

S.I. No. 313 of 1979.

DANGEROUS SUBSTANCES (PETROLEUM BULK STORES) REGULATIONS, 1979.

Arrangement of Regulations.

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DANGEROUS SUBSTANCES (PETROLEUM BULK STORES) REGULATIONS, 1979.

I, GENE FITZGERALD, Minister for Labour, in exercise of the powers conferred on me by sections 22 (2) of the Dangerous Substances Act, 1972 (No. 10 of 1972), hereby make the following regulations:

1. (1) These Regulations may be cited as the Dangerous Substances (Petroleum Bulk Stores) Regulations, 1979.

(2) These Regulations shall come into operation on the 28th day of September, 1979.

2. (1) In these Regulations—

"the Act" means the Dangerous Substances Act, 1972 (No. 10 of 1972);

"above-ground storage tank", except where the context otherwise requires, means an above-ground horizontal storage tank used or intended to be used for the keeping or storage of liquid petroleum at a store no part of which is below ground level or covered with earth, sand or similar material;

"ambulance authority" means the ambulance service provided (in the functional area of the proper authority where a store is located) by a health board established under the Health Act, 1970 (No. 1 of 1970);

"appropriate fire brigade authority" means the fire brigade authority for the sanitary district in which the store concerned is located or the fire brigade authority which gives the services of its fire brigade in relation to fire occurring in the sanitary district (or portion of the sanitary district) in which the store concerned is located;

"approved", except where the context otherwise requires, means approved for the time being by the Minister;

"authorised person" means, in relation to a store, a licensee, owner or contractor who is competent to carry out duties connected with the safe keeping or conveying of petroleum or an employee or other person authorised in writing to carry out such duties and competent to do so;

"available for inspection" means available for inspection by an inspector or any officer or servant of a local or harbour authority duly authorised by the authority for the purposes of section 43 of the Act;

"compartment" means a compartment forming a liquid-tight division of an underground storage tank;

"competent person" means a person possessing adequate knowledge, training and ability to perform his duties or work in such a manner as to prevent, so far as practicable, risk of injury;

"confined space" means the interior of a storage tank, process vessel or other similar tank or enclosed or confined space at a store that contains or has contained petroleum or sludge or residue of petroleum, or in which a dangerous concentration of vapours of petroleum is likely to be present;

"container" means—

(a) a suitable leak-proof metal drum of adequate strength and construction and with a capacity not exceeding 250 litres of petroleum Class I or petroleum Class II,

(b) a suitable leak-proof metal container of adequate strength and construction with a capacity not exceeding 60 litres of petroleum Class I or petroleum Class II,

(c) a suitable leak-proof container of metal or other material of adequate strength and construction and with a capacity not exceeding 30 litres of petroleum Class I or petroleum Class II, constructed in accordance with an approved standard or specification, or

(d) a suitable leak-proof container with a secure stopper and a capacity not exceeding 5 litres of petroleum Class I or petroleum Class II;

"container compound" means an area located in a safe position in the open air at a store and used or intended to be used for the keeping or storage of containers;

"container store" means a container store of adequate fire-resistance construction for the safe keeping or storage of containers in or at a store;

"contractor", except where the context otherwise requires, means the person who has the management and control of a pipeline located outside the boundaries of a store, for the purpose of its use or operation in the conveying of petroleum to or from a store;

"dangerous concentration of vapours" means a concentration of vapours greater than the lower flammable limit of the vapours and which is capable of ignition or causing bodily injury;

"distribution store", except where the context otherwise requires, means a place or premises used or intended to be used for the keeping for sale in whole or in part of—

(a) petroleum Class I not exceeding in storage capacity 5,000 cubic metres, or

(b) petroleum Class III and either petroleum Class I or petroleum Class II not exceeding in aggregate storage capacity 7,000 cubic metres;

"earthed" means connected to the general mass of earth in such manner as will at all times ensure an immediate discharge of electrical energy without danger;

"electrical apparatus" includes any conductor or electric cable and any part of any machine, apparatus or appliance designed for the generation, transformation, conversion, switching, controlling, regulation, storage, transmission, distribution or use of electrical energy;

"filling location" means a filling shed or building at a store in which petroleum Class I or petroleum Class II is transferred to or from a container;

"fire brigade authority" has the meaning assigned to it by the Fire Brigades Act, 1940 (No. 7 of 1940);

"fire main" means a pipe or system of pipes for conveying a supply of water to a store for fire-fighting purposes;

"fire resistance", except where the context otherwise requires, means having elements of construction which will withstand (if exposed to test by fire in accordance with British Standard 476; Part 8: 1972) the effects of fire for a period of not less than 30 minutes without loss of fire-resisting or load-bearing functions;

"fixed roof storage tank", except where the context otherwise requires, means an above-ground vertical cylindrical steel welded tank, with butt-welded shells and fixed roof, used or intended to be used for the keeping or storage of liquid petroleum at a store;

"floating roof storage tank", except where the context otherwise requires, means an above-ground vertical cylindrical steel welded tank with butt-welded shells, the roof of which normally floats freely on the surface of the petroleum liquid contained in the tank except when the weight of the roof is taken on the tank support legs for maintenance or inspection purposes and which is used or is intended to be used for the keeping or storage at a store of petroleum Class I or petroleum Class II;

"fuel tank" means a fuel tank of a vehicle or engine which is designed for carrying fuel for use only in the propulsion of that vehicle or engine;

"fuelling location" means a location where petroleum Class I or petroleum Class II is dispensed or delivered to the fuel tank of a vehicle or engine at a store;

"hazardous area" means, an area in which, because of the existence of petroleum or of an abnormal or transient condition an explosive or flammable atmosphere may be present continuously or intermittently;

"leaded petroleum" means petroleum Class I or petroleum Class II containing lead tetraethyl or similar lead-containing compound;

"licence" means a licence under the Act in respect of a store for the storage of petroleum Class I at a store, and cognate words shall be construed accordingly;

"line of rails" means a line of rails or sidings used in connection with a locomotive, rail tank wagon or rail truck for the conveyance of petroleum Class I or petroleum Class II;

"loading location" means a location at which petroleum Class I or petroleum Class II is loaded into a tank at a store;

"locomotive" means—

(a) any self-propelled wheeled vehicle designed for use on a line of rails, or

(b) any self-propelled wheeled tractor, whether or not on a line of rails,

used for the movement of a rail tank wagon or rail truck in connection with the conveyance of petroleum;

"main retaining wall", except where the context otherwise requires, means a main retaining wall, fire wall, bund or dike surrounding or enclosing an above-ground storage tank or vertical storage tank, or surrounding both such tanks or a group of such tanks at a store;

"major distribution store", except where the context otherwise requires, means a refinery tank-farm or similar place or premises used or intended to be used for the keeping for sale in whole or in part or for trans-shipment of—

(a) petroleum Class I exceeding in quantity 5,000 cubic metres, or

(b) petroleum Class III and either petroleum Class I or petroleum Class II exceeding an aggregate storage capacity of 7,000 cubic metres of petroleum;

"the Minister" means the Minister for Labour;

"non-combustible", in relation to a material, means material regarded as non-combustible according to the test for non-combustibility specified in British Standard 476; Part 4: 1970;

"non-hazardous area" means an area which is not a hazardous area;

"oil interceptor" means an oil interceptor, separator, chamber or other device approved by the proper authority and suitably designed, located, constructed, vented in a safe manner and maintained so as to retain for recovery and for safe disposal any petroleum conveyed to it by a drainage system;

"owner", except where the context otherwise requires, means the occupier of a store (which is used or intended to be used for the keeping of petroleum Class II or petroleum Class III) who manages or controls the store;

"petroleum", except where the context otherwise requires, means liquid petroleum Class I, petroleum Class II or petroleum Class III;

"petroleum Class I" means petroleum-spirit tested in accordance with regulations under section 20 of the Act;

"petroleum Class II", except where the context otherwise requires, means petroleum which when tested at normal atmospheric pressure in accordance with regulations under section 20 of the Act gives off a flammable vapour at a temperature of not less than 22.8° Celsius and not more than 60° Celsius; "petroleum Class II (1)" means such petroleum conveyed, loaded, unloaded or stored at a temperature below its flash point; and "petroleum Class II (2)" means such petroleum conveyed, loaded, unloaded or stored at a temperature at or above its flash point;

"petroleum Class III", except where the context otherwise requires, means petroleum when tested at normal atmospheric pressure in accordance with regulations under section 20 of the Act gives off a flammable vapour at a temperature exceeding 60° Celsius;

"petroleum Class III (1)" means such petroleum conveyed, loaded, unloaded or stored at a temperature below its flash point;

"petroleum Class III (2)" means such petroleum conveyed, loaded, unloaded or stored at a temperature at or above its flash point;

"petroleum-spirit" means petroleum which at normal atmospheric pressure gives off an inflammable vapour at a temperature of less than 22.8° Celsius (73°F);

"pipeline", except where the context otherwise requires, means a pipeline used or intended to be used for conveying petroleum and connected or intended to be connected to an above-ground storage tank, and includes a pipeline interconnected between separate stores;

"private bulk store" means a place or places used or intended to be used for keeping (other than for sale or resale in whole or in part)—

(a) under a licence petroleum Class I exceeding 13.638 litres (3 gallons) but excluding petroleum Class I kept in conformity with the Dangerous Substances Act (Retail and Private Petroleum Stores) Regulations, 1979 (S.I. No. 311 of 1979); or

(b) an aggregate quantity of petroleum Class II and petroleum Class III exceeding in liquid quantity 5 cubic metres but excluding a store used exclusively for the storage of petroleum Class III;

"proper authority", except where the context otherwise requires, means the appropriate local or harbour authority within the meaning of section 2 (2) of the Act or, where a store is owned by such an authority, the Minister;

"public road" means a road the responsibility for which lies on a road authority;

"rail tank wagon" means a non-self-moving wheeled rail tank wagon used on a line of rails and having one or more tanks mounted thereon;

"rail truck" means a non-self-moving wheeled rail truck used on a line of rails for the conveyance of petroleum Class I or petroleum Class II in containers;

"railway undertaking" means Córas Iompair Éireann or any other approved railway undertaking;

"refinery" means a premises or place used for the separation, refining or processing of petroleum and products thereof;

"retaining enclosure" means an enclosure, compound, bunded area or diked area at a store completely surrounded by a main retaining wall and within which a vertical storage tank or an above-ground storage tank (or both such tanks or a group of such tanks) is (or are) located;

"risk of injury", except where the context otherwise requires means risk of injury either to persons or property from petroleum (or vapours of petroleum) because of ignition, fire, explosion, spillage, escape or leakage, or to persons while keeping, conveying, loading or unloading petroleum;

"road authority" means—

(a) the council of a county,

(b) the corporation of a county or other borough, or

(c) the council of an urban district;

"source of ignition" means any naked light, fire, spark, flame, exposed incandescent material, petroleum vapour, air mixture, electrical apparatus or any other agency or device capable of causing or likely to cause risk to person or property from ignition, fire or explosion of petroleum in a storage tank;

"storage tank", except where the context otherwise requires, means a vertical storage tank or an above-ground or underground storage tank used or intended to be used for the storage of petroleum at a store;

"store", except where the context otherwise requires, means a distribution store, major distribution store or private bulk store;

"tank" means a suitable leak-proof tank, container, demountable tank, fixed tank, self-bearing tank or tank having a capacity exceeding 1 cubic metre and mounted, fixed or secured on a tank-vehicle or rail tank wagon designed and used for conveying or delivering petroleum Class I or petroleum Class II to or at a store, but does not include a fuel tank;

"tank-semi-trailer" means either a drawn component of an articulated vehicle or a vehicle constructed or adapted for use as a drawn component of an articulated vehicle;

"tank-trailer" means a trailer comprising one or more fixed or demountable tanks;

"tank-vehicle" includes a composite vehicle, articulated vehicle, tank-trailer or tank-semi-trailer, used for the delivery or conveyance of petroleum Class I or petroleum Class II to from or at a store;

"underground storage tank", except where the context otherwise requires, means an underground horizontal storage tank located below the surface of the ground at a store and used for the storage of liquid petroleum Class I or liquid petroleum Class II, and includes a mounded storage tank installed in accordance with Regulation 20 (3) of these Regulations;

"unloading location" means a location at which petroleum Class I or petroleum Class II is unloaded from a tank at a store;

"vertical storage tank", except where the context otherwise requires, means a fixed roof storage tank or a floating roof storage tank at a store.

(2) Any reference in these Regulations to a British Standard or other standard is a reference to that Standard as amended or extended, whether before or after the commencement of these Regulations.

3. Subject to any conditions attached to a licence, and without prejudice to any other provision of these Regulations, the Rules specified in Schedule 1 to these Regulations shall apply in relation to every store.

4. (1) Where a proper authority is satisfied—

(a) that a store used for the keeping of petroleum Class I immediately before the commencement of these Regulations cannot at reasonable expense be made to comply with Regulations 12,13,14,18 (2), 18 (3), 18 (4), 18 (5), 19 (1), 20 to 22, 23 (2), 23 (3), 25 (2), 30, 31, 34, 35 (2), 36, 37, 39, 42 (1), 44, 51, 54, 59, 60, 66 (1) (b), 66 (2), 66 (3), 75 (2), 75 (3), 75 (4), 75 (5), 76, 77 and 81 of these Regulations, and

(b) that either all practicable steps have been taken in relation to that store to ensure a standard of protection approximating to that required under the Regulations specified in subparagraph (a) of this paragraph against risk of injury, or works, alterations or additions which would enable that store to comply with those Regulations will be carried out within a specified period and a written undertaking to that effect has been given by the applicant for a licence,

it may issue a licence subject to such conditions (including conditions relating to those works, alterations or additions) as it considers necessary to attach to the licence and specifies in the licence.

(2) Where a proper authority is satisfied—

(a) that a store used for the keeping of petroleum Class II and petroleum Class III immediately before the commencement of these Regulations cannot at reasonable expense be made to comply with the requirements of Regulations 12, 13, 14, 18 (2), 18 (3), 18 (4), 18 (5), 19 (1), 20 to 22, 23 (2), 23 (3), 25 (2), 30, 31, 34, 35 (2), 36, 37, 39, 42 (1), 44, 51, 54, 59, 60, 66 (1) (b), 66 (2), 66 (3), 75 (2), 75 (3), 75 (4), 75 (5), 76, 77 and 81 of these Regulations, and

(b) that either all practicable steps have been taken in relation to that store to ensure a standard of protection approximating to that required under the Regulations specified in subparagraph (a) of this paragraph against risk of injury, or works, alterations or additions which would enable that store to comply with those Regulations will be carried out within a specified period and a written undertaking to that effect has been given by the owner,

it may regard the store as complying with the requirements specified in subparagraph (a) of this paragraph.

5. (1) Subject to Regulation 4 of these Regulations, in order to be eligible for the grant or renewal of a licence, a store for the keeping of petroleum Class I shall be located, constructed or arranged in accordance with the appropriate requirements of these Regulations.

(2) Every licensed store shall be maintained and used for the storage of petroleum Class I in accordance with these Regulations and with any conditions attached to the licence.

(3) A store (other than a licensed store) for the keeping of petroleum Class II and petroleum Class III shall be located, constructed or arranged in accordance with the appropriate requirements of these Regulations.

(4) Without prejudice to any requirement of these Regulations all practicable steps shall be taken by a licensee or owner to ensure that—

(a) the layout of a store is so designed, planned and arranged as to prevent risk of injury,

(b) a store is maintained in a clean, tidy and orderly condition and is free of any obstructions likely to cause risk of injury,

(c) every place in a building or working place at a store is adequately ventilated to prevent any dangerous concentration of vapours likely to cause risk of injury,

(d) all petroleum pumping apparatus, machinery or equipment, is so designed, constructed located, maintained (and, where necessary, protected) as to prevent risk of injury,

(e) all working places at a store are safe and are provided with safe means of access and egress for persons employed or present at the store.

(5) These Regulations do not apply at a private bulk store to the use of petroleum (after its withdrawal from a storage tank or container) in any manufacturing process, or in the making of any article or substance.

(6) These Regulations do not apply to any separation, refining or processing of petroleum at a refinery or to any auxiliary tank or vessel used for the temporary keeping of petroleum in respect of such separation, refining or processing, other than any storage tank connected by pipeline to a loading or unloading location or an oil jetty, and used for the immediate keeping of petroleum unloaded from or to be loaded on to a tank or petroleum ship.

(7) These Regulations apply—

(a) to any line of rails located within the boundaries of a store and used in connection with the store for the conveyance of petroleum by rail tank wagon or rail truck, and

(b) to any line of rails located between the boundaries of a store and the boundaries of a railway undertaking and used in connection with a store for the conveyance of petroleum by rail tank wagon or rail truck.

(8) The requirements of this Regulation shall be observed by a carrier who undertakes by contract or otherwise the conveyance of petroleum by rail tank wagon or rail truck between the boundaries of a store and a railway undertaking.

6. (1) Every application for—

(a) a first licence,

(b) an amended licence under Regulation 11 (2) of these Regulations,

(c) the renewal of a licence, or

(d) the transfer of a licence,

shall be made on the form set out in Schedule 2 to these Regulations, and shall be accompanied by the fee for the time being prescribed under section 38 of the Act.

(2) Every licence shall be valid for such period not exceeding three years as may be specified in the licence and shall be in the form specified in Schedule 3 to these Regulations, and any application for the renewal of a licence shall be made not less than three months before the date on which the licence expires.

(3) Any licence or class of licence for an existing store for the keeping of petroleum Class I which is continued in force under section 8 of the Act shall expire on the expiration of the period of one year beginning at the commencement of these Regulations or on the date of expiry specified in the licence, whichever is the sooner.

(4) A person under the age of 18 years shall not be eligible for the grant of a licence.

(5) No petroleum Class I shall be dispensed at a store into the fuel tanks of vehicles owned by the public.

(6) No petroleum Class I shall be dispensed into the fuel tanks of vehicles owned by persons employed at a distribution store or major distribution store except in accordance with and subject to any conditions attached to a licence.

7. Where a licensee of a store for the keeping of petroleum Class I becomes incapable (whether through death, bankruptcy, mental or physical disability or otherwise) of carrying on business, any other person may, notwithstanding any other provision of these Regulations, carry on the business for a period not exceeding one month if as soon as practicable after the commencement of that period he applies for a licence.

8. (1) A licensee or owner of a store shall, before transferring the occupation of a store to any other person, give notice in writing to the proper authority of his intention to do so and of the name and address of the person to whom he proposes to transfer occupation.

(2) Subject to paragraph (1) of this Regulation, where the ownership of a store is transferred by act of the parties or by operation of law, the licensee or owner shall forthwith inform the proper authority of the transfer.

9. A storage tank and any separate compartment of such a tank shall while licensed for the storage of petroleum Class I be used exclusively for the storage of petroleum Class I, unless the proper authority consents in writing to the use of the tank or compartment for any other purpose, and in such a case the terms of the consent shall be complied with.

10. A licensee or an owner of a store shall, before discontinuing the use of a storage tank exceeding 5 cubic metres' capacity which has been used for the storage of petroleum Class I or petroleum Class II—

(a) give not less than 21 days' notice in writing to the proper authority of his intention to discontinue the use of the tank, and

(b) take all practical steps (including any steps required in writing by the proper authority upon receipt of the notice required under paragraph (a)) to render the tank immune from the risk of fire or explosion.

11. (1) No work affecting the keeping of petroleum Class I or petroleum Class II (except normal routine work of repair, maintenance or minor alterations or work required by or permitted in a condition attached to a licence) and comprising enlargement, addition, reconstruction or alteration shall be carried out to or at a store unless an application in writing for permission to do so has been made by the licensee or owner to the proper authority and the proper authority has given such permission.

(2) Where work permitted under this Regulation is carried out at a store used for the keeping of petroleum Class I the proper authority shall issue to the licensee an amended licence in lieu of that which he held before the work was carried out.

12. (1) Every application for a first licence (or for the First renewal of a licence continued in force under section 8 of the Act) shall—

(a) be accompanied by a plan (with four copies) drawn to a scale in metric units of measurement of not less than 1:2500, consisting of an extract from the Ordnance Survey map (or tracing thereof) in linen or similar durable material,

(b) where there is not readily available an Ordnance Survey map drawn to the scale specified in paragraph (1), a plan (with four copies) in metric units of measurement and consisting of an extract from the relevant Ordnance Survey 1:1000 map (or tracing thereof) in linen or similar durable material and,
marked and coloured so as to identify clearly—

- (i) the site or proposed site (including the boundaries, which shall be marked in red) of the store,
- (ii) the surrounding district or area for not less than a distance of 4 kilometres in all directions, and
- (iii) the north point on the plan.

(2) Every plan submitted in accordance with paragraph (1) of this Regulation shall be accompanied by—

(a) one ground plan (with four copies) drawn to a scale in metric units of measurement of not less than 1:500 or 1:100 (whichever is acceptable to the appropriate proper authority) and so marked as to identify clearly the existing location or proposed location of each—

- (i) above-ground or underground storage tank,
 - (ii) retaining enclosure,
 - (iii) opening store or opening compound,
 - (iv) loading or unloading location,
 - (v) filling or fuelling location, ventilating pipe opening,
 - (vi) pipeline, surface water drainage system including piped water and open drain,
 - (vii) building or similar structure (including cellars or basements) within 16 metres of any hazardous area,
 - (viii) road or railway line,
 - (ix) fire main (if any),
 - (x) security fence, entrance or exit gate,
 - (xi) location or place where smoking is permitted or proposed to be permitted,
- and the distances from each other and from any protected work;

(b) one plan and specification or appropriate particulars (with four copies), including suitable drawings or plans, elevations and sections to a scale in metric units of measurement of not less than 1:50 and so marked as to give adequate details of the construction or proposed construction and dimensions and the manner of installation or proposed installation of each—

- (i) above-ground storage tank and its foundation,
- (ii) underground storage tank and its surround and foundation,
- (iii) container store or container compound,
- (iv) loading or unloading location,
- (v) filling or fuelling location,
- (vi) security fence, entrance or exit gate,
- (vii) pipeline, surface water piped drainage system, open drain, line of rails or rail track,
- (viii) retaining enclosure and retaining walls,
- (ix) building or similar structure.

(c) one plan and specification or appropriate particulars (with four copies) so marked as to show all electrical apparatus installed or to be installed or used.

(3) Every application for a licence under paragraph (1) of this Regulation shall be accompanied by particulars of—

- (i) each building or place at a store or private store in or at which any articles, materials or substances (other than petroleum), liable to spontaneous combustion or ignition or otherwise flammable or dangerous, are kept or are to be kept and their amounts or quantities,
- (ii) the amount or quantity of petroleum Class I, petroleum Class II or petroleum Class III kept or to be kept in each above-ground or underground storage tank, container store or container compound, filling location or (where appropriate) auxiliary tank at a loading location,
- (iii) the fire-fighting installation, appliances or substances to extinguish or combat the spread of fire,
- (iv) the lighting arrangements,
- (v) the total maximum aggregate quantity of petroleum to be kept in the fuel tanks of vehicles located in the parking facilities at the store,
- (vi) the total maximum number of road tank-vehicles or, where applicable, rail tank wagons to be accommodated at any one time within the boundary of a store,
- (vii) the nature of the processes or operations carried on or to be carried on at the store and in each building or part thereof,
- (viii) the approximate maximum number of persons employed or likely to be employed at the store and, where applicable, in each building thereat, and
- (ix) any further particulars, plans, maps or drawings which the proper authority requires by a notice in writing.

(4) Every application for an amended licence under Regulation 11 (2) of these Regulations shall be accompanied by—

(a) one plan in metric units of measurement, and specification or appropriate particulars (with four copies) giving details of the proposed installation, alteration, enlargement, addition or reconstruction, and

(b) any further appropriate particulars, plans, maps or drawings which the proper authority requires by notice in writing.

(5) For the purpose of paragraph (2) (a) of this Regulation—

"protected work" means—

(a) any public road or footpath, promenade or open place of resort for the public or for persons engaged in any trade or business and any canal, navigable water, dock, river-wall, sea-wall, pier, oil jetty or reservoir;

(b) any premises or building or any part thereof used by any person for any purpose whatsoever (whether temporarily or otherwise), any railway or store licensed under the Act for the storage of petroleum or other dangerous substance:

(c) any premises or building (or a part thereof)—

(i) in the occupation of a Minister of the Government,

(ii) in the occupation of a proper local or harbour authority,

(iii) in the care of the Commissioners of Public Works in Ireland,

(iv) in which persons assemble for public worship or educational purposes,

(v) used as a hospital or like institution,

(vi) used or occupied for the purposes of a factory, office, theatre or cinema, covered market, warehouse or store, other than a store licensed under the Act for the storage of petroleum or other dangerous substance, or

(vii) in which persons are accustomed to assemble for any purpose whatsoever, and not located within the boundaries of a store.

(6) In this Regulation—

"pipeline" means a pipeline connected or intended to be connected to—

(a) a storage tank,

(b) an oil jetty, or

(c) an oil refinery,

and used or intended to be used for the conveying of petroleum to or from a storage tank.

13. (1) Subject to the requirements of Regulation 15 of these Regulations, every owner of a store shall within 18 months after the commencement of these Regulations submit to the proper authority one ground plan (with four copies) drawn to a scale in metric units of measurement of not less than 1:500 or 1:100 (whichever is acceptable to the proper authority) so marked as to identify clearly—

(a) the site (including the boundaries, which shall be marked in red) of the store,

(b) the north point on the plan,

(c) the location of each existing—

(i) above-ground or underground storage tank,

(ii) retaining enclosure,

(iii) container store or container compound,

(iv) loading or unloading location,

(v) filling or fuelling location,

(vi) pipeline, surface water drainage system including piped water and open drain,

(vii) building or similar structure,

(viii) road or railway line,

(ix) fire main (as may be required),

(x) security fence, entrance or exit gate,

and the distance from each other.

(2) A ground plan under paragraph (1) of this Regulation shall be accompanied by—

(a) one plan and specification or appropriate particulars (with four copies), including suitable drawings or plans, elevations and sections to a scale in metric units of measurement of not less than 1:50 so marked as to show details of the construction and dimensions and manner of installation of each—

- (i) above-ground storage tank and its foundation,
- (ii) underground storage tank and its surround and foundation,
- (iii) container store or container compound,
- (iv) loading or unloading location,
- (v) filling or fuelling location,
- (vi) security fence, entrance or exit gate,
- (vii) pipeline or where applicable line of rails or rail track,
- (viii) surface water drainage system outfall point, paved area and oil interceptor,
- (ix) retaining enclosure and retaining walls,
- (x) building or similar structure,

(b) one plan and specification or appropriate particulars (with four copies) so marked as to show all electrical apparatus installed at the store,

(c) appropriate particulars of—

- (i) each building or place at the store in or at which any articles, materials or substances (other than petroleum Class II or petroleum Class III), liable to spontaneous combustion or ignition or otherwise flammable or dangerous are kept and their amounts or quantities,
- (ii) the amount or quantity of petroleum Class II or petroleum Class III kept at the store in each above-ground or underground storage tank, container store or container compound, filling location or where appropriate an auxiliary tank at a loading location,
- (iii) the nature of the processes or operations carried on at the store and in each building or part thereof,
- (iv) the maximum number of persons employed or to be employed at the store and where applicable in each building thereat,
- (v) the fire-fighting installation, appliances, devices, mobile equipment or substances to extinguish or to combat the spread of fire,
- (vi) the lighting arrangements, and

(d) any further appropriate particulars, plans, maps or drawings which the proper authority may require in writing.

14. (1) Without prejudice to Regulation 76 of these Regulations, the layout of every store shall be arranged in such a manner by the licensee or owner as to provide—

- (a) safe and adequate means of access to and egress from the store for tank-vehicle traffic, and
 - (b) adequate and suitable parking facilities in a safe location for the exclusive use of tank-vehicles.
- (2) Every road or surface area used by tank-vehicles at a store shall—

(a) be properly constructed and maintained and be capable of withstanding the maximum loads imposed upon it,

(b) be provided with adequate and suitable means of drainage for surface water,

(c) be provided with suitable and sufficient means of lighting, and

(d) be kept free, so far as is practicable, from other stationary vehicles or obstructions likely to interfere with or impede the safe and orderly use thereof by tank-vehicles.

(3) Every road in normal use by tank-vehicles within the boundaries of a store shall, wherever necessary to prevent risk of injury, be adequately signposted, and suitable maximum speed limit notices or conspicuous warning notices shall be clearly visible at appropriate locations along the road-ways or traffic-ways.

15. A licensee or owner of a store or a contractor shall—

(a) take or cause to be taken all practicable steps necessary to remedy any defect, condition or circumstances likely to cause risk of injury,

(b) investigate any suspected leakage of petroleum from any storage tank, container or pipeline and at his own expense carry out any tests, examinations, demolition work, alteration or construction required by the proper authority,

(c) send or cause to be sent to the appropriate fire brigade authority immediate notice of any leakage, suspected leakage or escape of petroleum Class I or petroleum Class II from a storage tank or pipeline connected to such tank and likely to cause risk of injury,

(d) take all practicable steps to ensure that a person shall not be required to work at any place in connection with the keeping of petroleum at a store if he is liable to be exposed to risk of injury, unless effective measures have been taken and are maintained to ensure his safety, and

(e) ensure, so far as is practicable, that anything which is likely to ignite vapour from petroleum Class I or petroleum Class II is not present in a hazardous area.

16. (1) Except where otherwise specified in the conditions attached to a licence or permitted in the case of an owner by the proper authority, there shall not be delivered, stored or dispensed at a store—

- (a) commercial butane,
 - (b) commercial propane,
 - (c) liquefied petroleum gas,
 - (d) liquefied natural gas,
 - (e) carbide of calcium, or
 - (f) any other flammable, explosive or dangerous substance likely to cause risk of injury.
- (2) In this Regulation—

"commercial butane" means a hydrocarbon mixture consisting mainly of butane or butylene or any mixture containing butane or butylene;

"commercial propane" means a hydrocarbon mixture consisting mainly of propane or propylene or any mixture containing propane or propylene;

"liquefied petroleum gas" means commercial butane or commercial propane or any mixture containing commercial butane or commercial propane:

"liquefied natural gas" means a hydrocarbon mixture consisting mainly of methane from an oil-field source and held in a liquefied state by the application of pressure or refrigeration or pressure and refrigeration.

17. (1) Subject to Regulation 5 (5) of these Regulations and except as otherwise specified in writing by the proper authority, a licensee or owner shall ensure that petroleum is not kept at a store other than—

- (a) in a leak-proof storage tank,
- (b) in a leak-proof pipeline connected to a storage tank for the purpose of conveying,
- (c) in a leak-proof tank for the purpose of conveyance,
- (d) in a suitable container in a container store or container compound, except when the container is being conveyed, handled or in use in connection with any operation or process at the store, or
- (e) in leak-proof fuel tanks of vehicles or engines and subject to such maximum aggregate quantity as may be specified in writing by the proper authority.

(2) Except where a container referred to in paragraph (1) (d) of this Regulation has been adequately purged or otherwise rendered free of all traces of petroleum (or any residue or vapour of such petroleum), it shall be maintained in a leak-proof condition and securely closed by means of a suitable stopper so as not to allow any leakage or escape of petroleum by evaporation or otherwise except when petroleum is being placed in or being transferred from the container.

(3) The materials constituting a container shall not be liable to suffer deterioration resulting from any reaction (whether chemical or otherwise) with petroleum nor be liable to form harmful or dangerous compounds with such petroleum, and no container other than a metal container shall be used for the keeping of petroleum Class I unless approved of by the licensing authority.

(4) A stopper provided on a container in accordance with the requirements of paragraph (2) of this Regulation shall be so secured that it will not loosen and shall (together with the container as a whole) be capable of safely withstanding the normal stresses or strains of any handling or pressure likely to be incurred during its normal use at a store.

(5) A container shall not be filled beyond 95 per cent of its capacity.

(6) Without prejudice to paragraphs (1) and (2) of this Regulation, petroleum may for the purpose of conveyance be kept in a tank or a container at a store, but any petroleum Class I contained in a tank or container for the purpose of conveyance shall—

(a) be taken out of the store without undue delay (unless authorised in a condition attached to a licence in relation to loading of tanks or containers at night) following any filling or loading operation connected therewith,

(b) be unloaded without delay in a safe manner and placed in an above-ground or underground storage tank, container store or container compound as may be appropriate.

(7) A licensee or owner shall take or cause to be taken all necessary steps to prevent the keeping overnight (unless permitted in a condition attached to a licence) of petroleum Class I in a tank.

(8) The maximum aggregate quantity or amount of petroleum to be kept at a store—

(a) in storage tanks,

(b) in a container store or container compound, or

(c) in tanks or containers (other than containers in a container store or container compound) for the purpose of conveyance,

shall not exceed the maximum aggregate quantity or amount specified in writing by the proper authority.

18. (1) Notwithstanding any other provision of these Regulations, a licensee or owner shall ensure that every above-ground or underground storage tank and every pipeline connected to such a tank shall be of suitable design, good construction, sound material and adequate strength for the purpose for which it is used and so installed, pressure-tested, protected and maintained as adequately prevents any leakage of petroleum.

(2) Without prejudice to the requirements of paragraph (1) of this Regulation, every above-ground or underground storage tank shall—

(a) be a horizontal cylindrical type with the shell plated circumferentially, and shall consist of dished and flanged ends or, if it is a compartmented tank, shall have each dividing plate which separates compartments dished and flanged,

(b) conform to the dimensions and capacities set out in Part I of Schedule 4 of these Regulations, and to the dimensions set out in Part II of that Schedule for dished and flanged dividing plates and ends,

(c) be constructed of good quality carbon steel plate not less than 6 millimetres in nominal thickness with all seams adequately welded throughout, except that—

(i) in the case of a tank of not less than 2,500 millimetres internal diameter, the dividing plate separating compartments shall be not less than 8 millimetres in nominal thickness, and
(ii) the minimum thickness of a manhole lid or manhole flange to which the lid is secured shall not be less than 10 millimetres,

(d) be provided with a suitably located manhole which shall be adequately fabricated and, in the case of a tank not exceeding 2,000 millimetres inside diameter, be not less than 460 millimetres diameter and, in the case of a tank exceeding 2,000 millimetres inside diameter, be not less than 600 millimetres diameter, and each separate compartment of such a tank shall also comply with the subparagraph, or be provided with suitable and adequate pipelines and connections for filling, venting, gauging or measuring its contents or removal of its contents, or constructed of approved material and in accordance with approved standards or specifications of the proper authority.

(3) Where a dip-stick is used for measuring the contents of an underground storage tank, the tank shall be provided with a reinforcing pad of steel of adequate surface area and thickness, which shall be properly located and suitably welded to the surface of the bottom of the tank to prevent or mitigate damage to the shell of the tank by the dips-tick.

(4) Every above-ground storage tank shall be adequately and suitably supported and secured in its location.

(5) Unless otherwise specified in writing by the licensing authority, the means of support or devices used in pursuance of paragraph (4) of this Regulation for securing the tank in its location shall have a fire-resistance of not less than 20 hours.

(6) In relation to an above-ground or underground storage tank manufactured after the commencement of these Regulations, the following particulars shall be permanently and clearly marked on a suitable nameplate attached adjacent to the manhole or stamped on the manhole neck or lid:—

- (a) the number (if any) of the standard or specification to which the tank was manufactured;
- (b) the test pressure (applied by the manufacturer), and the date of the test;
- (c) the nominal capacity in cubic metres or litres of the tank or compartment;
- (d) the manufacturer's name or trade mark;
- (e) the manufacturer's reference number.

(7) A valid, signed and dated copy of a test certificate, recording the results of the pressure test carried out by the manufacturer of an above-ground or underground storage tank, shall be supplied by the licensee or owner to the proper authority before the tank is installed.

(8) For the purposes of enforcing the provisions of these Regulations relating to the inspection, examination, testing or certification of a container, storage tank or pipeline or any part or fitting thereof which is required to be undertaken or carried out pursuant to a requirement of these Regulations, an inspector shall—

- (a) have free and ready access at all reasonable times to those parts of a premises in which the manufacture, testing or maintenance of the container, storage tank or pipeline is carried on, and
- (b) be afforded all reasonable facilities by the owner or occupier of the premises or his agents for the efficient carrying out of his duties.

(9) For the purposes of this Regulation—

"nominal thickness" means plus or minus 4 per cent tolerance in the finished thickness of the steel plate.

19. (1) Unless otherwise specified in writing by the proper authority, a licensee or owner shall ensure that no above-ground or underground storage tank at a store shall have a nominal liquid capacity exceeding—

- (a) in the case of petroleum Class I 60,000 litres,
- (b) in the case of petroleum Class II 90,000 litres.
- (2) A licensee or owner shall ensure that the ullage of an above-ground or underground storage tank or separate compartment thereof shall—

- (a) be not less than 5 per cent in the case of a nominal capacity not exceeding 20,000 litres, and
- (b) be not less than 4 per cent in the case of a nominal capacity exceeding 20,000 litres.

20. (1) Subject to any conditions attached to a licence or any requirement in writing by the proper authority, a licensee or owner shall ensure that an underground storage tank shall—

(a) be located outside the retaining enclosure of any above-ground storage tank or a vertical storage tank used for the storage of petroleum and not be, in the case of a tank containing petroleum Class I or petroleum Class II, within or underneath a building,

(b) be separated from every other underground storage tank by a distance of not less than 150 millimetres,

(c) be installed below ground,

(d) except for a manhole opening, be surrounded or encased in a suitable and adequate manner on all outer surfaces by concrete not less than 15 millimetres in thickness, be placed in a suitable and adequate liquid-tight chamber—

(i) the wall surround and floor of which shall be constructed of concrete not less than 150 millimetres in thickness,

(ii) the vertical wall surround of which above floor level shall exceed in height the diameter of the tank outer shell by not less than 0.30 metres, and,

(e) except for any manhole opening, be completely surrounded by non-corrosive clean washed sand not less than 150 millimetres in thickness,

(f) in the case of a manhole—

(i) be in the open air,

(ii) be enclosed in a suitable inspection chamber of concrete of adequate construction, the walls of which shall not be less than 150 millimetres in thickness, and

(iii) be provided with a suitable cover of adequate strength and construction which shall be so arranged or fitted as to prevent the ingress of surface water or other liquid to the manhole chamber.

(2) Where for reasons acceptable to the proper authority the requirements of paragraphs (1) (d), or (1) (e) or (1) (f) this Regulation cannot be observed, an underground tank shall—

(a) be installed below the surrounding ground level in a firm non-corrosive foundation,

(b) be surrounded on the outer surface of the shell, except for a manhole opening, by not less than 150 millimetres in thickness of well-tamped in place non-corrosive, inert clean washed sand, and

(c) be covered by not less than 0.6 metres in thickness of adequately tamped earth or other suitable material.

(3) A licensee or owner shall ensure that petroleum shall not be kept in a mounded storage tank unless—

(a) by reason of solid rock substratum or for any other reason acceptable to the proper authority, it is not practicable to comply with the requirements of paragraph (1) (c) of this Regulation,

(b) at least 75 per cent of the mass of the mounded tank is below ground level,

(c) there is not less than—

(i) 150 millimetres in thickness of well-tamped in place non-corrosive inert clean washed sand next to or surrounding the outer surface, except the manhole opening, of the tank,

(ii) 0.6 metres in thickness of adequately tamped in place earth cover or other suitable material next to the sand surround and extending for not less than 0.30 metres in all directions beyond the outline in plan of the tank, and

(d) authorised in writing by the proper authority.

(4) Except for a mounded tank under paragraph (3) of this Regulation, the manhole lid of an underground tank installed in pursuance of paragraph (1) (d) (1) (e) or (1) (f) of this Regulation shall

be not less than 0.50 metres below ground level, and the manhole lid of an underground tank installed in pursuance of paragraph (2) of this Regulation shall not be less than 0.80 metres below ground level.

(5) The ground above or surrounding the surface of every underground storage tank and underground pipeline connected thereto shall where necessary be adequately reinforced to an appropriate extent in depth and surface area to prevent risk of damage or injury to the tank or pipeline from any loads likely to be imposed upon it.

(6) Without prejudice to paragraph (5) of this Regulation, and unless otherwise specified in writing by the proper authority where an underground storage tank is likely to be subjected to loads from vehicular traffic the area above or surrounding the tank shall be provided with a layer of not less than 0.16 metres in thickness of adequately reinforced concrete—

(a) set on a properly tamped foundation of suitable non-corrosive materials, and

(b) extending for an adequate distance in all directions beyond the extremities of the tank.

(7) Without prejudice to any other requirements of those Regulations due precautions shall be taken—

(i) to exclude water or other liquid from the chamber or enclosure surrounding an underground tank, and,

(ii) to securely anchor the tank against flotation.

(8) In this Regulation "concrete" means concrete adequately compacted and comprising one part of Portland cement (sulphate-resisting where necessary) two parts of dry, clean, sharp sand graded to pass 5 millimetres mesh and four parts of clean gravel or crushed stone graded to pass 20 millimetres mesh, or other concrete to a specification approved of in writing by the proper authority.

21. (1) Unless otherwise specified in writing by the proper authority, a licensee or owner shall ensure that every above-ground or underground storage tank or separate compartment of such a tank containing petroleum Class I or petroleum Class II is separately vented to atmosphere by means of a suitable ventilating pipe—

(a) in the case of a distribution store, not less than 1.5 metres from the boundary of a store, unless there is provided an adequate intervening screen wall extending from ground level upwards and for a distance in all directions of not less than 1.5 metres beyond the discharge outlet or orifice of the ventilating point,

(b) in the case of a manhole filling opening or ventilating pipe outlet opening of a tank containing petroleum Class I, located not less than 15 metres from any part of the outer boundary of a major distribution store,

(c) in the case of a manhole filling opening or ventilating pipe outlet opening of a tank containing petroleum Class II, located not less than 6 metres from any part of the outer boundary of a major distribution store,

(d) which permits the free escape to the atmosphere of air or vapour from the storage tank or compartment, the nominal internal diameter of the pipe being not less than 40 millimetres and sufficient to permit the free escape of air or vapour to the atmosphere when the storage tank or separate compartment is being filled at its safe maximum intake capacity,

(e) which projects inside the tank or compartment thereof for a distance not exceeding 25 millimetres,

(f) which prevents the collection or retention of rainwater or other liquid in the pipe,

(g) located so that its outlet or orifice to atmosphere terminates in the open air—

(i) not less than 4 metres above the surrounding ground level,

(ii) not less than 20 millimetres higher than the level of petroleum Class I or petroleum Class II in the tank of a tank-vehicle or rail tank wagon in its standing position whilst delivering that class of petroleum at a store,

(iii) not less than 6 metres measured horizontally from a dispensing pump,

(iv) in such a position that any fume or vapour emitted from the pipe discharges upwards and cannot be trapped under eaves or other obstructions or buildings or enter or be drawn into any building or

structure or confined space by means of an air intake opening, opening window, door or other opening,

(v) not less than a vertical distance of 1.50 metres from any opening or entry to a basement or other area below ground level, and

(vi) provided with an effective corrosion-resistant and flame-arresting device incorporating a weatherproof hood to prevent leaves, dirt, rain or other matter gaining access to the ventilating pipe, the effective air outlet openings of the device or hood being not less than the internal diameter of the pipe and being maintained free of dirt.

(2) Every ventilating pipe required under paragraph (1) of this Regulation shall be so supported and protected as not to be liable to foreseeable physical or mechanical damage.

(3) A licensee or owner shall ensure that all practicable steps shall be taken to prevent air locks within an above-ground or underground storage tank or separate compartment used for the keeping of petroleum Class I or petroleum Class II.

22. (1) A licensee or owner shall ensure that a pipeline connected to or to be connected to an above-ground or underground storage tank shall not be covered over or encased or surrounded by concrete or any other material unless subjected to an hydraulic pressure test of not less than 0.70 bar, which shall be maintained during such period of time as is necessary to enable a thorough examination to be made of the pipeline for leakage or seepage.

(2) Due precautions shall be taken by a licensee or owner to ensure that, before an above-ground or underground storage tank or separate compartment of such a tank is pressure-tested, it is thoroughly cleaned internally of all dirt and loose matter.

(3) Unless otherwise specified in writing by the proper authority, after—

(a) an above-ground storage tank has been located in its permanent position, or

(b) an underground storage tank has been lowered into its excavation and before it is surrounded by concrete, sand, earth or other material,

a licensee or owner shall ensure that it, (and any separate compartment) shall be subjected to an hydraulic pressure-test measured at the top of the tank or compartment at 0.70 bar, which shall be maintained during such period of time as is necessary to enable a thorough examination to be made of the tank for leakage, seepage or undue distortion.

(4) A licensee or owner shall ensure that an above-ground or underground storage tank or separate compartment of such a tank or a pipeline connected thereto shall—

(a) withstand the appropriate test pressure required to be carried out under paragraphs (1) and (3) of this Regulation without undue distortion or any leakage or seepage, and

(b) in the case of a compartmented tank, be pressure-tested in respect of each compartment separately with any adjacent compartment empty and at atmospheric pressure.

(5) An above-ground or underground storage tank or separate compartment or pipeline connected thereto shall, following the carrying out of any repairs to remedy defects found during a pressure-test, be re-tested in accordance with paragraphs (1) and (3) of this Regulation.

(6) A pressure-test and examination under paragraphs (1) and (3) of this Regulation shall be carried out by a competent person and be witnessed by and carried out to the satisfaction of the proper authority, and a report (in a form approved by the proper authority) of the pressure-test and examination shall be retained by the licensee or owner of a store and kept available for inspection until such time as the tank or pipeline is permanently taken out of service.

23. (1) Notwithstanding any other provision of these Regulations, a licensee or owner shall ensure that every vertical storage tank shall—

(a) be of suitable design, good construction, sound material and adequate strength for the purpose for which it is used, and so installed, tested, protected and maintained as adequately to prevent any leakage or escape of petroleum.

(b) be adequately and suitably supported on a firm foundation designed and constructed in accordance with sound engineering practice so as to ensure—

- (i) that the tank is maintained in a true vertical position,
- (ii) that the foundation can withstand without undue settlement the load or weight of the filled tank or any additional loading likely to affect it under normal operating conditions, and
- (iii) the adequate stability and safety of the tank under any service or climatic conditions likely to be encountered.

(2) Subject to paragraph (1) of this Regulation, every vertical storage tank shall—

(a) be designed, constructed and tested in accordance with British Standard 2654; 1973 ("Specification for Vertical Steel Welded Storage Tanks with Butt-welded Shell for the Petroleum Industry"), or

(b) be designed, constructed and tested in accordance with such equivalent standards or specifications approved by—

- (i) the Minister, in the case of a tank in the ownership of a proper authority, or
- (ii) the proper authority, in any other case.

(3) Due precautions shall be taken by a licensee or owner to ensure that before a vertical storage tank is pressure-tested it is thoroughly cleaned internally of all dirt and loose matter.

24. (1) A licensee or owner shall ensure that every vertical storage tank shall where necessary be provided with suitable and sufficient means—

(a) capable of preventing any accumulation of pressure or vacuum exceeding the designed conditions as specified for the tank, and

(b) of emergency pressure relief to prevent or to relieve abnormal or excessive pressure that may occur within the tank under fire exposure conditions.

(2) Subject to paragraph (1) of this Regulation the venting capacity of a vertical storage tank shall—

(a) be suitable and adequate to secure the safety of the tank under all normal conditions connected with its use including filling or emptying operations or ambient temperature changes, and

(b) be in accordance with any requirements of the proper authority.

(3) Where a pressure or vacuum type breather valve or comparable venting device is fitted to a vertical storage tank—

(a) suitable means shall be provided to prevent, so far as is reasonably practicable, the ingress of birds, and

(b) it shall normally remain closed except when in operation for pressure or vacuum release.

(4) Where a free or an unrestricted venting device is provided or fitted to a fixed roof vertical storage tank, the opening of the venting device to atmosphere shall—

(a) be provided with a suitable corrosion-resistant device to prevent the ingress of birds, dirt or other matter,

(b) be provided with a suitable corrosion-resistant and flame-arresting device if required by the proper authority.

and any such device shall be properly maintained in a clean state and free from defect,

(5) A licensee or owner shall ensure that every venting device provided on a vertical storage tank shall be so located as to secure the safe and efficient dispersal of vapour likely to be emitted from the tank.

25. (1) A licensee or owner shall ensure that—

(a) the roof of every vertical storage tank is properly maintained and capable at all times of safely supporting any person or persons likely to go on to the roof in connection with the storage of petroleum in the tank,

(b) safe means of access and egress are provided for any person or persons likely to go on to any part of the roof of the tank in connection with the storage of petroleum in the tank and, where a dangerous concentration of vapours is likely to be present on the roof area, suitable personal protective breathing apparatus is provided for each such person.

(2) Without prejudice to the requirements of paragraph (1) of this Regulation, a licensee or owner shall ensure that—

(a) every vertical storage tank exceeding 4.5 metres in height shall be provided with a fixed stairway leading directly to the roof of the tank or to an inter-connecting gangway spanning the distance between any adjacent vertical storage tank,

(b) every fixed stairway referred to in paragraph (a) of this paragraph shall be secured at an angle not exceeding to the horizontal plane 45° and provided with a suitable platform at its upper end,

(c) every stairway or gangway—

(i) shall be of metallic construction and the minimum clear walking space is not less than 600 millimetres,

(ii) shall be provided with suitable treads of a non-slip type with a minimum width of 200 millimetres measured at the length of the tread and the rise of the tread is not to exceed 200 millimetres,

(iii) shall be capable of supporting a superimposed load of not less than 2.4KN/m² and also the wind loadings specified for the design of the shell of the storage tank, and

(iv) where a vertical rise of the stairway exceeds 6 metres, shall be provided with a suitable intermediate landing,

(d) every vertical storage tank gangway which extends from one part of the tank to any part of an adjacent tank or to the ground or other structure shall be so supported as to permit free relative movement of the structures joined by or connected to the gangway,

(e) a suitable top handrail and bottom rail of solid steel construction designed to protect a person from falling or slipping shall be provided—

(i) on both sides of a gangway or stairway of a vertical storage tank, and

(ii) on a circular or spiral stairway of a vertical storage tank where the distance between the tank shell and the inner stringer exceeds 200 millimetres and at breaks in the handrail, the space, if any, between the tank and a stairway or gangway platform is floored if the space exceeds 150 millimetres in width,

(f) where access or egress is required for operational purposes to fittings at or near to the centre of the roof of a vertical storage tank suitable handrailing and non-slip treads are provided,

(g) every top handrail or bottom rail and every hand railing provided under subparagraphs (e) and (f) of this paragraph, shall in respect of the top handrail or handrailing be positioned at a height of not more than 1.20 metres and not less than 0.950 metres above the walking surface and that the height of the bottom rail above the walking surface shall not exceed 0.30 metres,

(h) every ladder used for access to or egress from the roof of a vertical storage tank not exceeding 4.5 metres in height is—

(i) of steel construction and adequate strength and width for the purpose for which it is used,

(ii) terminated in a suitable landing or platform provided for access to the roof,

(iii) properly secured or fixed to the shell of the tank, and

(iv) if it exceeds 4 metres in vertical height provided with a suitable safety cage.

26. Unless otherwise specified in writing by the proper authority, a licensee or owner of a store shall—

(a) ensure that every storage tank at a store is permanently and clearly marked with or suitably identified by a number easily located for operational purposes,

(b) ensure, subject to paragraph (a) of this Regulation, that where there is more than one storage tank or compartmented tank for the storage of petroleum at a store, the number on each tank or separate compartment is arranged as to enable each tank or compartment to be readily identified,

(c) ensure that every storage tank (or, where such a tank is divided into two or more separate compartments, every such compartment) is provided with an effective device or means for measuring

the quantity of petroleum in the tank or separate compartment, and that every such device or means is accurately calibrated and clearly marked so as to be readily identifiable with its respective tank or separate compartment and, where the measuring device is a dip-stick used in connection with the storage of petroleum Class I or petroleum Class II, that it is incapable of causing a spark when brought into contact with the tank or its fittings and is maintained free from defect,

(d) ensure that the upper end of each dipping and filling pipe connected through the manhole lid of an underground storage tank or separate compartment of such a tank or dipping opening of an above-ground storage tank is clearly marked so as to be readily identifiable with the distinguishing number or letter marked on the tank or (as the case may be) on the separate compartment,

(e) (i) ensure that, where the method of filling an underground storage tank (or separate compartment of such a tank) is by means of a filling pipe leading from the tank or separate compartment to a filling point not situated on, or immediately adjacent to, the tank itself, the filling pipe at its intake end is clearly marked as to be readily identifiable with the distinguishing number marked on the tank or separate compartment and adequately enclosed or surrounded so as to exclude water, rain, wet or other liquid and to prevent, where necessary, access to the filling pipe by an unauthorised person; or

(ii) provide suitable and adequate high level alarm devices on each vertical storage tank, the alarm device being so arranged or connected as to be easily heard by the authorised person in charge of the filling of the tank,

(f) provide on each vertical storage tank an efficient automatic level indicator so designed as to enable a person to easily determine the amount of petroleum in the tank,

(g) ensure that a storage tank is not filled beyond the rated capacity of the tank,

(h) ensure that a storage tank containing petroleum Class III which has means of heating the petroleum in the tank is provided where necessary with—

(i) suitable devices capable at all times of preventing overheating of the petroleum in the tank,

(ii) suitable automatic alarm devices capable at all times of giving an adequate alarm in case of danger of fire from overheating the petroleum in the tank.

27. (1) Without prejudice to the requirements of Regulations 18 (1), 24 (1) and 35 (1) of these Regulations, a licensee, owner or contractor shall, so far as is practicable, ensure that all control valves or devices for controlling or regulating the safe keeping of petroleum in a storage tank or the safe conveying in a pipeline of such petroleum to or from a storage tank are inspected and, where necessary, tested in an adequate manner by a competent person for effectiveness and reliability at least once in every 12 months, and that a report signed and dated by that competent person of the inspection and test is retained by the licensee, owner or contractor and kept available for inspection for a period of not less than 2 years.

(2) Any fault or defect likely to infringe a requirement of these Regulations and which is discovered in pursuance of an inspection or test carried out under paragraph (1) of this Regulation shall be remedied by the licensee, owner or contractor—

(a) forthwith, if there is, because of such fault or defect, risk of injury, and

(b) in any other case, without undue delay.

28. (1) A licensee or owner shall ensure that every vertical storage tank used for the storage of petroleum Class I or petroleum Class II is adequately earthed and has attached a suitable and adequate earthing connection unless, by reason of the construction or the position of the tank or otherwise, the proper authority considers such a connection unnecessary.

(2) A licensee or owner shall ensure that the earthing connection and any device or other lightning protective system associated with it shall be provided by the licensee or owner of a store and maintained in an efficient state and be thoroughly examined by a competent person at intervals not exceeding 18 months and that that competent person makes a report in writing to the licensee or the owner of each examination, the report to be kept available for inspection for a period of not less than 3 years.

29. Whenever there is leakage, or reasonable cause to suspect leakage, of petroleum from a storage tank or pipeline, the licensee, owner or contractor shall take all practicable steps to determine the cause of and to prevent the leakage, and shall comply with any requirement or instructions specified by the appropriate fire brigade authority for preventing risk of injury and for keeping a continuous check on the contents of the tank or pipeline.

30. (1) A licensee or owner shall ensure that the layout of storage tanks and the distances or spacings between vertical storage tanks, above-ground storage tanks, underground storage tanks or any grouping or combination of grouping of such tanks and the distances or spacings between such tanks and a filling location, fuelling location, loading or unloading location, container store, container compound, building, any non-hazardous area or source of ignition or any part of the outer boundary of the store, are adequate to prevent risk of injury.

(2) Without prejudice to paragraph (1) of this Regulation and subject to any condition attached to a licence or to any requirement in writing by a proper authority or an appropriate fire brigade authority, the requirements of paragraphs (3) to (9) of this Regulation shall be observed by a licensee or owner in connection with the location of vertical storage tanks used or intended to be used for the storage of petroleum at a major distribution store.

(3) In the case of a group of fixed roof storage tanks containing petroleum Class I, petroleum Class II (2) or petroleum Class III (2), the distances between—

- (a) the group of storage tanks and any other group of storage tanks,
 - (b) the group of storage tanks and any storage tank containing petroleum Class I, petroleum Class II or petroleum Class III (2) not included in that group,
 - (c) any storage tank in the group of tanks and any filling location, fuelling location, loading or unloading location, container store or container compound or building within the boundary of the store,
 - (d) any storage tank in the group of tanks and any part of the outer boundary of the store,
 - (e) any non-hazardous area or source of ignition,
- shall not be less than 15 metres.

(4) In the case of a fixed roof storage tank containing petroleum Class I, petroleum Class II (2) or petroleum Class III (2) (other than a fixed roof storage tank in a group of tanks referred to in paragraph (3) of this Regulation) the distance between—

- (a) the storage tank and any other fixed roof storage tank containing petroleum Class I, petroleum Class II or petroleum Class III (2) shall not be less than—
 - (i) half the diameter of the larger tank or 15 metres whichever is less, or
 - (ii) the diameter of the smaller tank,but in no case shall the distance between tanks be less than 10 metres,
- (b) the storage tank and—
 - (i) a filling location, fuelling location, loading or unloading location or building within the boundary of the store,
 - (ii) a container store, container compound or any part of the outer boundary of the store,
 - (iii) any non-hazardous area or source of ignition,shall not be less than 15 metres.

(5) In the case of a floating roof storage tank containing petroleum Class I, petroleum Class II (2) or petroleum Class III (2), the distance between—

- (a) a floating roof storage tank and every other floating roof storage tank containing petroleum Class I, petroleum Class II or petroleum Class III (2), shall not be less than—
 - (i) 10 metres for storage tanks not exceeding 45 metres in diameter, and
 - (ii) 15 metres for storage tanks exceeding 45 metres in diameter,

(b) a floating roof storage tank containing petroleum Class I, petroleum Class II (2) or petroleum Class III (2) and a fixed roof vertical storage tank containing petroleum Class I, petroleum Class II or petroleum Class III (2) shall not be less than—

(i) half the diameter of the larger tank or 15 metres whichever is less, or
(ii) the diameter of the smaller tank but in no case shall the distance between tanks be less than 10 metres,

(c) the storage tank and any filling location, fuelling location, loading or unloading location, container store or container compound, shall not be less than 10 metres,

(d) the storage tank and—

(i) any part of the outer boundary of a store,
(ii) any non-hazardous area or source of ignition
shall not be less than 15 metres.

(6) In the case of a vertical storage tank containing petroleum Class II (1) not included in a group of tanks referred to in paragraph (3) of this Regulation the distance between—

(a) the storage tank and any part of the outer boundary of a store shall not be less than 10 metres,

(b) the storage tank and—

(i) a filling location, fuelling location, loading or unloading location or building within the boundary of the store,

(ii) a container store or container compound,

(iii) any non-hazardous area or source of ignition,
shall not be less than 6 metres.

(7) In the case of a vertical storage tank containing petroleum Class III (1) not included in a group of tanks referred to in paragraph (3) of this Regulation, the distance between the tank and any part of the outer boundary of a store shall not be less than 6 metres.

(8) In the case of a vertical storage tank exceeding 18 metres in height the distances specified in paragraphs (5) and (6) of this Regulation shall be increased, in a ratio proportionate to the height of the storage tank, to such an extent as may be directed in writing by the proper authority.

(9) The distance between—

(a) fixed roof storage tanks in a group of tanks referred to in paragraph (3) of this Regulation,

(b) vertical storage tanks referred to in paragraph (6) and (7) of this Regulation, and

(c) above-ground storage tanks and between above-ground storage tanks and vertical storage tanks,
shall be capable of affording to any person safe and sufficient means of access and egress for the proper operation, inspection, maintenance or protection of the tanks or their attachments or fittings and be in addition adequate to ensure, where necessary, efficient pipeline connections.

(10) Without prejudice to paragraph (1) of this Regulation and subject to any condition attached to a licence or to any requirement in writing by a proper authority or an appropriate fire brigade authority, the requirements of paragraphs (11) to (14) of this Regulation shall be observed by a licensee or owner in connection with the location of vertical storage tanks or above-ground storage tanks used or intended to be used for the storage of petroleum at a distribution store.

(11) In the case of a vertical storage tank exceeding 10 metres in diameter or 14 metres in height containing petroleum Class I, petroleum Class II (2) or petroleum Class III (2), the distance between the storage tank and any other vertical storage tank containing petroleum Class I, petroleum Class II or petroleum Class III (2) of equivalent dimensions shall not be less than—

(a) half the diameter of the larger tank or 15 metres whichever is less, or

(b) the diameter of the smaller tank,

but in no case shall the distance between tanks be less than 10 metres.

(12) In the case of a vertical storage tank or an above-ground storage tank containing petroleum Class I, petroleum Class II (2) or petroleum Class III (2), the distance between—

(a) the storage tank and—

(i) a filling location, fuelling location, loading or unloading location or building within the boundary of the store,

(ii) a container store, container compound or any part of the outer boundary of the store,

(iii) any non-hazardous area or source of ignition,

shall not be less than 15 metres, but where a storage tank has a liquid capacity not exceeding 45 cubic metres, the distance may, (subject to there being no foreseeable risk of injury involving ignition, fire or explosion), be not less than 6 metres.

(13) In the case of an above-ground storage tank or vertical storage tank containing petroleum Class II (1), the distance between the storage tank and—

(a) a filling location, fuelling location, loading or unloading location or building within the boundary of the store,

(b) a container store, container compound or any part of the outer boundary of the store,

(c) any non-hazardous area or source of ignition

shall not be less than 6 metres.

(14) In the case of a vertical storage tank not exceeding 10 metres in diameter or 14 metres in height or an above-ground storage tank, the distance between the storage tank and any other storage tank of equivalent dimensions shall be governed by structural and operational conditions and shall—

(a) be adequate to prevent risk of injury involving ignition, fire or explosion,

(b) be capable of affording, as far as practicable, to any person safe and sufficient means of access and egress for the proper operation, inspection, maintenance or protection of the tanks or their attachments or fittings, and

(c) be adequate to ensure, where necessary, safe and efficient pipeline connections.

(15) In this Regulation—

"a group of storage tanks" means a group of fixed roof storage tanks or above-ground storage tanks or a combination of both such tanks—

(i) of which no tank in the group exceeds 10 metres in diameter or exceeds 14 metres in height, and

(ii) with an aggregate capacity not exceeding 8,000 cubic metres;

"distance between" means the safety distance or spacing measured from or to the nearest point of the perimeter of the storage tank shell, filling location, loading or unloading location, container store, container compound, building, any non-hazardous area or source of ignition or any part of the outer boundary of a store.

31. (1) Subject to paragraph (11) of this Regulation, all practicable steps shall be taken by a licensee or owner to ensure that every vertical storage tank or above-ground storage tank used or intended to be used for the storage of petroleum Class I, petroleum Class II and petroleum Class III (2) is located in a retaining enclosure completely surrounded by a main retaining wall.

(2) Without prejudice to paragraph (1) of this Regulation and subject to any condition attached to a licence or a requirement in writing by the proper authority or the appropriate fire brigade authority, the requirements specified in paragraphs (3) to (10) of this Regulation shall be observed by a licensee or owner in connection with a retaining enclosure for above-ground storage tanks or vertical storage tanks.

(3) Every above-ground storage tank or vertical storage tank, shall be located in an enclosure completely surrounded by a main retaining wall which shall be—

(a) at a distance not exceeding 15 metres from the shell of a fixed roof storage tank,
(b) at a distance not exceeding 30 metres from the shell of a floating roof storage tank,
(c) at a distance of not less than 4.5 metres from the shell of a vertical storage tank whether or not a fixed roof or floating roof type, and
(d) provided, where appropriate or in such manner as may be specified in writing by the appropriate fire brigade authority, with suitable means to afford protection to persons engaged in fire-fighting at the store.

(4) Every retaining enclosure under paragraph (1) of this Regulation shall—

(a) be designed, constructed and constantly maintained so as to adequately—
(i) prevent escape or leakage of petroleum and the spread of fire,
(ii) resist, as far as is practicable, undue seepage or absorption into the ground of petroleum,
(b) be kept free, so far as is reasonably practicable, of debris, surface water, vegetation, waste or combustible materials or substances, and
(c) be used exclusively for the storage tank or tanks and necessary pipelines, fittings or apparatus installed or used in connection therewith.

(5) Subject to paragraph (5) of this Regulation, the liquid capacity of a retaining enclosure shall,

(a) where the number of storage tanks located within the enclosure does not exceed one, be not less than the maximum liquid capacity of the single storage tank but excluding the capacity of the tank (less 10 per cent) up to the level of the main retaining wall, and
(b) where the number of such tanks exceeds one, be not less than the maximum capacity of the largest storage tank within the enclosure, less the aggregate liquid capacity of any other storage tanks up to the level of the main retaining wall and less the volume of any intermediate retaining walls located within the enclosure.

(6) The aggregate capacity of a group of tanks located within a retaining enclosure shall—

(a) not exceed 60,000 cubic metres in the case of above-ground storage tanks or fixed roof storage tanks, and

(b) not exceed 120,000 cubic metres in the case of floating roof storage tanks unless permitted in writing by the proper authority.

(7) Without prejudice to paragraphs (3) and (4) of this Regulation, where there is more than one storage tank located within a retaining enclosure, a suitable intermediate retaining wall or walls of a lesser height than the main retaining wall shall be provided by the licensee or owner wherever required in writing by the proper authority to prevent spread of fire or escape of petroleum.

(8) A licensee or owner shall ensure that the total surface area—

(a) of any one intermediate retaining enclosure,
(b) of any retaining enclosure if no intermediate retaining walls are provided,
shall not exceed 9,000 square metres, excluding the surface area in plan of the above-ground storage tank or vertical storage tank or group of such tanks within the intermediate retaining enclosure or retaining enclosure.

(9) A licensee or owner shall ensure that every main retaining wall or intermediate retaining wall shall be of good design, adequate strength and construction and constantly maintained to prevent the escape, leakage or seepage of the quantity of petroleum which the wall is designed to retain within the enclosure surrounded by it.

(10) A licensee or owner shall ensure that, without prejudice to paragraph (9) of this Regulation, a main retaining wall or an intermediate retaining wall shall—

(a) be constructed of brick, concrete, masonry, steel, earth or other suitable material,
(b) be of appropriate height and in accordance with good engineering safety practice to prevent the escape or spillage of petroleum and spread of fire, and

(c) be adequately fire resisting.

(11) The requirements of paragraphs (3) to (10) of this Regulation shall not apply where the proper authority has given written approval for the above-ground storage tank or vertical storage tank to be so installed or located that, in the event of failure of the tank or escape of petroleum from it, the petroleum would be safely conveyed to a suitable compound or basin from which the petroleum could not escape or present a risk of injury.

(12) For the purposes of this Regulation—

(a) "intermediate retaining wall" means an intermediate retaining wall or fire wall surrounding or enclosing above-ground storage tanks or vertical storage tanks or a group of such tanks and wholly located within and enclosed by a main retaining wall;

(b) "intermediate retaining enclosure" means an enclosure surrounded by or enclosed by an intermediate retaining wall wholly located within a retaining enclosure.

32. (1) A licensee or owner shall ensure that the surface area of the ground within a retaining enclosure shall—

(a) be properly designed and graded for draining off to an oil interceptor or interceptors storm water or surface water likely to be contaminated by petroleum, and any spillage, leakage or outflow of petroleum from a storage tank or pipeline connected thereto, and

(b) be provided at its outlet with a suitable valve or other device located outside the retaining enclosure for draining off water, the valve or device being capable of being closed or shut off and locked to prevent the outflow of water except when operated by an authorised person.

(2) A licensee or owner shall ensure that an oil interceptor under paragraph (1) of this Regulation is—

(a) not, except with the permission in writing of the proper authority, located within a retaining enclosure,

(b) kept in efficient working order and free from any undue accumulation of waste or solids or other foreign matter likely to interfere with its effectiveness.

33. There shall be provided and maintained by the licensee or owner of a store suitable means for securing for authorised persons safe access to and egress from a retaining enclosure surrounded by a retaining wall exceeding one metre in height.

34. (1) Subject to any condition attached to a licence or to any requirement in writing by a proper authority, the distances specified in paragraphs (2) to (5) of this Regulation shall be observed by a licensee or owner in connection with the location of a filling location, loading or unloading location, fuelling location, container store, container compound used or intended to be used for any operation, process or storage involving petroleum Class I or petroleum Class II at a store.

(2) The distance between any part of an outer boundary of a store and—

(a) a loading or unloading location,

(b) a filling location,

(c) a fuelling location, or

(d) any non-hazardous area or source of ignition,

shall not be less than 15 metres in the case of petroleum Class I and not less than 10 metres in the case of petroleum Class II.

(3) The distance between any part of an outer boundary of a store and—

(a) an opening of a container store,

(b) a container compound,

shall not be less than 7 metres.

(4) The distance between a loading or unloading location, and—

- (a) a filling location,
 - (b) a container store,
 - (c) a container compound, or
 - (d) a pumphouse,
- shall not be less than 7 metres.

(5) The distance between a fuelling location and a filling location or any part of the main wall of a retaining enclosure shall not be less than 7 metres.

(6) The distance between a fuelling location and a container store or container compound shall not be less than 5 metres.

(7) A licensee or owner shall ensure that an office or administrative building, workshop, garage, or store for spare parts or equipment is not located in a hazardous area at a store.

35. (1) Notwithstanding any other provision of these Regulations and unless otherwise specified in writing by the proper authority, a licensee, owner or contractor shall take all practicable steps to ensure that every pipeline is of suitable design, of good quality steel construction (except for any appropriate non-metallic devices, fittings, attachments, gaskets or jointing) and of adequate strength for the purpose for which it is used and is so located, installed, supported, tested, protected and maintained as adequately to prevent any leakage or escape of petroleum.

(2) Without prejudice to paragraph (1) of this Regulation a pipeline shall—

- (a) be capable of safely accommodating any loading, vibration, expansion, contraction and flexure to which it is likely to be subjected in normal use,
- (b) be capable of safely withstanding the maximum working pressure (whether internal or external) to which it is likely to be subjected in normal use,
- (c) be provided with adequate and suitable means to ensure that during its use the internal pressure at any point, part or section of the pipeline shall not exceed its internal design pressure by more than 10 per cent,
- (d) not contain any flanges other than those required in accordance with sound engineering practice and design,
- (e) not contain any material which is liable to suffer deterioration resulting from any reaction (whether chemical or otherwise) with the petroleum conveyed in the pipeline,
- (f) not contain any dissimilar metals likely to affect the integrity of the pipeline whether under fire-exposure conditions or otherwise,
- (g) except for any necessary hose assemblies, flanges, fittings, attachments, control devices or similar connections, be of adequate welded construction at all joints,
- (h) where installed above ground and running adjacent to any road or place used by vehicles, be adequately protected by suitable kerbs and suitably spaced robust barriers or other effective devices or means,
- (i) where permanently installed as a run of pipelines in an open trench adjacent to a road or place used by the public for vehicles or adjacent to a store or building, be provided with any suitable barriers across pipeline trenches to prevent or to retard the spread of flame or fire as required in writing by the fire brigade authority,
- (j) where laid above ground on supports or such anchorage, have supports or means of anchorage with a fire-resistance of not less than 2 hours unless otherwise specified in writing by the appropriate fire brigade authority,
- (k) where used for the conveying of petroleum Class I or petroleum Class II, be (where necessary to prevent danger) properly bonded electrically across all flanges and connections and adequately earthed, and

(1) in relation to tie-in welds or other major welds be subjected by a competent person to suitable non-destructive testing carried out in accordance with sound engineering practice to establish the quality or soundness of the weld.

36. (1) A licensee, owner or contractor shall ensure that a pipeline connected to or to be connected to a vertical storage tank shall—

(a) not be covered over or encased or used unless subjected over its entire length to a hydrostatic pressure-test of not less than 1½ times its maximum working pressure which shall be maintained during such period of time as is necessary to enable a thorough examination to be made of the pipeline for leakage or seepage or other defect,

(b) withstand the appropriate pressure-test required to be carried out under subparagraph (a) of this paragraph without distortion, leakage or seepage,

(c) be re-tested in accordance with subparagraph (a) of this paragraph following the carrying out of any repairs to remedy defects found during a pressure-test, and if there is reasonable cause to suspect the soundness of the pipeline and the test is necessary to determine possible defects.

(2) A pressure-test and examination under paragraph (1) of this Regulation shall be carried out in accordance with sound engineering practice by a competent person, and an appropriate report (signed and dated) of the pressure-test shall be retained by the licensee, owner or contractor and kept available for inspection for a period of not less than 5 years or until the pipeline is permanently taken out of service.

(3) Where a proper authority suspects the soundness of a pipeline under paragraph (1) (c) of this Regulation and so notifies a licensee, owner or contractor, he shall arrange to have the pipeline re-tested in accordance with any written requirements of the authority.

(4) Notwithstanding any other requirement of these Regulations, a licensee, owner or contractor shall, if required in writing by the proper authority, provide in accordance with sound engineering practice additional control or measuring devices on a pipeline where the authority has reasonable grounds for believing that the provision of any such control or measuring device would assist in preventing risk of injury.

37. A licensee, owner or contractor shall ensure that—

(a) every pipeline and control valve of such pipeline is suitably marked in a distinctive manner as to clearly indicate the class or classes of petroleum being conveyed or intended to be conveyed in the pipeline,

(b) every manually operated control valve of a pipeline is, so far as is reasonably practicable, plainly and suitably marked at appropriate control points or locations to indicate whether it is open or closed,

(c) every pipeline connected to a vertical storage tank is subjected to any necessary internal cleaning or pigging so as to secure the safe conveying in the pipeline of petroleum,

(d) there is provided at every launching or receiving trap used in connection with the internal cleaning or pigging of a pipeline a suitable and adequate oil interceptor maintained in an efficient state.

38. A licensee, owner or contractor shall ensure during the whole period of pumping or conveying petroleum by pipeline to (or from where necessary) a vertical storage tank that—

(a) the control valves at each such tank is under the continuous observance or effective control of an authorised person who shall order the pumping or conveying operations to cease and the closure of control valves in the event of any unusual circumstances likely to cause risk of injury, and

(b) all due precautions are taken to secure the detection of any leakage or escape of petroleum from the pipeline.

39. (1) The licensee or owner of a store or a contractor shall ensure that every storage tank or pipeline equipped with or connected to heating pipes, coils, jackets or other heating devices shall be provided where necessary to prevent risk of injury with efficient thermometers or similar devices and suitable temperature regulators to ensure that the temperature of the contents of the storage tank or pipeline is maintained within safe limits.

(2) Every heating pipe, heating coil, jacket or other heating device under paragraph (1) of this Regulation shall be so designed, constructed, located and so secured, protected, tested, examined, certified and maintained as to prevent risk of injury.

40. (1) A licensee, owner or contractor shall take all practicable steps to ensure that cleaning, repair, alteration or modification is not commenced or carried out in relation to any storage tank or pipeline, or to any part of a store or pipeline—

(a) where a dangerous concentration of vapours is likely to be present,
(b) where there is risk of ignition, fire or explosion from petroleum, or
(c) under such conditions as would affect the retaining capacity of any retaining enclosure, or any bund of a container store or container compound,
unless adequate precautions are taken to prevent the escape of petroleum or risk of injury and unless the requirements of paragraph (2) of this Regulation are observed.

(2) An authorised person shall make an adequate inspection or evaluation of the safety precautions or safety procedures to be observed before the work of repair, alteration or modification is commenced and shall—

(a) make a report in writing of his inspection or evaluation of any risks involved in the carrying out of the work of repair, alteration or modification,

(b) not authorise the carrying out of the work of repair, alteration or modification unless he has satisfied himself that the safety precautions or safety procedures to be observed in the carrying out of the work are adequate to prevent risk of injury and,

(c) not authorise the commencement of carrying out of the work of cleaning, repair, alteration or modification without the issue by him of a written authorisation to permit the work to be carried out subject to any conditions he may consider necessary for preventing risk of injury and a signed and dated copy of the authorisation shall be kept for not less than 2 months.

41. (1) Without prejudice to Regulation 40 of these Regulations, all practicable steps shall be taken by a licensee or owner to ensure that—

(a) a person shall not, nor be required to, repair or alter or attempt to repair or alter at a store a storage tank, container or pipeline that contains or has contained petroleum if the repair or alteration involves welding, cutting, boring, soldering, hammering or other similar work likely to cause injury by ignition, explosion or fire, unless—

(i) the tank, container or pipeline has been emptied of all traces of petroleum and adequate steps have been taken to remove in a safe and suitable manner any flammable or explosive gas or vapour or residue which may give rise to such gas or vapour, or

(ii) other equally effective measures have been taken that will adequately prevent such risk of injury.

(2) A licensee or owner shall ensure that work of repair, maintenance, modification or the attachment of fittings or devices is not carried out to or in connection with a tank-vehicle at a store unless the tank, tanks or fuel tanks, attached thereto is or are free of or have been rendered free of (and certified in writing as being so free) by a competent person of any dangerous concentration of petroleum vapours likely to cause risk of injury in the carrying out of such work.

42. (1) Subject to any condition attached to a licence, a licensee or owner shall ensure that every vertical storage tank used for petroleum Class I shall be provided with not less than 2 separate pipelines one of which shall be used for the conveying of petroleum to the tank.

(2) A licensee or owner shall ensure that the outlet or discharge orifice of every pipeline for the conveying of petroleum Class I or petroleum Class II to a vertical storage tank shall, where necessary, be so located, installed, and used—

(a) as to avoid or minimise vibration, turbulence or agitation of liquid petroleum and the generation of static electricity,

(b) as to discharge the petroleum liquid—

(i) as near to the surface of the bottom of the tank as is practicable or beneath the lowest normal level of the liquid in the tank, and

(ii) beneath the lowest part of the opening or orifice of any withdrawal or suction pipe within the tank to ensure the maintenance of a liquid seal.

(3) A licensee or owner shall ensure that each pipeline connected to a vertical storage tank shall be provided, at the most appropriate points, with the necessary efficient means of manual or automatic control for securing the safe conveying of petroleum to and withdrawal of petroleum from the tank.

43. (1) A licensee or owner of a store shall provide suitable elevated platforms, stairs or steps to enable safe and efficient means of access and egress for any person who is required to gain access to or to perform any work on the top of a tank in connection with a loading or unloading operation.

(2) Without prejudice to paragraph (1) of this Regulation and unless otherwise specified in writing by the proper authority every loading or unloading platform, stair or steps provided under that paragraph at a major distribution store shall—

(a) be designed, constructed and maintained so as—

(i) to safely withstand any loading or impact to which it is likely to be subjected in normal use, and

(ii) to provide a safe place of work for any person engaged in a loading or unloading operation,

(b) be of all-metal construction incorporating a non-slip serrated grating on walkways, stairs or steps,

(c) in the case of a fixed platform used solely for loading or unloading a tank on one side only of the platform—

(i) be not less than one metre in width, and

(ii) be provided with an unobstructed walkway of not less than 0.80 metres in width having a vertical clearance of not less than 2 metres,

(d) in the case of a fixed platform used for loading or unloading a tank on either side of the platform—

(i) be not less than 1.5 metres in width, and

(ii) be provided on each side of the platform with an unobstructed walkway of not less than 0.80 metres in width having a vertical clearance of not less than 2 metres,

(e) be kept clean and free from obstruction during a loading or unloading operation.

(3) Every fixed platform used for loading or unloading at a major distribution store shall be provided at each end with not less than one stair or steps of not less than 0.80 metres in width to ground level.

(4) Subject to paragraph (1) of this Regulation, where a person has to gain access to the top of a tank at a major distribution store in connection with a loading or unloading operation, the licensee or owner shall provide a non-slip serrated and grated platform not less than 0.80 metres in width which is effectively hinged to the fixed platform or is otherwise moveable and secured to the fixed platform and extends as near as is reasonably practicable to the walkways on the top of the tank.

(5) Every hinged or movable platform provided under paragraph (4) of this Regulation shall be so arranged that it can be easily and safely raised or elevated or retracted with the use (where necessary)

of mechanical aids, and that it can be easily and safely secured in a raised or elevated or retracted position.

(6) Every platform (whether fixed or movable), stair or steps provided under paragraph (4) or (5) of this Regulation shall be fitted (except for any necessary access openings) with not less than one suitable guard rail of adequate strength on each side at a height not exceeding 1 metre nor less than 0.950 metres above the platform, step or stair tread.

44. (1) Where, in connection with a loading or unloading operation, a person has to perform any work or operation on the top of a tank, the carrier shall ensure that the requirements of paragraphs (2) to (4) of this Regulation are observed.

(2) The surface working area on top of the tank other than any necessary openings for—

- (a) a foot valve control device,
- (b) a manhole lid, or
- (c) a venting or dipping device,

shall be effectively covered within the limits of the overturning protective rails or barriers with a suitable and properly secured serrated and fire-resistant metal grating.

(3) There shall be provided on a rail tank wagon or road tank-vehicle suitable means of access to the top of the tank and, where catwalks or access ladders or steps are provided as the means of access, they shall, so far as is practicable, incorporate a non-slip serrated surface.

(4) The metal gratings, catwalks, ladders or steps provided under this Regulation shall be properly located, secured and maintained at all times and be kept free, so far as is reasonably practicable, from oil, grease or dirt.

45. (1) During the transfer at a store of petroleum Class I or petroleum Class II to or from a tank, the tank-vehicle or rail tank wagon shall be located at a place clearly marked on the ground plan of the store and, when the transfer takes place during the hours of darkness, suitable and sufficient means of artificial lighting to allow the transfer to be safely made, shall be provided at that place by the licensee or owner of the store.

(2) (a) The place referred to under paragraph (1) of this Regulation shall—

- (i) be of sufficient area to enable a tank-vehicle or rail tank wagon to be adequately and safely accommodated in the area during the transfer referred to in that paragraph,
- (ii) be so defined by painting or otherwise that its boundaries are clearly marked, and
- (iii) be provided at a major distribution store except for bottom loading with a weather canopy of suitable design and constructed of non-combustible materials.

(b) A licensee or owner shall take all practicable steps to ensure, in respect of petroleum Class I or petroleum Class II, that the canopy is open on all sides and that the ventilation in the area is adequate to prevent risk of injury from petroleum to any person employed at or near the canopy.

(c) A licensee or owner shall ensure that the surface area of the ground used to accommodate a tank-vehicle or rail tank wagon during such a transfer and within a radius of not less than 4 metres of a petroleum Class I or petroleum Class II dispensing pump is suitably covered with an adequate thickness of concrete or other suitable material and is—

- (i) impervious and non-absorbent so as to prevent seepage or escape of petroleum below ground,
- (ii) properly maintained and in good condition, and
- (iii) provided with a suitable drainage system designed and graded for draining any liquid off into an adequate oil interceptor.

(3) Without prejudice to the requirements of subparagraph (2) (c) (iii) of this Regulation and unless otherwise specified in writing by the proper authority, all practicable steps shall be taken by the licensee or owner to prevent, by the provision of a suitable drainage system connected to an oil

interceptor, the escape (by leakage, seepage or otherwise) of petroleum below ground or into any drain, sewer, canal, lake, stream, river, sea or inlet of the sea, or other watercourse, ditch or public place from any part of a store.

(4) All practicable steps shall be taken or caused to be taken by a licensee or owner—

(a) to ensure that a loading or an unloading location or a filling or fuelling location is provided and maintained with adequate and suitable means for the safe conveying of petroleum Class I or petroleum Class II, and for the protection of person or property against risk of injury,

(b) to ensure that a loading or an unloading location or a filling or fuelling location including any pipeline, plant or pumping equipment installed thereat is so designed, constructed, installed, protected and maintained as to prevent risk of injury,

(c) to prevent at a loading or unloading location or at a filling or fuelling location—

(i) the escape of petroleum liquid,

(ii) ignition, explosion or exposure of any substances, article or other agency,

(iii) spread of fire,

likely to cause risk of injury.

46. (1) A licensee, owner or carrier shall take all practicable steps to ensure that, where petroleum Class I or petroleum Class II is being loaded onto or unloaded from a tank of a tank-vehicle in a hazardous area, the engine (if it is likely to cause risk of injury) of any other tank-vehicle in any immediate adjoining bay is not set in motion or run until the loading or unloading operation has been completed.

(2) A licensee, owner or carrier shall ensure that where adequate space is not available in a hazardous area at a loading or unloading location to safely accommodate a tank-vehicle, the tank-vehicle with the engine (if it is likely to cause risk of injury) stopped shall remain parked at a safe distance from the hazardous area until such space becomes available.

47. A licensee, owner or carrier shall ensure that—

(a) a pipeline, pump or any associated metering device used for the loading of a tank conveying petroleum Class I or petroleum Class II is used exclusively for that purpose, and

(b) every flexible pipe or solid pipe delivery device used for the loading through an open hatch or manhole lid opening of a tank is of the quick-acting type except where efficient automatic means are provided for shutting-off the inflow of petroleum as soon as the tank is filled to its rated capacity or to the extent of a preset liquid quantity.

48. (1) Due precautions shall be taken by the licensee or owner, during the loading or unloading of a tank-vehicle at a store, to ensure that—

(a) the vehicle is stopped within the appropriate area as specified by the proper authority,

(b) any inadvertent movement of the vehicle is prevented by applying the brakes or otherwise,

(c) when petroleum Class I and petroleum Class II is being loaded and when petroleum Class I or petroleum Class II (2) is being unloaded, the engine of the vehicle is stopped and not set in motion during the loading or unloading operation, and until every manhole lid, filling pipe or draw-off pipe opening, or other opening of the tank or pipeline has been securely closed and every disconnection completed in a safe and orderly manner, and

(d) mechanical or electrical repairs or adjustments are not made to the vehicle during the loading or unloading operation.

(2) A licensee or owner shall take all practicable steps to ensure that—

(a) every tank of a tank-vehicle at a store is leak-proof and, together with its connections or fittings, is kept reasonably clean, maintained in good condition and free from defect,

- (b) every container used for conveying petroleum is leak-proof, maintained in good condition and securely stopped,
- (c) all due precautions are taken to prevent during loading, unloading or conveyance of petroleum risk of injury,
- (d) a person shall not, during a thunder-storm or lightning, be required to—
 - (i) gain access to or remain on the upper surface or catwalk of any tank-vehicle,
 - (ii) transfer petroleum Class I or petroleum Class II to or from a tank,
 - (iii) carry out manual gauging of a tank,
- (e) the fuel tank of a vehicle is not filled or replenished with petroleum Class I direct from a tank of a tank-vehicle.

49. A licensee or owner shall—

(a) on completion of a loading or unloading operation ensure that all openings in a tank of a rail tank wagon, except any necessary vent openings, are properly closed and secured in a liquid-tight and vapour-tight condition and in such a manner as effectively to prevent any loosening of the closures or escape of petroleum liquid or vapour during conveyance,

(b) before transferring a rail tank wagon to a carrier, issue or cause to be issued a certificate acceptable to the railway undertaking certifying—

- (i) that all openings (except, where appropriate, vent openings) of the tank and other fittings thereof are properly closed and secured and that the tank is in all other respects free from defect,
- (ii) that all necessary documents containing appropriate information regarding the contents of the tank are in order, and
- (iii) that all labelling, marking and warning notices are in accordance with such requirements as may be approved by the proper authority.

50. (1) Unless otherwise specified in writing by a proper authority, a licensee or owner and a contractor shall take all practicable steps to ensure that petroleum Class I or petroleum Class II is not transferred from a supply storage tank or from a tank or a petroleum ship to a receiving storage tank—

- (a) unless adequate means for summoning assistance in an emergency is available at the store,
- (b) unless an authorised person is in charge of the receiving storage tank or separate compartment—
 - (i) to ensure that petroleum does not overflow or escape from the receiving storage tank or at any point or location in the pipeline at the store between the receiving storage tank and the supply storage tank or tank,
 - (ii) to ensure in the case of a pipeline connecting a receiving storage tank and a petroleum ship, that petroleum does not overflow or escape from the receiving storage tank or the pipeline, and
- (c) unless the authorised person in charge of the receiving storage tank—
 - (i) has where appropriate immediately before the commencement of the transfer properly ascertained the quantity of petroleum in the receiving storage tank with the use of the appropriate measuring device, automatic level indicator or other means required to be provided under Regulation 26 of these Regulations, and that the quantity of petroleum to be transferred from the discharge storage tank, tank or petroleum ship can safely be accommodated in the receiving storage tank,
 - (ii) has taken all practicable steps to ensure that the connecting pipeline through which the petroleum is to be transferred is properly and securely connected and that (so far as can be ascertained) all pipes at the store through which the petroleum will pass are vapour-tight at the connections in the case of a transfer involving petroleum Class I or petroleum Class II, and
 - (iii) has ensured that any opening in the tank required to be closed to prevent risk of injury, is securely closed.

(2) In this Regulation—

"receiving storage tank" means a storage tank into which petroleum is being conveyed,

"supply storage tank" means a storage tank from which petroleum is being conveyed.

51. (1) A licensee, owner or carrier concerned shall ensure that a line of rails on which a locomotive, rail tank wagon or rail truck moves shall—

- (a) be adequately supported on a properly constructed firm foundation,
- (b) be of adequate section and have an even running surface,
- (c) be joined by fish plates or double chairs,
- (d) be securely fastened to sleepers or bearers or be otherwise adequately and effectively secured,
- (e) be laid in straight lines or curves of such radii that the locomotive, rail tank wagon or rail truck can be moved freely and without danger of derailment,
- (f) be provided where appropriate with adequate stops or buffers on each rail at each end of the track, and
- (g) be properly maintained.

(2) A licensee, owner or carrier concerned shall ensure that every track on which a line of rails is laid shall—

- (a) be provided and maintained with adequate drainage for surface water, and
- (b) be so constructed and maintained as to secure the safe movement and operation of a locomotive, rail tank wagon or rail truck.

(3) Without prejudice to Regulations 12 and 13 of these Regulations, in connection with a line of rails or rail track there shall be kept available for inspection by a licensee, owner or carrier concerned—

(a) a ground plan drawn to a scale in metric units of measurement of not less than 1:2500, which shall be an extract from the relevant Ordnance Survey map or tracing thereof in linen or similar durable material and so marked and coloured as to identify clearly—

- (i) the location and site of the line of rails,
- (ii) the surrounding district or area for not less than a distance of 1.70 kilometres in all directions, and
- (iii) the boundaries (drawn to scale and coloured red) of the lands or premises not in the occupation of the carrier and which lie immediately adjacent to the line of rails or rail track or road on which the line of rails is laid,

(b) one plan and specification (including suitable drawings or plans, elevations and sections to a scale in metric units of measurement of not less than 1:50) giving adequate details of the rails and of the construction and dimensions and manner of installation of the rail track, line of rails and where applicable of the degree of radii or curvature thereof.

(4) There shall also be kept available for inspection by a licensee, owner or carrier concerned in connection with a line of rails or rail track particulars of the maximum allowable operating speeds on the line of rails and particulars of the control arrangement governing the access or egress of locomotives, rail tank wagons or rail trucks to or from a store or a railway undertaking.

(5) A licensee, owner or carrier concerned shall ensure that, in connection with the working or use of any line of rails on which a locomotive, rail tank wagon or rail truck moves, there is (except where such clearance is not practicable) adequate clearance so that persons are not likely to be crushed or trapped by any passing locomotive, rail tank wagon or rail truck or by any part of a load thereon, but where it is not practicable to provide such a clearance such suitable recesses or other safety arrangements shall be provided as are necessary to ensure that the length of line of rails in relation to which such a recess or other safety arrangement is provided does not extend for more than 20 metres.

(6) In any case where there is not adequate clearance under paragraph (5) of this Regulation a licensee, owner or carrier concerned shall ensure that there is provided effective signalling arrangements for warning any person liable to be crushed or trapped of the danger and of the approach of a locomotive, rail tank wagon or rail truck.

(7) Without prejudice to paragraphs (4) and (5) of this Regulation, all practicable steps shall be taken by a licensee, owner or carrier concerned to ensure that there are adequate clearances between any part of a locomotive, rail tank wagon or rail truck and any overhead or side structures or objects adjacent to a line of rails.

52. (1) The requirements of paragraphs (2) to (15) of this Regulation shall apply, in relation to the movement of a locomotive, rail tank wagon or a rail truck on a line of rails in connection with the conveyance of petroleum Class I or petroleum Class II, to a licensee, owner or carrier concerned.

(2) No locomotive, rail tank wagon or rail truck shall be moved on a line or rails unless an authorised person is in sole charge to supervise the movement.

(3) Before a power-driven capstan or haulage winch is set in motion for the movement of a rail tank wagon or rail truck and before a locomotive, rail tank wagon or rail truck is moved on a line of rails the authorised person shall—

- (a) warn by signals any person whose safety is likely to be endangered of the proposed movement,
- (b) ensure that the line of rails is free and kept free of any obstruction or traffic likely to interfere with the safe movement of the locomotive, rail tank wagon or rail truck as the case may be,
- (c) ensure that there is no projection other than the buffers on the locomotive, rail tank wagon or rail truck, likely to come into contact with any structure, or abutment along any part of the line of rails,
- (d) ensure, where necessary, that any switches or devices on the line of rails used for controlling access to a loading or unloading location are correctly set or other arrangements made for their proper operation,
- (e) without prejudice to paragraph (8) of this Regulation, ensure that a person on foot—
 - (i) bearing a red flag of adequate size, during the period of time commencing one half-hour before sunrise and expiring one half-hour after sunset on any day,
 - (ii) bearing a red light during the period of time commencing one half-hour after sunset on any day and expiring one half-hour before sunrise on the next day or during any other period of time when sufficient natural light is not present to secure the safe movement of a rail tank wagon or rail truck, shall, wherever safe and practicable, accompany or precede a locomotive drawing a rail tank wagon or rail truck or train of such wagons or trucks and a front tank wagon or rail truck which is being pushed by a locomotive, but the requirements shall not apply if other efficient measures are taken to obviate risk of injury in the movement of such wagon, rail truck or train.

(4) An authorised person shall—

- (a) ensure that no rail tank wagon or rail truck containing petroleum Class I or petroleum Class II is left unattended on a line of rails between the boundaries of a store and a railway undertaking,
- (b) ensure that a rail tank wagon or rail truck is not moved—
 - (i) on a line of rails which is defective or likely to cause danger by reason of such movement,
 - (ii) on a line of rails at a speed exceeding 9 kilometres per hour unless otherwise approved by the proper authority,
- (c) ensure that adequate arrangements are in operation to direct, restrict by speed limits or otherwise and, where necessary, to prevent vehicular traffic on or adjacent to any line of rails if the conveyance of petroleum by rail tank wagon or rail truck is likely to be endangered thereby.

(5) Every locomotive shall be provided within easy reach of the driver and in a suitable location with an efficient whistle, hooter or other suitable signalling device and with a roof-mounted flashing amber light for use in an emergency.

(6) A locomotive or power-driven capstan or haulage winch shall not be driven, operated or activated other than by an authorised person who has attained the age of 18 years, but for the purpose of training a locomotive or capstan or haulage winch may be driven or operated or activated by a person under 18 years of age under the direct supervision of a person qualified for that purpose.

(7) All practicable steps shall be taken by the authorised person under paragraph (2) of this Regulation to ensure that where a capstan or haulage winch is used for the moving of a rail tank wagon or a rail truck the haulage hook shall not be fastened or attached to any part of a rail tank wagon or rail truck except to the proper horse hook or other device provided for that purpose.

(8) Where during the period commencing one half-hour after sunset on any day and expiring one half-hour before sunrise on the next day or during any other period of time when sufficient natural light is not present to secure the safe movement of a rail tank wagon or rail truck, no such movement shall be undertaken unless all practicable steps are taken to provide and maintain sufficient artificial lighting to prevent risk of injury.

(9) Every signal given in pursuance of paragraph (3) of this Regulation shall be distinctive in character and such that the person to whom it is given is able to hear or see it easily.

(10) Where devices or apparatus are used for giving sound, colour or light signals in connection with the movement of a locomotive, rail tank wagon or rail truck under this Regulation, they shall be properly maintained in efficient working order.

(11) A locomotive, rail tank wagon, or rail truck shall wherever practicable be coupled or uncoupled solely by means of an efficient coupling pole or other suitable mechanical appliance or device, except where the construction of a locomotive rail tank wagon or rail truck is such that coupling or uncoupling can be safely and efficiently performed without any part of a person's body being within the space between the ends or buffers of one locomotive or rail tank wagon or rail truck and another.

(12) A sufficient number of efficient coupling poles or other suitable mechanical appliances or devices shall be provided where required for the purpose of paragraph (11) of this Regulation.

(13) Without prejudice to any other provision of these Regulations every locomotive, rail tank wagon or rail truck shall be fitted with an effective brake.

(14) A sufficient number of adequate sprags, chocks or scotches shall be provided and kept available wherever required at locations where gradients occur on a line of rails for the use of persons employed on the movement of rail tank wagons or rail trucks and such sprags, chocks or scotches shall be used whenever necessary and shall be kept in good condition.

(15) Arrangements shall be provided to enable suitable and safe means to be secured without delay for replacing on a line of rails any locomotive, rail tank wagon or rail truck which may become derailed.

53. A licensee, owner or carrier shall take or cause all practicable steps to be taken to—

(a) ensure that a non-gas-free rail tank wagon shall not be loose-shunted and that any rail tank wagon or rail truck or other vehicle is not allowed to be loose-shunted against a non-gas-free rail tank wagon,

(b) ensure that every train of rail tank wagons or rail trucks shall be equipped with an efficient electrical battery tail lamp on the rear-most rail vehicle of the train,

(c) ensure that there shall be properly secured to the rear-most vehicle of a train of rail tank wagons or rail trucks a suitable warning sign on a sufficiently strong metal sheet reading—

DANGER

KEEP CLEAR OF TRAIN

in bright red letters not less than 100 millimetres in height and imposed upon a white background,

(d) ensure that a sign under subparagraph (c) of this Regulation is removed when the rail tank wagon or rail truck is handed over to an authorised person employed on the property of a railway undertaking,

(e) ensure that, in the event of derailment of any non-gas-free rail tank wagon or rail truck used for the conveyance of petroleum Class I or petroleum Class II, smoking or the use of naked lights or other

agencies likely to cause risk of ignition, fire or explosion is not permitted within a distance of 15 metres of the tank, wagon or rail truck, and

(f) that in the event of fire on a rail tank wagon or rail truck appropriate steps are taken to combat the spread of fire in its initial stage but a person shall not be required to act in combatting the spread of fire if by so doing would render him liable to be exposed to danger from fire, ignition or explosion.

54. (1) Where it is not practicable to use a locomotive for the movement on a line of rails of a rail tank wagon or rail truck there shall be provided by a licensee, owner or carrier concerned an efficient power-driven capstan, haulage winch or other suitable mechanical device to facilitate such movement.

(2) A licensee, owner or carrier concerned shall ensure that every power-driven capstan or haulage winch used for the movement of a rail tank wagon or a rail truck on a line of rails shall—

(a) be of suitable design, good construction, sound material, adequate strength, free from patent defect and be properly maintained, and

(b) be provided with sufficient clear space which shall be kept safe for any person required to operate the capstan or winch.

55. All practicable steps shall be taken by a licensee, owner or carrier concerned to ensure that—

(a) a defective locomotive, rail tank wagon or rail truck is taken out of service as soon as a fault or defect is discovered and that it is not used again until the fault or defect is properly remedied, and

(b) a locomotive, rail tank wagon or rail truck is not repaired or greased within the boundary of a store unless specifically authorised in writing by a local or harbour authority, but this requirement shall not apply to normal adjustment necessary for securing the efficient running of the tank wagon where such adjustment is not carried out during a loading or unloading operation.

56. (1) A carrier shall ensure that every tank of a rail tank wagon used for the conveyance of petroleum shall be designed, constructed, tested and certified in accordance with sound engineering practice and in accordance with such standards or specifications as may be approved and maintained in a leak-proof condition.

(2) There shall be kept available for inspection by a carrier in connection with each rail tank wagon or rail truck used on a line of rails the following particulars:—

(a) identification number and description of type;

(b) type of brake;

(c) year of manufacture and date of commencement of use;

(d) type of axlebox;

(e) date, if applicable, of withdrawal within the previous twelve months from service on a line of rails.

(3) A carrier shall ensure that every rail tank wagon or rail truck is marked and labelled in an approved manner.

(4) A carrier shall ensure that a rail tank wagon used or intended to be used for the conveyance of petroleum Class I or petroleum Class II is provided with efficient non-sparking brake blocks.

57. (1) A licensee or owner shall ensure that during the operation of loading or unloading a rail tank wagon or rail truck there is posted and kept posted a suitable sign, on a sufficiently strong metal sheet, reading on both sides—

STOP

DANGER

TANK WAGON CONNECTED

in bright red letters not less than 100 millimetres in height and imposed on a white background.

(2) A notice under paragraph (1) of this Regulation shall be suitably attached to the rail tank wagon, and suitably displayed on a barrier-rail straddling each approach-way over a line of rails, with the barrier rail located at a suitable distance from the loading or unloading location.

(3) A licensee or owner shall ensure before a loading or unloading operation commences at a loading or unloading location that—

(a) the brakes of the rail tank wagon or rail truck shall be fully applied where necessary and its wheels suitably scotched or choked,

(b) the framework of the rail tank wagon and tank shall be properly bonded electrically to the connecting pipeline conveying petroleum Class I or petroleum Class II to or from the tank,

(c) the line of rails, the framework of the tank and rail tank wagon, the loading or unloading arms or pipelines and the loading or unloading platforms shall be properly earthed,

(d) the lids or caps of the tank shall be gently backed-off by spark-resistant tools before being completely removed and that pressure in a tank shall be allowed to escape gradually before an opening in the tank is entirely removed.

4. A licensee or owner of a store or carrier shall ensure that—

(a) before any loading operation is commenced the tank is suitably examined for the purpose of detecting any leaks or weeping, and

(b) a suitable receptacle is placed beneath a connected pipeline at the point of disconnection to prevent the escape of petroleum through drippings, leakages or other causes.

58. (1) A licensee or owner shall ensure that the section of a line of rails used for loading or unloading petroleum Class II or petroleum Class I at a store shall be effectively bonded electrically across each rail joint and effectively isolated electrically by means of insulated rail joints from every part of a line of rails not located within the boundaries of a loading or unloading location.

(2) An insulated rail joint under paragraph (1) of this Regulation shall not be bridged by a locomotive, rail tank wagon or rail truck or any other means during a loading or unloading operation at a store.

59. Subject to Regulations 15 (e) and 17 of these Regulations, a licensee or owner concerned shall take all practicable steps—

(a) to ensure that a container store is provided with adequate means of cross-ventilation, including where necessary a suitable ventilation opening or openings located near to but above bund level and at or near the ceiling or roof level, any such openings being maintained free from obstruction;

(b) to ensure, subject to paragraph (a) of this Regulation, that every ventilation opening is where necessary suitably screened or shielded and provided with an effective corrosion-resistant and flame-arresting device secured to the inside surface of the wall of the container store;

(c) to prevent spillage, leakage, seepage or other escape of petroleum in or from a container store or compound;

(d) to ensure that petroleum which is spilt, leaks or otherwise escapes from a container, drum or vessel in a container store or compound is immediately drained off to a safe place or otherwise treated to make it safe;

(e) to ensure that a container store or compound is not used for the keeping or storage of—

(i) flammable liquids other than petroleum Class I or petroleum Class II unless the liquids are contained in containers or other leak-proof drums or vessels of adequate strength and construction, or

(ii) containers of petroleum,
unless the containers, drums or vessels are maintained securely closed as to prevent leakage or escape of liquid or vapour therefrom;

(f) to ensure that no petroleum Class I or petroleum Class II or other flammable liquid is kept in a pail or other open vessel;

(g) to ensure that a container store or compound is not used for the keeping of empty containers or vessels previously used for holding flammable substances and which have not been thoroughly cleaned and rendered gas-free, unless they are securely closed and free from defect;

(h) to ensure that containers or vessels in a container store or compound are not so stored, stacked or placed as to cause danger and that the means of ingress to and egress from a container store or compound is adequate and kept clear of obstruction;

(i) to ensure that containers or vessels of corresponding classes or grades of petroleum or flammable liquids where stored together in a container store or compound are so arranged that the labels or markings on each container or vessel can be easily read or checked;

(j) to ensure that a container store or compound is—

(i) kept in a clean and orderly state and free from dirt, waste or combustible materials,

(ii) provided, subject to Regulations 15 (e) and 66 of these Regulations, with adequate means of lighting (whether natural or artificial);

(k) to ensure that containers which contain petroleum Class I or petroleum Class II or any residue of such petroleum are, where there is any likelihood or risk of injury, protected against direct sunlight in a container compound;

(l) to ensure, subject to Regulation 67 (b) of these Regulations, that every container or container compound is, where necessary to prevent risk of injury, designed, constructed and kept locked when not in use so as to prevent any unauthorised person from gaining access to the container store or compound; and

(m) to ensure unless otherwise specified in writing by the appropriate fire brigade authority, that the height of the sill enclosure, well, bund or other means of preventing outflow of petroleum from any container store or compound shall not be less than 150 millimetres.

60. A licensee or owner shall, unless it is otherwise specified in a condition attached to a licence or in writing by the appropriate fire brigade authority, ensure that—

(a) every container store or compound is provided with adequate and suitable means of escape in case of danger or alarm,

(b) the doors or gates of a container store or compound are not capable of being locked on the inside or so fastened inside or outside during working hours as to prevent the immediate egress of any person from the store or compound,

(c) the immediate area surrounding any container store or compound is kept clear of combustible materials,

(d) there is provided and maintained in an efficient state and ready for immediate use in connection with a container store or compound an adequate number of suitable fire extinguishers,

(e) a copy of any conditions attached to a licence and applicable to a container store or compound is kept posted in a position where it may be easily seen and read,

(f) a container store or compound used for the storage of petroleum Class I or petroleum Class II has conspicuously and suitably marked on it exterior the following notice—

"PETROLEUM-SPIRIT

HIGHLY FLAMMABLE

SMOKING STRICTLY PROHIBITED

NO NAKED LIGHTS"

61. (1) A licensee or owner shall ensure that every container containing petroleum Class I or petroleum Class II or any residue of either such petroleum shall have prominently printed or marked on the container in legible and indelible characters, by means of a suitable brand or by means of a suitable label securely attached by its entire back surface to the container, the information specified in paragraph (3) of this Regulation.

(2) The dimensions of the brand or label required by this Regulation shall not be less than—

(a) 52 x 74 mm in the case of a container not exceeding 3 litres capacity,

(b) 74 x 105 mm in the case of a container exceeding 3 litres and not exceeding 50 litres capacity,

(c) 105 x 148 mm in the case of a container exceeding 50 litres capacity and not exceeding 250 litres capacity.

(3) Unless otherwise specified in writing by the proper authority the brand or label required by this Regulation shall contain the following information—

(a) the name and address of the manufacturer, distributor or importer,

(b) a danger symbol (as shown in Schedule 5 to these Regulations) covering not less than one-tenth of the surface area of the brand or label and not less than one square centimetre in extent, comprising a black flame on an orange-yellow background, and containing the following notice with the appropriate number of litres included in black letters—

"PETROLEUM-SPIRIT

Highly Inflammable

Capacity — Litres",

(c) particulars of the nature of the special risks involved in the handling, conveyance, storage or use of petroleum Class I or petroleum Class II which shall (except in the case of a container which contains no more than 125 millilitres) at least include the following notices:

"Keep away from heat", "Keep away from sources of ignition or smoking", "Keep container tightly closed".

(4) Every brand, label, danger symbol or notice required by this Regulation shall be so placed on one or more of the surfaces of the container that it may be read horizontally when the container is placed in a normal position, and the colour and presentation of such a label or danger symbol shall be such that the danger symbol stands out clearly from the background.

62. (1) Without prejudice to the requirement of Regulation 18 (2) (d) of these Regulations, a licensee, owner or employer shall not permit, cause or require a person to enter or remain in a confined space at a store unless—

(a) the confined space is provided with a suitable manhole or other opening that affords safe means of ingress to and egress from the confined space,

(b) all practicable steps have been taken to prevent the ingress of liquid, gas or vapour to the confined space,

(c) the confined space is so ventilated, or the means of supply of air to the wearer of breathing apparatus is so arranged as to provide and maintain an adequate supply of fresh air (free from impurities) for respiration,

(d) the confined space is adequately and safely lighted.

(e) all due precautions have been taken to ensure that the person who performs any work of cleaning, repair or other operation therein is not exposed to risk of injury.

(2) A licensee, owner or employer shall not permit, cause or require a person to enter or remain in a confined space at a store unless—

(a) the space has been inspected, or an evaluation of any risks connected with the entry or duties to be performed in the confined space has been determined, by an authorised person and a written report made by him of the inspection or evaluation clearly records—

(i) any safety precautions or safety procedures necessary in order to prevent risk of injury to the person in the confined space,

(ii) whether or not the space is safe for entry without breathing apparatus,

(iii) whether the space is safe for entry without limit of time, or subject to a specified period of time,

(b) a person appointed under Regulation 71 (1) of these Regulations has—

(i) satisfied himself that the safety precautions or safety procedures to be observed in respect of the entry by the person to, or work by the person in, the confined space, are sufficient to prevent risk of injury to the person,

(ii) issued a written authorisation signed and dated by him to permit the entry of the person to the confined space, subject to any conditions he may stipulate in respect of such entry or work in the confined space, every such authorisation being kept readily available for inspection by the licensee or owner for a period of not less than 3 months,

(iii) posted in a suitable location outside the confined space in such characters as to be easily seen and read a copy of the written authorisation of entry and, where necessary, an appropriate extract of the written report, including any period of time specified.

(3) A licensee, owner or employer shall not permit, cause or require a person without suitable breathing apparatus to enter or remain in a confined space at a store unless—

(a) the confined space has been emptied of all traces of petroleum, sludge or residue of such petroleum and adequate steps have been taken to remove and purge in a safe and suitable manner any flammable, explosive, poisonous or asphyxiating gas or vapour in the confined space, and

(b) an authorised person has certified in writing the confined space to be safe for entry without breathing apparatus.

(4) A licensee, owner or employer shall take all practicable steps to ensure that any employee of his, prior to entry to a confined space at a store, has been—

(a) properly warned of the hazards of such entry,

(b) properly advised of the safety precautions or procedures to be observed,

(c) properly instructed and trained in the safe conduct of the operation or work to be performed,

(d) properly informed of when a specified period of time concerning the entry shall expire,

(e) provided with suitable protective clothing, including neck and head covering and suitable hand protection and footwear.

63. Without prejudice to the requirements of Regulations 62 (1) and 62 (2) of these Regulations, a licensee, owner or employer shall not permit, cause or require a person to enter or remain in a confined space at a store—

(a) in the case of a confined space in which there is reasonable cause to apprehend the presence of any dangerous sludge, residue, gas or vapour of petroleum, to such an extent as to involve risk of the person being overcome or affected by the sludge, residue, gas or vapour, or

(b) in the case of a confined space which there is reasonable cause to believe has contained leaded petroleum from which scale had not, so far as is reasonably practicable, been removed from the tank shell or fittings of the tank unless—

(i) the person is wearing a suitable breathing apparatus maintained in a clean and efficient state and adequate for protecting him against injury to his health from petroleum,

(ii) the person is, where the circumstances so require, wearing a safety harness or other suitable safety device, securely attached to a life-line that is constantly controlled and held outside the tank by another person trained at emergency and rescue operations and provided with such breathing apparatus or other equipment as may be required to carry out safely such an operation,

(iii) the person is provided with suitable protective clothing, including neck and head covering and suitable hand protection and footwear, and

(iv) the person is, so far as is practicable, in the view of another person during the whole of the time when he is in the confined space.

64. A licensee, owner or employer shall take all practicable steps to ensure that—

(a) any person employed by him in the cleaning out of a storage tank (or compartment of such a tank) which contains or has contained leaded petroleum or residue thereof—

(i) shall not be exposed to risk of injury,

(ii) shall be supplied with adequate written information of the precautions to be observed against lead poisoning,

(iii) shall before leaving the store or taking a meal remove any protective clothing or footwear and thoroughly wash his face and hands,

(iv) shall be advised of the advisability of taking a bath or shower at the end of each day's work or shift or when the cleaning-out operation has been completed, and

(v) shall be provided with an adequate supply of soap and warm water and with a nail brush, and

(b) any tools, breathing apparatus, protective gloves or footwear or other personal protective equipment or devices, used in connection with a cleaning-out operation referred to in subparagraph (a) of this Regulation, are thoroughly cleaned or disinfected at the end of a day's work or shift or on completion of the operation.

65. (1) Without prejudice to any other requirement of these Regulations, a person shall not be employed by a licensee, owner, contractor or carrier in connection with the storage, conveying, loading or unloading of petroleum in or about a store which by reason of such petroleum being explosive, flammable, toxic, poisonous, asphyxiating, oxidising, reducing, irritant or otherwise harmful, is likely to cause risk of injury to that person.

(2) A licensee, owner, contractor or carrier shall be deemed not to have failed to comply with paragraph (1) of this Regulation by reason only of any matter proved to have been caused by physical conditions over which he had no control and against which it was not reasonably practicable for him to make provision.

(3) Where there is reason to apprehend that the atmosphere in any working place in or about a store is toxic, poisonous, asphyxiating or otherwise harmful no person shall be employed at that working place

until the atmosphere has been suitably tested by or under the supervision of a competent person and he is satisfied that the working place is free from the danger of a person being exposed to risk of injury.

(4) A licensee, owner, contractor or carrier shall provide adequate and suitable protective clothing for a person employed at a store and shall arrange for such clothing to be renewed when necessary and to be kept in a reasonably clean state.

(5) There shall be provided by a licensee, owner or contractor adequate and suitable—

(a) personal protective equipment,

(b) gas-, vapour- or fume-detection appliances, devices or equipment,
wherever such equipment, appliances or devices are required under these Regulations or necessary adequately to protect a person against risk of injury.

(6) A licensee, owner or contractor shall ensure that equipment and appliances or devices provided in pursuance of Regulation 63 of these Regulations or of paragraph (5) of this Regulation are maintained in good order, are renewed when necessary, are kept in a clean and hygienic state and (if not in constant use) are readily available or accessible for immediate use.

(7) A licensee, owner or contractor shall ensure that the personal protective equipment, detection appliances, devices or equipment provided pursuant to these Regulations are where necessary thoroughly examined at appropriate intervals for any defects by a competent person and that a report on every such examination is kept readily available for inspection for a period of at least two years.

(8) In this Regulation—

"personal protective equipment" includes respiratory breathing apparatus, lifelines, harness or belts for attaching lifelines thereto, hearing protection devices, safety spectacles or goggles, face shields, safety helmets or other means of suitable head protection;

"protective clothing" includes footwear, gloves or mitts.

66. (1) Subject to Regulations 15 (d) and 15 (e) of these Regulations, all practicable steps shall be taken by the licensee, owner or contractor to ensure that—

(a) electrical apparatus is designed, installed, protected, worked and maintained so as to prevent risk of injury so far as is reasonably practicable,

(b) electrical apparatus (other than a cable) displays a plate bearing the maker's name together with all ratings (including horsepower, voltage and current) necessary to show that it is suitable for the purpose for which it is used,

(c) electrical apparatus likely to ignite vapours of petroleum Class I or petroleum Class II is not located or installed in a hazardous area at a store unless the apparatus is so constructed and protected and such special precautions are taken as adequately to prevent danger by ignition, fire or explosion or otherwise through exposure or use.

(2) A licensee, owner or contractor shall secure the effective carrying out of arrangements for the suitable inspection and testing at intervals not exceeding 12 months by a competent person of all electrical apparatus located in a hazardous area at a store or pipeline and of all parts of every circuit of such apparatus, including—

(a) the verification of polarity,

(b) the effectiveness of the earth loop impedance,

(c) the conductance of the earth conductor and earth plate or earth rods,

(d) the effectiveness of every earth-leakage circuit breaker,

(e) the insulation resistance of every circuit, and

(f) the suitability, effectiveness and condition of all cables, switches, fuses, plugs and socket outlets having due regard to the other provisions of this Regulation, and a certificate in an appropriate form of the results of every such inspection and test shall be kept available for inspection for not less than 2 years by the licensee, owner or contractor.

(3) A licensee, owner or contractor shall ensure that—

(a) where electrical apparatus at a store is found to be defective in any respect it shall be either put in good order or permanently disconnected and removed from the store,

(b) before electrical apparatus is used after repair it is inspected and where necessary tested by a competent person, and that a certificate in a suitable form of the results of every such inspection or test is kept available for inspection for at least 24 months by the licensee, owner or contractor.

(4) All practicable steps shall be taken by a licensee, owner or contractor to prevent any generation, accumulation or discharge of static electricity which would be sufficient to ignite petroleum or vapours thereof or otherwise cause risk of injury.

67. A licensee or owner shall take or cause to be taken all practicable steps to ensure—

(a) that no person shall without the prior knowledge and approval of an authorised person bring or take into a store any lucifer matches, mechanical lighters, open flame or any spark-producing device or other means of procuring a flame or any agency or substance likely to cause ignition, fire or explosion,

(b) where highly flammable liquids or solids or dangerous concentrations of flammable vapours are likely to be present at any place in a store, that no person shall smoke or have in his possession a lighted match, lighted pipe, lighted cigar, lighted cigarette or any naked light or means of procuring a flame or any agency, article or substance likely to cause risk of ignition, fire or explosion,

(c) that no person shall smoke except at a safe place clearly marked by the licensee or owner on the ground plan of the store, and

(d) that a suitable notice reading "Smoking Permitted" which can be easily seen and read is posted, displayed or affixed where smoking is permitted.

68. (1) A licensee or owner shall provide and maintain at appropriate places in or about every store an adequate number of receptacles made of non-combustible materials for the temporary disposal of any dust or waste obtained by sweeping, cleaning or otherwise.

(2) Such receptacles shall be provided with lids, clearly marked "WASTE", and emptied of dust or waste at reasonable intervals.

(3) A licensee or owner shall ensure that oiled cotton, oiled rags, oiled waste or other contaminated materials or articles liable to spontaneous combustion or decomposition are not, where there is any likelihood of risk of injury, kept or stored while not in use at any place in a store and that all practicable steps are taken to remove any such flammable or combustible materials and dispose of them in a safe manner.

(4) Where the sole purpose is to dispose of as waste, any petroleum, residue or sludge of petroleum or any material, substance or article contaminated by petroleum, the means used for the disposal of the waste shall be subject to any reasonable requirement specified in writing by the proper authority for preventing risk of injury.

(5) Without prejudice to paragraph (3) of this Regulation, a licensee or owner shall, as far as it is within his control to do so, take all practicable steps to ensure that the means used in the disposal of waste emanating from a store shall be adequate for the purposes of preventing risk of injury.

69. (1) A licensee or owner and a contractor shall ensure that—

(a) every person employed by him in connection with the storage, conveying, loading or unloading of petroleum Class I or petroleum Class II in or about a store is appointed in writing by a person authorised by him in writing to make such appointments,

(b) a person is not so appointed unless he has received the training and instruction required under Regulation 70 of these Regulations, and is competent to carry out whatever duties or work as may be assigned to him.

(2) Paragraph (1) (b) of this Regulation shall not apply in relation to a person undergoing training if he is working under the immediate supervision of a competent person appointed under paragraph (1) (a) of this Regulation.

(3) Every authorised person shall familiarise himself with these Regulations and any other Regulations under the Act and for the time being in force concerning the conveying, loading, unloading and storage of petroleum Class I or petroleum Class II.

70. (1) A licensee or owner and a contractor shall ensure that a person is not employed in connection with the storage, conveying, loading or unloading of petroleum Class I or petroleum Class II in or about a store unless he has received, and where necessary continues to receive, adequate training and instruction by a competent person before and during his employment in the precautions to be taken under these Regulations for his protection, and that of any other person or any property likely to be affected against risk of injury.

(2) Whenever a person receives the training and instruction required by paragraph (1) of this Regulation the licensee, owner or contractor shall ensure that such training and instruction shall be followed by adequate and competent supervision to ensure that all necessary safety precautions are being observed to prevent risk of injury.

(3) The training required under paragraph (1) of this Regulation in relation to a person appointed in pursuance of Regulation 69 (1) of these Regulations shall include precise, accurate and appropriate instructions (both oral and in writing) for the safe conduct and performance of work at which he is to be employed in respect of—

(a) the manner or importance of observing the Rules in Schedule 1 to these Regulations,

(b) the nature of the risks presented by petroleum stored or to be stored, loaded or unloaded or conveyed at the store,

(c) the necessary safety precautionary measures and systems of work to be observed by each person to prevent fire, ignition or explosion likely to cause risk of injury at the store,

(d) the steps to be taken in the event of spillage, leakage or escape of petroleum from a storage tank, container, tank or pipeline,

(e) the steps to be taken in the event of fire, ignition or explosion or other accident or emergency, including procedures for operating the fire alarms, contacting the appropriate fire brigade authority, ambulance authority, Garda Síochána or any other person as specified in Regulation 73 of these Regulations,

(f) the efficient use of fire-fighting equipment or appliances provided in pursuance of Regulation 75 of these Regulations, the proper extinguishing agents for use therewith and the extinguishing agents which may not be used,

(g) the function and proper use of personal protective clothing or other personal protective equipment, detection appliances, devices or equipment required by Regulation 65 of these Regulations,

(h) the steps to be taken and treatment to be given in the event of any person or his protective clothing being affected by contact with petroleum or with any volatile hazardous vapour or other dangerous substance to which he may be exposed,

(i) the carrying out of elementary first-aid procedures.

(4) Without prejudice to the requirements of paragraphs (1) to (3) of this Regulation, the training and instruction given to every person employed in the storage, conveying, loading or unloading of petroleum shall be suitable and adequate as regards the requisite knowledge and the standard of behaviour necessary both for the safe performance of work at which a person is employed and for the prevention of risk of injury.

(5) (a) For the purposes of paragraph (3) of this Regulation, "in writing" means in the form of a manual of up-to-date written instructions issued to and safely retained by the person during and after the completion of his training,

(b) a copy of the manual shall be kept readily available for inspection by the licensee or owner or contractor concerned.

71. (1) A person possessing adequate knowledge, training and practical experience in the storage, conveying, loading and unloading of petroleum or any work or process connected therewith or incidental thereto as may be carried on in or about a store shall be appointed in writing by the licensee, owner or contractor to exercise supervision with regard to the requirements of these Regulations, to ensure their observance and to secure safety in relation to the work at the store.

(2) A person appointed under paragraph (1) of this Regulation—

(a) shall not be required to carry out any other duties if this would prevent or unnecessarily delay the carrying out of any duty or work necessary for preventing risk of injury,

(b) may secure the immediate cessation of any operation or work which, in his opinion is in breach of these Regulations or is otherwise dangerous,

(c) shall ensure, before work is commenced in connection with the conveying, loading, unloading or storage of petroleum at a store at the start of a working day and after repairs to a storage tank, pipeline, plant, device or appliance, that the storage tank, pipeline, plant, equipment, device or appliance is inspected and, where necessary, tested and is in satisfactory working condition and may be used without risk of injury,

(d) shall ensure that on each working day every store or working place therein is inspected and that, if any danger is revealed by such inspection, all practicable steps are taken to remove it and that any person exposed to the danger shall be withdrawn, and

(e) shall investigate all occurrences involving the spillage, leakage or escape of petroleum, the breakdown of any pipeline, plant, equipment, device or appliance and any failure to observe the requirements of these Regulations which caused or may be the cause of risk of injury.

(3) A report of every inspection and investigation made under paragraph (2) of this Regulation shall be entered and signed forthwith by the person making the inspection or investigation in a book, which shall be in an appropriate form and which shall be provided by the licensee or owner and kept readily available for inspection at the store concerned.

(4) A report of any danger revealed in the course of such an inspection or investigation or any danger observed by or notified to such person, together with the steps taken to remove the danger and prevent any occurrence, shall be made in such a book and shall be signed and dated by the person making the entry.

72. (1) All practicable steps shall be taken by a self-employed person at a store to ensure that he conducts his work in such manner as to be in conformity with any relevant requirement of these Regulations and that he or any other person or any property likely to be affected by that work is not exposed to risk of injury at the store.

(2) An employer engaged in the performance of work on a contractual basis at a store shall—

(a) comply with these Regulations and fully acquaint himself with—

(i) any relevant requirement of the Act or of these Regulations which may apply to the work,

(ii) the precautions necessary for the protection of himself and any person employed by him against risk of injury at the store,

(b) take or cause to be taken all practicable steps to ensure that any person employed by him at a store has received and where necessary continues to receive adequate instruction, training and supervision by a competent person for protection against risk of injury by petroleum.

(3) A licensee, owner or contractor shall take all practicable steps to satisfy himself that any work in connection with a storage tank, pipeline or protective system or device therefor, which is to be undertaken by a self-employed person or employer in connection with the storage, conveying, loading or unloading of petroleum in or about a store shall be executed in a competent manner by a competent person and without risk of injury.

(4) In this Regulation—

"employer" does not include a licensee or owner;

"self-employed person" means a person, not having any other person in his employment, who performs work for gain or reward on a contractual basis for a licensee or owner.

73. (1) A licensee or owner shall ensure that an efficient and reliable means of communication for summoning assistance in case of emergency shall be provided and maintained at a store to enable an appropriate fire brigade authority, an ambulance authority, the Garda Síochána and any other person specified in writing by the licensee or owner to be informed without delay of the emergency.

(2) A licensee or owner shall affix in a suitable prominent place or places a notice, which shall be kept up-to-date, containing the telephone numbers for use in an emergency to obtain the services of the fire brigade authority, an ambulance, a medical practitioner, the Garda Síochána, and any other person referred to in paragraph (1) of this Regulation.

74. (1) Unless otherwise specified in writing by a proper authority or an appropriate fire brigade authority a licensee or owner shall provide at a store, and maintain and have periodically tested, an effective alarm or signal system for giving due warning in case of fire or the danger of ignition or explosion.

(2) Such an alarm or signal system shall—

(a) be suitably located and installed to ensure that it is accessible or available at all times for immediate use and capable of being operated or activated without foreseeable delay or risk to any authorised person,

(b) when operated or activated be clearly audible or perceptible for an appropriate distance in all directions,

(c) be distinctive so as not to be liable to be confused with any other alarm or signal system at the store or its immediate surroundings.

75. (1) All practicable steps shall be taken by a licensee, owner or contractor to prevent risk of ignition, fire or explosion, to combat fire and to prevent the spread of fire.

(2) Without prejudice to paragraph (1) of this Regulation, a licensee or owner shall provide in accordance with good standards of practice to such extent as may reasonably be required by the proper authority or by the appropriate fire brigade authority, (having regard to the quantity of petroleum kept or to be kept at the store and protection of persons against risk of injury)—

(a) a fire main or other suitable means capable of supplying at all times for the purpose of fire-fighting a sufficient output of water at an adequate pressure,

(b) sufficient and suitable means for the cooling of storage tanks which may be affected by fire and mobile, portable or transportable fire-fighting equipment, devices, materials, smothering agents or other substances.

(3) Fire-fighting equipment devices or substances provided in pursuance of paragraph (2) of this Regulation shall be—

- (a) suitably located and arranged, and protected and maintained in an efficient state, and
 - (b) available for immediate use without hindrance or obstruction.
- (4) Subject to any requirement in writing by the proper authority or the appropriate fire brigade authority, a licensee or owner—

(a) shall carry out or cause to be carried out periodic fire-fighting drills, tests, examinations and inspections of fire-fighting equipment, devices, materials, smothering agents, or substances provided in pursuance of paragraph (2) of this Regulation,

(b) keep or cause to be kept suitable records in respect of the fire-fighting drills, tests, examinations or inspections carried out under subparagraph (a) of this paragraph,

(c) take adequate measures to ensure that a sufficient number of the persons employed or working at a store are suitably trained in the efficient use of the appropriate fire-fighting equipment, devices, materials, smothering agents or substances provided to combat a fire in pursuance of paragraph (2) of this Regulation.

(5) A licensee or owner of a store shall obtain a certificate from the appropriate fire brigade authority certifying that the store is provided with such safe means of escape as may reasonably be required in the circumstances of the case.

76. (1) Subject to any requirement in writing by the proper authority or the appropriate fire brigade authority, the licensee or owner shall ensure that the location and lay-out of a store shall be so designed, planned, arranged and organised that in the event of fire, danger or other emergency at the store—

(a) adequate unobstructed safe means of escape suitably marked or signposted are provided for any person employed or lawfully present in the store;

(b) the doors of any building at the store in which persons are employed open outwards, are located and of such number that the maximum number of persons authorised to be in any building shall, in the event of fire, danger or other emergency be afforded immediate and unrestricted egress leading directly out of the building, and are not capable of being locked on the outside or so fastened inside or outside as to prevent during working hours the immediate egress from any building of any person working therein;

(c) all practicable steps have been taken to ensure that any person employed at the store is familiar with the safe means of escape or use thereof and with the routine to be followed in case of fire;

(d) adequate unobstructed means of ingress and egress suitably marked or sign-posted, protection or safeguards are provided for persons, vehicles or mobile equipment to facilitate in an efficient manner the most appropriate fire-fighting procedures or techniques which may be required to extinguish or to prevent spread of fire, ignition or explosion.

(2) In determining the measures necessary to observe the requirements of paragraph (1) of this Regulation, account shall be taken of—

(a) the proximity of the store to adjoining premises or houses where persons reside, assemble or are employed,

(b) the class or classes of petroleum and the quantity of petroleum kept at the store, and

(c) the degree of reasonably foreseeable risk of injury to persons or property from ignition, fire or explosion at the store.

77. (1) Subject to any requirement in writing by the proper authority or the appropriate fire brigade authority the provisions of paragraphs (2) to (8) of this Regulation shall be observed by a licensee or owner of a store.

(2) A suitable and adequate fire-fighting and emergency evacuation plan shall be prepared by the licensee or owner not later than 18 months after the commencement of these Regulations, two copies of the plan being submitted to the appropriate fire brigade authority for approval.

(3) Where a plan is submitted to a fire brigade authority pursuant to this Regulation, the authority may approve the plan with or without further modification or reject the plan and, in case the plan is approved by the authority, the authority shall return to the licensee or owner a copy of the plan with any modifications made to it by the authority.

(4) In case a plan submitted pursuant to this Regulation is rejected by the appropriate fire brigade authority, the licensee or owner shall prepare and submit under this Regulation a further plan to the authority within such period (being not less than 3 months) as is specified in the rejection.

(5) In case a plan is approved under this Regulation by the appropriate fire brigade authority, a copy of the plan, certified by the authority, shall be kept readily available for inspection by the licensee or owner at the store or other approved place and the licensee or owner of the store shall send or give, or cause to be sent or given, a copy of the plan so certified to the Minister, the proper authority and an officer of the Garda Síochána in whose area the store is located.

(6) No alteration or modification shall be carried out to the plan under paragraph (2) of this Regulation unless prior notice in writing has been given to the appropriate fire brigade authority.

(7) Every plan under paragraph (2) of this Regulation shall include appropriate diagrammatic or written particulars of—

- (a) the alarm or signal systems and means of communication for summoning assistance,
 - (b) the fire-fighting installation provided at the store;
 - (c) the number of persons at the store trained in fire-fighting techniques and likely to be available to assist in extinguishing or preventing the spread of—
 - (i) ignition, fire or explosion,
 - (ii) a dangerous spillage or an escape or an outflow of petroleum, or
 - (iii) toxic or otherwise harmful fumes, gas or vapour likely to emanate from such an occurrence;
 - (d) the instructions covering the duties of authorised persons or other employed persons in case of—
 - (i) ignition, fire or explosion,
 - (ii) a dangerous spillage or an escape or outflow of petroleum,
 - (iii) the existence or spread of toxic or otherwise harmful fumes, gas or vapour which may arise in connection with an occurrence referred to in subparagraph (d) (i) or (d) (ii) of this paragraph;
 - (e) the vehicles, rail tank wagons or other mobile plant, equipment or appliance which may be required to be moved to a safe place in case of fire or other dangerous occurrence;
 - (f) the traffic control arrangements in case of fire;
 - (g) the evacuation scheme to be adopted in respect of any person employed at the store and likely to be affected by—
 - (i) ignition, fire or explosion,
 - (ii) a dangerous spillage or escape or an outflow of petroleum, or
 - (iii) toxic or otherwise harmful fume, gas or vapour which may arise in connection with an occurrence referred to in subparagraphs (g) (i) or (g) (ii) of this paragraph;
 - (h) the safety procedures to be implemented, and the agreed system of co-ordination with the appropriate authorities or persons as required under Regulation 73 of these Regulations.
- (8) Every fire-fighting or evacuation emergency plan under paragraph (2) of this Regulation shall be reviewed, in consultation with the appropriate fire brigade authority periodically for the purposes of its effectiveness, at least once in every three years.

78. (1) A licensee or owner shall, so far as is reasonably practicable, provide or cause to be provided and maintained for the use of all persons employed at the store concerned—

- (a) adequate and suitable cloakroom facilities—
 - (i) for clothing not worn during working hours,

(ii) having satisfactory arrangements for the storage and drying of working clothing and the storage of personal protective clothing, consisting either of suitably situated cupboards or at least one hook or peg for each person, (the pegs or hooks to be not less than 0.30 metres apart laterally) or of other suitable arrangements,

(b) adequate and suitable facilities for washing including—

(i) at least one suitable shower bath,

(ii) wash-hand basins or troughs sufficient in number to provide at least one basin or 0.61 metres of the length of any trough or, in the case of a circular or oval trough, 0.61 metres of the circumference of a trough for every five persons who may require to use the facilities at any one time,

(iii) a sufficient number of suitable nail brushes, and

(iv) suitable means of cleaning and drying.

(c) adequate and suitable accommodation for taking meals, including—

(i) sufficient tables (having impervious table-top surfaces) and chairs or benches,

(ii) adequate means for boiling water and heating food,

(iii) arrangements to enable persons employed to store their food-containers during working hours,

(iv) facilities for washing and rinsing eating-utensils,

(v) means for securing and maintaining a temperature of not less than 17 degrees Celsius during meal intervals, and

(d) an adequate supply of drinking water at a convenient point or points clearly marked

"DRINKING WATER",

(2) (a) Each wash-hand basin or trough under subparagraph (1) (b) of this Regulation shall be fitted with a waste pipe and plug and have a supply of hot and cold or warm water laid on.

(b) Each trough provided under subparagraph (1) (b) of this Regulation shall—

(i) measure internally not less than 1.22 metres over its longest or widest part,

(ii) be fitted with an unplugged wastepipe, and

(iii) have a supply of warm water laid on at points above the trough and at intervals not exceeding 0.61 metres.

(3) All accommodation provided under paragraph (1) of this Regulation shall—

(a) be of good construction and properly maintained,

(b) be adequately lighted and ventilated,

(c) be maintained in a thoroughly clean state and orderly condition, and

(d) not be used for the deposit or storage of materials or plant.

(4) For the purposes of paragraph (1) of this Regulation, in determining whether accommodation or facilities of any kind provided in pursuance of that paragraph at any time or place at a store are adequate, regard shall be had to the number of the persons likely to use the accommodation or facilities at that time or place.

(5) Safe and suitable means of access and egress shall be provided and maintained by a licensee or owner to and from every place at which accommodation or facilities are provided under this Regulation.

79. (1) A licensee or owner, so far as is reasonably practicable, shall ensure that there is provided and constantly maintained in good order and condition so as to be readily available for immediate use at a store an appropriate number of first-aid boxes or cases each of which—

(a) is clearly and conspicuously marked

FIRST-AID

(b) is used exclusively for keeping first-aid materials or requisites,

(c) contains the first-aid materials or equipment specified in Schedule 6 to these Regulations,

(d) is placed under the charge of a competent person—

(i) who shall be readily available while any person for whom it is provided is working in the store,

(ii) whose name is posted in a prominent position on or adjacent to the box or case.

(2) For the purposes of subparagraph (1) (d) of this Regulation a competent person means—

(a) a person registered in the General Division of the Register of Nurses maintained by An Bord Altranais under the Nurses Acts, 1950 and 1961, or

(b) the holder of a certificate of proficiency in First-aid issued within the immediately preceding period of three years by a first-aid organisation, or

(c) a person who is otherwise recognised as being qualified in first-aid treatment by such an organisation.

(3) Where the number or persons employed at a store is less than 10, the provisions of paragraphs (2) (a) and of (2) (b) of this Regulation shall not apply if the licensee or owner takes all practicable steps to ensure that the person in charge of a first-aid box or case is competent to administer first-aid.

(4) A licensee or owner shall ensure that the name and nature of his qualifications shall be recorded in writing and kept available for inspection in relation to every person in charge of a first-aid box or case, ambulance room or first-aid room who is the holder of a certificate or possesses the qualifications specified in paragraph (2) (b) of this Regulation.

(5) Where it appears to the proper authority that, because of the number of persons employed at a store and of the risk of injury to such persons from petroleum, further special arrangements ought to be made at the store for the treatment of first-aid or for the medical examination of persons employed, the licensee or owner shall take all steps required in writing by the authority to make such further arrangements.

(6) Where an ambulance room or first-aid room is provided under paragraph (5) of this Regulation at a store the following provisions shall apply:—

(a) the room shall not be used other than for the purposes of first-aid, medical examination, treatment or rest;

(b) the room shall be in the charge of a responsible person trained in first-aid treatment to at least the standard specified in paragraph (2) (a) or (2) (b) of this Regulation;

(c) the ambulance room or first-aid room shall be—

(i) at the entrance door clearly and conspicuously marked

AMBULANCE ROOM

or

FIRST-AID ROOM;

(ii) provided with a sink having a smooth impervious internal surface and a supply of hot and cold water always available;

(iii) provided with a table having a smooth impervious top;

(iv) provided with suitable means for sterilising instruments;

(v) provided with a supply of suitable dressings, bandages and splints which shall not be less than the requirements set out in Schedule 6 to these Regulations;

(vi) provided with a couch;

(vii) provided with suitable and sufficient stretchers (including a sling stretcher);

(viii) provided with sufficient blankets and hot water bottles; and

(ix) provided with a foot bath or basin or bowl suitable for use as a foot bath;

(d) the ambulance room or first-aid room shall be maintained in good order, in a thoroughly clean state, and have suitable and adequate means for heating, lighting and ventilating the room.

(7) Where an ambulance room is provided at a store in accordance with paragraph (6) of this Regulation, the requirements of paragraphs (1) and (2) of this Regulation shall not apply to the store.

80. (1) Subject to a requirement in writing by the proper authority a licensee or owner shall ensure that at every store a notice or notices containing the matters specified in paragraph (2) of this

Regulations are posted and kept posted in the locations specified in that paragraph and written in such characters as to be easily seen and read.

(2) The following are the locations and matters referred to in paragraph (1) of this Regulation:

(a) at every entrance to the store or means of approach adjacent thereto, and at other suitable locations on, near or along the boundary fence as may be designated by the licensing authority a suitable sign reading—

"DANGER

FLAMMABLE LIQUIDS

NO FIRES OR NAKED LIGHTS

NO SMOKING

NO UNAUTHORISED PERSONS",

in bright red letters not less than 150 millimetres in height, the lettering to be imposed upon a white background, and

(b) at every entrance to the store a prohibition on smoking in or at the store except at the safe place or places specifically designated and marked on the plan annexed to the licence.

(3) The owner or licensee shall keep displayed, in such manner as to be easily seen and read, at appropriate places in or at every store—

(a) a copy of these Regulations,

(b) a copy of the rules contained in the First Schedule to these Regulations,

(c) such abstract of the Act as may be approved from time to time, and

(d) a copy of the licence.

81. (1) A licensee or owner shall ensure that a store is enclosed by a suitable non-climbable fence not less than 2.2 metres in height.

(2) Every fence provided in pursuance of paragraph (1) of this Regulation shall be—

(a) constructed in accordance with sound engineering practice,

(b) properly maintained at all times,

(c) provided with adequate and safe means for securing access to and egress from the store enclosure—

(i) for persons employed or working at the store,

(ii) for tank-vehicles and rail-tank wagons,

(iii) for vehicles or mobile equipment or appliances as may be required in case of fire or other emergency at the store.

(3) All practicable steps shall be taken by a licensee or owner to ensure that—

(a) when an authorised person is not present at a store, all entrance gates or other means of ingress to a store shall be securely closed, fastened and locked,

(b) any gate valve or control device readily accessible to an authorised person which is capable of manual operation and is normally used or intended to be used to facilitate or to control the inflow or outflow of petroleum from an above-ground or underground storage tank, pipeline, retaining enclosure or oil interceptor at the store, is—

(i) when an authorised person is not present at the store,

(ii) at such times when the gate valve or control valve is not reasonably required for intermittent use during a working day or shift in connection with any process, operation or work involving the conveying, loading, unloading or storage of petroleum

securely locked or enclosed to prevent the unauthorised or unlawful operation or use of that gate valve or control device.

(4) A licensee or owner shall ensure, so far as is reasonably practicable, that an unauthorised person is not permitted within the boundaries of a store.

(5) For the purposes of securing compliance with the requirements of paragraph (4) of this Regulation the means of entry or access to a store shall be designed, planned or arranged so that a person—

(a) entering the store by the authorised entrances can be observed, or

(b) is unable to gain lawful entrance to the store without permission.

(6) A licensee or owner shall comply with any reasonable requirement which the proper authority may impose in writing for the purpose of ensuring the security and safety of the store so as to prevent risk of injury.

(7) Without prejudice to the requirements of Regulations 14 (2) (c) and 45 (1) of these Regulations, every place at which a person is employed in a store and the approaches thereto shall be suitably and adequately lighted by natural or artificial means.

Regulation 3

DANGEROUS SUBSTANCES (PETROLEUM BULK STORES) REGULATIONS, 1979.

SCHEDULE 1

Rules to be observed at a store.

1. A person—

(a) shall not (nor be required to, except with the consent of an authorised person) pass beyond any fence or barrier marking the boundaries of a store nor attempt to enter in any such enclosure.

(b) shall not, except with the written consent of an authorised person, enter or attempt to enter or gain access—

(i) to an above-ground or underground storage tank or tank,

(ii) to a container store or container compound

used or previously used for the storage of petroleum.

(c) shall not, except with the written consent of an authorised person carry out, nor be required to carry out, any cleaning or repairs to an above-ground or underground storage tank, tank, container, pipeline, hose or connections that have been used for the storage or conveyance of petroleum, but this requirement shall not apply to the cleaning of an external surface for the purposes of the removal of surplus grease or oil, dust, dirt or similar contaminants.

2. A person shall not without the prior knowledge and approval of an authorised person, bring or take within the boundaries of a store any lucifer matches, mechanical lighters, open flame device or any spark-producing device or other means of procuring a flame or any agency, article or substance likely to cause ignition, fire or explosion.

3. A person shall not, except in a safe place provided and specifically designated by the licensee under Regulation 67 (c) of these Regulations, smoke or have in his possession a lighted match, lighted lighter, lighted pipe, lighted cigar or lighted cigarette within the boundaries of a store.

4. A person engaged in the conveying, loading, unloading, dispensing or storage of petroleum at a store—

(a) shall take all necessary precautions to prevent overflow, spillage or escape of petroleum, and

(b) shall not knowingly over-fill or cause to be over-filled a storage tank, tank or fuel tank.

5. A person shall not while at a store be in a state of intoxication or under the influence of drugs, nor shall any person bring intoxicating liquor or drugs, to a store and any person who appears to be under the influence of intoxicating liquor or drugs shall not be admitted to a store.

6. A person shall not (nor be required to) use or wear at any place where a dangerous concentration of petroleum vapours is likely to be present any boots, shoes or other footwear having exposed iron or steel nails or other exposed ferrous material.

7. Every person employed in or about or in connection with a store shall carry out his duties with due care and diligence and in such manner as to ensure that no act of his will cause danger in the conveying, loading, unloading, or storage or dispensing of petroleum.

8. A person shall not drive a mechanically propelled vehicle within the boundaries of a store without due care and attention or without reasonable consideration for the safety of the persons employed in the store or at a speed or in a manner which is dangerous to such persons or is likely to cause danger in the conveying, loading, unloading, storage or dispensing of petroleum.

9. A person employed at a store and in charge of a mechanically propelled vehicle shall not alight from the vehicle unless he has ensured that the vehicle is placed and secured so that it can neither move nor be set in motion inadvertently.

10. Every person employed in or about or in connection with a store shall take all necessary steps to—

(a) prevent ignition, fire or explosion,

(b) prevent any act being committed which might tend to cause ignition, fire or explosion and which is not reasonably necessary for the purposes of the work of the store,

(c) prevent unauthorised persons having access to the store or to any storage tank or building or place containing petroleum at the store,

(d) report forthwith to an authorised person—

(i) anything he observes or discovers to be unusual or apparently dangerous in the conveying, loading, unloading, storage or dispensing of petroleum or with the plant equipment or devices with which he or any other person is working,

(ii) any fire or the risk of ignition, fire or explosion at any place in the store, and

(iii) any breach of these Regulations.

11. Every person employed in or about or in connection with a store shall comply with—

(a) any directions given to him by an authorised person for the purposes of fulfilling the requirements of these Regulations,

(b) the requirements of these Regulations which relate to the performance of or refraining from an act by him.

Regulation 6 (1)

DANGEROUS SUBSTANCES (PETROLEUM BULK STORES) REGULATIONS, 1979.

SCHEDULE 2.

Form of Application for a first licence/an amended licence/a renewal of a licence/a transfer of a licence for a store.

1. (a) Applicant/Licensee:

Name and address/registered office of the company, firm or person:

.....
.....

(b) Type of store: major distribution store/distribution store/private bulk store:

.....
.....

2. Location of the proposed store or existing store:

Address

.....

County

.....

Place or townland

.....

Ordnance Survey Map reference

.....

3. Name of licensee (if application is for transfer of a licence):

.....
.....

.....
.....

4. Particulars of plans accompanying this application:

.....
.....

.....
.....

5. Maximum volume/quantity of class or classes of petroleum stored or to be stored at the major distribution store/distribution store/private bulk store:

Class I: Litres in container stores
..... Cubic metres in underground storage tanks
..... Cubic metres in above-ground storage tanks or vertical storage tanks

Class II: Litres in container stores
..... Cubic metres in underground storage tanks
..... Cubic metres in above-ground storage tanks or vertical storage tanks

Class III: Litres in container stores
..... Cubic metres in underground storage tanks
..... Cubic metres in above-ground storage tanks or vertical storage tanks

6. Will the major distribution store/distribution store/private bulk store be used exclusively for the storage of petroleum? (Indicate "Yes" or "No" and state class or classes):

.....
.....

.....
.....

7. If the answer to Question 6 is "No", give full particulars of the quantity or amount of any other substance to which your application relates:

.....
.....

.....
.....

.....
.....

(For completion by Proper Authority only)

8. Remarks:

I, , hereby certify that the information supplied above is true to the best of my knowledge and belief.

Signature of applicant

.....

Postal address of applicant

.....

.....
.....

Date of application

.....

Regulation 6 (2)

DANGEROUS SUBSTANCES (PETROLEUM BULK STORES) REGULATIONS, 1979.

SCHEDULE 3.

Form of Licence.

Register No.

Total quantity

authorised

Fee paid

Licence to keep Petroleum Class I at a Major Distribution Store/Distribution Store/Private Bulk Store

Name of Proper Authority

.....

Address of Proper Authority

.....

.....
.....
Licensee's Name

.....
Licensee's Trade or Business

.....
Licensee's Address

.....
Location of existing/proposed major distribution store/distribution store/private bulk store:

.....
.....
.....
The , being the proper authority under the provisions of the Dangerous Substances Act, 1972 (No. 10 of 1972), hereby grant this licence authorising petroleum Class I (petroleum-spirit) to be kept for the period not exceeding years from the day of , 197 at the major distribution store/distribution store/private bulk store at the above-named location, subject to the provisions of the said Act and of any orders, regulations and bye-laws made under or continued thereby and in force for the time being, and subject also to the conditions hereto annexed.

Signed

Date

Conditions to be Observed

1. 4.
2. 5.
- 3.

Regulation 18 (2) (b)

DANGEROUS SUBSTANCES (PETROLEUM BULK STORES) REGULATIONS, 1979.

SCHEDULE 4.

Part 1

Dimensions and Capacities of Horizontal Underground and Above-Ground Storage Tanks with Dished and Flanged Ends

Nominal capacity

In cubic metres

Approximate inside diameter of tank in millimetres Approximate external overall length in millimetres

| | | |
|-----|-------|--------|
| 5.0 | 1,500 | 3,118 |
| 7.5 | 1,500 | 4,618 |
| 10 | 2,000 | 3,560 |
| 15 | 2,000 | 5,210 |
| 20 | 2,000 | 6,960 |
| 20 | 2,500 | 6,540 |
| 25 | 2,500 | 5,540 |
| 25 | 2,750 | 4,638 |
| 30 | 2,750 | 5,438 |
| 35 | 2,750 | 6,388 |
| 40 | 2,750 | 7,238 |
| 45 | 2,750 | 8,138 |
| 50 | 2,750 | 8,938 |
| 55 | 2,750 | 9,838 |
| 60 | 2,750 | 10,638 |
| 70 | 2,750 | 12,388 |
| 80 | 2,750 | 14,138 |
| 90 | 2,750 | 15,888 |

Regulation 18 (2) (b)

PART II.

DISHED AND FLANGED DIVIDING PLATES AND ENDS

DIMENSIONS

Part II

Dished and Flanged Dividing Plates and Ends.

—Dimensions—

Inside diameter of tank in millimetres Crown radius in millimetres

Knuckle radius in millimetres outside depth of end in millimetres
D R r H

| | | | |
|-------|-------|----|-----|
| 1,500 | 2,000 | 50 | 184 |
| 2,000 | 2,700 | 50 | 230 |
| 2,500 | 3,500 | 50 | 270 |
| 2,750 | 3,500 | 50 | 319 |

The finished thickness of the dished plate at the knuckle radius shall not be reduced by more than 5 per cent of the specified minimum plate thickness.

Regulation 61 (3) (b)

DANGEROUS SUBSTANCES (PETROLEUM BULK STORES) REGULATIONS, 1979.

SCHEDULE 5.

Danger Symbol.

Regulation 79 (1) (c)

DANGEROUS SUBSTANCES (PETROLEUM BULK STORES) REGULATIONS, 1979.

SCHEDULE 6.

Contents of First-Aid Boxes or Cases.

- (i) A copy of an approved first-aid leaflet giving advice on first-aid and treatment.
- (ii) A sufficient number (not less than 6) of small sterilised unmedicated dressings for injured fingers.
- (iii) A sufficient number (not less than 3) of medium sized sterilised unmedicated dressings for injured hands or feet.
- (iv) A sufficient number (not less than 3) of large sterilised unmedicated dressings for other injured parts.
- (v) A sufficient supply of absorbent sterilised cotton wool in 25 gram packets.
- (vi) A sufficient number (not less than 6) of adhesive wound dressings of a suitable type and of assorted sizes.
- (vii) A sufficient supply of adhesive plaster.
- (viii) A sufficient supply of approved eye ointment in a container of an approved size and type.
- (ix) A sufficient number (not less than 6) of sterilised eye-pads in separate sealed packets.
- (x) A sufficient number (not less than 2) of triangular bandages of unbleached calico, the longest size of which measures not less than 1.29 metres and each of the other sizes not less than 0.91 metres.
- (xi) A sufficient supply of suitable antidotes and washes in suitable containers properly labelled and containing explicit instructions for the use of their contents.
- (xii) A sufficient supply of suitable antiseptic.
- (xiii) A rubber bandage or pressure bandage.
- (xiv) Safety pins and suitable splints.

GIVEN under my Official Seal, this 18th day of September, 1979.

GENE FITZGERALD,

Minister for Labour.

EXPLANATORY NOTE.

The purpose of these Regulations is to prevent risk of injury to person or property in the keeping, conveying, loading and unloading of petroleum at three categories of bulk stores namely, distribution stores, major distribution stores and private bulk stores.

An aggregate storage capacity not exceeding 7,000 cubic metres is laid down for a "distribution store", subject to a maximum volumetric capacity of 5,000 cubic metres for petroleum Class I and the expression "major distribution store" applies to a store normally exceeding that volumetric capacity; both such stores being normally used in the case of petroleum Class I for wholesale purposes only. The expression "private bulk store" applies to a store used for the keeping of petroleum Class I (petroleum-spirit) or to petroleum Class II and petroleum Class III exceeding in volumetric capacity 5 cubic metres.

These Regulations do not apply to the storage of petroleum Class I (petroleum-spirit) kept in conformity with the Dangerous Substances (Retail and Private Petroleum Stores), Regulations, 1979 (S.I. No. 311 of 1979).

A store used for the keeping of petroleum Class I (petroleum-spirit) of either category requires to be licensed by the local or harbour authority or where a store is owned by such authority, the Minister for Labour. The application form for a first licence (or for the first renewal of a licence continued in force under section 8 of the Dangerous Substances Act, 1972) shall be accompanied by the relevant plans, drawings and other prescribed particulars and the appropriate licensing fees as laid down in the Dangerous Substances (Licensing Fees) Regulations, 1979 (S.I. No. 301 of 1979). A licence for the store may be issued to cover a period up to but not exceeding 3 years.

Where only petroleum Class II and petroleum Class III are kept at the store a licence is not required but the owner of the store is required to submit plans and drawings in accordance with provisions laid down.

The Regulations provide that the stores shall be designed, planned, arranged, suitable and adequate for the purposes of their use in order to prevent risk of injury either to persons or to property from petroleum. A number of requirements relate to the design, construction, installation and maintenance of storage tanks, pipelines and lines of rail used for the movement and transport of rail tank wagons at stores and at appropriate adjacent rail-line sections.

Operational procedures and practices in the conveying of petroleum and in the loading and unloading of tank-vehicles and rail tank wagons have been specified and require to be observed. All persons employed in connection with the keeping, conveyance, loading and unloading operations at a store are, subject to proper training, instruction and competent supervision and require to be competent in the performance of their duties so as to prevent risk of ignition, fire or explosion or injury to persons or property. Suitable personal protective equipment and protective clothing are required to be supplied to persons employed.

Requirements are laid down for the monitoring, testing and assessment of the working environment where dangerous concentrations of petroleum vapour may be present.

Provisions also relate to fire alarm systems, fire prevention installations and control and combatting of fire and for adequate means of communication for the immediate summoning of appropriate assistance in an emergency.

Effective arrangements are called for in the event of fire, danger or alarm including adequate fire-fighting and emergency evacuation plans which require to be submitted to the appropriate fire brigade authority in whose area a store is located.

Training in fire-fighting techniques are laid down for persons employed at stores. Every fire-fighting and evacuation emergency plan requires to be reviewed periodically for the purpose of its effectiveness and such a review must be carried out at least once in every three years.

The licensee or owner of a store is required to obtain a certificate from the appropriate fire brigade authority stating that the store is provided with reasonable means of escape for persons employed or present at the store.

Welfare and first-aid facilities in accordance with recognised standards of good practice are required to be provided for persons employed at stores.

Source: Irish Statute Book Database

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