

PORT (SAFETY OF WORKERS) RULES 1985

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PORT (SAFETY OF WORKERS) RULES 1985

[P.U. (A) 72/1985]

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PORT (SAFETY OF WORKERS) RULES 1985

[P.U. (A) 72/1985]

In exercise of the powers conferred by section 445 (1) (o) of the Merchant Shipping Ordinance 1952, the Minister makes the following rules:

PART I

PRELIMINARY

1. Citation and application.

These Rules may be cited as the **Port (Safety of Workers) Rules 1985** and shall, except as otherwise provided, apply to every port in West Malaysia.

2. Interpretation.

In these Rules, unless the context otherwise requires—

“authority” means the person or body responsible for the management of the port;

“hotwork” includes repair or alteration involving chipping, grinding, drilling, riveting, welding, burning or fire and spark or heat producing operations;

“responsible officer” means the person authorised by the management of the premises to be responsible for the safety of workers or the person authorised by a government agency under the jurisdiction of any written law in respect to the safety of workers in port.

PART II

DOCKS, JETTIES, WHARVES AND SIMILAR WATER-FRONTS AND APPROACHES THERETO

3. Fencing.

(1) There shall be provided a safe fencing system to prevent workers from falling or being injured from machinery, cargo or any installation that can cause injury upon contact, unless if it can be shown that by their position and construction they are equally safe as they shall be if securely fenced.

(2) The height of the fence provided shall be at least 910 millimetres high unless it is not practicable to provide such height a lower height may be allowed upon approval by the Port Officer or responsible officer.

(3) Fencing, where provided, shall be in such a manner that adequate walkway is provided.

4. Life-saving appliances.

(1) There shall be provided at least one life buoy with a heaving line in every length of 100 metres of any waterfront where workers are employed.

(2) The life buoy and heaving line shall be of an approved type under

the Merchant Shipping Ordinance 1952 and shall be placed where it is conspicuous and easily accessible.

5. Lighting.

(1) Areas where work is in progress shall be adequately lighted and where artificial lighting is used a reasonable uniformity of illumination shall be maintained and so arranged as to minimise glare and dazzle and the formation of deep shadows.

(2) Persons passing from one area to another, shall not as far as possible, be subjected to sharp contrasts in levels of illumination.

6. First aid facilities.

There shall be provided first aid facilities which shall be stored in such a manner as to be readily available for the treatment of at least wounds, fractures, shock and unconsciousness and shall be placed in the vicinity of working areas in docks, jetties, wharves and similar waterfronts.

PART III

SHIPBOARD SAFETY

7. Gangway, accommodation ladders, portable ladders and rope ladders.

(1) There shall be provided for the purpose of embarking and disembarking by persons from the ship to the shore or vice-versa, a safe and proper means of access.

(2) Access to ships shall be by an accommodation ladder or gangway and only when it is not possible to rig portable ladder may be used.

(3) The means of access shall be placed in such a position that no cargo, ship stores or parts are being worked over and where this is not practicable, a person shall be situated nearby to warn persons coming on board or leaving the vessel that such cargo, ship stores or parts are being worked.

(4) At the point of access on board the vessel, a life buoy with an attached line shall be kept ready for immediate use.

(5) The means of access shall be adequately illuminated throughout its length.

(6) Every bridle, chain, wire, shackle, block, tackle, winch fastening attachment and any other apparatus whether fixed or mobile used for suspending or attaching gangways and accommodation ladders shall be tested and certified safe for the load upon which it is expected to withstand and shall be subjected to frequent inspections.

(7) Wooden gangways and accommodation ladders shall not be painted nor treated in such a way that any cracks or defects are concealed.

(8) Guard ropes and chains shall remain taut at all times.

(9) There shall be provided a suitable and substantial steps properly secured to the deck and equipment with a substantial hand rail at least 910 millimetres high between the top of the bulwark or rail and the deck in cases where the upper end of a gangway rests on or is flushed with the top of the bulwark.

(10) Rigging gangways on ship's rails shall not be attempted unless the rail is specially reinforced.

(11) Where practicable, an accommodation ladder shall be used instead of a gangway if the gangway assumes a dangerous angle.

(12) Where accommodation ladders have fixed steps and the angle is such that personnel are required to walk on the edges of the steps, suitable cleated duckboards shall be laid over and secured steps, suitable cleated duckboards shall be laid over and secured to the ladder.

(13) If the foot of a suspended accommodation ladder is more than 305 millimetres from the edge of a quay, the space between the bottom step of the platform and the quay shall be bridged by a firm walkway fitted with rails, taut ropes or chains on both sides, to a height of at least 910 millimetres.

(14) The fencing between the accommodation ladder and the walkway shall be fitted in such a way that there are no gaps.

(15) The breadth of the walkway for a gangway and an accommodation ladder shall be at least 550 millimetres.

(16) Where it is not possible to make use of a gangway or an accommodation ladder a portable ladder may be used.

(17) Portable ladders shall—

(a) generally be secured as near as possible to their proper resting place in such a manner as to prevent displacement;

(b) extend at least 1,001 millimetres above the upper landing place unless there are other suitable hand holds and when these ladders have their upper end resting on bulwarks or rail, suitable safe access to the deck as required in paragraph (9) of rule 7 shall be provided;

(c) be soundly constructed, of adequate strength for the purposes for which they are used, be inspected at regular intervals and maintained in sound condition and when not in use they shall be stowed in a dry or ventilated space;

(d) have a clear width of at least 255 millimetres and when in use shall be so placed that there is a safe clearance behind the rungs; and

(e) stand on a firm base and shall be securely lashed in position.

(18) Rope ladders shall—

(a) not generally be used as a means of access except as a means of access to or from vessels alongside one another;

(b) when used for access purposes shall be of adequate width and length and so constructed that they can be efficiently secured to the ship

and the steps shall give a foothold of not less than 100 millimetres in depth over a width of at least 305 millimetres and they shall be equally spaced at intervals of not less than 255 millimetres and not more than 380 millimetres;

- (c) be fitted with spreaders to prevent them from twisting if they are more than 3 metres in length;
- (d) have the steps so secured that they cannot turn over or tilt;
- (e) be left in such a way that they either hang fully extended from their securing point or are pulled up completely, and they shall not be left in such a way that any slack will suddenly pay out when the ladder is used;
- (f) be checked before use to make sure that they are in a good and safe condition and that there are no broken or faulty steps; and
- (g) not be secured to rails unless the rails are able to take the weight of men and ladder with an ample margin of safety.

(19) Those parts of a gangway, accommodation ladder or portable ladder than overhang the water between the ship and the quay shall have a net spread below them in such a manner that a person slipping is prevented from falling into the water.

8. Pilot ladders and mechanical pilot hoists.

(1) Ships engaged on voyages in the course of which pilots or other officials are to embark and disembark at sea shall be provided with a suitable ladder which for the purpose of these Rules shall be called pilot ladder.

(2) The pilot ladder shall be efficient for the purpose of enabling pilots or other officials to embark and disembark safely, kept clean, and in good order.

(3) The pilot ladder shall be secured in a position so that it is clear from any possible discharges from the ship and each step rests firmly against the ship's side; that it is clear so far as is practicable of the finer lines of the ship after climbing not less than 1.5 metres and not more than 9 metres.

(4) A single length of ladder shall be used capable of reaching the water from the point of access to the ship and in providing for this, due allowance shall be made for all conditions of loading and trimming of the ship and for an adverse list of 15 degrees.

(5) Whenever the distance from sea level to the point of access to the ship is more than 9 metres, access from the pilot ladder to the ship shall be by means of an accommodation ladder or other equally safe and convenient means.

(6) The steps of the pilot ladder shall—

- (a) be made of hardwood, or other material of equivalent properties, made in one piece free of knots, having an efficient non-slip surface and the four lowest steps may be made of rubber of significant strength and stiffness or of other suitable material of equivalent characteristics;

- (b) not be less than 480 millimetres long, 115 millimetres wide and 25 millimetres in depth excluding any non-slip device; and
- (c) be equally spaced not less than 300 millimetres, not more than 380 millimetres apart and be secured in such a manner that they will remain horizontal.

(7) No pilot ladder shall have more than two replacement steps which are secured in position by a method different from that used in the original construction of the ladder and any steps so secured shall be replaced as soon as reasonably practicable by steps secured in position by the method used in the original construction of the ladder.

(8) When any replacement step is secured to the side ropes of the ladder by means of grooves in the sides of the step, such grooves shall be in the longer sides of the step.

(9) The side ropes of ladders shall consist of two uncovered manila ropes not less than 60 millimetres in circumference on each side and each rope shall be continuous with no joints below the top step.

(10) Two man-ropes shall be properly secured to the ship not less than 65 millimetres in circumference and a safety line shall be kept at hand ready for use if required.

(11) Battens made of hardwood or other material of equivalent properties in one piece and not less than 1.8 metres long shall be provided at such intervals as will prevent the pilot ladder from twisting and the lowest batten shall be on the fifth step from the bottom of the ladder and the interval between any batten and the next shall not exceed nine steps.

(12) Means shall be provided to ensure safe and convenient passage onto or into and off the ship between the head of the pilot ladder or of any accommodation ladder or other appliance provided.

(13) Where such passage is by means of a gateway in the rails or bulwark, adequate hand holds shall be provided and if it is by means of a bulwark ladder, such ladder shall be securely attached to the bulwark, rail or platform and two hand hold stanchions shall be fitted at the point of boarding or leaving the ship not less than 700 millimetres nor more than 800 millimetres apart.

(14) Each stanchion shall be rigidly secured to the ship's structure at or near its base and also at a higher point, shall not be less than 40 millimetres in diameter and shall extend not less than 1.2 metres above the top of the bulwark.

(15) Lighting shall be provided at night so that both the pilot ladder overside and also the position where the pilot boards the ship is adequately lighted and a life buoy equipped with a self-igniting light and a heaving line shall be kept at hand ready for use if required.

(16) Means shall be provided to enable the pilot ladder to be used on either side of the ship.

(17) The rigging of the ladder and the embarkation and disembarkation of a pilot shall be supervised by a responsible officer of the ship.

(18) Where on any ship, constructed features such as rubbing bands will prevent the implementation of any of these provisions, special arrangements shall be made to the satisfaction of the Director of Marine to ensure that persons are able to embark and disembark safely.

(19) A mechanical pilot hoist, if provided, and its ancillary equipment shall be of a type approved by the Director of Marine and it shall be of such design and construction as to ensure that the pilot can be embarked and disembarked in a safe manner including a safe access from the hoist to the deck and vice versa.

(20) A pilot ladder shall be kept on deck adjacent to the hoist and shall be available for immediate use.

9. Access to working spaces.

(1) Means of access to holds, tween decks, bunkers, deep tanks and similar spaces shall consist of fixed ladders, cups or stairs.

(2) Where the provisions of fixed ladders or stairs is not reasonably practicable, portable rigid ladders may be used, provided that they are properly secured and have a safe clearance behind the rungs.

(3) Rope ladders shall not be used by workers for access to holds.

(4) Where practicable, access to holds shall be by separate access hatches with sloping ladders and hand rails through such deck to the lower hold.

(5) When an access ladder, hand grip or ladder cleat is found to be unsafe, the access shall be blocked off, warning notices prohibiting its use posted at every approach and other suitable means of access provided and the officer in charge shall take steps as soon as practicable to have the defects remedied.

(6) The approaches to hold ladders and stairs shall be at least 405 millimetres wide and not obstructed, separate openings such as access hatches, giving access to hold ladders shall be at least 610 millimetres by 610 millimetres clear.

(7) Cargo other than bulk cargo shall be stowed so as to leave a safe clearance behind the rungs.

10. Fencing and working spaces.

(1) Permanent or temporary guard rails or fencing where required around open hatchways shall be of sound material, good construction, free from sharp edges and maintained in good repair.

(2) Permanent or temporary guard rails or fencing shall extend to a height of at least 910 millimetres above the deck.

(3) When portable stanchions are fitted, they shall be so secured as to ensure rigidity in the vertical position in order that each course is kept substantially horizontal throughout its length and the stanchions shall be so secured as to prevent accidental displacement.

(4) Every space exceeding 2 metres in depth which is served by hatchways (including access and trimming hatchways) that are not protected with coamings to a clear height of 760 millimetres shall, when not in use, be fenced to a height of 910 millimetres or securely covered.

(5) When the width of the walkways between bulkheads or casings and the coaming or edges of hatchways is less than 1 metre suitable hand grips shall be provided on the bulkheads or casings but this shall not apply to hatchways having coamings of 760 millimetres or more in height.

(6) Any person working on a partly covered hatchway or on a tall stack of cargo shall be protected against the danger of falling by spreading a net below them or by other suitable means.

11. Lighting at working spaces.

(1) Decks, holds and hold accesses where work is in progress shall be adequately lighted and where artificial lighting is used a reasonable uniformity of illumination shall be maintained and so arranged as to minimise glare and dazzle and the formation of deep shadows.

(2) Hatches shall not be opened unless the area around the openings is adequately illuminated and such illumination shall be maintained as the hatches remain open.

(3) Where practicable, persons passing from one area to another shall not be subjected to sudden contrasts of illumination.

(4) Leads for portable lights shall be kept clear of loads, running gear and moving equipment.

(5) Leads for portable lights shall, as far as possible, be kept clear of walkways to prevent persons from tripping over them; any slack shall be coiled in accordance to the practice of good seamanship.

(6) Open or naked lights shall not be used in holds.

(7) Where the use of portable lights is allowed, they shall be appropriately safeguarded to prevent the bulbs from breaking and from coming into contact with flammable or other combustible material and the lights shall be fitted with a suitable lanyard.

12. Opening and closing of hatches.

(1) All hatch covers shall be kept plainly marked to indicate the deck and hatch to which they belong and their position therein and provided that this rule shall not apply in cases where all the hatch covers of a ship are interchangeable or, in respect of marking of position, where all hatch covers of a hatch are interchangeable.

(2) This rule shall also apply to fore and aft beams and to transverse beams as it applies to hatch covers.

(3) All fore and aft beams and transverse beams used for hatch covers shall have suitable means for lifting them on and off without it being necessary for any person to go upon them to adjust such means.

(4) Adequate hand grips shall be provided on all hatch covers, having regard to their size and weight, unless the construction of the hatch or the hatch covers is of such a character as to render the provision of hand grips unnecessary.

(5) All beams and hatch covers in use shall be maintained in good condition.

(6) Broken, split, poorly fitted or otherwise defective beams and hatch covers shall not be used and shall be stowed in an isolated space so as to prevent their being re-used.

(7) Wooden hatch boards shall be bound with galvanised steel bands or other similar suitable material at each end and kept firmly secured.

(8) Hatch covers shall not be handled manually if they cannot be easily lifted by two men.

(9) Hatch covers or beams shall not be removed or replaced while work is going on below them.

(10) Hatch covers, beams, pontoons and tarpaulins which have been removed shall be stowed in such a manner that they cannot fall down or otherwise cause danger.

(11) Where possible, a space of at least 910 millimetres shall be left between the hatchway and any hatch covers, beams and pontoons that have been removed.

(12) Where mechanical hatch covers are lifted, the manufacturer's instruction shall be strictly followed in their operation.

(13) A copy of the manufacturer's safety device notice, for the safe operation of mechanical hatch covers, shall be posted up in a conspicuous position.

(14) When mechanical hatch covers are in the open position, they shall be suitably secured to prevent them from closing.

(15) All mechanical hatch covers shall be opened and closed with due care and attention under the direct supervision of a responsible ship's officer.

(16) Deep tanks used for loading cargo shall be treated in the same manner as hatches.

13. Health and protection from injuries.

(1) There shall be provided an efficient means of ventilation in hatches, deep tanks and similar confined areas of work before any person is allowed to enter such compartment without suitable respiratory equipment.

(2) Suitable clothing and equipment shall be provided to all persons exposed to fumes or fine dust of any cargo substances which may impair their health or cause injury while working cargo.

(3) All motors, cog-wheels, chain and friction gearing, shafting, live electric conductors, stem pipes and any other form of heated pipes shall be securely fenced or similarly protected against the possibility of accidental contacts unless it can be shown that by their position and construction they are equally safe as they will be if securely fenced.

(4) Adequate measures shall be taken to prevent exhaust steam or gas from interfering in any work where any person is employed in the processes.

14. Cargo handling.

(1) The handling of dangerous goods shall be carried out in accordance with rules made under the Merchant Shipping Ordinance 1952 and shall comply with the International Maritime Dangerous Goods Code.

(2) Dangerous goods and heavy lifts shall be loaded or unloaded under the supervision of a responsible officer or a certified officer of the ship who shall be familiar with the risks and the precautions to be taken.

(3) When deck cargo is stowed against ship's rails or hatch coamings at such a height, that the existing rails or coamings shall prevent workers from falling overboard.

(4) Where cargo is stowed on deck, and the hatches have to be opened at intermediate ports before that cargo is unloaded, it shall be so stowed as to provide a clear space of at least 610 millimetres around the coamings or around the part of the hatch that is to be opened at the following ports and if this is impracticable, such provision shall be made to enable workers to remove and replace safety all beams, hatch coverings and opening fittings of hatches.

(5) When cargo is loaded or discharged by a fall at a hatchway, a signaller shall be used and this is not applicable in cases where the crane driver or winchman has an unrestricted view of the load at all times and no person is at risk.

(6) No load shall be left suspended from a crane, winch or other machine unless there is a competent person in charge of the machine while the load is so left.

(7) No cargo shall be loaded or unloaded by a fall or sling at any intermediate deck unless either the hatch at that deck is securely covered or a secured landing platform with adequate measures to protect any worker from falling is provided.

15. Means of escape.

(1) Means of escape shall be provided for all workers employed in a hold or on tween decks.

(2) Special precautions consistent with the ordinary practice of good seamanship shall be taken to facilitate the escape of workers employed in a hold or on tween decks when dealing with coals or other homogenous bulk cargo.

(3) Workers entering holds or tween decks which contain bulk cargoes, particularly grain cargoes shall be checked in and out of the holds or tween decks.

PART IV

LIFTING GEARS AND MACHINERY

16. Interpretation.

In this Part, unless the context otherwise requires—

“competent person” includes a ship’s officer, a Surveyor of ship, an Inspector of Machinery, and a technically qualified person of the dock, factory or manufacturer responsible for the testing of the lifting gears or machinery;

“thoroughly examined” means a visual examination of all movable and immovable parts of the lifting gear or machinery and supplemented where necessary by having parts of the machines and gear dismantled and examined in order to arrive at a reliable conclusion as to the safety of the parts.

17. Application.

(1) This Part shall apply to all lifting gears and machinery used on board vessels in port unless expressly provided otherwise by the Director of Marine.

(2) Foreign ships which comply with similar provisions under the laws of their flag state need not meet the requirements of this Part unless it is found necessary for them to do so by the Port Officer.

18. Tests, examinations and inspections.

(1) All lifting gears and machinery shall have been tested, examined and inspected by a competent person in the manner set out in the First Schedule to these Rules and a test certificate shall be duly issued before being taken into use.

(2) All derricks, cranes and permanent attachments, including bridle chains to the derrick, mast and deck, used in hoisting or lowering shall be inspected once in every twelve months and be thoroughly examined once at least in every four years.

(3) All other lifting gears and machinery shall be thoroughly examined once at least in every twelve months.

(4) No chain, ring, hook, shackle, swivel or pulley block shall be used in hoisting or lowering unless it has been tested and examined by a competent person in the manner set out in the First Schedule to these Rules.

(5) All chains other than bridle chains attached to derricks or masts, and all rings, hooks, shackles and swivels used in hoisting or lowering shall, unless they have been subjected to such other treatment as may be prescribed, be effectively annealed, under the supervision of a competent person and at the following intervals:

- (a) 13 millimetres and smaller chains, rings, hooks, shackles and swivels in general use, once at least in every six months; and
- (b) all other chains, rings, hooks, shackles and swivels in general use, once at least in every twelve months.

(6) The gear specified in paragraph 5 of this rule which are used solely on cranes and other hoisting appliances worked by hand, twelve months shall be substituted for six months in sub-paragraph (a) and two years for twelve months in sub-paragraph (b).

(7) Where, owing to the size, design or material of any such gear or class of gear, the requirement of these Rules as to annealing is not necessary, such gear or class of gear shall be exempted from annealing provided that it shall be specified in the test certificate or by the Inspector of Machinery that annealing is not necessary.

(8) All chains other than bridle chains attached to derricks or masts, and all rings, hooks, shackles, swivels and pulley blocks shall be inspected by a competent person immediately before they are used in hoisting or lowering, unless they have been thoroughly examined within the preceding three months.

(9) All chains, rings, hooks, shackles or swivels used in hoisting or lowering which have been lengthened, altered or repaired shall before being taken into use be adequately tested and re-examined.

(10) A registry of lifting gears and machinery in a form as prescribed in the Second Schedule, shall be kept up to date and made available for inspection whenever required to do so by the Port Officer, Surveyor of Ships, Inspector or any other officer authorised by the Director of Marine.

19. Ropes slings.

(1) No rope shall be used in hoisting or lowering unless—

- (a) it is of suitable quality and free from patent defect; and
- (b) in the case of wire rope, it has been examined and tested by a competent person in the manner set out in the First Schedule to these Rules.

(2) Every wire rope in general use for hoisting or lowering shall be inspected by a competent person once at least in every three months, provided that after any wire which has been broken in such rope, it shall be inspected once at least in every month.

(3) No wire rope shall be used in hoisting or lowering if in any length of eight diametres the total number of visible broken wires exceeds ten percent of the total number of wires, or the rope shows signs of excessive wear, corrosion

or other defect which, in the opinion of the person who inspects it, renders it unfit for use.

(4) A thimble or loop splice made in any wire rope shall have at least three tucks with a whole strand of the rope and two tucks with one half of the wires cut out of each strand and the strands in all cases shall be tucked against the lay of the rope:

Provided that it shall not operate to prevent the use of another form of splice which can be shown to be as efficient as that laid down in this rule.

(5) An eye or loop splice made in any rope consisting only of natural fibre shall have not less than three tucks, the tail of each tuck being whipped in a suitable manner.

(6) An eye or loop splice made in any rope consisting wholly or partly of synthetic fibre shall have at least four tucks, each with all the strands of rope and the splice may then be completed by halving and quartering the strands and the portions of the splice consisting the tucks with the reduced number of filaments shall be securely wrapped with adhesive tape or other suitable material.

(7) Strops and slings shall—

(a) be of sufficient size and length to enable them to be used safely; and

(b) be so applied and pulled sufficiently tight to prevent the load or any part of the load from slipping and falling.

(8) The angle between the legs of slings shall not normally exceed 90 degrees and where this is not reasonably practicable, the angle may be subtended up to 120 degrees provided that the slings which are designed to work at the greater angles are used.

(9) Trays and pallets shall be hoisted with four-legged slings and, where necessary, the provisions of nets shall be made to prevent any part of the load from falling.

20. General.

(1) Every crane and derrick shall have the safe working load plainly marked upon it and easily visible by workers.

(2) Every crane or derrick if so constructed that the safe working load may be varied by the raising or lowering of the jib or otherwise, shall have attached to it an automatic indicator of safe working loads, provided that, in cases where the jib or otherwise may be raised or lowered, provision on the crane of a table showing the safe working loads at the corresponding indications or radii of the jib or otherwise, shall be considered sufficient compliance.

(3) All lifting gears and machinery shall have engraved upon it at least the following:

- (a) the serial number corresponding with the serial number as specified on the test certificate;
 - (b) the safe working load; and
 - (c) the date of test that have been carried out, otherwise it shall not be used for hoisting, lowering, dragging or any other purpose connected with the loading or discharge of goods.
- (4) Means shall be provided to enable any person using a chain or wire rope sling to ascertain the safe working load for such chain or sling under such conditions as it may be used.
- (5) Any load which by itself weight more than one tonne shall have the total weight of the lift marked clearly and be visible by workers handling it.
- (6) Chains shall not be shortened by tying knots in them; and suitable packing shall be provided to prevent the links coming into contact with sharp edges of hard material.
- (7) Cranes and winches shall be provided with such means as will reduce to a minimum the risk of accidental descent of a load while being raised or lowered; in particular, the lever controlling the link motion reversing gear of a crane shall be provided with a suitable spring or other locking arrangement.
- (8) Provision shall be made in cranes and winches that in the event of a power failure the load will remain at a standstill position or being able to be lowered in a safe and controlled manner.
- (9) The driver's platform on every crane or tip driven by mechanical power shall be securely fenced and shall be provided with safe means of access and in particular, where access is by a ladder:
- (a) the sides of the ladder shall extend to a reasonable distance beyond the platform or some other suitable hand hold shall be provided;
 - (b) the landing place on the platform shall be maintained free from obstruction; and
 - (c) in cases where the ladder is vertical and exceeds ten metres in height, a resting place shall be provided approximately midway between the platform and the foot of the ladder.
- (10) Appropriate measures shall be taken to prevent the foot of a derrick being accidentally lifted out of its socket or support.
- (11) No person under eighteen years of age and no person who is not trained, competent and of right mind shall be employed as driver of a crane or winch, whether driven by mechanical power or otherwise, or to give signals to a driver or to attend to cargo falls on winch-ends or winch-bodies.

PART V
MOTOR VEHICLES

21. Competency of drivers.

(1) No person shall drive a motor vehicle in port and on board ships unless he is in possession of a valid driving licence issued by the Road Transport Department and in areas where the Road Transport Department do not exercise their jurisdiction; then a certificate issued by the authority certifying the competency of the driver shall be valid.

(2) No person who is not trained, competent and of right mind shall be allowed to drive a motor vehicle in port or on board ships.

22. Use of engine and motors in holds.

(1) The person in charge of the loading or unloading of a ship shall not, during the loading or unloading, use or permit the use of a machine powered with an internal combustion engine or an electric motor in a hold which contains—

- (a) explosives;
- (b) a substance which gives off an inflammable vapour;
- (c) a substance which is a strong supporter of combustion; or
- (d) a substance which is of a readily inflammable nature.

(2) The person in charge of the loading or unloading of a ship shall not, during the loading or unloading, use or permit the use of an internal combustion engine below deck unless—

- (a) a spark arrester is fitted on the exhaust of the engine;
- (b) the engine uses a fuel with a flash point below 110 degrees Fahrenheit the engine is refuelled above deck;
- (c) bare heated surfaces of the engine that are liable to ignite spilled fuel are suitably protected;
- (d) the space in which the engine is used is provided with mechanical ventilation that is adequate to prevent the harmful concentration of gases, fumes or vapours;
- (e) the Director of Marine has directed that mechanical ventilation is not necessary in relation to an engine of that type, such other conditions, in relation to the ventilation of the space in which the engine is used, as are specified by the Director of Marine are complied with;
- (f) a fire extinguisher of a type approved by the Director of Marine is carried on the engine or motor and another such extinguisher is available in the space in which engine or motor is used;
- (g) the engine or motor is in good order and condition; and
- (h) in the case of an internal combustion engine powered by liquid petroleum gas fuel, the requirements set out in the Fourth Schedule are complied with.

(3) The person in charge of the loading or unloading of a ship shall ensure that an internal combustion engine or an electric motor connected to cargo gear is switched off when not in use in connection with the loading or unloading of the ship.

23. Strength of deck, ramp and other related structures of the ship.

The master of the ship shall ensure that the deck, ramp and other related structure of the ship are able to withstand the operation of motor vehicle before permitting such vehicle from coming on board.

24. Ventilation.

No motor vehicle shall be used on board a ship unless the area where such vehicle is used is adequately ventilated to the reasonable satisfaction of the authority.

25. Safe working load.

The safe working load of a motor vehicle used for the conveyance of cargo shall be marked conspicuously and such load shall not be exceeded at any time.

26. Inspection and Certificate of Fitness.

(1) No motor vehicle shall be used for hoisting or towing cargo or equipment unless it is provided with a Certificate of Fitness by the manufacturer or any other competent authority.

(2) Competent authority in this respect shall include a technically qualified person responsible for the testing and maintenance of the vehicle.

(3) The vehicle prescribed under rule 24 shall be periodically inspected and examined at intervals not exceeding twelve months and such inspection and examination shall be recorded in a registry the form of which shall at least meet the requirements prescribed in the Third Schedule.

PART VI

**REPAIRS, HOTWORKS AND ENTERING
COMPARTMENTS ON BOARD SHIPS**

27. Requirement of written permission.

No repair, hotwork or other similar operation shall be allowed on board ship unless a written permission is obtained from the Port Officer or responsible officer.

28. Certification by government chemist.

(1) No repair, hotwork, high speed drilling or other similar operation to any compartment or pipeline which has contained petroleum shall begin or be carried out in any vessel unless such compartment or pipeline has been certified gas free by a government chemist.

(2) Any change in condition subsequent to the time of the test shall invalidate the certificate issued under rule 26 (1) and the space shall be reinspected and a new certificate issued.

29. Precautions to be taken.

(1) No person shall commence repair, hotwork, high speed drilling or other similar operation before ensuring that the necessary safety precautions have been complied with.

(2) No repair, hotwork, high speed drilling or other similar operation to any compartment adjacent to the compartment which contains petroleum or other inflammable products, shall be carried out before ascertaining that it is safe to do so and that the necessary safety precautions have been complied with.

30. Entering compartments.

(1) No person shall enter any compartment on board a ship without authorisation from the master.

(2) Any compartment which is unsafe on board a ship shall be adequately and permanently marked with notices to prohibit entry by any unauthorised persons.

PART VII
GENERAL

31. Prohibition on use of machinery.

(1) No employer or person shall allow machinery or lifting gear to be used by such person who does not comply with any provision of these Rules.

(2) Machinery, lifting gears or other equipment that do not comply with the requirements of these Rules shall not be brought into the place of work they are liable to be used.

32. Access for responsible officer.

The master of the ship shall allow the responsible officer access to the compartment of the ship that is to be worked for the purpose of ensuring the safety of workers.

33. Registry to be available for inspection.

The registry as prescribed under rule 18 (10) and 26 (3) shall be made available for inspection by the Port Officer or responsible officer and in addition the Port Officer or responsible officer may require the production of documents such as test certificates proving that the gears described in the registry are safe for use.

FIRST SCHEDULE

(Rules 18 (1), 18 (4) and 19 (1) (b))

**MANNER OF TEST AND EXAMINATION BEFORE TAKING
LIFTING MACHINERY AND GEAR INTO USE**

(a) Every winch with the whole of the gear accessory thereto (including derricks, goose necks, eye-plates, eye-bolts or other attachments) shall be tested with a proof load which shall exceed the safe working load as follows:

<i>Safe working load</i>	<i>Proof load</i>
Up to 20 tons	25 percent in excess
20-50 tons	5 tons in excess
Over 50 tons	10 per cent in excess

The proof load shall be applied either (i) by hoisting movable weights or (ii) by means of a spring or hydraulic balance or similar appliance, with the derrick at an angle to the horizontal which shall be stated in the certificate of the test. In the former case, after the movable weights have been hoisted, the derrick shall be swung as far as possible in both directions. In the latter case, the proof load shall be applied with the derrick swung as far as practicable first in one direction and then in the other.

(b) Every crane and other hoisting machine with its accessory gear shall be tested with a proof load which shall exceed the safe working load as follows:

<i>Safe working load</i>	<i>Proof load</i>
Up to 20 tons	25 per cent in excess
20-50 tons	5 tons in excess
Over 50 tons	10 per cent in excess

The said proof load shall be hoisted and swung as far as possible in both directions. In the case of a jib-crane, if the jib has a variable radius, it shall be tested with a proof load as defined above at the maximum and minimum radii of the jib. In the case of hydraulic cranes or hoists, where owing to the limitation of pressure, it is impossible to hoist a load 25 per cent, in excess of the safe working load, it shall be sufficient to hoist the greatest possible load.

(c) Every article of loose gear (whether it is accessory to a machine or not) shall be tested with a proof load at least equal to that shown against the article in the following table:

<i>Article of Gear</i>	<i>Proof load</i>
Chain	} Twice the safe working load
Rjng	
Hook	
Shackle	
Swivel	

Pulley Blocks

Single Sheave Block	Four times the safe working load
Multiple Sheave Block with safe working load up to and including 20 tons	} Twice the safe working load
Multiple Sheave Block with safe working load over 20 tons up to and including 40 tons	
Multiple Sheave Block with safe working load over 40 tons	} One and a half times the safe working load

Provided that where the Director of Marine is of the opinion that, owing to the size, design, construction, material or use of any such loose gear of class of such gear, any of the above requirements are not necessary for the protection of persons employed, he may by certificate in writing (which he may in his discretion revoke) exempt such gear or class of gear from such requirements, subject to such conditions as may be stated in the certificate.

(d) After being tested as aforesaid, all machines with the whole of the gear accessory thereto and all loose gear shall be examined, the sheaves and the pins of the pulley blocks being removed for the purpose, to see that no part is injured or permanently deformed by the test.

(e) In the case of wire ropes, a sample shall be tested to destruction and the safe working load shall not exceed one-fifth of the breaking load of the sample tested.

**SECOND SCHEDULE
(Rule 18 (10))**

Name of Ship.....
Official Number.....
Port of Registry.....
Name of Owner.....
Address.....

REGISTER OF SHIP'S CARGO HANDLING MACHINERY AND GEAR

The inspections, tests and examinations shall be carried out in accordance with and in the manner prescribed for by the International Labour Organisation Convention No. 32 concerning the Protection against Accidents of Workers employed in Loading or Unloading Ships (Revised).

INSTRUCTIONS

1. Before being taken into use, all cranes, winches, hoists, derrick booms, derrick and mast bands, goose necks, eye bolts and all other permanent attachments to the derricks, masts and decks, used in hoisting or lowering, shall be tested and examined by a competent person*. **A CERTIFICATE, COVERING SUCH TESTING AND EXAMINATION SHALL BE ATTACHED TO THIS REGISTER.**
2. All derricks and permanent attachments to the derrick, mast and deck, used in hoisting or lowering, shall be inspected by a competent person* once at least in every 12 months, and thoroughly examined by a competent person* once at least in every 4 years. **THE REQUIRED PARTICULARS OF THESE INSPECTIONS AND EXAMINATIONS SHALL BE ENTERED IN PART I OF THIS REGISTER.**
3. All cranes, winches and hoists shall be thoroughly examined by a competent person* once at least in every 12 months. **THE REQUIRED PARTICULARS OF THESE EXAMINATIONS SHALL BE ENTERED IN PART II OF THIS REGISTER.**
4. All chains, rings, hooks, shackles, swivels or pulley blocks used in hoisting or lowering, and all wire ropes shall be tested and examined by a competent person* before being taken into use and also, all chains, rings, hooks, shackles or swivels used in hoisting or lowering which have been lengthened, altered or repaired by welding, shall, before being again taken into use, be adequately tested and re-examined by a competent person* in the same manner. **A CERTIFICATE, SHOWING SUCH TEST AND EXAMINATION SHALL BE ATTACHED TO THIS REGISTER.**
5. All chains, rings, hooks, shackles, swivels or pulley blocks used in hoisting or lowering, and all wire ropes shall be thoroughly examined by a competent person* once at least in every 12 months. **THE REQUIRED PARTICULARS OF THESE EXAMINATIONS SHALL BE ENTERED IN PART III OF THIS REGISTER.**
6. In the case of gear used in hoisting machinery driven by power, all 12.5 mm (half inch) and smaller chains, rings, hooks, shackles and swivels in general use, if made of wrought iron, shall be heat treated under the supervision of a competent person* once at least in every 6 months, and all other such gear once at least in every 12 months. **A CERTIFICATE, SHOWING SUCH TREATMENT SHALL BE ATTACHED TO THIS REGISTER AND THE REQUIRED PARTICULARS SHALL BE ENTERED IN PART IV OF THIS REGISTER.**

PART I:

Annual Inspection and Quadrennial Thorough Examination of Derricks and Permanent Attachment.

If all the derrick booms and above-named gear are inspected or thoroughly examined on the same date, it will be sufficient to enter in Column 1 "all derrick booms and permanent attachment." If not, the parts which have been inspected or thoroughly examined on the dates stated must be clearly indicate.

QUADRENNIAL THOROUGH EXAMINATIONS

Situation and description of gear inspected or examined, with distinguishing number or mark (if any)	Number of Certificate of test and examination	I certify that on the date to which I have appended my signature, the gear shown in Column 1 was thoroughly examined and no defects affecting its safe working condition were found other than those shown in Column 3		Remarks (To be initialed and dated)
		Date and Signature	Date and Signature	
(1)	(2)			(3)

"Thorough examination" means a visual examination, supplemented if necessary by other means, such as a hammer test, carried out as carefully as the conditions permit in order to arrive at a reliable conclusion as to the safety of the parts examined; if necessary for the purpose, parts of the machines and gear must be dismantled.

ANNUAL INSPECTIONS

I certify that on the date to which I have appended my signature the gear shown in Column 1 was inspected and no defects affecting its safe working condition were found other than those shown in Column 4						Remarks (To be initialed and dated)
Date and Signature	Date and Signature	Date and Signature	Date and Signature	Date and Signature	Date and Signature	
(1)	(2)	(3)	(4)	(5)	(6)	(4)

PART II:

Annual Thorough Examination of Cranes, Winches, Hoists and Accessory Gear.

Column 1 should show clearly the machines and gear which have been thoroughly examined. If, for example, all the winches with their accessory gear have been thoroughly examined, it will be sufficient to enter "All winches with their accessory gear".

Situation and description of machinery and gear examined, with distinguishing number or mark (if any)	Number of certificate of test and examination	I certify that on the date to which I have appended my signature the machinery and gear shown in Column 1 was thoroughly examined and no defects affecting its safe working condition were found other than those shown in Column 3		
		Date and Signature	Date and Signature	Date and Signature
(1)	(2)			

Derricks and Permanent Attachments Thereto.

"Thorough examination" means a visual examination, supplemented if necessary by other means, such as a hammer test, carried out as carefully as the conditions permit in order to arrive at a reliable conclusion as to the safety of the parts examined; if necessary for the purpose, parts of the machines and gear must be dismantled.

I certify that on the date to which I have appended my signature the machinery and gear shown in Column 1 was thoroughly examined and no defects affecting its safe working condition were found other than those shown in Column 3					Remarks (To be initialed and dated)
Date and Signature	Date and Signature	Date and Signature	Date and Signature	Date and Signature	
					(3)

PART III:

Annual Thorough Examination of Chains, Rings, Hooks, Shackles, Swivels and Pulley Blocks other than Permanent Attachments to Derricks, Masts and Decks.

Distinguishing Number or Mark	Description of gear thoroughly examined	Number of certificates of test and examination	I certify that on the date to which I have appended my signature, the gear described in Columns 1 and 2 was thoroughly examined, and no defects affecting its safe working condition were found other than those shown in Column 4		
			Date and Signature	Date and Signature	Date and Signature
(1)	(2)	(3)			

“Thorough examination” means a visual examination, supplemented if necessary by other means, carried out as carefully as conditions permit in order to arrive at a reliable conclusion as to the safety of the parts examined; if necessary for the purpose, parts of the gear must be dismantled.

I certify that on the date to which I have appended my signature, the gear described in Columns 1 and 2 was thoroughly examined and no defects affecting its safe working condition were found other than those shown in Column 4					Remarks (To be initialed and dated)
Date and Signature	Date and Signature	Date and Signature	Date and Signature	Date and Signature	
					(4)

PART IV:

Heat Treatment of Chains, Rings, Hooks, Shackles and Swivels.

12.5 mm (half inch) and smaller chains, rings, hooks, shackles and swivels in general use

If used with lifting machinery driven by power, must be heat treated once at least in every 6 months

If used solely with lifting machinery worked by hand, must be heat treated once at least in every 12 months

Other chains, rings, hooks, shackles and swivels in general use

If used with lifting machinery driven by power, must be heat treated once at least in every 12 months

If used solely with lifting machinery worked by hand, must be heat treated once at least in every 2 years

Distinguishing number of mark (1)	Description of gear heat treated (2)	Number of certificate of test and examination (3)	I certify that on the date to which I have appended my signature, the gear described in Columns 1 and 2 was effectually heat treated under the supervision of a responsible person, that after being so heat treated every article was carefully inspected, and that no defects affecting its safe working condition were found other than those shown in Column 4		
			Date and Signature	Date and Signature	Date and Signature

Note:
This part shall be filled for heat treatment of chains, rings, hooks, shackles and swivels, made of wrought iron.

I certify that on the date to which I have appended my signature, the gear described in Columns 1 and 2 was effectually heat treated under the supervision of a responsible person, that after being so heat treated every article was carefully inspected, and that no defecting its safe working condition were found other than those shown in Column 4					Remarks (To be initialled and dated)
Date and Signature	Date and Signature	Date and Signature	Date and Signature	Date and Signature	(4)

**THIRD SCHEDULE
(Rule 26 (3))**

**RECORD OF INSPECTION AND EXAMINATION OF MOTOR VEHICLES
Annual Inspection and Examination of Motor Vehicle used for Hoisting
or Towing Cargo or Equipment**

Distintion and description of vehicle inspected or examined with distinguishing number or mark (if any) (1)	Number of test certificate of fitness certificate (2)	I certify that on the date to which I have appended my signature, the vehicle shown in Column 1 was inspected and examined and no defects affecting its safe working condition were found other than those shown in Column 3		Remarks (To be initialled and dated) (3)
		Date and Signature	Date and Signature	

FOURTH SCHEDULE
(Rule 22 (2) (h))

REQUIREMENTS FOR USE BELOW DECK OF AN INTERNAL
COMBUSTION ENGINE POWERED BY LIQUID PETROLEUM GAS FUEL

1. The valves on all liquid petroleum gas bottles shall be accessible protected against accidental damage.
2. The fuel line from a bottle to the converter or vaporizer of the engine shall be made of solid drawn copper or steel or other equivalent material and be capable of withstanding a pressure of 250 pounds per square inch.
3. A fuel pipe joint shall be made without the use of soft solder.
4. The vaporizer of the engine be of such a type that gas cannot be discharged into the intake manifold at a pressure above atmospheric pressure.
5. The carburetion system of the engine shall be stable in operation and so constructed as to discourage unauthorized interference with the mixture setting.
6. Where a dual feed carburetion system is fitted to the line from the petrol or the kerosene tank, as the case may be, to the carburettor shall be disconnected from that tank and the fitting on that fuel tank shall be sealed.
7. The engine shall be so tuned that the exhaust gas from the engine does not contain more than 0.2 per centum (2000 p.p.m.) by volume of carbon monoxide at idling speed and more than 0.1 per centum (1000 p.p.m.) by volume of carbon monoxide at operating speed on no load.
8. The engine shall not be used with a brand of fuel other than that with which it has been tuned unless the engine is tuned again for use with that other brand of fuel.
9. The tuning of the engine shall be tested for conformity with the requirements of item 7 of this Schedule once in each working day and the results of the test together with details of any adjustments made shall be entered in a book held by a responsible person who shall upon request produce the book for inspection.

Made the 5th November 1984.

TAN SRI CHONG HON NYAN,
Minister of Transport