
STATUTORY INSTRUMENTS

1975 No. 330

The Fishing Vessels (Safety Provisions) Rules 1975

PART II

FISHING VESSEL CONSTRUCTION RULES

D

BOILERS AND MACHINERY

General

17.—(1) In every vessel of 12 metres in length and over to which these Rules apply machinery, boilers and other pressure vessels shall be of a design and construction adequate for the service for which they are intended and be installed and protected so as to minimise any danger to persons on board.

(2) In every such vessel machinery spaces shall be designed to provide safe and free access to all parts of the machinery which may require servicing at sea.

(3) In every such vessel means shall be provided to prevent overpressure in any part of the machinery, boilers and other pressure vessels. Every boiler shall be provided with not less than two safety valves except that only one safety valve may be fitted if, having regard to the output or any other features of the boiler, adequate protection against overpressure is thereby provided.

(4) In every such vessel machinery spaces which will be periodically unattended at sea shall be provided with proper alarm, detection and machinery control systems.

(5) Prior to installation in every such vessel every boiler or other pressure vessel and its mountings shall be subjected to a hydraulic test to a pressure suitability in excess of the working pressure which will ensure it is adequate in strength and design for the intended service, having regard to:—

- (a) the design and the material of construction;
- (b) its intended purpose;
- (c) the working conditions under which it is intended to be used.

(6) In every such vessel every boiler or other pressure vessel and its respective mountings shall be maintained in an efficient condition.

(7) In every such vessel suitable provision shall be made to facilitate the cleaning and inspection of every pressure vessel.

Boiler feed systems

18.—(1) In every vessel of 12 metres in length and over to which these Rules apply every boiler which provides services essential for the safety of the vessel or which could become dangerous by the failure of its feed water supply, shall be provided with not less than two efficient and separate feed water systems so arranged that either of the systems may be opened for inspection or overhaul

independently of the other. Means shall be provided which will prevent overpressure in any part of the systems.

(2) In every such vessel where it is possible for oil to enter the feed water system of a boiler, arrangements shall be provided for interception of the oil in the feed water.

(3) In every such vessel check valves, fittings and pipes in feed water systems shall be designed and constructed to withstand, with an adequate factor of safety, the maximum working stresses to which they may be subjected. Valves, fittings or pipes shall, prior to installation, be subjected to hydraulic test suitably in excess of the maximum working pressure of the boiler to which they are connected or of the maximum working pressure to which the feed line may be subjected, whichever shall be the greater.

(4) In every such vessel boiler feed systems shall be maintained in an efficient condition and the feed pipes shall be adequately supported.

(5) In every such vessel provision shall be made to ensure that an adequate reserve of feed water is available.

Steam pipe systems

19.—(1) In every vessel of 12 metres in length and over to which these Rules apply steam pipes and fittings connected thereto through which steam may pass shall be so designed and constructed as to withstand the maximum working stresses to which they may be subjected, with an adequate factor of safety, having regard to—

- (a) the material of which they are constructed, and
- (b) the working conditions under which they will be used.

(2) Every steam pipe or fitting for every such vessel shall, prior to being put into service for the first time, be subjected to a hydraulic test to a pressure suitably in excess of the working pressure having regard to the requirements of paragraph (1) above.

(3) In every such vessel every such steam pipe or fitting shall be maintained in an efficient condition.

(4) In every such vessel steam pipes shall be adequately supported and in such a manner to avoid damage due to variation in temperature, vibration or otherwise.

(5) In every such vessel means shall be provided for draining every steam range to ensure that the interior of each pipe in the range is kept free of water and that water hammer action will not occur under any foreseeable service conditions.

(6) In every such vessel steam fittings, steam pipes, hot exhaust pipes and other hot surfaces shall be adequately insulated.

(7) In every such vessel steam and exhaust pipes shall not be led through hold spaces unless adequately protected.

(8) In every such vessel, where a steam range may receive steam from any source at a higher pressure than it can withstand with an adequate factor of safety, an efficient reducing valve, relief valve and pressure gauge shall be fitted.

(9) In every such vessel flanges in steam pipe systems shall not be situated above or in the vicinity of switchboards or other electrical equipment except that where this is not practicable provision shall be made to prevent leakage damaging the equipment.

(10) In every such vessel, in exhaust steam systems of machinery fitted with positive shut-off valves where the systems are not designed for the maximum inlet pressure, relief valves of sufficient capacity shall be fitted.

Machinery

20.—(1) In every vessel of 12 metres in length and over to which these Rules apply main and auxiliary machinery essential for the propulsion and safety of the vessel shall be provided with effective means of control. The machinery shall be capable of being brought into operation from the dead ship condition.

(2) In every such vessel where risk from over-speeding of machinery exists provisions shall be made to ensure that the safe speed is not exceeded.

(3) In every such vessel where main or auxiliary machinery or any parts of such machinery are subject to internal pressure such parts shall, prior to installation, be subjected to a hydraulic test to a pressure suitably in excess of the working pressure having regard to:—

- (a) the design and the material of which they are constructed;
- (b) the purpose for which they are intended to be used;
- (c) the working conditions under which they are intended to be used;

and such parts shall at any time thereafter be capable of withstanding such a test.

(4) In every such vessel, main and auxiliary machinery essential for the safety and propulsion of the vessel shall be maintained in an efficient condition.

Means for going astern

21. Every vessel of 12 metres in length and over to which these Rules apply shall have adequate power for going astern to maintain proper control of the vessel in all foreseeable service conditions.

Shafts

22. In every vessel of 12 metres in length and over to which these Rules apply every shaft shall be so designed and constructed that it will withstand the maximum working stresses to which it may be subjected, with a factor of safety which is adequate having regard to:—

- (a) the material of which it is constructed;
- (b) the service for which it is intended;
- (c) the type and size of prime mover or motor by which it is driven or of which it forms a part.

Exhaust systems

23. In every vessel of 12 metres in length and over to which these Rules apply the exhaust pipes and silencers of every internal combustion engine shall be adequately cooled or lagged to protect persons on board the vessel.

Air pressure systems

24.—(1) Every vessel of 12 metres in length and over to which these Rules apply in which machinery essential for the propulsion and safety of the vessel is required to be started, operated or controlled solely by compressed air, shall be provided with an efficient air system, including an adequate number of air compressors and air storage receivers and shall be so arranged as to ensure that an adequate supply of compressed air is available under all foreseeable service conditions.

(2) In every such vessel where the main engines are provided with means for air starting, the total air storage receiver capacity shall be adequate to start the main engine or engines not less than twelve times successively if the engine is reversible or not less than six times successively if the engine is non-reversible.

(3) In every such vessel where only one air storage receiver is provided for starting the main engines separate provision shall be made for the storage of compressed air necessary for starting the main electric generating sets where these are provided with means for air starting.

(4) In every such vessel air pressure systems and their component parts, other than pneumatic control systems, which are subjected to air pressure shall be designed and constructed to withstand, with an adequate factor of safety, the maximum working stresses to which they may be subjected. Prior to being put into service for the first time, air pressure pipes and fittings in such a system shall be subjected to a hydraulic test to twice the system's maximum working pressure.

(5) In every such vessel air pressure systems shall be maintained in an efficient working condition.

(6) In every such vessel adequate pressure relief arrangements shall be provided to prevent overpressure in any part of any such air pressure system, and shall also be provided, where water jackets of casings of air compressors and coolers might be subjected to dangerous overpressure due to leakage into them from air pressure parts.

(7) In every such vessel provision shall be made to drain the system and to reduce to a minimum the entry of oil into any air pressure system.

(8) In every such vessel provision shall be made to protect the system from the effects of internal explosion.

(9) In every such vessel discharge pipes from starting air compressors shall lead directly to the starting air receivers. Starting air pipes from the air receivers to main or auxiliary engines shall be separate from the compressor discharge pipe system.

(10) In every such vessel where an air pressure pipeline may receive air from any source at a higher pressure than it can withstand with an adequate factor of safety, an efficient reducing valve, relief valve and pressure gauge shall be fitted.

(11) In every such vessel soldered joints shall not be used in air pressure pipe lines.

Cooling water systems—vessels of 24.4 metres in length and over

25.—(1) In every vessel of 24.4 metres in length and over to which these Rules apply where machinery essential for the propulsion and safety of the vessel is dependent for its operation on an efficient cooling water system, there shall be provided at least one circulating pump and, except in the case of any emergency generator, provision shall be made so that in the event of the failure of the pump an alternative pump is available for the same duty. These pumps shall provide an adequate supply of cooling water to the cooling system.

(2) In every such vessel the sea water suction of cooling systems for essential internal combustion machinery shall be provided with strainers which can be cleaned without interruption of the supply of water.

(3) In every such vessel provision shall be made to prevent overpressure in any part of the system and to indicate the proper working of the system.

Cooling water systems—vessels of 12 metres in length and over but less than 24.4 metres in length

26.—(1) In every vessel of 12 metres in length and over but less than 24.4 metres in length to which these Rules apply where cooling water services are essential for the running of the propelling machinery there shall be at least two means capable of supplying water to such services.

(2) In every such vessel the sea water suction of cooling systems for essential internal combustion machinery shall be provided with strainers which can be cleaned without interruption of the supply of water.

(3) In every such vessel provision shall be made to prevent overpressure in any part of the system and to indicate the proper working of the system.

Oil systems for lubricating, cooling and control—vessels of 24.4 metres in length and over

27.—(1) In every vessel of 24.4 metres in length and over to which these Rules apply where oil for lubrication, cooling or operation of the main propelling machinery, gearbox and its ancillary services is circulated under pressure, at least two pumps shall be provided for the circulation of such oil where:—

- (a) the output or combined output of the main engine or engines exceeds 500 b.h.p.; or
- (b) lubricating oil under pressure is the only means of control of machinery for the propulsion and safety of the vessel.

Each pump shall be adequate for circulating the lubricating oil. Only one pump shall be required for an emergency generator.

(2) In every such vessel strainers which can be cleaned without interrupting the supply of such oil shall be provided.

(3) In every such vessel provision shall be made to prevent overpressure and to indicate proper operation in every part of the system. Where the means of preventing overpressure is a relief valve it shall be in a closed circuit.

(4) In every such vessel flexible pipes in lubricating oil, cooling oil and hydraulic systems shall be fit for their intended service.

(5) In every such vessel oil level indicators in lubricating oil, cooling oil and hydraulic systems shall be accurate and fit for their intended service and shall be of a type which does not require piercing of the lower part of the tank. Tubular gauge glasses shall not be fitted to lubricating oil or hydraulic oil tanks but suitably protected gauges having flat glasses of substantial thickness and self-closing fittings may be used.

(6) In every such vessel oil pressure pipes in lubricating oil, cooling oil and hydraulic systems shall be made of seamless steel, or other suitable material having flanged joints and shall be properly installed and be led at such a height above the inner bottom as will facilitate inspection and repair. Every such pipe, joint and its fittings other than pipes, joints and fittings in hydraulic control systems, shall, before being put into service for the first time, be subjected to a test by hydraulic pressure to 2.8 kilogrammes force per square centimetre or to twice the maximum working pressure, whichever is the greater, and shall at any time thereafter be capable of withstanding such a test.

(7) In every such vessel oil pipes in lubricating oil, cooling oil and hydraulic systems, not being oil pressure pipes, shall be made of steel or other suitable material having flanged joints and shall be properly installed and be led at such a height above the inner bottom as will facilitate inspection and repair. Every such pipe, joint and its fittings other than pipes, joints and fittings in hydraulic control systems, shall, before being put into service for the first time, be subjected to a test by hydraulic pressure to 2.8 kilogrammes force per square centimetre or to twice the maximum working pressure, whichever shall be the greater, and shall at any time thereafter be capable of withstanding such a test.

Oil systems for lubricating, cooling and control—vessels of 12 metres in length and over but less than 24.4 metres in length

28.—(1) In every vessel of 12 metres in length and over but less than 24.4 metres in length to which these Rules apply where the output or combined output of the main engine or engines exceeds 500 b.h.p. and oil for lubrication, cooling or operation of the main propelling machinery and its ancillary services is circulated under pressure, provision shall be made for circulating such oil in the event of failure of a pump.

(2) In every such vessel strainers capable of being readily dismantled for cleaning or replacement of the strainer element shall be provided.

(3) In every such vessel adequate means shall be provided for indicating failure of the lubricating oil system.

(4) In every such vessel flexible pipes in lubricating oil, cooling oil and hydraulic systems shall be fit for their intended service.

(5) In every such vessel where tubular gauge glasses are fitted to lubricating oil or hydraulic oil tanks they shall be of substantial construction, adequately protected and fitted with self-closing arrangements on the tank.

(6) In every such vessel pipes used to convey lubricating oil, cooling oil or hydraulic oil shall be made of seamless steel or other suitable material and shall be properly installed. Pipes, joints and fittings other than pipes, joints and fittings in hydraulic control systems, shall, before being put into service for the first time, be subjected to a test by hydraulic pressure to twice their maximum working pressure and at any time thereafter shall be capable of withstanding such a test.

Oil fuel installations (boilers and machinery)—general

29.—(1) In every vessel of 12 metres in length and over to which these Rules apply oil fuel used in boilers or machinery shall have a flash point of not less than 60°C (Closed Test), except that where the emergency source of electrical power is a generator driven by internal combustion type machinery having an independent fuel supply and with efficient starting arrangements, the oil fuel provided for this machinery shall have a flash point of not less than 43°C.

(2) In every such vessel oil fuel tanks which are not built into the vessel's structure shall be properly constructed and be provided with save-alls or gutters. These tanks shall not be situated directly above boilers, heated surfaces, stairways, ladders, or electrical equipment other than unbroken runs of cable. Prior to installation these tanks shall be subjected to a hydraulic pressure test. Storage tanks or service tanks shall be tested to a head of water 300 millimetres in excess of the greatest head to which the tank may be subject when in service. In the case of a settling tank the required head of water shall not be less than 2.5 metres above the top of the tank.

(3) In every such vessel adequate means shall be provided for sounding oil fuel tanks and means provided to prevent overpressure in such tanks. The sounding arrangements or oil level indicating gear fitted to settling tanks or daily service tanks shall not permit the escape of oil if these tanks are overfilled. Oil level indicators shall not allow oil to escape in the event of their being damaged.

(4) In every such vessel air pipes shall be led from oil fuel tanks to the open air and the outlet shall be situated so that there will be no danger of fire or explosion resulting from the emergence of oil vapour from the pipe. Pipes shall be fitted with detachable wire gauze diaphragms of non-corrodible material.

Where pipes also serve as overflow pipes provision shall be made to prevent the overflow running into or near a boiler room, galley or other space where ignition may occur.

(5) In every such vessel air pipes from oil fuel tanks and levelling pipes attached to tanks shall have a nett cross-sectional area not less than 1.25 times that of the filling pipes.

(6) In every such vessel self-closing type drains shall be provided for the removal of water from oil fuel in storage tanks or settling tanks or in oily water separators.

(7) In every such vessel pipes connected to any oil fuel storage, settling, or daily service tank, not being a double bottom tank, shall be fitted with a valve or cock which shall be secured to the tank to which it is connected and be capable of being closed from a readily accessible position outside the space in which the tank is situated provided that an inlet pipe may be fitted with a nonreturn valve secured to the tank.

(8) In every such vessel valves forming part of the oil fuel system shall be designed and constructed to prevent the cover of the valve chest being slackened back or loosened when the valve is operated.

(9) In every such vessel pumps forming part of the oil fuel system shall be separate from the feed pumps, bilge pumps and ballast pumps and the connection of any such pumps, and shall be provided with an efficient relief valve which shall be in closed circuit.

(10) In every such vessel the means provided for the storage, distribution and utilisation of the fuel shall be such that the effective use of the engines can be maintained under all foreseeable service conditions.

(11) In every such vessel where steam is generated for main propulsion or essential auxiliary machinery by burning oil fuel under pressure, not less than two oil fuel units shall be provided, each comprising a pressure pump, filters and a heater. The pump, filters and heater shall be of efficient design and substantial construction. Provision shall be made to prevent overpressure in any part of the oil fuel units. The parts of these oil fuel units which are subject to oil pressure and the joints thereof shall, before being put into service for the first time, be subjected to a test by hydraulic pressure to 28 kilogrammes force per square centimetre or twice their maximum working pressure, whichever is the greater, and shall at any time thereafter be capable of withstanding such a test. Relief valves fitted to prevent over-pressure in the oil fuel heater shall be in closed circuit. Where steam is used for heating oil fuel in bunkers, tanks, heaters or separators, exhaust drains shall be provided to discharge the condensate into an observation tank fitted with a manually controlled drain.

(12) In every such vessel where a gravity oil fuel system is installed filters shall be provided and shall be capable of being cleaned without interrupting the supply of fuel oil.

(13) In every such vessel equivalent arrangements to those set out in paragraph (12) above shall be provided in the fuel supply lines to main and auxiliary oil engines.

(14) In every such vessel save-alls or gutters shall be provided under every oil fuel pump, filter and heater and in way of the furnace mouths to prevent escaping oil from coming into contact with boilers or other heated surfaces.

(15) In every such vessel where flexible pipes are fitted in such systems, they shall be fit for their intended service.

(16) In every such vessel fuel supply lines to main propulsion and essential auxiliary machinery shall be provided with filters so constructed that they may not be opened during use.

Oil fuel installations (boilers and machinery)—vessels of 24.4 metres in length and over

30.—(1) In every vessel of 24.4 metres in length and over to which these Rules apply oil fuel shall be effectively isolated from other liquids. The oil fuel pumping arrangements shall permit the oil fuel to be transferred from any oil fuel storage tank or settling tank into another oil fuel storage tank or settling tank. Provision shall be made to prevent the accidental discharge or overflow of oil overboard. If drinking water or boiler feed water is stored in a tank adjacent to an oil fuel tank a coffer-dam shall be provided which will prevent contamination.

(2) In every such vessel oil fuel tank sounding pipes shall not terminate in crew accommodation, but they may be installed in passage-ways.

(3) In every such vessel oil fuel level indicators shall be accurate and fit for their intended service, and shall be of a type which does not require piercing of the lower part of the oil fuel tank. Tubular gauge glasses shall not be fitted to oil fuel tanks but suitably protected gauges having flat glasses of substantial thickness and self closing fittings may be used.

(4) In every such vessel overflows from settling tanks and daily service tanks shall be led back to the storage tanks or to an overflow tank and means shall be provided to indicate when the tanks are overflowing.

(5) In every such vessel where oil fuel tanks are alternatively used as liquid ballast tanks proper means shall be provided to isolate the oil fuel and ballast systems.

(6) In every such vessel oil fuel filling stations shall be isolated from other spaces and be adequately drained and independently ventilated. Provision shall be made to prevent over-pressure in oil-filling pipe lines.

(7) In every such vessel oil fuel pressure pipes shall be made of seamless steel or other suitable material having flanged joints and shall be properly installed and be led at such a height above the inner bottom as will facilitate inspection and repair. Every such pipe, joint and its fittings shall, before being put into service for the first time, be subjected to a test by hydraulic pressure to 28 kilogrammes force per square centimetre or to twice the maximum working pressure, whichever is the greater, and shall at any time thereafter be capable of withstanding such a test. Where such pipes are used for conveying heated oil they shall be situated in a position above the platform in well-lighted parts of the boiler room or engine room.

(8) In every such vessel oil fuel pipes not being oil fuel pressure pipes shall be made of steel or other suitable material having flanged joints and shall be properly installed and be led at such a height above the inner bottom as will facilitate inspection and repair. Every such pipe, joint and its fittings shall, before being put into service for the first time, be subjected to a test by hydraulic pressure to 3.5 kilogrammes force per square centimetre or to twice the maximum working pressure, whichever shall be the greater, and shall at any time thereafter be capable of withstanding such a test.

(9) In every such vessel steam heating pipes which may be in contact with oil shall be made of steel and, together with their joints, shall, before being put into service for the first time, be subjected to a test by hydraulic pressure to twice the maximum working pressure, and shall at any time thereafter be capable of withstanding such a test.

(10) In every such vessel every suction pipe from any oil fuel tank situated above an inner bottom within a boiler room or engine room shall be fitted with a valve or cock secured to each tank to which the pipe is connected. Every such valve or cock fitted to an oil fuel suction pipe shall be so arranged that it may be closed both from the compartment in which it is situated and from a readily accessible position outside such compartment not likely to be cut off in the event of fire in that compartment. If any oil tank filling pipe is not connected to an oil fuel tank at or near the top of the tank, it shall be fitted with a non-return valve or with a valve or cock secured to the tank to which it is connected and so arranged that it may be closed from the compartment in which it is situated and also from a readily accessible position outside such compartment not likely to be cut off in the event of fire in that compartment.

(11) In every such vessel master valves at the furnace fronts which control the supply of oil fuel to sets of burners shall be of quick-closing type and fitted in a readily accessible and conspicuous position. Provision shall be made to prevent oil from being turned on to any burner unless the burner has been correctly coupled up to the oil fuel supply line.

(12) In every such vessel provision shall be made for oil fuel pressure pumps and transfer pumps to be stopped from a position outside the compartment in which the pumps are situated.

Oil fuel installations (boilers and machinery)—vessels of 12 metres in length and over but less than 24.4 metres in length

31.—(1) In every vessel of 12 metres in length and over but less than 24.4 metres in length to which these Rules apply oil fuel filling points shall be so arranged that oil fuel will not readily be spilled, overflow, drain or lodge in any space.

(2) In every such vessel pipes used to convey fuel oil shall be made of seamless steel or other suitable material and shall be properly installed. Pipes, joints and fittings shall, before being put into service for the first time, be subjected to a test by hydraulic pressure to twice their maximum working pressure, and at any time thereafter shall be capable of withstanding such a test.

(3) In every such vessel where tubular gauge glasses are fitted to oil fuel tanks they shall be of substantial construction, adequately protected and fitted with self-closing arrangements on the tank.

Oil fuel installations (cooking ranges and heating appliances)

32.—(1) In every vessel of 12 metres in length and over to which these Rules apply where cooking ranges or heating appliances within crew spaces are supplied with fuel from an oil tank, the tank shall be situated outside the space containing the cooking range or heating appliance and the supply of oil to the burners shall be capable of being controlled from outside that space. Ranges or burners using oil fuel having a flash point of less than 60°C (Closed Test) shall not be fitted. Means shall be provided to shut off the fuel supply automatically at the cooking range or heating appliance in the event of fire or if the combustion air supply fails. Such means shall require manual resetting in order to restore the fuel supply.

(2) In every such vessel the oil tank supplying the cooking range or heating appliance shall be provided with an air pipe leading to the open air, and in such a position that there will be no danger of fire or explosion resulting from the emergence of oil vapour from the open end of the pipe. The open end shall be fitted with a detachable wire gauze diaphragm.

(3) In every such vessel adequate means shall be provided for filling every such tank and for preventing overpressure.

Ventilation

33. In every vessel of 12 metres in length and over to which these Rules apply every space in which an oil fuel tank or any part of an oil fuel installation is situated shall be adequately ventilated.

Liquefied petroleum gas installations (cooking ranges and heating appliances)

34.—(1) In every vessel of 12 metres in length and over to which these Rules apply installations using liquefied petroleum gas shall be properly and safely fitted and fit for their intended service.

(2) In every such vessel an odouriser shall be added to the gas to enable the presence of gas to be detected by smell, even when its concentration in air is below that of the lower limit of flammability.

(3) In every such vessel containers holding liquefied petroleum gas shall be securely stowed on deck or in a well ventilated compartment situated on the deck, except that in any vessel of 24.4 metres in length and over, where deck stowage is not reasonably practicable, such gas containers may be stowed in spaces below deck, provided that such spaces are adequately ventilated and electrical equipment in such spaces is of flame-proof construction. Where drainage is provided from compartments containing such gas containers, drains shall lead directly overboard.

(4) In every such vessel spaces containing cooking ranges or heating appliances which use liquefied petroleum gas shall not be fitted with openings leading directly below to accommodation spaces or their passageways, except that where this is not reasonably practicable and such openings are fitted mechanical exhaust ventilation trunked to within 300 millimetres of the deck adjacent to the appliance, together with adequate supply ventilation, shall be provided.

(5) In every such vessel spaces where appliances consuming liquefied petroleum gas are used shall be adequately ventilated.

(6) In every such vessel mechanical ventilation systems fitted to any space in which such gas containers or appliances are situated shall be of such design and construction as will eliminate the hazards due to sparking. The ventilation systems serving spaces containing such gas storage containers or gas-consuming appliances shall be separate from any other ventilation system.

(7) In every such vessel where such gas consuming appliances are fitted below deck and for galleys in vessels of 60 metres in length and over mechanical exhaust ventilation shall be provided.

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(8) In every such vessel of 12 metres in length and over, every space containing such a gas consuming appliance shall be provided with gas detection and audible alarm equipment. The gas detection device shall be securely fixed in the lower part of the space in the vicinity of the gas consuming appliance. The alarm unit and indicating panel shall be situated outside the spaces containing the gas storage and consuming appliances.

(9) In vessels of 12 metres in length and over but less than 24.4 metres in length to which these Rules apply where such gas consuming appliances are used in sleeping quarters or in spaces adjacent thereto, a flameproof audible alarm shall be fitted in the sleeping quarters in addition to the alarm required by paragraph (8) above.

(10) In vessels of 12 metres in length and over to which these Rules apply a device shall be fitted in the supply pipe from the gas container to the consuming appliance which will shut off the gas automatically in the event of loss of pressure in the supply line. The device shall be of a type which requires deliberate manual operation to re-set it to restore the gas supply. An automatic shut-off device which operates in the event of flame failure shall be fitted on all appliances consuming liquefied petroleum gas.

Storage of flammable liquids, toxic liquids, toxic gases and compressed gases

35.—(1) In every vessel of 12 metres in length and over to which these Rules apply cylinders containing flammable, toxic or other dangerous gases, and expended cylinders shall be properly stowed and secured on open decks, and all valves, pressure regulators and pipes leading from such cylinders shall be protected against damage. Such cylinders may be stowed in compartments which meet the requirements set out in paragraph (2) of this Rule.

(2) In every such vessel highly flammable liquids, toxic liquids, toxic gases, and liquefied gases, other than liquefied petroleum gas shall be stored in compartments having direct access from open decks. Such compartments shall have boundary bulkheads constructed from non-combustible materials. Pressure adjusting devices and relief valves, if any, shall exhaust within the compartment. Where boundary bulkheads of such compartments adjoin other enclosed spaces they shall be gas tight and adequately insulated and provided with ventilation arrangements which are separate from other ventilation systems. Ventilation shall be arranged at high and low levels and the inlets and outlets of ventilators shall be positioned in safe areas and fitted with spark arresters.

(3) In every such vessel electrical wiring and fittings shall not be installed within compartments containing highly flammable liquids or liquefied gases except where necessary for service within the space. Where such electrical fittings are installed they shall be suitable for use in a flammable atmosphere.

(4) In every such vessel where cylinders containing flammable or other dangerous compressed gases are carried below deck, cylinders containing one type of compressed gas shall be stowed separately from cylinders containing another type. Compartments containing cylinders of such compressed gases shall not be used for stowage of other combustible products or for tools or objects not belonging to the gas distribution system.