.3) A line throwing appliance complying with the requirements of section 7.1 of the Code shall be provided. (SOLAS III/18) An illustrated table describing the life-saving signals shall be readily available to the officer of the watch. (SOLAS V/29).

5.9.19 Are the locations of life saving appliances marked with IMO symbols?

Containers, brackets, racks and other similar stowage locations for life-saving equipment shall be marked with symbols in accordance with IMO Res. A.760(18) indicating the devices stowed in that location for that purpose. If more than one device is stowed in that location, the number of devices shall also be indicated. (SOLAS III/20.10) Is the LSA plan seen to be up to date and represent the current arrangements on the asset

Fire-fighting
5.10.1 Are MO(D)U-specific fire training manuals available?

The training manual shall explain the following in detail: May not be required on a moored MO(D)U as not SOLAS-MO(D)U Code does not require. If a drillship this would apply.

- General fire safety practice and precautions related to the dangers of smoking, electrical hazards, flammable liquids and similar common shipboard hazards;
- General instructions on fire-fighting activities and fire-fighting procedures, including procedures for notification of a fire and use of manually operated call points;
- Meanings of the MO(D)U’s alarms; operation and use of fire-fighting systems and appliances; operation and use of fire doors; operation and use of fire and smoke dampers; and
- Escape systems and appliances. (SOLAS II-2/15.2.3.4) A training manual shall be provided in each crew mess room and recreation room, or in each crew cabin. (SOLAS II-2/15.2.3.1) The training manual shall be written in the working language of the ship. (SOLAS II-2/15.2.3.2).

5.10.2 Are MO(D)U-specific fire safety operational booklets available?

The fire safety operational booklet shall contain the necessary information and instructions for the safe operation of the ship and cargo handling operations in relation to fire safety. The booklet shall include information concerning the crew’s responsibilities for the general fire safety of the ship while loading and discharging cargo and while under way. The booklet shall also provide reference to the pertinent fire-fighting and emergency cargo handling instructions contained in the IBC Code, the IGC Code and the IMDG Code, as appropriate. (SOLAS II-2/16.2.1) The fire safety operational booklet shall also include provisions for preventing fire spread to the cargo area due to ignition of flammable vapours and include procedures for cargo tank gas-purging and/or gas-freeing. (SOLAS II-2/16.3.1) The fire safety operational booklet shall be provided in each crew mess room and recreation room, or in each crew cabin. (SOLAS II-2/16.2.2) The booklet shall be written in the working language of the ship. (SOLAS II-2/16.2.4)

5.10.3 Is all fire fighting equipment available for use and defect free?

* Ensure portable fire extinguishers are inspected and in good order.
* Ensure fire hose station/boxes are in good order and contain appropriate equipment.
* Emergency fire pump fully operational and starting instructions posted.
* Operating instructions for fixed systems should be clearly displayed.
* Firemen’s outfits including breathing apparatus should be in good condition and ready for immediate use.
* Breathing apparatus sets should be ready for immediate use with fully charged air bottles.
* Sufficient fully charged spare air bottles should be available.
* Is a BA air compressor available? Note last air quality check.
* Are EEBDs/SCBEA available, charged and crew trained?

5.10.4 Are measures in place to effectively isolate ventilation to enclosed spaces, i.e. machinery spaces, accommodation/quarters, galley, storerooms, etc?

* Vent fan stops should be operational (spot check) and clearly marked.
* Ensure that closing devices are easily accessible for inspection/maintenance and local operation.
* Ensure manual ventilation closures are provided safe access.
* Ensure hazardous area ventilation outlets are marked accordingly.
* Function test a representative sample of fire dampers and verify correct operation and position indication where practicable.

5.10.5 Is fire integrity of bulkheads and decks satisfactory?

* The minimum fire integrity of bulkheads and decks should comply with the criteria tabulated in the applicable MO(D)U Code.
* The fire resistance of doors should be equivalent to the division in which they are fitted.
* Ensure fire rated doors and bulkheads are intact and defect free; list deficiencies.

5.10.6 Are all fire screen doors, ventilation dampers and structural fire protection boundaries fully operational and intact?
5.10.7 Are MO(D)U-specific fire fighting equipment maintenance instructions available and are weekly and monthly inspections being carried out?

Maintenance, testing and inspections shall be carried out based on the guidelines in MSC/Circ.850. The maintenance plan shall be kept on board the ship and shall be available for inspection. (SOLAS II-2/14.2.2.2). The maintenance plan shall include at least the following fire protection systems and fire fighting systems and appliances, where installed:
- Fire mains, fire pumps and hydrants, hoses, nozzles and international shore connections;
- Fixed fire detection and fire alarm systems;
- Fixed fire extinguishing systems and other fire extinguishing appliances;
- Automatic sprinkler, fire detection and fire alarm systems;
- Ventilation systems, including fire and smoke dampers, fans and their controls;
- Emergency shutdown of fuel supply;
- Fire doors, including their controls;
- General emergency alarm systems;
- Emergency escape breathing devices;
- Portable fire extinguishers, including spare charges;
- Fire fighter’s-outfits;
- Inert gas systems;
- Deck foam systems;
- Fire safety arrangements in cargo pump rooms; and
- Flammable gas detectors. (SOLAS II-2/14.2.2.3) and 14.4) The maintenance programme may be computer-based. (SOLAS II-2/14.2.2.4)

5.10.8 Are records available to show that samples of foam compound have been tested at regular intervals?

The first periodical control of medium expansion foam concentrates stored on board should be performed after a period of 3 years and, after that, every year. (MSC/Circ.798/5.1)

5.10.9 Is a fire control plan exhibited within the accommodation, is a copy available externally and is equipment correctly marked on it?

Note: The requirements for fire plans are contained in SOLAS II-2/15.2.4. IMO Resolution A.654(16) recommends the symbols to be used on fire control plans.

5.10.10 If MO(D)U is required to carry Methanol is or other alcohol based substances, is the unit equipped with an appropriate extinguishing system?

If a system is fitted is it flag/class approved?

5.10.11 Are fire mains, pumps, hoses and nozzles in good order and available for immediate use?

Check that isolating valves in fire and foam system lines are clearly marked and in good order. Do the PMS entries provide the robust integrity management and assurances control for the systems and equipment i.e., UT examinations/trending of results, exercising and testing of isolation valves. Are isolation valves clearly marked to reflect PMS entry. Is the instrumentation for the system in good working order.

5.10.12 Is the International shore fire connection readily available externally and is the location clearly marked?

The connection shall be of steel or other suitable material. The connection shall be kept aboard the MO(D)U together with a gasket of any material suitable, with four 16 mm bolts, 50 mm in length and eight washers. (FSS Code 2.2) If fixed on a MO(D)U, the connection should be accessible from both sides of the MO(D)U and its location should be clearly marked. The shore connection should be ready for use whenever a MO(D)U is in port.

5.10.13 Are fixed fire detection and alarm systems, if fitted, in good order and tested regularly?

Inspector to check that alarm testing covered in MO(D)U PMS

5.10.14 Are fixed fire extinguishing systems, where fitted, in good order and are clear operating instructions posted?

Check that relevant crew are familiar with operating procedures. Inspectors shall check that the procedures as posted and written for operation are relevant to the systems and equipment and can be followed logically and any equipment requiring operation is marked legibly.
5.10.15 Is the emergency fire pump in full operational condition and are starting instructions clearly displayed?

Consistent with safety and without interfering with the MO(D)U’s operations, request to witness the starting and operation of the emergency fire pump. If a priming system has been fitted to the emergency fire pump, it must be class approved. Inspectors shall check that the procedures as posted and written for operation are relevant to the equipment and can be followed logically and any equipment requiring operation is marked legibly.

5.10.16 Are portable fire extinguishers in good order with operating instructions clearly marked?

Each extinguisher should be clearly marked with the following minimum information:
- Name of the manufacturer;
- Type of fire for which the extinguisher is suitable;
- Type and quantity of extinguishing medium;
- Approval details;
- Instructions for use and recharge (it is recommended that operating instructions be given in pictorial form);
- Year of manufacture;

Temperature range over which the extinguisher will operate satisfactorily; and

Test pressure. (FSS Code 4 and Res. A.602) One of the portable fire extinguishers intended for use in any space shall be stowed near the entrance to that space. (SOLAS 2004 II-2/10.3.2.2) For vessels constructed after 1st July 2002, spare charges shall be provided for 100% of the first ten extinguishers and 50% of the remaining fire extinguishers capable of being recharged on board. Not more than sixty total spare charges are required. Instructions for recharging shall be carried on board. (SOLAS 2004 II-2/10.3.3.1) For fire extinguishers which cannot be recharged on board, additional portable fire extinguishers of the same quantity, type, capacity and number shall be provided in lieu of spare charges. (SOLAS 2004 II-2/10.3.3.2) For vessels constructed before 1st July 2002, spare charges shall be provided in accordance with requirements specified by the Administration. (SOLAS 1974 II-2/6.2) Note: Portable fire extinguishers must be hydrostatically tested every 10 years or lesser period if so required by the Administration. The date of the hydrostatic test must be stamped on the cylinder. Certain administrations may have their own requirements for the carriage of portable extinguishers and spare charges.

5.10.17 Are firemen’s outfits and breathing apparatus in good order, provided with fully charged cylinders and ready for immediate use?

A number of spare charges, suitable for use with the apparatus provided, shall be available on board to the satisfaction of the Administration. (SOLAS 74 II-2/17.1.2.2) Two spare charges shall be provided for each required breathing apparatus. . . . . . cargo ships that are equipped with suitably located means for fully recharging the air cylinders free from contamination need carry only one spare charge for each required apparatus. (SOLAS 2004 II-2/10.2.5) For vessels constructed before 1st July 2002, the breathing apparatus may be either a smoke helmet type, or a self-contained compressed air type. A number of spare charges suitable for use with the apparatus provided shall be available on board to the satisfaction of the Administration. (SOLAS 1974 II-2/17.1.2) The outfits shall be kept ready for use in an easily accessible location that is permanently and clearly marked and, they shall be stored in widely separated positions. (SOLAS 1974 II-2/17.4 and SOLAS 2004 II-2/10.3.1) Notes: Although SOLAS recommends ‘widely separated positions’, fire-fighting training advocates that breathing apparatus should be used by personnel in pairs. Self-contained breathing apparatus should be checked for condition and satisfactory operation. With the apparatus charged and the cylinder valve closed, the drop in pressure should not be more than 10 bars in one minute. (Manufacturer’s instructions) Annual inspections should be carried out to ensure that the air quality of breathing apparatus air recharging systems is satisfactory. (MSC/Circ.850) Breathing apparatus shall be a self-contained compressed air-operated breathing apparatus for which the volume of air contained in the cylinders shall be at least 1,200 l, or other self-contained breathing apparatus which shall be capable of functioning for at least 30 min. All air cylinders for breathing apparatus shall be interchangeable. (FSS Code 3.2.1.2) Notes: Air cylinders should be charged to not less than 10% below full. BA air cylinders should be hydrostatically tested every 5 years or lesser period if so recommended by the manufacturer. (4-Year testing intervals are customary for some composite wound cylinders.) The hydrostatic test date must be stamped on the cylinder.
5.10.18 If fitted, are emergency escape breathing devices in good order and ready for immediate use?

If fitted, are emergency escape breathing devices in good order and ready for immediate use? (SOLAS II-2/13.3.4.2)

On all ships, within the machinery spaces, emergency escape breathing devices shall be situated ready for use at easily visible places, which can be reached quickly and easily at any time in event of fire. The location of EEBD’s shall take into account the layout of the machinery space and the number of persons normally working in the spaces. (SOLAS II-2/13.4.3.1)

Spare emergency escape breathing devices shall be kept on board. (SOLAS II-2/13.4.1) Training in the use of the EEBD should be considered a part of basic safety training. (MSC/Circ.849) Note: The requirements for EEBD’s are contained in Chapter 3/2.2 of the FSS Code and MSC/Circ.849 and among other measures or definitions, stipulate:

- An EEBD is a supplied air or oxygen device only used for escape from a compartment that has a hazardous atmosphere and shall be of an approved type.
- EEBDs shall not be used for fighting fires, entering oxygen deficient voids or tanks, or worn by fire-fighters. In these events, a self-contained breathing apparatus, which is specifically suited for such applications, shall be used.
- The EEBD shall have a service duration of at least 10 min. The EEBD shall include a hood or full face piece, as appropriate, to protect the eyes, nose and mouth during escape.
- Hoods and face pieces shall be constructed of flame-resistant materials and include a clear window for viewing.
- An inactivated EEBD shall be capable of being carried hands-free.
- An EEBD, when stored, shall be suitably protected from the environment.
- Brief instructions or diagrams clearly illustrating their use shall be clearly printed on the EEBD. The donning procedures shall be quick and easy to allow for situations where there is little time to seek safety from a hazardous atmosphere.
- Maintenance requirements, manufacturer’s trademark and serial number, shelf life with accompanying manufacture date and name of the approving authority shall be printed on each EEBD.
- All EEBD training units shall be clearly marked.

5.10.19 Are accommodation and ventilation fan emergency stops in good order and clearly marked to indicate the spaces they serve?

Are accommodation and ventilation fan emergency stops in good order and clearly marked to indicate the spaces they serve? Are emergency stops clearly marked as to which space they serve and are they covered in the MO(D)U PMS?

5.10.20 Are fire flaps in good order and clearly marked to indicate the spaces they serve?

Are fire flaps in good order and clearly marked to indicate the spaces they serve? Are fire flaps clearly marked as to which space they serve and are they covered in the MO(D)U PMS?

Access

5.11.1 Is a safe means of access provided, including, where appropriate, the provision of a gangway, accommodation ladder, pilot ladder, safety net, lifebuoy and line?

Is a safe means of access provided, including, where appropriate, the provision of a gangway, accommodation ladder, pilot ladder, safety net, lifebuoy and line?

Notes: Safety nets should be provided wherever there is a possibility of a person falling over or through the side rails of the gangway and should be rigged to prevent anyone falling between the MO(D)U and the quay. Where the rails provide protection, a safety net might not be necessary. Regardless of whether the gangway is supplied by MO(D)U or shore, it is the MO(D)U’s responsibility to ensure that a safety net is rigged. If the means of access are considered to be unsafe, then the inspector must not put him/herself at risk by going on board.

5.11.2 Where the MO(D)U is not fitted with a helideck, and Chapter 8.14 is not applicable, does the MO(D)U have a set of procedures/guidance for helicopter winching operations in the event that they may need to be enacted?

Where the MO(D)U is not fitted with a helideck, and Chapter 8.14 is not applicable, does the MO(D)U have a set of procedures/guidance for helicopter winching operations in the event that they may need to be enacted?

There should be a plan in place for possible medivac or other abnormal operation involving helicopter transfer of goods or personnel by winch. Factors addressed should include location on deck for winch drop, personnel involved, communications protocol and recommended equipment ref. ICS Guide to Helicopter/Ship Operations.

5.11.3 Are Fire Doors Operational and part of a maintenance and inspection regime inspection

Are Fire Doors Operational and part of a maintenance and inspection regime inspection

Inspector to comment upon fire doors being included in PMS and frequency of inspections.

Additional Comments

5.99 Additional Comments

If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific questions in the Chapter, the Inspector should include such additional comments in this section.
Pollution Prevention

Oil Record Book

6.1.1 Is the Engine Room (Part I) Oil Record Book and, if applicable, Part 2, correctly completed?

Notes: The IOPP Form A (2.2) indicates whether a vessel is fitted with a 15 ppm oily water separator and 15 ppm oil content meter fitted with an alarm and automatic stopping device. Discharge of bilges or transfer from a bilge holding tank to overboard through this equipment should be recorded in section D of the ORB. Section E should be used ONLY in cases where automatic starting systems that are activated by float switches in bilge wells or bilge holding tanks. ORB entries should be signed (not initialled) and each completed page should be signed by the OIM.

6.1.2 Do the sludge and bilge tanks designated in Form A of the IOPP Certificate and those listed in the Oil Record Book Part I, agree?

Notes: Details of bilge and sludge tanks can be obtained from Form A of the IOPP Certificate, although the recording of bilge tanks (section 3.3) is not a MARPOL requirement and is therefore voluntary. Notwithstanding the foregoing, if an engine room bilge tank is used for the purposes of holding engine room residues, this tank and details of its contents must be recorded in the Oil Record Book Part I. In Part I, Section C should be used for the disposal of sludge and other oil residues such as drainage, leakage, exhausted oil etc. and this section should be completed weekly. Section D (Non-Automatic Discharge) should be compiled for the disposal of bilge water as and when it occurs. Masters should obtain from the operator of the reception facilities, which includes barges and tank trucks, a receipt or certificate detailing the quantity of tank washings, residues or oily mixtures transferred, together with the time and date of the transfer. This receipt or certificate, if attached to the Oil Record Book Part I, may aid the Master of the ship in proving that his ship was not involved in an alleged pollution incident. The receipt or certificate should be kept together with the Oil Record Book Part I.

6.1.3 Is the Oil Record Book free of any pollution incidents or violations?

The recording of any incidents is where the inspector should look. If incidents are recorded, look for notifications to company and administration as well as incident investigation and follow up.

6.1.4 If the disposal of engine room oily water or sludge to a shore facility has taken place, has the event been recorded in the Engine Room Oil Record Book, did the MO(D)U receive a statement or certificate of disposal from the shore facility?

Where oily water and sludge is disposed of by landings to supply vessels for transport and disposal onshore the inspector shall check for records attesting to this in the Oil Record Book.

6.1.5 Are there containment arrangements fitted around hydraulic machinery in case of leaks?

6.1.6 Is there evidence that the oily water separator control system and engine room bilge oily water separator/filtering system is maintained in good working order?

Check equipment logs and maintenance records. Inspectors shall validate if the operation and testing of the OWS is included in the MO(D)U PMS and record if it not included in the PMS.

6.1.7 Are specific warning notices posted to safeguard against the accidental opening of the overboard discharge valve from the oily water separator?

Note: The overboard valve should be sealed and provided with a warning notice indicating that the valve should not be opened without the authority of the chief engineer/maintenance supervisor or Master. (Industry guidance: 'Oily Water Separators')

6.1.8 Are there any bilge spaces pumped directly overboard and are appropriate arrangements in place to monitor and prevent "contaminants" being discharged overboard?

Examples of which would be pump room(s) bilges on MO(D)U's, that may be lined up to disch. Overboard. Pump room space is likely to also contain diesel pumps and lines with the potential of 'contamination' of the bilge space. Are appropriate controls in place.
Shipboard Oil and Marine Pollution

6.2.1 Is an approved MARPOL Shipboard Oil Pollution Emergency Plan or Shipboard Marine Pollution Emergency Plan provided?

Every oil tanker of 150 grt and above and every ship other than an oil tanker of 400 grt and above shall carry on board a shipboard oil pollution emergency plan approved by the Administration. (MARPOL Annex I/37). The plan shall be written in the working language of the Master and officers and shall at least consist of: a) the procedure to be followed by the Master or other persons having charge of the ship to report an oil pollution incident; b) the list of authorities or persons to be contacted in the event of an oil pollution incident; c) a detailed description of the action to be taken immediately by persons on board to reduce or control the discharge of oil following the incident; and d) the procedures and point of contact on the ship for coordinating shipboard action with national and local authorities in combating the pollution. (MARPOL Annex I/37.2) Every ship of 150 gt and above certified to carry noxious liquid substances in bulk shall carry on board a shipboard marine pollution emergency plan for noxious liquid substances approved by the Administration. (MARPOL Annex II/17) The plan shall be written in a working language or languages understood by the Master and officers and shall at least consist of: a) the procedure to be followed by the Master or other persons having charge of the ship to report a noxious liquid substances pollution incident; b) the list of authorities or persons to be contacted in the event of a noxious liquid substance pollution incident; c) a detailed description of the action to be taken immediately by persons on board to reduce or control the discharge of noxious liquid substances following the incident; and d) the procedures and point of contact on the ship for coordinating shipboard action with national and local authorities in combating the pollution. (MARPOL Annex II/17.2) In the case of ships to which regulation 17 of Annex II of the present Convention also applies, such a plan may be combined with the shipboard marine pollution emergency plan for noxious liquid substances required under regulation 17 of Annex II of the present Convention. In this case, the title of such a plan shall be "Shipboard marine pollution emergency plan". (MARPOL Annex I/37.3 and Annex II/17) Note: The plan is subject to re-approval after a change of management.

6.2.2 Is the IMO Coastal Contact List up to date and is the Master aware of port contact procedures?

Notes: The IMO Coastal Contact List is published on 31st December and updated on 31st March, 30th June and 30th September each year. This information is published on the IMO web site at www.imo.org. Inspectors must ensure that the current update to the IMO Coastal Contact List has actually been published and sufficient time allowed for the document to be received on board prior to making an Observation. Inspectors are to record if the 3 monthly update forms part of a routine check and update by the MO(D)U or shore based support organisation.

6.2.3 Is there evidence that the MO(D)U has carried out regular drills and that the contents of the SOPEP/SMPEP Manual have been reviewed?

Drills in accordance with the requirements of the SOPEP or SMPEP should be held at regular intervals. On vessels/units carrying noxious liquids, drills should also be regularly carried out in dealing with chemical spills.
Bulk Transfers

6.3.1 Is there evidence of a pre-transfer conference being held between the MO(D)U and the receiving/transferring facility/MO(D)U before the transfer of Bulk Liquids begins?
Inspectors are to validate a documented pre-transfer checklist is in place and forms part of the MODU SMS and that is being completed for each fuel or Hazardous and noxious bulk liquid.

6.3.2 Are spill containment arrangements provided in way of bulk transfer manifolds?
If not permanent, comment on temporary arrangements provided.

6.3.3 Are manifold spill containers, if provided, empty and are the drainage arrangements satisfactory?
Inspector to verify drainage plug is readily available and/or fitted in place.

6.3.4 If carried, are the hoses and connections used for the transfer of bulk liquids free of defects?

6.3.5 If carried, are all transfer hoses regularly tested in accordance with the company SMS and records maintained in PMS?
Confirm there is a process of routine inspection of hoses. Inspector to determine the inspection testing and discard criteria being used by the operator for various types of supply hose and document how pressure testing is performed i.e. by air or with a hydro test for hydrocarbon and NLS hoses.

6.3.6 If carried, are transfer hoses fitted with certified lifting saddles/hang off arrangements and stowed in racks?
If hoses are stored on reels, Inspector is to make a comment in this section.
Lifting gear to be certified.
Check for inclusion of the hose collar/hanging arrangement being included as an item of certified lifting equipment. Inspector to mark NO to the question if the hose saddles/lifting gear is MO(D)U fabricated and lacks a load test SWL certification.

6.3.7 If carried on board, are transfer hoses fitted with flotation collars?
Especially those for hydrocarbon or NLS. Check also fitted with reflective tape. Number and distribution of flotation collars to be in accordance with guidance contained in NWEA/GOMO.

6.3.8 If carried are hydrocarbon and NLS hoses, fitted with dry break couplings at the hose end?
State the type and confirm if the MO(D)U has any service/inspection interval of dry break couplings.

6.3.9 If carried are hydrocarbon and NLS hoses, fitted with dry break couplings in the hose length?
Inspector to state which hoses are fitted with in line dry break couplings and state the service/inspection interval.

6.3.10 Are all connections and pipework for bulk products and liquid cargo colour coded and clearly marked at loading stations?
Guidance GOMO.

Ballast Water Management

6.4.1 Does the MO(D)U have an approved ballast water and sediments management plan?
Note: The International Convention for the Control and Management of Ships' Ballast Water and Sediments is a new international convention to help prevent the spread of harmful aquatic organisms carried by ships' ballast water, and will require all ships to implement a ballast water and sediments management plan. Some countries are introducing specific requirements for ballast water management and reporting, within their national limits, prior to the Convention coming into force.

6.4.2 Are records being maintained of all ballast water exchanges?
Waste Management

6.5.1 Does the MO(D)U have a garbage management plan and has garbage been handled and disposed of in accordance with MARPOL?

Every ship of 400 gross tonnage and above, and every ship which is certified to carry 15 persons or more, shall carry a garbage management plan which the crew shall follow. (MARPOL Annex V/9.2) Every ship shall display placards which notify the crew of the disposal requirements of garbage. (MARPOL Annex V/9.1.a) The placards shall be written in the working language of the ship’s personnel and, for ships engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to the Convention, shall also be in English, French or Spanish. (MARPOL Annex V/9.1.b) When garbage is mixed with other discharges having different disposal or discharge requirements the more stringent requirements shall apply. (MARPOL Annex V/5.3) Waste receptacles should be constructed of non-combustible materials with no openings in the sides or bottom. (SOLAS 2004 II-2/4.4.2) The disposal into the sea of all plastics, including but not limited to synthetic ropes, synthetic fishing nets, plastic garbage bags and incinerator ashes from plastic products which may contain toxic or heavy metal residues, is prohibited; (MARPOL Annex V/3.1(a)) The storage locations for garbage should be carefully selected to ensure that the garbage presents no potential hazard to adjacent spaces. Particular consideration should be given to the storage of garbage that is designated as ‘special waste’, such as batteries, sensors and fluorescent tubes, to ensure that only compatible materials are stowed together.

6.5.2 Does the Garbage Management Plan include procedures for collecting, storing, processing and disposing of garbage?

6.5.3 If fitted, is the incinerator on board the unit fully operational?

6.5.4 Has the Garbage Record Book been correctly completed?

The Garbage Record Book, whether as a part of the ship's official log-book or otherwise, shall be in the form specified in the appendix to this Annex; (MARPOL Annex V/9/3)

6.5.5 Are controls in place to ensure that sewage treatment plant discharges comply with MARPOL or local requirements?

The inspector should check what performance/function test are required by the PM system or OEM manuals and document any variance from the procedures. If there are no procedures and there is no evidence of testing this shall be recorded as a No. Where appropriate, controls should be in place to prevent the unauthorised discharge of sewage. Such measures shall ensure that all discharges comply with the requirements of MARPOL Annex IV and local requirements as applicable. Evidence may include, but not be limited to, procedures within SMS or vessel operating manual, Chief Engineer Standing Orders, crew training and appropriate signage/physical barriers. Alternatively, holding tank arrangements should be provided to facilitate disposal ashore.

Reference: MARPOL Annex IV, Chapters 1 and 3

Additional Comments

6.99 Additional Comments

If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific questions in the Chapter, the Inspector should include such additional comments in this section.
Structure and stability

General

7.1.1 Is the hull free from visible structural defects that warrant further investigation?
Inspection of the hull should include checking for any evidence of structural problems including collision/jetty contact damage or distortion from heavy weather. Check class reports and request NDT UWILD inspection data.

7.1.2 Are weather decks free from visible structural defects that warrant further investigation?
Inspection of weather decks should include checking for any evidence of wastage, structural problems including evidence of contact damage or distortion from heavy weather. Check class reports.

7.1.3 Is the superstructure free from visible structural defects that warrant further investigation?
Inspection of superstructure should include checking for any evidence of wastage, structural problems including evidence of contact damage or distortion from heavy weather. Check class reports. If composite deck material use instead of steel, are there qualified personnel onboard to make repairs? Inspectors shall verify that where composite materials are in use, permitted deckloads are known and not exceeded.

7.1.4 Are internal spaces free from visible structural defects that warrant further investigation?
Inspector is requested to pay particular attention to pump rooms. Request to sight UTI reports where applicable and any owners hull condition survey report or asset integrity reports. Is there evidence of a ballast tank and enclosed space entry programme that is in use and up to date. Inspectors shall request sight of NDT records of tanks and class reports to validate that steel internal stiffener and hull plating thickness and anode condition is being periodically monitored to meet class requirements. Where evidence of steel wastage requiring additional monitoring or repairs is evident the inspector shall record this.

7.1.5 If there has been any significant structural damage to the MO(D)U, have repairs been undertaken to the satisfaction of an attending Class surveyor?
Class records should be examined to confirm that class has been involved whenever significant damage has occurred or been repaired.

7.1.6 Are hull penetrations physically free from defects and subjected to Class Survey?
Check that the planned maintenance system covers the checking and maintenance of valves and top plate assembly of hull penetrations.

7.1.7 Has there been any modifications to the MO(D)U that have effected the variable deck load. If so have the calculations been evaluated for the jacking systems?
Review modifications and effect on deck load and jacking capacity/capability.

Stability

7.2.1 Is there a designated person responsible for cargo and ballast operations?
Where Barge Master does not have a nautical cert of competency check that they have attended a stability course.

7.2.2 Are stability records maintained on board in line with the MO(D)U operators in line with Operators Procedure?
Calculations should include transits. Check and comment on any anomalies. State if daily rounds and monthly manual stability calculations are conducted. Does the operator have a policy detailing the frequency of stability calculations? Are calculations being conducted and documented in accordance with this policy.

7.2.3 Is an approved stability book available on-board that includes both intact and damage stability scenarios?
State approving entity - Class or Flag State. Some administrations may permit this information to be provided in the form of a simplified stability letter. Scenarios should cover likely credible events, including collision and hull breach. Inspector to comment upon if stability information is part of the Marine Operations Manual.
7.2.4 Is a loading computer or programme in use?

Class approved stability computers are not mandatory on MODUs

If a loading computer/programme is not in use the inspector is to record a NO answer and record, in comments, how stress and stability calculations are performed.

If a loading computer/programme is in use the inspector is to determine if the computer/programme is approved by Class and record the observation in other comments.

1. Loading computer hardware type approval:
   IACS Recommendation No. 48 recommends Class Approval of the hardware if the computer is the only nominated loading computer on board. If there are two nominated loading computers on board, one covering the failure of the other, then there is no recommendation for either to be type-approved.

2. For Stability Programme:
   Class may have requirements for verification of programme results to those in approved test conditions. The inspector should verify if test conditions are being checked by the unit in between class validations and record question 7.2.5 for operational checks by MODU staff

7.2.5 Are there records indicating that the operational accuracy of the load computer is tested regularly?

Class approved data should be used and the tests should be carried out at the annual survey on class approved equipment/software by the class surveyor.

Inspectors are to record comments if there is no evidence of class surveyors testing class approved stability equipment.

Regular on-board testing should also take place and records attesting to this should be maintained.

Typically 4 x test conditions are found in a MODU stability book and loading programme.

Inspectors are to verify those conditions are being simulated and checked for accuracy of computer output against the documented values in the stability book by the MODU staff. (Chief Mate/Barge Engineer/Stability Section Leader)

Inspectors are to record if routine cross checking of stability computer accuracy forms part of the SMS/PMS requirements on board the unit.

7.2.6 Is the MO(D)U free from any known stability limitations as noted in the stability book?

Depending on MO(D)U type, free surface effects may differ widely. Check for any limitations in number of slack tanks noted in stability booklet and that personnel responsible for ballast control and stability are aware of the limitations.

7.2.7 Is there a system of verifying and recording the calibration of tank gauging systems and level alarms?

Report the frequency of manual soundings: Discrepancies should be recorded and available to the BCO. Ensure that sounding tubes are not blocked and that sounding pipes are marked indicating the tank served and are fitted with a cap. On MO(D)Us where no sounding pipes are in place confirm that a double sensor gauging system is in place and that discrepancy alarm settings have been established.

7.2.8 Do procedures require checking of differences between actual and calculated displacements and are records maintained?

Weight discrepancies (missing weights) should be assumed to be located at the main deck level or above. Inspectors shall record the difference in displacement between the loading computer and that provided by reading the actual drafts.

7.2.9 Are procedures in place to govern MO(D)U stability through all stages of the operation?

e.g. jacking, floating, pre-loading
Structural Modifications

7.3.1 Has the MO(D)U’s classification society been involved in assessing/approving any structural modifications to the MO(D)U?
Class records should be examined to confirm that Class has been involved whenever significant modifications have occurred.

7.3.2 Is there evidence that the MO(D)U’s stability information has been updated when structural or mission specific equipment modifications have taken place?
Inspector should verify if stability changes have been approved by Class and confirm the latest approved revision of the stability book is available on board the unit.

7.3.3 If applicable, are the MO(D)U’s Master or OIM and Officers fully aware of the changes to stability information as a result of the structural or mission specific equipment modifications?
Are changes tracked in Lightship data log?
Additions of structure and weight since the last inclining experiment or update to the stability book/programme shall be tracked in a light ship changes log maintained by the supervisor responsible for stability calculations. Inspectors should seek sight of the light ship changes register and confirm that items are tracked by location with weights VCG and LCG entered and it is up to date.
Supervisory personnel should demonstrate a clear understanding on the effect of structural additions on Variable Deck Load/Displacement.

7.3.4 If structural modifications have been undertaken, do they agree with the details recorded on the OVPQ?
Inspector should verify that the OVPQ has accurately recorded any modifications that have been made to the MO(D)U.

Additional Comments

7.99 Additional Comments
If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific questions in the Chapter, the Inspector should include such additional comments in this section.
Operations

MO(D)U

8.1.1 Does the MO(D)U have on-board a copy of the Class Approved Marine Operations Manual?

A Class approved Marine Operation Manuals containing guidance for the safe operation of the MO(D)U for both normal and emergency conditions should be onboard. Confirm last updated version.

8.1.2 Are the obstruction lights and fog signals operating correctly?

Light and sound signals should include the Morse letter "U", where appropriate. SOLAS / IRPCS requirement (per flag and coastal state requirements)

8.1.3 Do the emergency procedures cover additional risks associated with the MO(D)U’s operations?

E.g. loss of stability/watertight integrity, loss of moorings/station keeping, emergency disconnect, helicopter accidents, severe weather, tidal waves, tsunamis, solutions? Procedures to be available on-board, evidence that personnel are familiar with them.

8.1.5 Is the CoG and load of the unit being monitored continuously THROUGHOUT the MOD(U) operations?

Inspectors should determine that prior to transfer of cargo, calculations have been made for load and stability conditions for the start, interim and completion of transfer conditions. Regular monitoring of load and stability should be taking place throughout cargo transfer to ensure that the conditions have been maintained within design limits.

8.1.6 Is there an inclinometer located near the jacking control panel?

8.1.7 Are remote reading draft gauges operating correctly?

Procedure for calibration and cross reference to visual and loading computer values.

8.1.8 Are draft marks clearly visible?

Load line requirement

8.1.9 Is there a system for managing manual inputs into the stability programme?

System of cross checking to assure manual inputs. Inspector to verify that inventories of variable weights appear reasonable and accurate. Deck loads should be maintained within the operating manual stability criteria and contingencies are addressed in the daily stability calculations, including maintaining stability criteria if the BOP stack and riser must be pulled.

8.1.10 Is there a system for recording changes to the MO(D)U’s lightweight condition?

Documented procedure with record sheets showing additions/deletions since last inclining experiment conducted. Look for a register being maintained either as a stand alone document or as a page in the stability programme and an MOC process to incorporate changes permanently in stability book/programme revisions

8.1.11 Are lightweight changes effectively incorporated into stability calculations?

Look for a register being maintained either as a stand alone document or as a page in the stability programme and an MOC process to incorporate changes permanently in stability book/programme revisions

8.1.12 Is the Ballast/Preload system covered by an FME(C)A?

Check that - the FME(C)A class approved is accurate to the “as built” Review Marine Operations Manual for a description of the Ballast system. Determine in MOM details any restrictions or constraints in the use of the Ballast system and any particular operational requirements for maintaining suction and priming pumps. If the asset is considered stability sensitive (e.g. MO(D)U’s) has a FME(C)A analysis been completed for the ballast system(s). If not how has the operator identified the critical elements of the system and the nature of the upset conditions and as such can demonstrate the appropriate risk management of this critical system.

8.1.13 Is there a system for controlling the inhibiting of bilge and ballast system alarms?

Any inhibit to the alarms should be tracked, risk assessed and approved by the OIM/Master per company procedure.

8.1.14 Is access to the jacking control panel restricted?

System to be in place to prevent unauthorised operation of jacking system.
8.1.15 Is the jacking control position attended continuously during jacking and pre-loading operations?
Jacking control to be manned continuously to ensure prompt action can be taken when required.

8.1.16 Are up to date piping and instrumentation drawings available for the bilge and preload systems?
Check plans are controlled and do not have manual corrections. Ballast valves should be labelled locally with valve number and tank served.

8.1.17 If a cross connection exists between port and starboard ballast tanks/systems, is there a procedure in place to prevent inadvertent transfer of ballast?
Check plans are controlled and do not have manual corrections. Ballast valves should be labelled locally with valve number and tank served.

8.1.18 Do preload system valves fail to the closed position in the event of power failure?
Inspector to verify how preload valve system fails and focal points are aware

8.1.19 Can preload system valves be operated in the event of power failure?
Via stored pressure accumulators or hand power packs. Is the hand operated power pack available and identified as critical equipment. Do personnel know how to use the equipment? Record date of last test

8.1.20 Is the preload system effectively isolated from the bilge system?
State method of isolation e.g. remote control valve and non-return valve. Inspector to verify when the cross connection (where applicable) was last tested and how the integrity of the cross over valve is assured.

8.1.21 Do all tank vents terminate above the worst case damaged waterline?
Verify position of tank vents against LL certification/supporting docs.

8.1.22 Is the bilge and preload system fully operational and tested?
Inspector to verify through previous MO(D)U move report/record of last test date.

8.1.23 Are all cement silos and associated valves, pumps, vents and air supplies fully tested and in good order?
Verify operating procedures are in place Check PMS or deck records for operation of systems and inspections a testing.

8.1.24 Does the MO(D)U have a risk assessment for the collision potential with attendant and other passing vessels?

8.1.25 Does the MO(D)U have contingency plans for collision potential with attendant and other passing vessels?

8.1.26 Are there procedures in place to ensure all actual, or near miss collision incidents are fully documented and recorded?
This relates to incidents related to passing vessels in transit rather than support vessels when the MO(D)U is on location jacked up/drilling and is unable to take any avoiding action.

8.1.27 Does the MO(D)U have a set of emergency procedural hazard management plans and procedural prompt cards which assist the OIM in the decision making process of a vessel that proposes a risk of collision to the MO(D)U?
This relates to scenarios when the MO(D)U is on location jacked up drilling and may be subject to collision risk from passing vessels in transit rather than support vessels.

8.1.29 Does the MO(D)U have a fully updated Data Card to provide to the attendant vessels?
It is considered a best practice for any offshore installation, fixed or mobile, to provide a data card to attendant vessels which documents communications channels, bulk connection locations and sizes and crane locations. Examples of an installation data card are contained within GOMO.

8.1.30 Does the MO(D)U maintain a log containing information of attendant vessels and information from shore side logistics?

8.1.31 Does the MO(D)U have an adverse Weather side Working Policy?
Inspectors shall determine if the unit has procedures in its SMS or operational checklists that verify how adverse weather side working of support vessels is managed and what additional controls and limits are put in place before weather side working is permitted.

8.1.32 Are all mud and brine tanks, pumps, valves and pipeline systems in good order and fully tested?
Verify operating procedures are in place Check PMS or deck records for operation of systems and inspections a testing.
8.1.33 Does the MO(D)U have procedures covering towing?

Refer to IMO MSC/Circ. 884.

8.1.34 Is the primary towing gear in good order?

Inspectors shall confirm that where towing gear is fitted that an up to date certification package for all towing equipment which includes certificates of manufacture stating Minimum Break Loads (MBL)/Working Load Limit (WLL)/ Ultimate Load Limit (ULL) is available. Inspection records post manufacture and installation for all towing equipment components are in place. NDT/Eddy current records for structural towing equipment (Smit brackets, Delta/Tri-plate/Shackles) are in place. Note it is common practice for certificates to be issued by testing houses which state Proof Loads and Safe Working Loads which are not representative of the Bollard Pull requirements and Minimum Break Load properties for towing gear. Inspectors shall verify if the MBL of equipment is in the order of 2x the Required Bollard Pull as defined in the marine Operations Manual. A record of usage of towing gear is recorded.

8.1.35 Is the secondary/emergency towing gear available and in good order?

The strength of the emergency towing gear is to be confirmed and if of a lower strength than the main towing gear then the inspector shall make a comment to record that fact. Certification and documentation of the emergency towing gear shall be checked as for main towing gear. An up to date certification package for all towing equipment which includes certificates of manufacture stating Minimum Break Loads (MBL)/Working Load Limit (WLL)/ Ultimate Load Limit (ULL) is available. Inspection records post manufacture and installation for all towing equipment components are in place. NDT/Eddy current records for structural towing equipment (Smit brackets, Delta/Tri-plate/Shackles) are in place. Note it is common practice for certificates to be issued by testing houses which state Proof Loads and Safe Working Loads which are not representative of the Bollard Pull requirements and Minimum Break Load properties for towing gear. Inspectors shall verify if the MBL of equipment is in the order of 2x the Required Bollard Pull as defined in the marine Operations Manual. Check that certificates are available for all components. MBL, WLL/SWL and PL.

8.1.36 Are the bridles and securing points free from defects?

Verify smit brackets are operable/note date of last NDT; This should include but not be limited to:- pad-eyes, bitts, chocks, bridles, wires, chains, bridle recovery system.

8.1.37 Can the Barge Engineer demonstrate knowledge of the MO(D)U’s Jacking system, the control of free surface effects and the consequences of inadvertent ballast shift?

Demonstrated via induction and vessel specific training records.

8.1.38 Does the marine operations manual include Jacking Operations and are the procedures documented relevant and a true reflection of operations on board the unit?

A Class approved Marine Operations Manual should be placed on board the unit to comply with MO(D)U code requirements.

8.1.39 Does the MO(D)U have a pre-move checklist available

Review list of items required to be checked, are they linked to the Marine Operations manual and cover the items in the Manual. Are checklist in the manual the checklists in use? Checklist may be held by each individual departments. Checklist in use should be the same as listed in Marine Operations manual.

8.1.40 Are there clear policies and procedures for jacking operations? Are the limits clear?

Review Marine Operations Manual and confirm this agrees with MO(D)U move checklist and other documented MO(D)U move procedures. Is the limiting sea state documented for jacking understood by the MO(D)U staff and aligned to individual MO(D)U move procedures and plans.

8.1.41 Do procedures include clear guidance on preloading for MO(D)U staff?

Review preload procedures. Control/duration, philosophy for locations with anticipated rapid leg penetration.

8.1.42 Does the MO(D)U have a towing/transit plan and has a PIC/Tow Master been designated?
Are the towing points and ancillary equipment SWL clearly known?

Are tow points and ancillary equipment included within the preventative maintenance system?

This should include but not be limited to:- pad-eyes, bitts, chocks, bridles, wires, chains, bridle recovery system

Are contingencies in the event of rapid leg penetration/punch through addressed?

Review preload procedures. Control/duration, philosophy for locations with anticipated rapid leg penetration.

Is the Jacking control station fully functional?

Inspector to check with Barge Engineer if the jacking control station is fully operational and that all remote controls and indicators are operational. If not are the faults identified in MO(D)U Maintenance System and they been assigned critical priority?

Is it possible to identify leg depth indication and leg load remotely?

Check where indication is possible via readouts/gauges and how this is translated into leg penetration taking into account water depth, tide and air gap/elevation

If applicable, are there procedures in place for operations involving moving the unit alongside a platform?

Indicate if the procedures for moving the unit alongside a platform are with or without the use of anchors

If applicable, are there procedures in place for anchor handling operations

If anchors are fitted are there procedures in place for crossing pipelines

Is there a record of MO(D)U moves and operational performance of equipment maintained

Check for previous MO(D)U move reports and evidence of any issues with equipment and determine if they are resolved through maintenance systems and operational procedure review and update.

Is there a record of "lessons Learned" from the previous MO(D)U move?

Inspector to verify how lessons are identified and tracked

Are the rose boxes in the bilge system free of debris and clear?

Inspector to sight verify

Does the operator have procedures in place for Site Specific Assessments to assess leg strength, storm loading, leg penetration and punch through?

Determine if the operator has a standard policy/procedures for Site Specific Assessment. Identify if SNAME/API standards are used and identify what standards are used.

Are there risk assessments in the procedures and can they demonstrate risk assessment for all MO(D)U moves?

Is there a management of change process in place for the facility to change the MO(D)U move procedures?

* State the process

Are there weather limits for MOD(U) moves?

* State limits

Additional Comments

If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific questions in the Chapter, the Inspector should include such additional comments in this section.
Mooring

General

9.1.1 Are certificates available for all mooring ropes, wires, chains, shackles, etc.?
Test certificates for mooring lines and associated equipment should be kept maintained in a file clearly identifying each item.

9.1.2 Are there records of the inspection and maintenance of mooring ropes, wires and equipment?
Records should be kept of date placed in use, inspections, and any maintenance.

9.1.3 Are there sufficient crew to conduct safe mooring operations?
Crewing levels should take into account all mooring scenarios.

9.1.4 Is there a sufficient means of communication (primary and backup) to support mooring operations?
For example, UHF, VHF radios, telephones, tannoy, CCTV and talkback?

Mooring procedures

9.2.1 Are alongside (Jetty/Dock) mooring procedures available?
Verify through SMS/MO(D)U MOM that procedures exist for mooring operations. Including appropriate risk assessments.

9.2.2 Is there a maintenance system for the mooring equipment on board?

9.2.3 Are ferrule terminations in use?
Where harbour mooring wires are carried on board a MO(D)U, inspectors shall confirm the type of connections in use. Where mechanical splice/ferrules are not in use the inspector shall answer the question No and record how connections are made.

9.2.4 Is there cutting gear available on board the MO(D)U?

Anchoring equipment

9.3.1 Are windlasses, anchors, locking bars and cables in a satisfactory condition and operating effectively?
Note: The condition of the locking bars should be checked to ascertain that they function correctly by locking the chain when the MO(D)U is at anchor to prevent the brake having to take the full load of the cable.

9.3.2 If fitted, are chain locker doors securely battened down?

9.3.3 If fitted, are spurling pipes normally secured to prevent water ingress?

Spread mooring

9.4.1 Does the MO(D)U have procedures for spread mooring with anchors?
To be available on board and include anchoring over or near to obstructions. Procedures should also include precautions to be taken during active mooring adjustments and verification of the testing of anchor holding.

9.4.2 If fitted, is there a system for maintenance and calibration of lineout, scope and tension meters and are records maintained?
Inspectors shall check where records of calibration are maintained.

9.4.3 Are the controls for local and, if applicable, remote winch/windlass operation in good order?
Are there appropriate procedures in place to demonstrate how the system is operated under emergency conditions i.e. Remote vs local control. Inspector to verify system has been operated in both local and remote modes and hence demonstrate operational awareness.

9.4.4 Are the emergency stops, if fitted, for winches/windlasses routinely tested and records maintained?
Record the date when the winch/windlass emergency release was last tested.
Mooring

9.5.1 If there is no permanent anchoring system installed, is an emergency anchor available?

Acceptable arrangements for small barges include an anchor fitted on a slanted billboard (e.g. @ 60°) at the stern of the barge, secured for easy release. The cable should be secured and arranged so that it will pay out unobstructed when the anchor is let go.

9.5.4 Are winch brake band tension setting known set and tested?

Inspectors should attempt to verify what tension setting is prescribed by the OEM and if this is being applied.

Additional Comments

9.99 Additional comments

If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific questions in the Chapter, the Inspector should include such additional comments in this section.
Communications

General

10.1.1 Are instructions for operating the digital selective calling and satellite communications equipment in an emergency clearly displayed?

10.1.2 Are the MO(D)U’s call sign and Inmarsat ship station identity clearly marked on the radio installation?

10.1.3 Can designated persons demonstrate a satisfactory understanding of how to operate communications equipment in an emergency?

10.1.4 Is a continuous listening watch maintained on VHF channel 16?

Look for evidence of 24hrs coverage on MO(D)U.

10.1.5 Are personnel aware of the requirements for position updating on two-way communications equipment?

All two-way communication equipment which is capable of automatically including the ship’s position in the distress alert shall be automatically provided with this information from an internal or external navigation receiver, if either is installed. (SOLAS IV/18) If such a receiver is not installed, the ship’s position and the time at which it was determined shall be manually updated at intervals not exceeding four hours, while the ship is underway, so that it is always ready for transmission by the equipment. (SOLAS IV/18).

10.1.6 If fitted, is the AIS system fully functional?

10.1.8 Has a qualified person been designated to handle distress communications?

Every ship shall carry personnel qualified for distress and safety radio communication purposes to the satisfaction of the Administration. (SOLAS IV/16.1) Note: That person should not be the Master.

10.1.9 Are periodical tests of communications equipment carried out and recorded as required?

The following tests should be carried out:

Daily:
• The proper functioning of the DSC facilities without radiation of signals;
• Battery voltage checks;
• Printer

Weekly:
• The proper function of the DSC facilities by means of a test call when within communication range of a coast station;
• Where the reserve source of energy is not batteries, the reserve source to be tested.

Monthly:
• Each Emergency Position Indicating Radio Beacon (EPIRB) to be tested to determine its capability to operate properly using the means provided on the device and without using the satellite system.
• Each marine search and rescue transponder (SART) using the in-built test facility and checked for security and signs of damage:
• The security and condition of all batteries providing a source of energy for any part of the radio installation
• The condition of all aerials and insulators;
• Each survival craft two-way VHF equipment, on a frequency other than channel 16.
10.1.10 Is the Radio Log being maintained correctly?

The following should be being recorded:

• A summary of distress, urgency and safety communications;
• Important incidents relating to the radio service;
• Where appropriate, the position of the ship at least once per day;
• A summary of the condition of the radio equipment, including its sources of energy;
• Personnel assigned responsibility for sending a distress alert instructed to operate properly all radio equipment on the ship;
• Necessary instruction and information on the use of the radio equipment to relevant crew members;
• Pre-sailing checks to ensure that all equipment is in an efficient working condition;
• The results of the testing of the DSC distress and safety radio equipment by means of a test call at least once a week;
• The results of the testing of the distress and safety radio equipment by means of a test at least once each day but without radiating any signal;
• The on-load and off-load daily test of the batteries;
• The results of the weekly hydrometer or load test of the batteries;
• The results of the monthly security check of each battery and its connections.

10.1.11 If applicable, are radio emergency batteries in a satisfactory fully charged condition and the battery log completed up to date?

Where a reserve source of energy consists of rechargeable accumulator batteries, their capacity shall be checked, using an appropriate method, at intervals not exceeding 12 months, when the ship is not at sea. (SOLAS IV/13.6)

10.1.12 Are arrangements in place to ensure the availability of the radio equipment?

On ships engaged on voyages in sea areas A1 and A2, the radio availability shall be ensured by using such methods as:

• Duplication of equipment; or
• Shore based maintenance (the requirement on GMDSS vessels to have shore based maintenance does not infer there should necessarily be a contract but that maintenance should be carried out annually by a shore-based i.e. ‘expert’ organisation); or
• At-sea electronic maintenance capability; or
• A combination of these as may be approved by the Administration. (SOLAS IV/15.6) On ships engaged on voyages in sea areas A3 and A4, the radio availability shall be ensured by using a combination of at least two of the methods detailed above. (SOLAS IV/15.7)

10.1.13 Is the tannoy system operable and tested regularly?

This is to include PA system or other type of similar communications; look for log book notation/records of testing
Equipment

10.2.1 Is the communications equipment in good order?

Notes: The minimum requirements for radio equipment for the MO(D)U should be taken from the Radio Certificate and its attachment Form R or in Form C if the Safety Radio Certificate is combined in the Harmonised Certificate. If the MO(D)U uses EX rated mobile phones within a gas-hazardous area confirm that proper certification is provided.

10.2.2 Is the satellite EPIRB fitted, armed and labelled correctly and inspected in accordance with the manufacturer’s requirements?

The EPIRB shall be:
• capable of transmitting a distress alert through the polar orbiting satellite service operating in the 406 MHz band;""  
• installed in an easily accessible position;  
• ready to be manually released and capable of being carried by one person into a survival craft;  
• capable of floating free if the ship sinks and of being automatically activated when afloat; and  
• capable of being activated manually. (SOLAS IV/7.1.6) Satellite EPIRBs shall be annually tested within 3 months before the expiry date, or 3 months before or after the anniversary date, of the Cargo Ship Safety Radio Certificate. The test may be conducted on board the ship or at an approved testing station; and subject to maintenance at intervals not exceeding five years, (SOLAS IV/15.9) Notes: The MO(D)U’s name, the serial number and the maritime mobile services identity (MMSI or 15 Hex ID) should be clearly indicated on the EPIRB. The inspection of EPIRBs should include:
• inspection of the housing to ensure it is undamaged;  
• inspection of the hydrostatic release unit to ensure it is in good order and in date. Releases should be renewed after two years;  
• inspection of the lanyard, which should be neatly stowed and not attached to the MO(D)U;  
• ensuring that the markings remain clearly decipherable;  
• checking the battery to ensure it is in good order and in date. The battery life for most EPIRBs is 5 years;  
• carrying out a self test. Most EPIRBs have a self test facility which is usually a spring-loaded switch. When activated a light will indicate that the test circuits are operating correctly and sometimes this will also activate the strobe light. It is recommended that the self test switch be held for no more than 2 flashes of the strobe light, or no longer than 1 minute after the first self-test mode burst transmission. When the self-test is activated on a 406 Mhz EPIRB, the EPIRB is allowed to radiate a single burst which is specially coded so that it is ignored by the COSPAS-SARSAT system. The EPIRB must never be tested by actual operation. The annual testing of 406 MHZ satellite EPIRBs required by SOLAS IV/15.9 requires test equipment capable of performing all the relevant measurements detailed in MSC/Circ 1040.

10.2.3 Is the MO(D)U equipped with sufficient portable radios for use on deck?

Note: Sufficient portable radios should be available to allow communications between the bridge/control rooms and all operational personnel.

10.2.4 Is there a copy of the GMDSS Operators Handbook on-board?

10.2.6 Are there procedures for radio silence while handling explosive?

Verify procedures for restricting use of all radios within the 500m zone.

Additional Comments (/Not Applicable)

10.99 Additional Comments

If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific questions in the Chapter, the Inspector should include such additional comments in this section.
Propulsion, Power generation and machinery

Policies, procedures and documentation

11.1.1 Is the MO(D)U provided with operator’s instructions and procedures?

Note: Engineering procedures should include at least the following:
- engine room organisation and operation;
- unmanned machinery space (UMS) operation, when applicable;
- reporting equipment deficiencies;
- engine room emergency preparedness and actions in the event of an emergency;
- ensuring that all essential engine room equipment is available and fully operational;
- planned maintenance;
- the control of spare parts.

11.1.2 Is the engine logbook fully maintained?

At a minimum in compliance with Flag State requirements.

11.1.3 If the machinery space is being manned, are there sufficient engineering staff?

Ensure manning level is in compliance with Safe Manning Cert.

11.1.4 Has the chief engineer/maintenance supervisor written his own standing orders and are night orders being completed?

Notes: Standing order and night order books should be checked to ascertain that all officers applicable persons are instructed as to their responsibilities. Standing orders should be written by the chief engineer to reflect the specific operator’s requirements, as well as his own, particular to the MO(D)U, the trade and the experience of the engineering officers, applicable persons aboard at the time. It should be updated and signed by each chief engineer/maintenance supervisor as they join the MO(D)U. Night orders should be written as and when they are required to supplement the standing orders.

11.1.5 Have the applicable persons countersigned the chief engineer / maintenance supervisor’s standing and night orders as read and understood?

11.1.6 Are there procedures to restart critical equipment?

Note: Written procedures should be readily available within the engine room which should be specific to the particular MO(D)U in order to identify relevant controls.

11.1.7 Are engineers familiar with restart procedures and are records available of exercises and drills?

11.1.8 Does the operator subscribe to a fuel oil testing programme?

Check availability of analysis reports.

11.1.9 Does the operator subscribe to a lubricating oil testing programme?

Check availability of analysis reports.

11.1.10 Does the operator subscribe to a hydraulic oil testing programme?

Check availability of analysis reports.
11.1.11 Are detailed bunker transfer instructions available?

Notes: All bunkering operations should be carefully planned and executed. Records should include receipts for all fuels received. Samples should be drawn. Personnel involved in the bunkering operation on-board should have no other tasks and should remain at their workstations during topping off. This is particularly important when bunkers are being loaded concurrent with cargo operations, so that conflicts of interest for operational personnel are avoided. Planning of bunkering operations should include the following:
- determining that there is space for the volume of bunkers to be loaded;
- the maximum filling volume; Controls for the setting of bunker system valves;
- determining loading rates for the start of loading, bulk loading and topping off;
- arrangements of bunker tank ventilation;
- internal tank overflow arrangements;
- verification of gauging system operation and accuracy;
- alarm settings on overfill alarm units;
- communication with the supplier to establish when bunkering can be undertaken;
- method of determining the temperature of the bunkers during loading;
- communications procedure for the operation, including emergency stop;
- changing over tanks during loading;
- containment arrangements and clean up equipment to be available;
- manning requirement to execute the operation safely. An MSDS should be received and reviewed for each bunker consignment. It is preferable that a diagram of the fuel oil transfer piping be attached to the plan.

11.1.12 If the machinery space is certified for unmanned operation, is it being operated in that mode?

If the machinery space is certified for unmanned operation but is not being operated in that mode, record an Observation and describe the reason why.

11.1.13 In the case of UMS MO(D)U, are machinery alarms and engineer’s alarm systems regularly tested with results recorded?

11.1.14 If applicable Is the dead man alarm system, where fitted, in good order and used as required?

The personnel alarm should automatically give an alarm on the navigating bridge/control room or in the officers’ Engineers quarters as appropriate, if it is not reset from the machinery spaces in a period satisfactory to the Administration, but not exceeding 30 minutes. (IMO International Codes on Alarms and Indicators, 1995. 7.1.1)

Planned Maintenance

11.2.1 Is a planned maintenance system in place, being followed and is it up to date?

Notes: Although there is no specific requirement for any particular computer or paper-based planned maintenance system (PMS) to be provided, the Company should establish procedures to ensure that the MO(D)U is maintained in conformity with the provisions of the relevant Regulations and with any additional requirements which may be established by the Company and specified in the ISM Code Section 10.1. Inspectors must ascertain that a PMS is in place and that it is accurate, up to date, effective and maintained in accordance with the requirements of the ISM Code and the Operator's procedures. Responsible personnel should be able to demonstrate familiarity with the system. The planned maintenance programme should include:
- details of maintenance schedules whether carried out according to running hours or calendar period, or if condition monitoring is used as a substitute;
- details, referenced to equipment manufacturer’s instructions or experience, of what maintenance is required;
- historical data on maintenance and repair work which has been carried out;
- spare parts inventory;
- any proposed major repairs or overhauls should have a completion schedule, with spare parts verified as being on board or on order.

11.2.2 Are items of critical equipment identified in the planned maintenance system?

11.2.3 Is an accurate and up to date inventory of spare parts being maintained?

Check that spare parts for critical equipment are specifically addressed. Are critical spare parts identified?
Safety Management

11.3.1 If applicable is an engineer’s call alarm fitted and is it in good order and tested regularly with the results recorded?

Note: Inspectors should consider testing this critical alarm. To do so if permitted alongside, request that a suitable test alarm be initiated which should sound on the bridge, in the duty engineer’s quarters and in public rooms. If not answered within the specified period a back-up alarm system should be activated. A PA announcement prior to the test should be made. Applicable to self propelled MO(D)U's

11.3.2 Are emergency escape routes clearly marked, unobstructed and adequately lit and are the lights covered?

11.3.3 Are MO(D)U’s engine/boiler exhausts fitted with spark arresters for safe operation?

Procedures should be in place for regular checking and cleaning of spark arresters from accumulated soot.

11.3.4 Do records indicate the regular testing of emergency equipment?

Notes: Emergency equipment will include, where fitted, the emergency air compressor, emergency generator, emergency generator switchboard, emergency steering, quick closing valves, emergency stops, engineers alarms and bilge ejectors. Testing of the emergency generator should be carried out under load, but to do this may require the MO(D)U to be blacked out. This testing is not to be conducted during the inspection. Inspectors must establish that the operator has a requirement for this test and determine from records that it is carried out at least annually. Where fitted, the emergency air compressor should be regularly tested to the starting pressure of the diesel generator. The emergency air reservoir should be permanently maintained at the required pressure. Check individual training records to verify that training is carried out for the above emergency equipment.

11.3.5 Are machinery emergency stops and shut off’s clearly marked and do records indicate that they have been regularly tested?

Note: Emergency stops include ventilation fans, fuel pumps and the quick closing valves for fuel and lubricating oil tanks.

11.3.6 Are diesel engine high and low pressure fuel delivery pipes jacketed or screened?

External high pressure fuel delivery lines between the high pressure fuel pumps and fuel injectors shall be protected with a jacketed piping system capable of containing fuel from a high pressure line failure. A jacketed pipe incorporates an outer pipe into which the high pressure fuel pipe is placed, forming a permanent assembly. The jacketed piping system shall include a means for collection of leakages and arrangements shall be provided for an alarm to be given of a fuel line failure. (SOLAS II-2/4.2.2.5.2)

11.3.7 Are diesel engine exhausts and other hot surfaces in the vicinity of fuel, diesel, lubricating and hydraulic oil pipes protected against spray?

Surfaces with temperatures above 220°C which may be impinged as a result of a leak from an oil system failure shall be properly insulated. (SOLAS II-2/4.2.2.6.1) Precautions shall be taken to prevent any oil that may escape under pressure from any pump, filter or heater from coming into contact with heated surfaces. (SOLAS II-2/4.2.2.6.2)

11.3.8 Are hot surfaces, particularly diesel engines, free of any evidence of fuel, diesel and lubricating oil?

Note: Lagging and insulation should be in good condition and free from oil. If there is evidence of oil leakage or oil soaked lagging this must be recorded as an Observation.

11.3.9 Are fuel and lubricating oil handling areas, including purifier rooms, if applicable, ventilated and clean?

Note: A significant number of major incidents occur as a result of engine room fires. It is of particular importance that purifier rooms and oil handling areas are maintained in a clean condition.

11.3.10 Are generator engine bearing temperature monitors, or the crankcase oil mist detector, in good order?

Inspector to check testing procedures

11.3.11 Where hydraulic aggregate pumps are located within the main engine compartment, is an oil mist detector fitted?

Note: In a MO(D)U fitted with hydraulic pressure packs, pressure in the transmission pipes can be very high. If the aggregate pumps are located within the engine compartment it is advisable that an oil mist detector be fitted. Where the aggregate pumps are located within a dedicated, fully segregated compartment within the main engine compartment, the question should be answered N/A.

11.3.12 Are the main switchboard, alternators and other electrical equipment satisfactorily protected from water spray?

If the main switchboard is not located in the engine control room or other protected location, record in Other comments, the measures that have been taken to protect it from water spray. Note: Risk due to water spray in the event of failure of sea water pipes, including fire mains and hydrants, should be assessed.
11.3.13 Is deck insulation provided to the front and rear of medium power (i.e. 220V to 1000V) electrical switchboards and is it in a satisfactory condition?

Where necessary non-conducting mats or gratings shall be provided at the front and rear of the switchboard. (SOLAS II-1/45. 2) Non-conducting deck coverings, such as non-conducting mats or gratings, suitable for the specific switchboard voltage should be installed for personnel protection at the front and rear of the switchboard and should extend the entire length of and be of sufficient width to suit, the operating space. (USCG 46 CFR 111.30-11) Notes: The USCG requirements apply to switchboards exceeding 250 volts. Some decks are made from insulating composite material and will not need extra insulation. (USCG 46 CFR 111.30-11) Notes: The USCG requirements apply to switchboards exceeding 250 volts.

11.3.14 Is the switchboard / breaker protection tested regularly?

* State the last test date and results?

11.3.15 Are gauge glass closing devices on oil tanks of a self-closing, fail-safe type and not inhibited?

11.3.16 Are self-closing sounding devices to double bottom tanks in good order, closed and capped?

Load line requirement where applicable

11.3.17 Are all items of moving machinery which may present a hazard provided with adequate guards?

Grinders, air compressor belt drives, vent fans, lathe, drill press etc.

11.3.18 Are workshop machine tools in a safe condition and is eye protection available?

11.3.19 Is all loose gear in the machinery spaces, stores and steering compartment properly secured?

11.3.20 Are chemicals properly stowed and are Material Safety Data Sheets available?

Note: Protective equipment as written on the MSDS.

11.3.21 Are machinery spaces clean and free from obvious leaks and is the overall standard of housekeeping and lagging maintenance satisfactory?

Workshops, compressor rooms, chemical stores, spare gear stores, electricians store/workshop should be checked.

11.3.22 Are bilge systems operational and bilges free of oil, rubbish and sediment?

Note: Oily areas indicate a lack of maintenance and cleanliness. However, a small amount of oil in save-alls should not be considered unsatisfactory.

11.3.23 Are bilge high level alarm systems regularly tested and are records maintained?

Note: Inspectors should consider requesting that this critical alarm be tested in their presence. It should be borne in mind that most bilge alarms are fitted with time delays.

11.3.24 Are seawater pumps, sea chests and associated pipework in a satisfactory condition and free of hard rust and temporary repairs, particularly outboard of the ship-side valves?

Look for divers inspection records of sea chest strainers as well as PMS records of strainers being changed/inspected. Check over boards and sea chest for back flushing lines and any records of back flushing sea chests. Is there an 'exercise' program for the sea valves and how is the seal integrity assured? The condition of sea chests, sea water lines, storm valves and hull penetrations should be carefully checked to ensure that they are in good condition. Evidence of hard rust or deterioration should be recorded as an Observation.

11.3.25 Are valves and pipework marked or colour coded?

Inspector to determine a common system of colour coding for essential services is provided (e.g. fire water, foam, fuel oil, ballast, etc.)

11.3.27 Are emergency electrical power supplies fully operational?

11.3.28 Is there a risk Assessment System in place for the carriage and handling of chemicals?

Have assessments been completed for all/new identified substances?
Reference COSHH or other industry best practice.
Have assessments been communicated to the relevant personnel?
Do personnel use the assessments?
Are re-assessments carried out and conveyed to the relevant personnel?
Machinery Status

11.4.1 Are all items of main, auxiliary and emergency plant in good order and reported to be fully operational?

Items of machinery may include:
- the main engine(s);
- auxiliary engines and generators;
- waste heat units;
- compressors, including main, instrument and emergency air compressors;
- purifiers and fuel oil handling equipment;
- sewage plant;
- bilge pumping arrangements and oily water separators;
- pipework, including steam, fuel, lubricating oil, seawater, sewage, drain and air pipes, etc.;
- refrigeration and air conditioning machinery;
- hydraulic aggregate pumps;
- ventilation fans and trunking;
- burner, tubes, uptakes, exhaust manifolds and spark arrestors.

11.4.2 Are concise starting instructions for the emergency generator, where fitted, clearly displayed?

Each emergency generating set arranged to be automatically started shall be equipped with starting devices approved by the Administration with a stored energy capability of at least three consecutive starts. A second source of energy shall be provided for an additional three starts within 30 minutes unless manual starting can be demonstrated to be effective. (SOLAS II-1/44.2) Notes: These instructions are not for the use of the qualified engineering personnel, but for others who might be required to start the generator in an emergency. Where the emergency generator cannot be effectively started manually and the starting source relies on a single starter motor, then an alternative means of applying the “charge”, such as a duplicate starting system or spare starter motor, should be available.

11.4.3 Where applicable, is the emergency generator fuel tank provided with sufficient fuel?

The generator should be capable of providing full load requirements for at least 18 hours. (SOLAS II-1/43.2) Notes: This may not necessarily mean a full tank. A minimum quantity to provide sufficient fuel for this requirement should have been established. If necessary, the emergency generator fuel tank should be charged with fuel designed for use in sub-zero temperatures. Every oil fuel pipe, which, if damaged, would allow oil to escape from a storage, settling or daily service tank situated above the double bottom, shall be fitted with a cock or valve directly on the tank capable of being closed from a safe position outside the space concerned in the event of a fire occurring in the space in which such tanks are situated. (SOLAS 74 II-2/15.2.5) Oil fuel pipes, which if damaged would allow oil to escape from a storage, settling or daily service tank having a capacity of 500 litres and above situated above the double bottom, shall be fitted with a cock or valve directly on the tank capable of being closed from a safe position outside the space concerned in the event of a fire occurring in the space in which such the tanks are situated. (SOLAS 2004 II-2/4.2.2.3.4) The controls for remote operation of the valve for the emergency generator fuel tank shall be in a separate location from the controls for remote operation of other valves for tanks located in machinery spaces. (SOLAS 2004 II-2/4.2.2.3.4)

11.4.4 Where an emergency generator is not fitted, are engine room emergency batteries in good order and fully charged?

Note: The emergency batteries must supply the designed power load for up to 18 hours.

11.4.5 Is all electrical equipment including junction boxes and cable runs in good order?

11.4.6 Are switchboards free of earth faults?

Note: Class rules require a minimum insulation resistance of 1 megaohm (1 million ohms).

Additional Comments

11.99 Additional Comments

If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific questions in the Chapter, the Inspector should include such additional comments in this section.
General Appearance and Condition

Hull, superstructure and external weather decks

12.1.1 Is the general condition, visual appearance and cleanliness of the hull satisfactory?
Is there evidence of coating break down or hull damage?

12.1.2 Are hull markings clearly indicated and correctly placed?
The MODU’s identification number shall be permanently marked:
• in a visible place either on the stern of the ship or on either side of the hull, amidships port and starboard, above the
deck or load line or either side of the superstructure, and, and,
• in an easily accessible place either on one end of the transverse bulkheads of the machinery spaces, or on one of the
hatchways. (SOLAS XI-1/3.4) The permanent marking shall be plainly visible, clear of any other markings on the hull and
shall be painted in a contrasting colour. (SOLAS XI-1/3.5.1) The permanent marking referred to in paragraph 1 shall be not
less than 200 mm in height. The permanent marking referred to in paragraph 2 shall be not less than 100 mm in height. The
width of the marks shall be proportionate to the height. (SOLAS XI-1/3.5.2) The requirement for the ship’s identification
number shall be complied with not later than the first scheduled dry-docking after 1st July 2004 for ships constructed before
that date. (SOLAS XI-1/3) Note: The following should also be clearly indicated, where applicable:
• the MODU’s name;
• load lines;
• draft marks;
• thruster warnings;
• tug push points.

12.1.3 Is the general condition, visual appearance and cleanliness of the external decks satisfactory including non-slip surfaces in
working areas and access routes?

12.1.4 Does the structure include arrangements designed to minimise hazards associated with falls from heights and maintained in
accordance with design bases? e.g. rails, platforms, back-scratchers
Is there evidence of home-made devises /repairs/structural maintenance

12.1.5 Is the general condition of service pipework satisfactory and is it free from significant corrosion and pitting and soft patches
or other temporary repairs?
Notes: The following deck pipework, should be examined, particularly on the underside, for external indications of corrosion
and for patching or accelerated wear caused by rope abrasion:
• hydraulic and pneumatic pipework;
• fire mains and associated fittings;
• deck steam lines;
• compressed air lines;
• bulk cargo lines. Pipe securing arrangements should be intact and not permit free movement of the pipes as necessary.
Check the condition of pipe stands, clamps, supports and expansion arrangements?

12.1.6 Are all deck openings, including watertight doors and portholes, in a satisfactory condition and capable of being properly
secured?
Are all watertight doors operating correctly, with seals in good condition? Timing, alarms etc. shall be as per
MODU/SOLAS code. How is the seal contact area demonstrated/tested

12.1.7 Are there documented procedures for the operation of powered watertight doors which require doors to be left in the
normally closed position?
Check for warning lights, buzzers, alarms and verify procedures for personal passing through the door. All personnel should
have received instruction in the operation. Signs giving operating instructions should be posted on either side of the doorway.
Local, Remote and emergency operations all tested

12.1.8 Are all watertight doors included in the planned maintenance system?
Weather tight integrity as well as watertight integrity as per the Load line certification found in good order? Sample
examination of items as per Record of assignment/ Load line certificate supplement. How is integrity/fit of seal demonstrated,
i.e. chalk test/hose test -other
12.1.9 Where fitted/required Are all watertight door position indicators operating correctly?

Indicators should be available at remote operating and control stations. Lamp test function available? Are the indicators visible under all environmental conditions e.g. bright lighting.

12.1.10 Are all cable transits and bulkhead penetrations correctly assembled?

Are there any open penetrations; or penetrations that appear to have been altered; or penetrations with packing that appears disturbed or insufficient? If the vessel/unit is DP3, cable transits should be double-glanded.

12.1.11 Is a programme in place that covers the periodic inspection of all tanks, void spaces, and cofferdams, and their coatings?

e.g. bulk tanks, bulk powder silos and tanks for fresh water, drill water, mud, brine, fuel, NLS Noxious liquid substance and methanol. Inspector to verify inspection frequency and date of last independent/3rd party internal inspection. Note any deficiencies and/or concerns.

12.1.12 Are fuel, ballast and other space vents and air pipes in a satisfactory condition, marked to indicate the spaces they serve and does visual evidence indicate regular maintenance?

Note: Vent heads should be regularly dismantled to prove that flame screens, where fitted are clean and in a satisfactory condition and that the closing device which prevents the ingress of water is also in good condition and operating correctly.

12.1.13 Is the general condition, visual appearance and cleanliness of the superstructure satisfactory?

Paint/Coating condition etc.

Electrical Equipment

12.2.1 Is deck lighting functional?

Note: The level of deck lighting should be adequate to allow for:
- safe access to the various areas;
- the safe use of mooring equipment;
- monitoring of the deck area;
- monitoring of all deck areas life raft/ life boat / muster area / side lighting and the adjacent surrounding areas to prevent unauthorised access.

12.2.2 Is the general condition of electrical equipment, including light fittings, conduits and wiring, satisfactory?

Is there secondary drops containment for the lights / is there evidence of water ingress in the fixture / is the class of lighting and electrical equipment easily identifiable?

Internal Spaces

12.3.1 Are internal spaces and storerooms clean and tidy?
Accommodation Areas

12.4.1 Is the accommodation clean and tidy?
   Free of animal/insect infestation? Check procedures are in place to manage infestations?

12.4.2 Are alleyways free of obstructions and exits clearly marked?
   Marked with luminous strip indicators/lighting/signage

12.4.3 Are public spaces, including smoke rooms, mess rooms, sanitary areas, food storerooms, food handling spaces, refrigerated spaces, galleys and pantries clean, tidy and in a hygienically satisfactory condition?
   Notes: Unburned fuel or fatty deposits in galley ranges, within flue pipes and in the filters of galley extraction fans can cause fire and must be maintained in a clean condition. Oil and deep fat fryers should be fitted with thermostats to cut off the electrical power and prevent overheating.
   "- Test personnel alarms for refrigerated spaces;
   - Food storerooms and refrigerated spaces to be in a hygienic condition. Carry out random check of food stocks to ensure stock is being rotated and is not out of date;
   - Refrigerated spaces to be maintained at an appropriate temperature;
   - Galley extraction grills to be clean and free from grease;
   - Galley fire extinguishing systems to be in good order and catering workforce aware of locations and means of operation;
   - Food preparation areas to be tidy and clean.
   - Chain mail glove for carving meat, etc. is to be available.
   - No cracks in tiles or linoleum

12.4.4 Are laundries and drying rooms free of accumulations of flammable materials that could constitute a fire hazard?
   Dryers and duct work to be free from excessive lint build up. Is there procedures for cleaning ducts.

12.4.5 Is the level of accommodation lighting functional?
   Check whether a lighting survey has been undertaken and randomly test emergency lights.

12.4.6 Is the condition of electrical equipment in the accommodation satisfactory?
   No jury rigged electrical appliances or overloaded sockets. Residential surge protectors/ UPS's

12.4.7 Are personnel alarms local and remote in refrigerated spaces in good order and regularly tested?
   State frequency of testing (e.g. monthly)

12.4.8 Do the food storage areas appear to be kept in good order?
   Dry food kept > 6 inches from deck. Stored away from direct sunlight. No obvious signs of pest infestation. Sufficient lighting and ventilation. Evidence of regular cleaning/inspection.

12.4.9 Are emergency escape routes clearly marked, unobstructed and adequately lit?

12.4.10 Are muster points clearly marked?

12.4.14 Are tests undertaken of the potable water system and is regular maintenance carried out and recorded for both domestic and supplied potable water?
   Check that documented procedures are in place and records are maintained. May include UV treatment and/or super chlorination.

Additional Comments

12.99 Additional Comments
   If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific questions in the Chapter, the Inspector should include such additional comments in this section.
Ice operations

General

13.1.1 Does the MO(D)U have a formal risk assessment process in place and are risk analysis conducted prior to each new operation in ice?

13.1.2 Does the MO(D)U have operating procedures that address winterisation issues?
State whether MO(D)U has a winterisation notation issued by Class.

13.1.3 Does the MO(D)U’s stability booklet take into consideration the effects of ice accretion?

13.1.4 Do the deck working areas have shelters for crew working in exposed areas or does the MO(D)U have a policy for frequent breaks of deck watch to rest inside?
Crew should not be exposed to excessive cold and wind chill conditions.

13.1.5 Do operating procedures specify the lowest sustained operating temperature for the MO(D)U?
Wind chill factor should be taken into account when specifying limits

13.1.6 Do operating procedures specify the maximum thickness of ice that the MO(D)U may operate in?
e.g. What Polar Code notation exists for the MO(D)U

13.1.7 Does the MO(D)U have an emergency plan and enough resources on board in the event of an emergency and/or an extended ice entrapment?
The MO(D)U should have sufficient and reliable facilities to maintain a life sustaining environment in case of a prolonged entrapment in ice or an emergency where the MO(D)U loses propulsion. This would include emergency rations and stores, emergency source of power and fuel, etc.

Winterisation

13.2.1 Is the MO(D)U provided with anti-icing and de-icing equipment and/or heat tracing and are these systems in good order?
De-icing equipment includes: steam generators, steam hosing, hot water. Pumps used for de-icing should be provided with redundant arrangements. Manual equipment should also be available such as mallets, shovels, axes or even a snow blower. Storage of de-icing equipment should be easily accessible and if in exterior compartments protected from freezing. Anti-icing methods may include covers with or without heating, electric trace wiring, heating coils, steam generators, ice repellent coatings or self draining piping.

13.2.3 Is ancillary deck machinery, including cranes, protected?
Winches, wires and ropes should have canvas covers to stop ice accretion. The clutches and engaging gears of winches should be well protected by substantial coatings of grease.

13.2.4 Are all fluid systems (e.g. fireman, fresh water lines, drill water) that are prone to freezing capable of being fully drained?
Care should be exercised in the design of such systems to avoid fluid traps and to ensure that drain plugs are fitted and readily accessible. Check that procedures are in place to readily return drained systems to operating status.

13.2.5 Are there supplies of salt/sand on board to spread on walkways/gangways
Needed to protect crew from slips and falls on icy deck
HSE and safety equipment

13.3.1 Are supplies of protective clothing and thermal insulating materials provided for all persons on board?
Mitts, gloves, cold weather coveralls, head and eye protection to reduce loss of body heat, foot protection which is slip-resistant and insulated.

13.3.2 Are all means of escape from the accommodation or interior working spaces free from being rendered inoperable by ice accretion or by malfunction due to low external ambient air temperatures?

13.3.3 Are all escape routes built to dimensions to allow for persons wearing suitable protective clothing to pass unhindered?

13.3.4 Is the temperature rating of the life rafts consistent with the minimum temperature the MO(D)U is capable of operating in?
Life rafts need to be able to be launched in cold conditions. Release mechanisms should be heat traced or assured of operation down to min temp the MO(D)U is operating in.

13.3.5 Are the lifeboats and quick release gear suitable for the extremes of temperature that the MO(D)U is capable of operating in?
Lifeboats should be enclosed and heated.

13.3.6 Are survival craft engines equipped with means to ensure the engines start readily when required at the minimum anticipated operating temperature and have fuel suitable for use at the anticipated operating temperature?

13.3.7 Are fire extinguishing systems designed and located so that they are not made inaccessible or inoperable by ice or snow accumulation or low temperature.
Precautions should be taken to prevent nozzles, piping and valves of any fire-extinguishing system from becoming clogged by impurities, corrosion or ice build-up. Unprotected water and foam extinguishers are rated for safe operations to +1°C. If protected with ethylene glycol they are rate downward to -10°C; if the additive "Kerrol" or equivalent is used they are rated for use down to -20°C.

13.3.8 Are fire hydrants and isolating valves for the fire mains accessible and, if exposed to the weather, protected from freezing spray and icing?

13.3.9 Are the closing apparatus for ventilation inlets and outlets designed and located to protect from ice or snow accumulation that could interfere with the effective closure of such systems?

Crew experience

13.4.1 Do procedures require the crew to receive familiarisation training prior to operations in severe sub-zero temperatures?

13.4.2 Are ice operating and training manuals available on-board including procedures in place detailing operations with ice breakers?

Bridge Equipment

13.5.1 Does the MO(D)U have sufficient heated control room windows?
In cold weather need to be able to prevent build up of ice on windows.

13.5.2 Are the control room windows fitted with sun screens or protection from the glare of the sun?

13.5.3 Does the MO(D)U have searchlights that are suitable for operation in ice and snow?
Searchlights need to be powerful enough to observe ice around the MO(D)U.

13.5.4 Does the MO(D)U have a minimum of one ice radar and is it fully operational?
Ice radar is a 3 cm radar with software that enhances the image so that the ice cover can be assessed.

13.5.5 Does the MO(D)U have equipment for receiving ice data?
MO(D)U should have INMARSAT equipment capable to receive ice charts. Fax or Internet
Hull, Machinery and Engine Room

13.6.1 Are steam heating and back flushing arrangements provided to all sea chests to deal with blockages/ice slurry?

Sea chests should be designed to deal with the potential ingestion of slush ice and shall include back flush arrangements or similar to deal with blockage from seaweed and other materials. Sea chests should incorporate a back flush arrangement (inclusive of re-circ of hot water) or similar to deal with blockages/ice slurry.

13.6.2 Are there alternative sea chests at differing levels?

MO(D)U operating in ice should have one side in-take sea chest and one bottom in-take

13.6.3 Is there a back up heating system or protective measures in all areas that contain essential equipment or systems required for the safe operation of the MO(D)U?

Upon failure of the primary heating system there should either be an independent heat source or the equipment should be fabricated from materials that will not make it susceptible to brittle fractures under the anticipated loads and temperatures.

13.6.4 Are the emergency batteries for communications equipment and those stored in deck boxes properly stored, secured and protected from freezing conditions?

Emergency batteries should be protected from extreme low temperatures and the should be secured so that they do not have excessive movement caused during ice-transiting operations. Vents to battery lockers should be designed so that ventilation is not restricted by the accumulation of ice or snow?

13.6.5 Does the MO(D)U have a means of preventing ballast, potable water and drill fluids from freezing and is it operating correctly?

Heating coils in ballast tanks or other method, such as bubblers, for prevention of ice.

13.6.6 Do engineering procedures clearly define the diesel oil specification for use in sub zero environment?

13.6.7 Are main machinery air intakes protected from clogging by snow?

13.6.8 Are engines capable of starting in low outside temperatures?

Additional Comments

13.99 Additional Comments

If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific questions in the Chapter, the Inspector should include such additional comments in this section.
Helicopter Operations

General

14.1.1 Is there documentary evidence to confirm that the helideck meets the requirements of CAP437?

Helideck is usually Approved/Certificated by CAA; FAA; or equivalent. Specify applicable jurisdiction/region for certification in Comments. Add regions/jurisdictions previously worked as a Comment. Helidecks may be issued a letter from its classification society attesting to construction in conformance to CAP437. In such cases has an audit been conducted to confirm continued conformance to CAP437? Are the results of that audit available for review and have the findings been actioned.

14.1.2 Is the helideck available for use at all times?

This does not include delays due to readiness of crew, weather or similar reasons. Cranes have to be, or other issues which would prevent an aircraft landing, an comment from the inspector should be made.

14.1.3 If the MO(D)U has re-fuelling facilities, are they certified, and in date?

Inspector to identify the body/company issuing the certification and date of issue of certification. Records of inspection and certification should be checked to determine if recommendations made at the time of survey have been completed.

14.1.4 Are all appropriate publications for helicopter operations available on board?

These may include, for example:
- CAP 437; (Inspector to comment if not on-board)
- IATA/ICAO IAMSAR Manual;
- IATA Regulations;
- ICAO Heliport Manual;
- ICAO Convention on International Civil Aviation - Annex 14 Vol II (Heliports) and Annex 6 Part III (International Operations - Helicopters);
- IMO Resolution A.855(20) Standards for On-board Helicopter Facilities

Operational Procedures

14.2.1 Do on-board marine operations procedures address helicopter operations?

The operations procedures should include strict controls on work authorisation/management and communication protocols between crane drivers, deck crew, heliguard, watch officers, engine room staff and any other groups whose work may affect equipment moves, atmosphere changes, or personnel proximity to helideck. Procedures should also include specifying control of heli-ops when meteorological conditions change substantially. Inspector to comment on who is the "HLO" for helicopter operations.

14.2.2 Do helideck crew have appropriate PPE?

Appropriate PPE and identification with a high visibility vest should be provided and used. This may include HLO and HDAs wearing high visibility vests identifying them as the HLO and HDA, flame retardant overalls or proximity suits with safety helmet/visor or goggles, and the fire monitor crew with the same dress.

14.2.3 Are procedures in place for checking helideck, net tension, and inspecting helideck for debris prior to aircraft arriving?

Procedures should include issues such as:
- checking that helideck is taut (not possible to lift any part more than 250mm clear of deck, with a vertical pull by hand);
- all lighting should be functioning (perimeter and floodlights);
- perimeter nets should not be taut;
- helideck needs to be checked for loose objects and any such items removed.

14.2.4 Are procedures in place for controlling passenger access/egress at helideck?

All passenger routes to/from helideck should be well marked and final access to helideck should be positively controlled by helideck crew (e.g. gate or traffic light). Arriving passenger direction signs should be clear and detailed in what to do/not to do/where to go.
Crew Training

14.3.1 Are formally qualified Helicopter Landing Officers available on board as required?
Formal training/certification should be demonstrable. Inspector to identify the personnel appointed to this role and record the name of the certificate issuing authority/training establishment. Confirm if the Competency Management System identifies this in the training matrix.

14.3.2 Are formally qualified helicopter flight watch personnel available on board?
Where this is performed onboard Formal flight watch/following instructions and records should be confirmed in place and correctly logged. Where this performed by an onshore organisation the inspector is requested to identify who performs this role.

14.3.3 Are all heli-ops radio users trained?
If no formal qualifications held, users should be able to demonstrate some on-board training of expected radio user protocols and practices.

Emergency Response

14.4.1 Is the MO(D)U equipped with dedicated air band transceivers?
Must allow both operating frequency use for normal communicating with the aircraft and watch/emergency frequencies for flight following.

14.4.2 Does the MO(D)U have specified flight following procedures?
Qualified radio operating personnel should be available. Where this is performed on-board Formal flight watch/following instructions and records should be confirmed in place and correctly logged. Where this performed by an onshore organisation the inspector is requested to identify who performs this role.

14.4.3 Is the MO(D)U fitted with appropriate navigation beacons?
Although (D)GPS or equivalent is commonplace, a MO(D)U should also have available a means of transmitting a non-directional beacon in the Aviation waveband, acceptable to the Authorities in the MO(D)U's vicinity.

14.4.4 Is the helideck fire fighting and emergency equipment in good order and available for immediate use?
Equipment should include an AFFF foam system to helideck and foam monitors fireman's outfits (including breathing apparatus); crash box (hammers, bolt-croppers, hatchets, etc.); powder and CO2 extinguishers (including a unit with lance to reach engine intakes, should that be required by pilot).

Passenger/Cargo management

14.5.1 Is there a formal procedure for briefing passengers?
Briefing details/CD's of helicopter types should be available to include: danger areas; boarding/exiting procedure; emergency procedures; use of seat belts; no loose objects/clothing; prohibited goods; documentation needs, etc.

14.5.2 Are there facilities to store Helicopter Transit Suits at the muster station, or has the MO(D)U enacted procedures that require personnel to collect their Transit Suit prior to mustering?

14.5.3 Are baggage scales formally calibrated and fully operational?
Check calibration records for consistency. Sample freight/baggage manifests for completeness. Determine if testing/calibration is included in the MO(D)U PM system.

14.5.4 Is there a dedicated heli-lounge/reception area for handling incoming and outgoing passengers?
Control of passengers needs to be demonstrated to ensure off signers are all loaded out and on-signers need to be checked and briefed.

14.5.5 Is there a secure area for handling/storing checked freight/baggage?
Should be under the direct control of one appointed person - aspects of this may come under the MO(D)U's Security Plan, which the Inspector should be made aware of, but review of the SSP is not permitted.
Additional Comments

14.99 Additional Comments

If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific questions in the Chapter, the Inspector should include such additional comments in this section.
Jack Up Operations

Leg and Jacking system integrity

15.1.1 Does the Safety Case recognise leg strength / integrity and integrity as Safety Critical Elements / Safety Critical Equipment

Review the Safety case or equivalent document, determine if the legs, spud cans and jacking system are identified as Safety Critical Elements and how this is translated into the MO(D)U Maintenance System. Through Planned maintenance and Periodical inspections of legs, spud cans and jacking equipment by rig, 3rd parties, Original Equipment Manufacturers and Class.

15.1.2 Does the MO(D)U maintenance system address the self elevating system in its entirety?

Review the MO(D)U maintenance procedures for the legs, jacking systems preloading pumps, dump valves and jetting systems. Does the MO(D)U have inspection procedures for the individual jacking units. Review these procedures.

15.1.3 Is there evidence of routine inspection of legs by MO(D)U staff, 3rd party Agencies and Class and has the report been endorsed by class?

Check previous leg inspection reports. When was this carried out. Check for damage, missing members etc.

15.1.4 Is there evidence of routine inspection of Jacking Houses by MO(D)U staff, 3rd party Agencies and Class

Check structural survey report for reference to jacking houses. When was this carried out. Inspect jacking houses for damage.

15.1.5 Is there evidence of routine internal inspection of spud cans by MO(D)U staff, 3rd party agencies and Class

Check structural survey report for spud cans. When was this carried out. Review reports for evidence of damage and repairs carried out to satisfaction of Class.

15.1.6 Are the legs free of evidence of damage/wear/repairs?

Visually inspect available area of leg cords for wear, corrosion and marine growth. Are anodes in place and in satisfactory condition.

15.1.7 Are jacking motor insulation resistance readings recorded?

Review records of jacking system electric motor insulation testing.

15.1.8 Are jacking motor gearboxes subject to regular inspection and maintenance

Are jacking gearboxes clearly numbered for maintenance purposes and oil analysis. Review records of inspection and taking of oil samples. Oils sample records should be subject to analysis for water and metal content.

15.1.9 If fitted, are rack chock systems free of defects?

Inspector can note condition testing.

15.1.10 Is there a gearbox change-out policy.

Review records to determine if there any gearboxes changed or repaired. Do the drilling company use facilities such as boroscope inspections for the gear boxes.

15.1.11 Is lubrication of jacking systems and inspection part of periodical Routine Maintenance

Inspector to verify if lubrication is carried out periodically between MO(D)U moves when the unit is working on drilling location. Confirm if this is being performed at intervals other than during the MO(D)U move itself.

15.1.12 Are jacking system spare parts considered critical spares, identified as such and stock levels being maintained on-board

Review spare parts list with PMS/Warehouseman and determine if min stock levels are in place for Jacking system parts on-board/onshore.
Preloading pumps and systems

15.2.1 Is the MO(D)U equipped with dedicated pumps for ballasting/preloading?
Check the systems description in the MoM or similar for the description of the system and validate that the pumps described are the pumps being utilised for the operations.

15.2.2 Is the capacity of the preload pumps documented?
Inspector to state capacity of pumps and time taken for pumps to ballast MO(D)U to full preload. Validate these figures with procedures and the times stated in technical data.

15.2.3 Are the preload pumps and dump valves identified as Safety Critical Elements/Equipment?
Review maintenance records of preload pumps and dump valves. Verify condition where possible by physical inspection and witness operation of equipment if operations permit.

15.2.4 Are there procedures detailing the maintenance of the Preload dump valves?
Verify operation/testing schedule, and establish time needed to discharge preload.

Jetting Systems pumps and piping

15.3.1 Is there a procedure for jetting operations which defines maximum allowable over pull and inclination during leg extraction?
Inspector to review Marine Operations Manual/MO(D)U move procedures.

15.3.2 Are jetting systems documented and plans available?
Inspector to review Marine Operations Manual or the MO(D)U rig move procedures/jacking procedures.

15.3.3 Is there evidence of recent use of the jetting system?
View previous MO(D)U move records to validate if the jetting system was used. Inspector to make comment if jetting system is not operational.

15.3.4 Are there procedures in place for the safe handling and connection of jetting hoses?
Inspector to comment on safe access points to jetting hose connections and support of the hose during connection.

15.3.5 Is the jetting system capable of being fed from other sources e.g. mud pumps, fire pumps etc.?
Record alternative means of running jetting system and confirm if this is documented in Marine Operations Manual or Procedures.

15.3.6 Is the maximum working pressure of the jetting system known and documented and is the system fitted with a pressure relief valve?
Record the pressure values.

Additional Comments

15.99 Additional Comments
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