MINISTRY OF TRANSPORT AND COMMUNICATIONS
DEPARTMENT OF MARINE ADMINISTRATION

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Date: 1st March 2017

Directive (7 /2017)

Engine Room Watchkeeping Arrangements for Myanmar Vessels Engaged on International Voyage

Applicable to: Ship Masters, Seafarers, Maritime institutions, Ship owners and Seafarer Recruitment and Placement Services (SRPS), Flag State Surveyors

1. The Department of Marine Administration circulated this directive in the exercise of the power of Section 294(B), paragraph (b) of Myanmar Merchant Shipping Act.

2. Pursuant to the regulation VIII/2 of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended, the Department of Marine Administration issued this Engine Room Watchkeeping Arrangements for Myanmar vessels engaged on International Voyage.

3. All of the Myanmar Vessels engaged on international voyage shall follow this directive to ensure that safe continuous watches appropriate to prevailing circumstances and conditions are maintained at all time.

Maung Maung Oo
Director-General
Department of Marine Administration

Engine Room Watch keeping arrangements for Myanmar Vessels engaged on International Voyage

Principles to be observed in keeping an engineering watch

1.1.1 Engineering watch and officer in charge of the engineering watch

The term *engineering watch* as used in these regulations means either a person or a group of personnel comprising the watch or a period of responsibility for an officer during which the physical presence in machinery spaces of that officer may or may not be required.

The *officer in charge of the engineering watch* is the chief engineer officer's representative and is primarily responsible, at all times, for the safe and efficient operation and upkeep of machinery affecting the safety of the ship and is responsible for the inspection, operation and testing, as required, of all machinery and equipment under the responsibility of the engineering watch.

1.1.2 Watch arrangements

The composition of the engineering watch shall, at all times, be adequate to ensure the safe operation of all machinery affecting the operation of the ship, in either automated or manual mode, and be appropriate to the prevailing circumstances and conditions.

When deciding the composition of the engineering watch, which may include appropriately qualified ratings, the following criteria, *inter alia,* shall be taken into account:

1) the type of ship and the type and condition of the machinery;
2) the adequate supervision, at all times, of machinery affecting the safe operation of the ship;
3) any special modes of operation dictated by conditions such as weather, ice, contaminated water, shallow water, emergency conditions, damage containment or pollution abatement;
4) the qualifications and experience of the engineering watch;
5) the safety of life, ship, cargo and port, and protection of the environment;
6) the observance of international, national and local regulations; and
7) maintaining the normal operations of the ship.

1.1.3 Taking over the watch

The officer in charge of the engineering watch shall not hand over the watch to the relieving officer if there is reason to believe that the latter is obviously not capable of carrying out the watchkeeping duties effectively, in which case the chief engineer officer shall be notified.

The relieving officer of the engineering watch shall ensure that the members of the relieving engineering watch are apparently fully capable of performing their duties effectively.

Prior to taking over the engineering watch, relieving officers shall satisfy themselves regarding at least the following:

1) the standing orders and special instructions of the chief engineer officer relating to the operation of the ship's systems and machinery;
2) the nature of all work being performed on machinery and systems, the personnel involved and potential hazards;
3) the level, and where applicable, the condition of water or residues in bilges, ballast tanks, slop tanks, reserve tanks, fresh water tanks, sewage tanks and any special requirements for use or disposal of the contents thereof;
4) the condition and level of fuel in the reserve tanks, settling tank, day tank and other fuel

storage facilities;
5) any special requirements relating to sanitary system disposals;
6) condition and mode of operation of the various main and auxiliary systems, including the electrical power distribution system;
7) where applicable, the condition of monitoring and control console equipment, and which equipment is being operated manually;
8) where applicable, the condition and mode of operation of automatic boiler controls such as flame safeguard control systems, limit control systems, combustion control systems, fuel-supply control systems and other equipment related to the operation of steam boilers;
9) any potentially adverse conditions resulting from bad weather, ice, or contaminated or shallow water;
10) any special modes of operation dictated by equipment failure or adverse ship conditions;
11) the reports of engine-room ratings relating to their assigned duties;
12) the availability of fire-fighting appliances; and
13) the state of completion of the engine-room log.

1.1.4 Performing the engineering watch

The officer in charge of the engineering watch shall ensure that the established watchkeeping arrangements are maintained and that, under direction, engine-room ratings, if forming part of the engineering watch, assist in the safe and efficient operation of the propulsion machinery and auxiliary equipment.

The officer in charge of the engineering watch shall continue to be responsible for machinery-space operations, despite the presence of the chief engineer officer in the machinery spaces, until specifically informed that the chief engineer officer has assumed that responsibility and this is mutually understood.

All members of the engineering watch shall be familiar with their assigned watchkeeping duties. In addition, every member shall, with respect to the ship they are serving in, have knowledge of:

1) the use of appropriate internal communication systems;
2) the escape routes from machinery spaces;
3) the engine-room alarm systems and be able to distinguish between the various alarms, with special reference to the fire-extinguishing media alarm; and
4) the number, location and types of fire-fighting equipment and damage-control gear in the machinery spaces, together with their use and the various safety precautions to be observed.

Any machinery not functioning properly, expected to malfunction or requiring special service shall be noted along with any action already taken. Plans shall be made for any further action if required.

When the machinery spaces are in the manned condition, the officer in charge of the engineering watch shall at all times be readily capable of operating the propulsion equipment in response to needs for changes in direction or speed.

When the machinery spaces are in the periodic unmanned condition, the designated duty officer in charge of the engineering watch shall be immediately available and on call to attend the machinery spaces.

All bridge orders shall be promptly executed. Changes in direction or speed of the main propulsion units shall be recorded, except where the Finnish Transport Safety Agency has determined that the size or characteristics of a particular ship make such recording impracticable. The officer in charge of the engineering watch shall ensure that the main propulsion unit controls, when in the manual mode of operation, are continuously attended under stand-by or manoeuvring conditions.

Due attention shall be paid to the ongoing maintenance and support of all machinery, including mechanical, electrical, electronic, hydraulic and pneumatic systems, their control apparatus and associated safety equipment, all accommodation service systems equipment and the recording of stores and spare gear usage.

The chief engineer officer shall ensure that the officer in charge of the engineering watch is informed of all preventive maintenance, damage control, or repair operations to be performed during the engineering watch. The officer in charge of the engineering watch shall be responsible for the isolation, bypassing and adjustment of all machinery under the responsibility of the engineering watch that is to be worked on, and shall record all work carried out.

When the engine-room is put in a stand-by condition, the officer in charge of the engineering watch shall ensure that all machinery and equipment which may be used during manoeuvring is in a state of immediate readiness and that an adequate reserve of power is available for steering gear and other requirements.

Officers in charge of an engineering watch shall not be assigned or undertake any duties which would interfere with their supervisory duties in respect of the main propulsion system and ancillary equipment. They shall keep the main propulsion plant and auxiliary systems under constant supervision until properly relieved, and shall periodically inspect the machinery in their charge. They shall also ensure that adequate rounds of the machinery and steering-gear spaces are made for the purpose of observing and reporting equipment malfunctions or breakdowns, performing or directing routine adjustments, required upkeep and any other necessary tasks.

Officers in charge of an engineering watch shall direct any other member of the engineering watch to inform them of potentially hazardous conditions which may adversely affect the machinery or jeopardize the safety of life or of the ship.

The officer in charge of the engineering watch shall ensure that the machinery space watch is supervised, and shall arrange for substitute personnel in the event of the incapacity of any engineering watch personnel. The engineering watch shall not leave the machinery spaces unsupervised in a manner that would prevent the manual operation of the engine-room plant or throttles.

The officer in charge of the engineering watch shall take the action necessary to contain the effects of damage resulting from equipment breakdown, fire, flooding, rupture, collision, stranding or other cause.

Before going off duty, the officer in charge of the engineering watch shall ensure that all events related to the main and auxiliary machinery which have occurred during the engineering watch are suitably recorded.

The officer in charge of the engineering watch shall co-operate with any engineer in charge of maintenance work during all preventive maintenance, damage control or repairs. This shall include, but not necessarily be limited to:

1) isolating and bypassing machinery to be worked on;
2) adjusting the remaining plant to function adequately and safely during the maintenance period;
3) recording, in the engine-room log or other suitable document, the equipment worked on and the personnel involved, and which safety steps have been taken and by whom, for the benefit of relieving officers and for record purposes; and
4) testing and putting into service, when necessary, the repaired machinery or equipment.

The officer in charge of the engineering watch shall ensure that any engine-room ratings who perform maintenance duties are available to assist in the manual operation of machinery in the event of automatic equipment failure.

The officer in charge of the engineering watch shall bear in mind that changes in speed, resulting from machinery malfunction, or any loss of steering may imperil the safety of the ship and life at sea. The bridge shall be immediately notified in the event of fire and of any impending action in machinery spaces that may cause reduction in the ship's speed, imminent steering failure, stoppage of the ship's propulsion system or any alteration in the generation of electric power or similar threat to safety. This notification, where possible, shall be accomplished before changes are made, in order to afford the bridge the maximum available time to take whatever action is possible to avoid a potential marine casualty.

The officer in charge of the engineering watch shall notify the chief engineer officer without delay:

1) when engine damage or a malfunction occurs which may be such as to endanger the safe operation of the ship;
2) when any malfunction occurs which, it is believed, may cause damage or breakdown of propulsion machinery, auxiliary machinery or monitoring and governing systems; and
3) in any emergency or if in any doubt as to what decision or measures to take.

Despite the requirement to notify the chief engineer officer in the foregoing circumstances, the officer in charge of the engineering watch shall not hesitate to take immediate action for the safety of the ship, its machinery and crew where circumstances require.

The officer in charge of the engineering watch shall give the watchkeeping personnel all appropriate instructions and information which will ensure the keeping of a safe engineering watch. Routine machinery upkeep, performed as incidental tasks as a part of keeping a safe watch, shall be set up as an integral part of the watch routine. Detailed repair maintenance involving repairs to electrical, mechanical, hydraulic, pneumatic or applicable electronic equipment throughout the ship shall be performed with the cognizance of the officer in charge of the engineering watch and chief engineer officer. These repairs shall be recorded.

1.1.5 Engineering watchkeeping in restricted visibility

The officer in charge of the engineering watch shall ensure that permanent air or steam pressure is available for sound signals and that at all times bridge orders relating to changes in speed or direction of operation are immediately implemented and, in addition, that auxiliary machinery used for manoeuvring is readily available.

1.1.6 Engineering watchkeeping in coastal and congested waters

The officer in charge of the engineering watch shall ensure that all machinery involved with the manoeuvring of the ship can immediately be placed in the manual mode of operation when notified that the ship is in congested waters. The officer in charge of the engineering watch shall also ensure that an adequate reserve of power is available for steering and other manoeuvring requirements. Emergency steering and other auxiliary equipment shall be ready for immediate operation.

1.1.7 Ship at anchor

At an unsheltered anchorage the chief engineer officer shall consult with the master whether or not to maintain the same engineering watch as when under way.

When a ship is at anchor in an open roadstead or any other virtually "at-sea" condition, the engineer officer in charge of the engineering watch shall ensure that:

1) an efficient engineering watch is kept;
2) periodic inspection is made of all operating and stand-by machinery;
3) main and auxiliary machinery is maintained in a state of readiness in accordance with orders from the bridge;
4) measures are taken to protect the environment from pollution by the ship, and that applicable pollution-prevention regulations are complied with; and
5) all damage-control and fire-fighting systems are in readiness.