NORTHERN TERRITORY OF AUSTRALIA

INSPECTION OF MACHINERY REGULATIONS

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NORTHERN TERRITORY OF AUSTRALIA

Regulations 1980, No. 39 *

Regulations under the Inspection of Machinery Act

I, JOHN ARMSTRONG ENGLAND, the Administrator of the Northern Territory of Australia, acting with the advice of the Executive Council, hereby make the following Regulations under the Inspection of Machinery Act.

Dated this day of 19 SEP 1980, 1980.

J. A. ENGLAND

Administrator

By His Honour's Command

I. L. TUXWORTH

Minister for Mines and Energy

INSPECTION OF MACHINERY REGULATIONS

PART I - PRELIMINARY

1. CITATION

These Regulations may be cited as the Inspection of Machinery Regulations.

2. COMMENCEMENT

These Regulations shall come into operation on a date to be fixed by the Administrator by notice in the Gazette.

3. REPEAL

With the exception of Part IV and regulations 30 and 34(4), the Inspection of Machinery Regulations (1945, No. 2 and 1961, No. 25) are repealed.

* Notified in the Northern Territory Government Gazette on 3 OCT 1980, 1980.

A. B. CAUDELL, Government Printer of the Northern Territory

4. INTERPRETATION

In these Regulations, unless the contrary intention appears -

"abrasive" means metal shot, grit water or other substance used or intended to be used for abrasive blasting;

"amusement device" means a device used or designed to be used for amusement games, recreation, sight-seeing or entertainment on which persons may be carried, raised, lowered or supported by any part of the device including any car, carriage, platform, cage, boat, plank, chair, seat or thing whether that part is itself stationary or in motion;

"applicant" means a person who is named in an application under regulation 66;

"approved" means approved in writing by the Chief Inspector;

"construction work" has the meaning ascribed thereto by the Construction Safety Act;

"crane" means a structure equipped with the mechanical means for moving or placing a load by raising, lowering or transporting it, and includes the machinery, associated lifting apparatus and ropes necessary for its operation and its supporting structure and foundations, but does not include a hoist, lift, escalator, conveyor or any earth-moving machinery other than an excavator equipped with a jib or a boom;

"escalator" means a staircase with a power-driven chain of steps moving continuously up or down to carry passengers, and includes a moving walkway;

"examination", in relation to an application for a certificate of competency under Part VI of these Regulations, shall mean an examination conducted by an examiner in an approved manner and to an approved standard;

"hoist" means a mechanical contrivance, including a fork-lift or similar contrivance (other than a crane, lift, escalator, winding engine or conveyor), the principal function of which is the raising, lowering or conveying of men, goods or material, and includes builders' hoists and all equipment associated with the operation of a hoist, whether detachable or not, and any part of the structure or supporting structure that is stressed by the hoist under working conditions;

"lift" means an apparatus consisting of either a platform, car or cage which is moved and directed by a guide, and which is designed or used for raising or lowering persons or things, and includes the machinery, supports, enclosures and all other fixed or detachable equipment designed or used in the operation of the lifting apparatus;

"mobile crane" means a crane capable of raising and lowering a load and travelling under its own power, and includes a travelling boom or jib crane, road wheel mounted crane, off-the-road wheel mounted crane and crawler-type crane;

"site" has the meaning ascribed thereto by the Construction Safety Act;

"tagging" is the placing of an approved tag on a part of machinery;

"unfired pressure vessel" means a vessel, other than a vessel heated by the application of fire or the products of combustion or electrical means, subjected to or designed to be subjected to pressure, internal or external, including all parts of the vessel being components of the vessel up to the first point of connection with piping or other fittings attached to a component of the vessel, and includes heat exchangers, vulcanizers, steam jacketed vessels, evaporators, air or gas receivers, steam type digesters, steam type sterilizers, autoclaves, reactors, calorifiers and pressure piping components and any pressure piping exceeding 65mm in external diameter, but does not include piping subjected to pressure due to static head or water or sewerage pressure piping.

5. REFERENCE TO STANDARDS

(1) In these Regulations, unless the contrary intention appears, "A.S." or "B.S." followed by a numeric, alphabetic or numeric and alphabetic series and a name shall be read as a reference to an Australian Standard or a British Standard, as the case may be, of that series so named.

(2) A reference in these Regulations to an Australian Standard or a British Standard does not, unless the relevant regulation specifies otherwise, include a reference to a provision in that Australian or British Standard -

(a) specifying or defining the respective rights, responsibilities or obligations as between manufacturer, supplier or purchaser;

(b) requiring the submission for approval of an item to any person other than a person specifically empowered by these Regulations to give that approval;

(c) that specifies that an item shall be submitted to the bodies known as the Standards Association of Australia, the British Standards Institution or other body or committee of either the Association or Institution, for the expression of its opinion; or

(d) permitting a departure from a provision of an Australian Standard or British Standard at the sole discretion of the manufacturer or purchaser or by arrangement between the manufacturer and the purchaser.

(3) The Chief Inspector may grant an exemption from complying with an Australian Standard or British Standard if compliance exists with another standard which, in the opinion of the Chief Inspector, is similar to the standard specified in these Regulations.

(4) Where there is any discrepancy between these Regulations and an Australian Standard or British Standard adopted by these Regulations, then these Regulations shall take precedence.

PART II - BOILERS AND UNFIRED PRESSURE VESSELS

6. BOILERS AND UNFIRED PRESSURE VESSELS

(1) Boilers and unfired pressure vessels shall be designed, constructed, erected, installed, tested, operated and inspected in accordance with the following appropriate Australian Standards:

(a) A.S. 1200: Rules for the design, construction, testing, inspection and installation of boilers and pressure vessels;

(b) A.S. 1210: Rules for unfired pressure vessels;

(c) A.S. 1228: Rules for water tube boilers;

(d) A.S. 1797: Rules for fire-tube, shell and miscellaneous boilers, welded construction;

(e) A.S. 1596: Rules for the storage and handling of liquefied petroleum gases (metric units);

(f) A.S. 2030: Rules for the approval, filling, inspection, testing and maintenance of cylinders for the storage and transport of compressed gases;

(g) A.S. CB18: Rules for the design, fabrication, installation and inspection of pressure piping; and

(h) A.S. 1135: Rules for the design, fabrication, installation and inspection of non-ferrous pressure piping.

(2) A person shall not -

(a) construct, erect, install, alter or repair a boiler or unfired pressure vessel; or

(b) permit or allow the construction, erection, installation, alteration or repair of a boiler or unfired pressure vessel,

without the written approval of the Chief Inspector.

(3) A constructor of a boiler or unfired pressure vessel shall, together with the notification required under this regulation, submit to the Chief Inspector -

(a) all plans and specifications;

(b) full particulars of the proposed materials to be used;

(c) the design calculations;

(d) the proposed construction procedures and heat treatment;

(e) the standards used in the design; and

(f) the purpose for which it is to be used,

in relation to the boiler or unfired pressure vessel.

(4) Prior to the commencement of the construction of a boiler or unfired pressure vessel -

(a) the constructor of the boiler or unfired pressure vessel shall produce to the Chief Inspector test certificates for the identification of the materials used in the construction; and

(b) the Chief Inspector may require the manufacturer to verify the materials specification supplied pursuant to paragraph (a).

(5) After verification under sub-regulation (4) of the material to be used for a boiler or unfired pressure vessel, each boiler plate shall be marked with an approved identification stamp.

(6) A person shall not perform a welding process in connection with the construction, erection, installation, alteration or repair of a boiler or unfired pressure vessel unless the person is acceptable to the Chief Inspector, who may require that person to pass a welding test specified by him prior to performing a welding process in relation to a boiler or unfired pressure vessel.

(7) An employer shall not employ a person to perform a welding process in connection with the construction, erection, installation, alteration or repair of a boiler or unfired pressure vessel unless the person is qualified within the terms of sub-regulation (6) to perform that process.

(8) On completion of the construction and testing of a boiler or unfired pressure vessel, an inspector shall ensure that there is stamped on the boiler or unfired pressure vessel, in figures at least 6 mm high the information required by the appropriate Australian Standard.

(9) The owner of a boiler or unfired pressure vessel shall not use, or cause to be used, the boiler or unfired pressure vessel unless -

(a) it has been tested in the presence of an inspector; and

(b) a certificate for the boiler has been obtained by the owner pursuant to that testing.

(10) The owner of a boiler or unfired pressure vessel shall -

(a) if it is not practicable for the official registration number of that boiler or vessel to be stamped upon it without causing damage to it - affix to that boiler or vessel an approved metal plate, with the official registration number legibly stamped upon it; and

(b) keep the plate clean so that the numbers on the metal plate are legible at all times.

(11) A person shall not -

(a) remove a metal plate affixed pursuant to sub-regulation (10); or

(b) deface or conceal the numbers displayed on the metal plate referred to in sub-regulation (10).

7. NOTIFICATION OF PACKAGED BOILER

(1) A person who is constructing, erecting or installing a packaged boiler shall advise the Chief Inspector in writing prior to the installation of the boiler of -

(a) its proposed location;

(b) if it is oil fired - the position of all fuel tanks for that boiler;

(c) the design and location of the flues of the boiler; and

(d) the location of the safety valve discharge and blowdown discharge.

(2) An oil fuel installation to be used in relation to a packaged boiler shall be installed in accordance with A.S. 1940: Rules for the storage and handling of flammable and combustible liquids.

(3) A person shall not, unless he is an approved mechanic engaged in the erection of or repair of packaged boiler control equipment or a person under the supervision of such an approved person, interfere with or alter the packaged boiler control equipment.

8. REQUIREMENTS FOR EXTENSION PIPES

Where extension pipes of a boiler are used to carry water-gauge mountings, the owner of the boiler shall -

(a) secure the pipes to the boiler with suitable flanges; and

(b) where the pipes pass through flues or brickwork, surround the pipes with an approved non-conducting material.

9. MAINTENANCE AND USE OF BOILERS

All boilers and unfired pressure vessels to which the Act applies shall be maintained in good order and safe condition and used in a safe manner.

10. INSPECTION OF PRESSURE PIPING

Pressure piping shall be inspected by an inspector at such times as the Chief Inspector may direct.

11. INSPECTION OF BOILER SHELL

(1) The Chief Inspector or an inspector may require the owner of a boiler to withdraw such tubes as he directs if it is not possible to examine parts of the internal shell of the boiler without the withdrawal of the tubes.

(2) The owner of a boiler shall remove, if directed in writing by the Chief Inspector or an inspector, all boiler and steam pipe coverings for an inspection of the external shell of the boiler by the Chief Inspector or an inspector.

PART III - CRANES AND HOISTS

12. CRANES AND HOISTS TO ACCORD WITH AUSTRALIAN STANDARDS

A crane or hoist shall be designed, constructed and operated in accordance with A.S: 1418; Rules for cranes (including hoists and winches).

13. APPROVAL OF CRANE OR HOIST

(1) A person shall not construct, erect, alter or repair, or cause to be constructed, erected, altered or repaired, a crane or hoist without written approval by the Chief Inspector of the design of that crane or hoist.

(2) An application to the Chief Inspector for his approval of the design of a crane or hoist shall -

(a) be in writing;

(b) be accompanied by all plans and specifications of the crane or hoist;

(c) include full particulars of the proposed materials to be used;

(d) include the design calculations; and

(e) specify the method of construction and erection of the crane or hoist.

(3) The approval of an application made under sub-regulation (2) shall specify the safe working loads of the crane or hoist.

14. TESTING OF CRANE OR HOIST

The owner of a crane or hoist shall not use, or cause to be used, the crane or hoist unless -

(a) if required, the crane or hoist has passed, to the satisfaction of an inspector, a load test in accordance with the safe working loads specified by the Chief Inspector under regulation 13(3); and

(b) a certificate of inspection to that effect has been obtained.

15. REPAIRS TO OR RE-ERECTION OF CRANE OR HOIST

(1) An owner of a crane or hoist shall not repair or re-erect the crane or hoist unless the method of repair or the erection has been approved in writing by an inspector and -

(a) the crane or hoist has passed, to the satisfaction of an inspector, a load test in accordance with the safe working loads specified by the Chief Inspector under regulation 13(3); and

(b) a certificate of inspection to that effect has been obtained.

(2) Approval under sub-regulation (1) is not required for the re-erection of a mobile crane.

(3) Where a crane or hoist is to be used over a road or other place where objects falling from the crane or hoist may cause injury to a person or damage to property, the load test required by this regulation shall be carried out in accordance with the directions of the Chief Inspector.

(4) The Chief Inspector may, at the time of the alteration or repair of a crane or hoist, require the owner of the crane or hoist to alter that crane or hoist to comply with A.S. 1418: Rules for cranes (including hoists and winches).

16. SAFE WORKING LOAD TO BE OBSERVED

An owner or an operator shall not use, or cause to be used, a crane or hoist so as to exceed the safe working load specified by the Chief Inspector under regulation 13(3).

17. NOTICE FOR CERTAIN TENSILE STRENGTH STEEL

(1) The owner of a crane shall exhibit, so that it may be conveniently referred to by a person in an operating position, a permanent notice specifying the location of the portion or portions of the structure of the crane made of steel with a tensile strength greater than that of steel specified in -

(a) A.S. 1227: General requirements for supply of hot rolled steel plates, sections, pilings and bars for structural purposes;

(b) A.S. 1204: Structural steels (ordinary weldable grades);

(c) A.S. 1405: Low and intermediate tensile strength carbon steel plates of structural quality; and

(d) A.S. 1775: Steel tubes for mechanical, structural and general engineering purposes.

(2) A notice required under sub-regulation (1) shall -

(a) state the specifications to which the steel is made; and

(b) when a section or part of the crane or hoist is readily removable or interchangeable, a further notice in compliance with sub-regulation (1) shall be permanently attached to that section or part.

18. STEEL WIRE ROPES, AND LIFTING AND RIGGING EQUIPMENT

(1) An owner of a crane or hoist shall not use, or cause to be used, in connection with the safe use of a crane or hoist -

(a) steel wire rope unless -

(i) the rope complies with A.S. 1656: Steel wire ropes (other than for mining purposes); and

(ii) the rope is maintained in accordance with A.S. MB1: Steel wire rope manual; and

(b) lifting equipment or rigging equipment unless that equipment complies with the relevant Australian Standard specified in Schedule 1.

(2) Where a steel wire rope is terminated and a wedge rope socket is used to anchor the steel wire rope onto a crane or hoist the following provisions shall be complied with:

(a) the tail of the rope shall have a rope clip secured to it as close as possible to the wedge after the wedge has been properly loaded;

(b) the tail of the rope shall not project beyond the rope socket by a length which exceeds the length of the rope socket; and

(c) the narrow end of the wedge shall not project beyond the rope end of the socket.

(3) All lifting and rigging equipment shall be marked where practicable with its respective safe working load and, where applicable, in accordance with the relevant Australian Standard or British Standard as specified in Schedule 1.

19. WIRE ROPE TEST CERTIFICATE

(1) An inspector shall require the owner of a crane or hoist to produce to him the manufacturer's test certificate for replacement or new wire rope which is used in connection with the crane or hoist.

(2) If the owner of a crane or hoist fails to produce the certificate required under sub-regulation (1) the Chief Inspector shall require the owner to have the wire rope tested by an approved testing authority for compliance with the manufacturer's specifications.

20. USE OF OVERHAULING WEIGHT WITH BURDEN ROPE

(1) In relation to a crane or hoist, where an overhauling weight is used with a burden rope, the overhauling weight shall be installed between the hook and the burden rope so as to prevent damage to the rope at the fitting of its terminated end.

(2) Couplings on a rope used on or with a crane or hoist shall be made -

(a) by a suitable coupling between an overhauling weight and a burden rope; and

(b) between an overhauling weight and a hook.

21. INSPECTION OF CRANE OR HOIST

An owner of a crane or hoist shall provide a competent person to accompany an inspector at the time of inspection of the crane or hoist and to operate, as required by the inspector, the crane or hoist during the inspection.

22. AUTOMATIC BOOM ANGLE INDICATOR

A crane fitted with a boom shall be equipped by the owner with an automatic boom angle indicator to enable the operator to acertain in conjunction with the crane load charts, from his operating position, the safe working load of the crane for all positions of the boom.

23. CRANE TO BE KEPT CLEAN

An owner or operator of a crane or hoist shall ensure that the crane or hoist is kept clean and free of all objects other than objects necessary for the operation of the crane or hoist.

24. FIELD OF VISION OF OPERATOR TO BE CLEAR

An owner or operator of a crane or hoist shall ensure that the field of vision of an operator of the crane or hoist is not impeded.

25. AUTOMATIC STOP LOWERING MECHANISM

Where a crane or hoist is to be used -

(a) on a site of any construction work; or

(b) in a place where there is a likelihood of injury to a person or damage to property by the uncontrolled lowering of a load,

the crane or hoist shall be equipped by the owner with a suitable lowering mechanism and a control system that will automatically stop further movement of the load in the event of the incapacity of the operator of the crane or hoist.

26. CRANE ANTI-COLLISION EQUIPMENT

Where 2 or more cranes operate on the one runway or over the same area, the owner or owners shall incorporate approved anti-collision equipment if required by the Chief Inspector.

27. CORRECT DISTRIBUTION OF LOADS

An owner of a crane or hoist shall, where a load is supported by 2 or more independent ropes or falls of ropes, cause the load to be distributed in due proportion between the ropes or falls of ropes by equalizing the load in such a manner that it is statically determinate by calculation.

28. COUNTERWEIGHTS

An owner of a crane or hoist, where a counterweight is used with the crane or hoist, shall observe and comply with the following provisions:

(a) earth, clay, shale, grit, powders, chippings, borings, spalls, punchings, clippings, off-cuts or other aggregate or liquids shall not be used as counterweights unless contained in fully covered approved containers which prevent the movement or displacement of the matter during the working of the crane or hoist;

(b) a fixed counterweight shall be positively attached, in a manner satisfactory to an inspector, to the crane or hoist;

(c) a removable counterweight shall be permanently marked with its own mass; and

(d) a concrete counterweight shall be effectively reinforced with steel rods and shall not be used where that counterweight may strike objects during the working of the crane or hoist unless the counterweight is protected by a suitable steel container.

29. WARNING DEVICE FOR OVERHEAD CRANE WORK

(1) Where a crane or hoist -

(a) is handling loads over the heads of workmen or other persons;

(b) is travelling on the ground or floor level of an area where workmen or other persons may cross; or

(c) is the subject of a requirement by an inspector,

the owner of a crane or hoist shall cause an approved device which emits an effective warning signal to be fitted in a location where it can be conveniently operated by the crane driver.

(2) A warning device referred to in sub-regulation (1) shall be used where a crane -

(a) is used to handle loads over the heads of workmen or other persons; or

(b) is travelling on the ground or floor level of an area where workmen or other persons may cross.

(3) Notwithstanding sub-regulation (1) a warning device need not be fitted on a crane or hoist working on a site of construction work unless the Chief Inspector otherwise requires.

30. SAFETY HOOK AND WARNING COLOURS

Where a crane or hoist is being used -

(a) on a site of construction work; or

(b) in any case where the load being handled by the crane is to be moved over the head of a person,

the owner shall cause -

(c) a safety hook to be fitted to a burden rope; and

(d) the side-plates and straps of the hook sheave block to be painted yellow in accordance with A.S. 1318: Rules for use of colour for the marking of physical hazards and the identification of certain equipment in industry.

31. SAFETY PRECAUTIONS WHERE PERSON NEAR CRANE OR HOIST

Where any person is working on or about a crane or hoist -

(a) where the movement of the crane or hoist is likely to expose him to injury, the owner of the crane or hoist shall cause the power supply to that crane or hoist to be cut off by securing all valves, switches or controls in the off position and locking those valves, switches or controls and tagging; or

(b) in close proximity to bare electrical conductors, the owner shall cause the power supply to that crane or hoist to be disconnected by locking and tagging the isolating switch in the off position or, if that is not practicable, the owner shall place effective insulating shields around the conductors.

32. RIDING ON CRANE HOOK

(1) No person shall be on or suspended from the hook of a crane to perform work unless written permission is given by an inspector.

(2) Permission under sub-regulation (1) may be granted on the condition that -

(a) the work is of short duration;

(b) it is not reasonably practicable to use scaffolding to perform the work;

(c) if required by an inspector, the person is accompanied by a dogman licensed under the Construction Safety Act;

(d) a cradle constructed from approved structural grade timber or steel of adequate strength for the purpose and enclosed on all sides to a height of at least one metre to prevent the fall of any person, material or gear from the cradle is used to support the person suspended; and

(e) a cradle is secured to the burden rope by a screwed shackle or shackles and slung so as to prevent swinging or tipping.

33. PERSON NOT TO BE LIFTED BY FORK-LIFT TRUCK

No person shall be lifted by a fork-lift truck unless -

(a) the work is of a short duration;

(b) it is not reasonably practicable to use scaffolding to perform the work; and

(c) the manner of lifting is approved.

34. LOADING AND OPERATING CRANE OR HOIST

A person shall not load or operate, or cause to be loaded or operated, a crane or hoist so that it -

(a) is or is likely to become a danger to any person or cause damage to the crane or hoist; or

(b) exceeds the safe working loads of the crane or hoist.

35. USE OF CRANE OR HOIST NEAR ELECTRICAL POWER LINES

A person shall not use a crane or hoist when the crane or hoist rope or load carried is closer than 3 metres to electrical power lines unless permission is obtained from the Northern Territory Electricity Commission.

36. EXEMPTION FROM CRANE AND HOIST DRIVER'S CERTIFICATE OF COMPETENCY

The Chief Inspector may, when requested in writing, exempt an operator of a crane or hoist while operating that specific crane or hoist from the requirement to have a Crane and Hoist Driver's Certificate of Competency.

37. PROTECTION OF CRANE OR HOIST OPERATOR

Where an operator of a crane or hoist may be struck by flying or falling objects, the owner of the machine shall provide a suitable cabin, screen or other guard for the protection of the operator.

38. SAFETY OF PERSONS OTHER THAN OPERATOR

An owner or an operator of a mobile crane or mobile hoist shall not permit or allow a person other than the operator to ride in or on a mobile crane or mobile hoist unless suitable seats or other facilities are provided for the safety of all persons in or on the mobile crane or mobile hoist.

PART IV - LIFTS AND ESCALATORS

39. STANDARD FOR LIFTS AND ESCALATORS

Lifts and escalators shall be constructed and designed in accordance with A.S. 1735: Rules for the design, installation, testing and operation of lifts, escalators and moving walkways.

40. APPROVAL OF DESIGN AND INSTALLATION

A person shall not construct, erect, install or alter, or cause to be constructed, erected, installed or altered, a lift or an escalator without first obtaining the approval in writing for the design and installation of that lift or escalator from the Chief Inspector.

41. APPLICATION FOR APPROVAL OF INSTALLATION

(1) An application for approval for design and installation of a lift shall include written particulars of -

(a) plans showing the proposed location of the lift-well in the building;

(b) plans of the proposed lift, lift-well, enclosures of the machine room and access to the machine room and pit;

(c) full specifications of the proposed lift machine and machine room; and

(d) design calculations, electrical circuit diagrams and a description of the sequence of operation of the electrical circuits.

(2) An application for approval for design and installation of an escalator shall include particulars of -

(a) plans showing the proposed location of the escalator in the building;

(b) plans of the machine room and pit and access thereto and proposed trusses;

(c) specifications of the proposed driving machinery, the arrangement of the drive and the size of treads, bolts or chains; and

(d) design calculations and electrical circuit diagrams.

42. MAXIMUM LOAD CARRYING CAPACITY TO BE SPECIFIED

As part of the approval of an application for the construction, erection, installation or alteration of a lift or an escalator, the Chief Inspector shall specify the maximum load carrying capacity of the lift or escalator.

43. GRANT OF CONDITIONAL APPROVAL

If the Chief Inspector is not satisfied with the plans, specifications or description of a lift or an escalator submitted to him under this Part, he may grant a conditional approval for the lift or escalator so that construction, erection, installation or alteration may proceed, but that lift or escalator shall not be used until the Chief Inspector has granted full approval under this Part.

44. NOTICE OF REPAIRS TO LIFT OR ESCALATOR

(1) For the purposes of this regulation, minor maintenance is not a repair.

(2) Before a lift or escalator is repaired, the owner shall give notice in writing to the Chief Inspector of the proposed repair.

(3) The Chief Inspector may require the owner of a lift or escalator to alter it at the time of repair to comply with A.S. 1735: Rules for the design, installation, testing and operation of lifts, escalators and moving walkways.

45. QUALIFICATION OF LIFT AND ESCALATOR MECHANICS

A person shall not install, alter or repair a lift or escalator or in any manner interfere with the operating mechanism of a lift or escalator, unless he has 4 years approved experience in the installation, alteration, repair and maintenance of lifts or escalators, or is under the supervision of a person with such approved experience.

46. USE OF LIFTS

(1) A person shall not operate a lift from a place other than within the lift-car or by landing buttons.

(2) A person shall not ride in a service lift or in a lift not specifically designed for the carriage of persons.

(3) A person, other than an attendant authorized by the owner of a lift, shall not operate a passenger or goods lift that is not automatically controlled.

(4) A person, other than an attendant, shall not ride in the car of a goods lift.

(5) An owner of a goods lift shall display in the car of the goods lift and at every access gate to that goods lift a notice which reads "NO PERSON OTHER THAN AN ATTENDANT SHALL RIDE IN THE LIFT-CAR OF THIS GOODS LIFT".

(6) This regulation is not applicable to maintenance personnel and their equipment using a lift during the course of their duties.

(7) A lift or an escalator shall not be loaded in excess of the maximum load carrying capacity specified by the Chief Inspector.

(8) An owner of a lift shall cause to be displayed in the lift an approved notice stating the maximum load carrying capacity of that lift.

47. RESPONSIBILITIES OF OWNER OF LIFT OR ESCALATOR

(1) An owner of a lift or escalator shall ensure that, at the time of inspection of the lift or escalator by an inspector, a competent person accompanies the inspector to operate the lift or the escalator as required by the inspector.

(2) An owner of a lift shall -

(a) keep the lift clean;

(b) not permit or allow rubbish, combustible matter or water to accumulate in the lift-car, lift-well or machine room; and

(c) not permit or allow the lift to be used for storage purposes.

(3) An owner of a lift or escalator shall -

(a) provide an approved number of approved portable fire extinguishers suitable for extinguishing electrical fires in the machine room of the lift or escalator;

(b) keep the extinguishers provided under paragraph (a) full and in good working order; and

(c) maintain the extinguishers provided under paragraph (a) in accordance with A.S. 1851: Rules for maintenance of fire protection equipment.

PART V - MEASURES FOR SECURING SAFETY IN THE OPERATION OF MACHINERY

48. MAINTENANCE AND USE OF MACHINERY

All machinery to which the Act applies shall be maintained in good order and safe condition and used in a safe manner.

49. STANDARD FOR REFRIGERATING MACHINERY

Refrigerating machinery shall be designed, constructed and installed in accordance with A.S. 1677: Rules for the design, installation, testing and operation of refrigerating systems.

50. LOG-BOOK FOR AUTOMATIC REFRIGERATING MACHINERY

An owner of automatic refrigerating machinery shall, if required by the Chief Inspector, keep a log-book in an approved form.

51. REFRIGERATION CHAMBER ESCAPE DOOR

(1) An owner of a refrigeration chamber of sufficiently large dimensions to permit a person to enter therein shall ensure that the refrigeration chamber is fitted with -

(a) an escape door which can be opened readily by a person within the chamber whether the chamber is locked or not; and

(b) permanent notices and pilot lights, or other approved devices for the purpose of indicating the position of the escape door.

(2) Where refrigeration is effected by direct expansion of a refrigerant into a chamber as an expandable gas, there shall be secured to the outside of the chamber on each entrance door the following notice in black letters not less than 50 mm high on a yellow background:

"WARNING - BEFORE ENTERING -

(A) TURN OFF GAS AT MAIN GAS CONTROLLING VALVE OR SWITCH

(B) OPEN DOORS WIDE

(C) WAIT 3 MINUTES IF MORE THAN ONE HOUR HAS PASSED SINCE LAST ENTRY".

52. SAFETY PRECAUTIONS FOR CERTAIN MACHINERY

An owner of machinery shall provide and maintain the following classes of machinery with the safety devices, fences or guards specified in relation to that class of machinery:

(a) metalworking power presses shall comply with A.S. 1219: Rules for the safe use of metalworking power presses;

(b) woodworking machinery shall comply with A.S. 1473: Code of practice for the guarding and safe use of woodworking machinery;

(c) abrasive wheels shall comply with A.S. 1788: Code of practice for the use, care and guarding of abrasive wheels;

(d) guillotine machines shall comply with A.S. 1893: Code of practice for the guarding and safe use of metal and paper cutting guillotines;

(e) milling machines shall comply with A.S. CZ14: Code of recommended practice for guarding and safe use of milling machines; and

(f) conveyors shall comply with A.S. 1755: Rules for safe operation of conveyors, including design, construction, maintenance and inspection.

53. USE OF MACHINERY IN SCHOOLS

The installation and use of machinery in -

(a) schools within the meaning of the Education Act;

(b) the Darwin Community College constituted under section 41 of the Education Act; or

(c) any other college or institution which offers a course of instruction and which is set up under the Education Act,

shall comply with A.S. 1485: Code of practice for safety in work-rooms of schools and colleges and such requirements specified by the Chief Inspector.

54. GUARDING OF PROJECTING PARTS

Set screws, bolts, keys and other projecting parts of a moving part of machinery shall be countersunk or otherwise protected so as to prevent injury to a person using the machinery.

55. SAFE ACCESS, &c., TO MACHINERY

(1) An owner of machinery shall provide a safe means of -

(a) entrance to the place where the machinery is located; and

(b) access to the machinery for its operation, examination, lubrication, maintenance, repair or for any other purpose.

(2) An owner shall keep the vicinity of a prime mover machine or power transmission machinery clear with sufficient space to enable a person to operate, attend and clean the machinery without risk of injury to himself or any other person.

(3) A person who is required or permitted to operate, move or pass in close proximity to the moving parts of machinery shall not wear clothing, accessories or an unconfined hairstyle which is likely to become entangled in moving parts.

56. STANDARD FOR FIXED PLATFORMS, &c.

Where any fixed platforms, walkways, stairways or ladders are required, the owner of the machinery shall preserve and comply with A.S. 1657: Rules for fixed platforms, walkways, stairways and ladders.

57. INSPECTION, EXAMINATION, MAINTENANCE, &c., OF MACHINERY

Where a person may be injured by the working of machinery while the machinery is being inspected, examined, lubricated, maintained or repaired, the owner of that machinery shall ensure that -

(a) the controls of the machinery are locked and tagged in the off position with an approved tag or where machinery must be moving in order to be inspected, examined, lubricated, maintained or repaired, the owner shall ensure that precautions approved in writing by an inspector are taken to prevent an injury; and

(b) during an inspection, examination or lubrication, or when maintenance or repair work is being performed in close proximity to an electrical conductor, the current to that conductor shall be disconnected by locking and tagging the isolating switch in the off position or, where this is not practicable, an effective insulating shield shall be placed around that conductor.

58. MACHINERY TO BE OPERATED BY COMPETENT OR SUPERVISED PERSON

(1) A person shall not operate machinery without the permission of the owner of that machinery.

(2) An owner of machinery shall not permit a person to operate that machinery unless -

(a) in the case of a person operating machinery without supervision, that person -

(i) has received adequate training and instruction in the operation and dangers of the machine;

(ii) has received adequate supervision by a person having thorough knowledge and experience of the machine; and

(iii) is capable of safely operating the machine without supervision; or

(b) where the person operating the machine is being trained and instructed in the operation and dangers of the machine by another person, that other person -

(i) if required, holds an appropriate certificate of competency under the Act for that machine; or

(ii) is a person competent in the operation of the machine and is capable of instructing the trainee.

(3) An owner of machinery shall ensure that a person who instructs a trainee in the operation of a machine -

(a) supervises the trainee in a manner appropriate to the experience of the trainee; and

(b) takes all necessary precautions to avoid injury to all persons in the vicinity of the machinery.

59. GUARDING OF OPERATOR'S COMPARTMENT

Where a machine has moving parts on one or both sides of the operator's compartment, the owner of the machine shall provide guards so that -

(a) the controls of the machine cannot be operated from outside the operator's compartment; and

(b) no part of any person in the compartment can project into a hazard area created by the moving parts of the machine.

60. CERTIFICATE FOR AMUSEMENT DEVICE

An owner of an amusement device shall not use or permit to be used that device until it has been inspected and tested by an inspector and a certificate of inspection has been obtained pursuant to that inspection.

61. ENGINE-ROOM RECORD BOOK

(1) In an engine-room where a steam or internal combustion engine is used and the Chief Inspector so directs, the owner of the engine shall provide and cause to be kept properly written up at all times a record book to be known as the Engine-room Record Book.

(2) An engine-driver or a person approved in writing by an inspector shall, at the end of his shift, make an entry in the Engine-room Record Book recording peculiarities in the running of the engine or defects in the engine or its accessories noticed by him and which he considers warrant repairs or alterations.

(3) On rotation of shifts, peculiarities or defects in the working of an engine or its accessories recorded in the Engine-room Record Book shall be confirmed or otherwise commented on by the engine-driver or person approved in writing by an inspector who next follows the person making the original entry.

(4) An Engine-room Record Book shall be examined daily by the owner, who shall record in a suitable manner any repairs or alterations that have been effected to the engine or its accessories.

(5) All entries made pursuant to this regulation shall be in ink and shall be signed and dated by the person making the entry.

(6) An Engine-room Record Book shall be made available -

(a) at all reasonable times to the engine-drivers or any other person approved in writing by an inspector; and

(b) at all times to an inspector.

62. SAFETY EQUIPMENT

(1) When a person who is using machinery is likely to be exposed to the risk of eye injury, the owner shall provide him with suitable eye protection which complies with A.S. 1336: Code of practice for industrial eye protection, A.S. 1337: Industrial eye protectors and A.S. 1338: Protective filters against optical radiation in welding and allied operations.

(2) Where a person is working on or near machinery and is likely to be struck by a falling object the owner shall supply that person with a safety helmet which complies with A.S. 1800: Code of practice for selection, use and care of industrial safety helmets and A.S. 1801: Industrial safety helmets.

(3) Where a person on or in premises is exposed to a level of noise likely to be injurious to his health, the owner shall provide that person with hearing protection equipment which complies with A.S. 1270: Hearing protection devices.

(4) A person working on or near machinery shall wear adequate protective footwear that completely covers his feet.

(5) Where a person is required to handle in connection with machinery -

(a) material, tools, equipment or substances which could cause injuries to the hand, he shall wear gloves that comply with A.S. 2161: Industrial safety gloves and mittens (excluding electrical and medical gloves); or

(b) substances that may cause injury or irritation to the skin, the owner shall provide suitable protective equipment for that person's use.

(6) Where a person is required with, or in connection with, machinery-

(a) to carry out grinding, cleaning, spraying or drilling;

(b) to handle material; or

(c) to perform any work that emits a gas, vapour or dust that is likely to be injurious to the health of any person or produce any other unsafe conditions,

the owner shall -

(d) provide adequate ventilation of the area in which that person works;

(e) supply the person with a suitable respirator; or

(f) take adequate action or provide equipment to prevent the inhalation of the gas, vapour or dust or an injury to the person from any other unsafe conditions.

(7) Respiratory protective equipment supplied under sub-regulation (6) shall comply with A.S. 1715: Code of practice for respiratory protection and A.S. 1716: Respiratory protective devices.

(8) Where protective clothing or equipment required by these Regulations is provided for the use of a person, the person shall wear that clothing or use that equipment, as the case may be, in the circumstances prescribed in these Regulations for its wearing or use.

(9) An owner shall maintain in good order and condition protective clothing or equipment available for issue under these Regulations to persons operating his machinery.

(10) A person who notices a defect in the protective clothing or protective equipment issued under these Regulations to him or any other person shall report the defect to such other person, if any, and to the owner.

(11) A person to whom protective clothing has been issued under these Regulations shall take reasonable care of the clothing or equipment to prevent unnecessary damage to that clothing or equipment while it is in his possession or under his control.

63. ABRASIVE BLASTING

(1) An operator using abrasive blasting machinery or equipment shall ensure that abrasive blasting operations carried out on or in premises are carried out in a safe manner and in accordance with the provisions of these Regulations.

(2) An operator shall not use, permit or allow to be used as an abrasive, a substance that has previously been used as an abrasive, unless that substance has been separated from dust and particles of material arising from the previous abrasive blasting.

(3) Where abrasive blasting is carried out on premises, the operator shall adopt adequate precautions to trap abrasive overspray and prevent general pollution of the air where -

(a) the overspray or dust may be injurious or offensive to any person; or

(b) the place where the abrasive blasting is carried out is open to or used by the public.

(4) An employer of an operator shall, where abrasive blasting takes place, provide and maintain in effective working order suitable personal protective clothing and equipment for all persons engaged in the abrasive blasting.

(5) The clothing and equipment referred to in sub-regulation (4) shall include -

(a) hood or helmet type airline respiratory protective devices which comply with A.S. 1715: Code of practice for respiratory protection and A.S. 1716: Respiratory protective devices;

(b) suitable gauntlet gloves which comply with A.S. 2161: Industrial safety gloves and mittens (excluding electrical and medical gloves); and

(c) eye protection complying with A.S. 1336: Code of practice for industrial eye protection and A.S. 1337: Industrial eye protectors.

(6) A person shall not work as an abrasive blaster or as an assistant to an abrasive blaster unless a medical practitioner has examined him and certified that -

(a) he is not suffering from pneumoconiosis; and

(b) he is otherwise medically fit for employment in an area of pneumoconiosis risk.

(7) A person to whom sub-regulation (6) applies shall be examined by a medical practitioner -

(a) prior to being so employed, at his own expense;

(b) annually while he is so employed, at his employer's expense; and

(c) immediately on the cessation of his employment, at his former employer's expense.

(8) An employer of a person who has been examined in accordance with sub-regulations (6) and (7) shall keep the records of the examinations in accordance with directions given by the Chief Inspector.

(9) A person shall not employ another person as an abrasive blaster or as an assistant to an abrasive blaster if the person employed is disqualified by virtue of sub-regulation (6) from being employed in that capacity.

64. HEARING PROTECTION EQUIPMENT

(1) An owner shall provide suitable hearing protection equipment to a person working on or near machinery when the level of noise is likely to exceed levels stated in sub-regulation (4).

(2) All ear protection equipment provided by an owner shall comply with A.S. 1270: Hearing protection devices.

(3) An owner shall provide adequate measures to ensure the safety of a person when -

(a) equipment provided pursuant to sub-regulation (1) is being worn by the person; and

(b) a dangerous work situation may arise through communication difficulties caused by the use of such equipment.

(4) An owner shall provide personal hearing protection, where a person is exposed to a daily noise dose exceeding 1.0.

(5) A daily noise dose is derived from the measurement of noise levels and the actual duration of exposure of persons to the noise levels.

(6) Measurements of noise levels shall be in accordance with A.S. 1269: Code of practice for hearing conservation.

65. PROTECTION OF VISITORS

(1) An owner shall provide for a visitor to his premises such protective equipment and protective or safety measures as are required in relation to the work or class of work being done on the premises.

(2) A visitor to premises referred to in sub-regulation (1) shall not -

(a) refuse or fail to wear or otherwise use protective equipment provided in accordance with sub-regulation (1);

(b) without the permission of the owner remove from the premises protective equipment so provided;

(c) refuse or fail to carry out such protective or safety measures as are required by an inspector in pursuance of the Act or these Regulations; or

(d) act in such a way on the premises as to -

(i) render ineffective the protective or safety measures provided by the owner; or

(ii) endanger his own safety or that of another person.

PART VI - CERTIFICATE OF COMPETENCY

66. APPLICATION DETAILS

An application for a certificate of competency or an interim certificate of competency shall be made in writing to the Chief Inspector and shall contain -

(a) the applicant's name;

(b) his postal address;

(c) his residential address;

(d) his place and date of birth;

(e) the name and address of his present employer or, if not employed, his most recent employer;

(f) his experience in the class of certificate for which he is applying with details of -

(i) the size, type and location of machine, crane, hoist or boiler on which his experience has been gained; and

(ii) the number of hours under direct supervision for each size and type of machine, crane, hoist or boiler;

(g) two passport size photographs of the applicant;

(h) details of any previous or current relevant certificates held by the applicant; and

(j) details of any previous attempts to obtain a certificate of competency within the Territory, or similar certificate outside the Territory.

67. ITEMS TO ACCOMPANY APPLICATION

An application under regulation 66 shall be accompanied by -

(a) a certificate from a registered medical practitioner within the meaning of the Medical Practitioners Registration Act stating that the applicant is not suffering from defective hearing, defective sight or any physical infirmity likely to interfere with the efficient and safe discharge of his duties;

(b) evidence satisfactory to the Chief Inspector of the applicant's good character;

(c) a statement of the applicant's experience signed by the certificate holder who assisted him in acquiring his experience; and

(d) the fee specified in Schedule 2.

68. PRODUCTION OF BIRTH CERTIFICATE

An applicant may be required to produce his birth certificate for inspection by an examiner.

69. EXEMPTION IN RELATION TO SPECIFIED PERIOD

Where an applicant is required to have worked or assisted in the working of machinery for a specified time and over a specified period and, because of ill health, machinery breakdown or any other reason which the examiner considers satisfactory, the applicant has worked less than the time specified in these Regulations, the examiner may regard the applicant as having worked for the whole of the time specified in these Regulations.

70. LACK OF PRACTICAL EXPERIENCE

An applicant who has not had the required practical experience but who satisfies the examiner that his lack of practical experience is due to a scarcity of opportunities for obtaining practical experience in the Territory may, at the discretion of the examiner, be considered eligible for an examination.

71. REFUSAL TO ALLOW EXAMINATION

An examiner may refuse to allow an applicant to present himself for an examination if the examiner is not satisfied that the evidence relating to the experience, ability and general conduct of the applicant meets the requirements of these Regulations.

72. CONSENT FOR RE-EXAMINATION

An applicant who has previously failed to pass an examination under these Regulations shall not sit for a further examination without having first obtained the consent of the Chief Inspector.

73. FEES

No application shall be considered and no certificate shall be issued unless payment of the fees specified in Schedule 2 has been made by an applicant to the Chief Inspector or a person holding an approved position.

74. HIGHER GRADE OF CERTIFICATES

A person who becomes eligible for a higher grade certificate of competency shall be issued with the higher grade of certificate on the surrender for cancellation of the certificate of competency currently held by him.

75. REQUIREMENTS FOR A FIRST CLASS ENGINE-DRIVER'S CERTIFICATE

An applicant for a First Class Engine-driver's Certificate of Competency shall produce evidence satisfactory to an examiner -

(a) that he is able to read and write the English language and understand the basic rules of mathematics;

(b) that he has held for a period of 12 months a Second Class Engine-driver's Certificate of Competency granted under the Act or such other certificate which, in the opinion of the examiner, is of an equivalent standard to a Second Class Engine-driver's Certificate of Competency.

(c) that he has, for 500 hours at a rate of not more than 40 hours per week during a continuous period of 12 months, been assisting a holder of a First Class Engine-driver's Certificate of Competency to operate a stationary steam-engine with a shaft output which exceeds 375 kW;

(d) that he has passed or completed to the satisfaction of the examiner an approved course of instruction, or has other approved qualifications relating to the management and construction of steam-engines and boilers to which the Act applies; and

(e) that he has attained at the date of the examination the age of 21 years.

76. EXAMINATION FOR A FIRST CLASS ENGINE-DRIVER'S CERTIFICATE

An applicant for a First Class Engine-driver's Certificate of Competency shall sit for an examination covering -

(a) the theory and construction of working parts of various steam-engines and steam turbines, including lines, condensers, pumps and boilers and general use of various steam-engines and steam turbines;

(b) the feeding of boilers and the proper maintenance and running of steam-engines and steam turbines;

(c) the detection of defects in various steam-engines and steam turbines;

(d) the action necessary in an emergency which may arise in the management and maintenance of such engines as a First Class Engine-driver's Certificate of Competency would entitle the applicant to take charge of; and

(e) the basic rules of mathematics.

77. REQUIREMENTS FOR A SECOND CLASS ENGINE-DRIVER'S CERTIFICATE

An applicant for a Second Class Engine-driver's Certificate of Competency shall produce evidence satisfactory to an examiner -

(a) that he is able to read and write the English language and understand the basic rules of mathematics;

(b) that he has held for a period of 6 months a Boiler Attendant's Certificate of Competency granted under the Act or a certificate which, in the opinion of the examiner, is of an equivalent standard to a Boiler Attendant's Certificate of Competency;

(c) that he has, for 300 hours at a rate of not more than 40 hours per week during a continuous period of 6 months, been assisting a holder of a First or Second Class Engine-driver's Certificate of Competency to operate a stationary steam-engine, its boiler and accessories; and

(d) that he has attained at the date of the examination the age of 19 years.

78. EXAMINATION FOR A SECOND CLASS ENGINE-DRIVER'S CERTIFICATE

An applicant for a Second Class Engine-driver's Certificate of Competency shall sit for an examination covering -

(a) the use of the principal parts of stationary steam-engines, pumps and boilers;

(b) the fittings of stationary steam-engines and their use;

(c) the action necessary in an emergency which may arise in the management and maintenance of such stationary steam-engines, pumps and boilers as a Second Class Engine-driver's Certificate of Competency would entitle the applicant to take charge of; and

(d) the basic rules of mathematics.

79. REQUIREMENTS FOR A BOILER ATTENDANT'S CERTIFICATE

An applicant for a Boiler Attendant's Certificate of Competency shall produce satisfactory evidence to an examiner -

(a) that the applicant has adequate knowledge of the English language to enable him to safely carry out his duties and understand the basic rules of arithmetic;

(b) that the applicant has -

(i) for not less than 260 hours within a period of 3 months, been assisting and taking charge of boilers with a heating surface of less than 75 m^2 or any electric boiler with a power input of less than 600 kW; or

(ii) for not less than 520 hours within a period of 6 months, and been taking charge of all other boilers under the supervision of -

(A) a holder of a First Class Engine-driver's Certificate of Competency;

(B) a holder of a Second Class Engine-driver's Certificate of Competency;

(C) a holder of a Boiler Attendant's Certificate of Competency; or

(D) an approved person; and

(c) that he has attained at the date of the examination the age of 18 years.

80. EXAMINATION FOR A BOILER ATTENDANT'S CERTIFICATE

An applicant for a Boiler Attendant's Certificate of Competency shall sit for an examination covering -

(a) the various types of boilers and the common use of their fittings, mountings and accessories;

(b) the safe operation of the various types of boilers and their preparation of a boiler for inspection;

(c) the correct method of firing each of the various types of boilers;

(d) the correct action to be taken in case of an accident to each of the various types of boilers; and

(e) the basic rules of arithmetic.

81. REQUIREMENTS FOR A LOCOMOTIVE AND TRACTION ENGINE-DRIVER'S CERTIFICATE

An applicant for a Locomotive and Traction Engine-driver's Certificate of Competency shall produce to an examiner satisfactory evidence -

(a) that he can read and write the English language and understands the basic rules of arithmetic;

(b) that -

(i) for 6 hours in each week for a continuous period of 18 months he has been employed assisting a holder of a Locomotive and Traction Engine-driver's Certificate of Competency to operate a locomotive engine; or

(ii) for 9 months he has been the holder of a First Class Engine-driver's Certificate of Competency; and

(c) that he has attained at the date of the examination the age of 21 years.

82. EXAMINATION FOR A LOCOMOTIVE AND TRACTION ENGINE-DRIVER'S CERTIFICATE

An applicant for a Locomotive and Traction Engine-driver's Certificate of Competency shall sit for an examination covering -

(a) the details of the different parts of locomotive engines driven by steam and traction engines driven by steam;

(b) the steam system, the mechanism of brakes and the uses of the various cocks, gauges, valves and connections on boilers;

(c) how temporary repairs can be effected in case of derangement of a locomotive engine and its boiler and a traction engine and its boiler;

(d) the effects of impurities in water used in boilers and the methods adopted to keep the boiler clean; and

(e) the basic rules of arithmetic.

83. LOCOMOTIVE AND TRACTION ENGINE-DRIVERS' MEDICAL EXAMINATIONS

A holder of a Locomotive and Traction Engine-driver's Certificate of Competency shall -

(a) undergo a complete medical examination at least once in every 2 years; and

(b) ensure that the results of the medical examination, together with a statement of the type of engine that he currently operates, are forwarded to the Chief Inspector.

84. RESTRICTION ON LOCOMOTIVE AND TRACTION ENGINE-DRIVER

(1) If a registered medical practitioner within the meaning of the Medical Practitioners Registration Act certifies that the health or eyesight of a holder of a Locomotive and Traction Engine-driver's Certificate of Competency is defective, and an examiner is of the opinion that the engine-driver is no longer fit to be in control of a locomotive engine or traction engine, the engine-driver shall immediately cease to take charge of an engine.

(2) The Chief Inspector may give his approval to an engine-driver who is disqualified under sub-regulation (1) operating and taking charge of a stationary engine for which his certificate qualifies him.

85. REQUIREMENTS FOR A CRANE AND HOIST DRIVER'S CERTIFICATE

An applicant for a Crane and Hoist Driver's Certificate of Competency shall produce evidence satisfactory to an examiner -

(a) that he has adequate knowledge of the English language to enable him to safely carry out his duties -

(b) that he has -

(i) in relation to cranes and hoists with a safe working load of less than 10 tonnes, for a period of 80 hours in not less than the previous 3 weeks, been assisting in the

driving of a crane or hoist under the supervision of a holder of a Crane and Hoist Driver's Certificate of Competency or the holder of an equivalent certificate; or

(ii) for all other cranes and hoists, for a period of 260 hours in not less than the previous 3 months, been assisting in the driving of a crane or hoist under the supervision of a holder of a Crane and Hoist Driver's Certificate of Competency or the holder of an equivalent certificate; and

(c) that he has attained at the date of the examination the age of 18 years.

86. EXAMINATION FOR A CRANE AND HOIST DRIVER'S CERTIFICATE

An applicant for a Crane and Hoist Driver's Certificate of Competency shall sit for an examination covering -

(a) the construction of cranes and hoists;

(b) the safety precautions necessary for the operation of cranes and hoists, particularly when used in close proximity to electricity lines, and the standard visual and sound signals used in the operation of cranes and hoists;

(c) the maintenance, storage and handling and the defects likely to arise in lifting tackle and slings;

(d) the servicing of crane and hoist mechanisms; and

(e) the safe working load of cranes and hoists, and the methods of estimating safe working loads.

87. REQUIREMENTS FOR AN INTERNAL COMBUSTION ENGINE-DRIVER'S CERTIFICATE

An applicant for an Internal Combustion Engine-driver's Certificate of Competency shall produce evidence satisfactory to an examiner -

(a) that he is able to read and write the English language and understand the basic rules of mathematics;

(b) that he has, for 600 hours at a rate of not more than 40 hours a week during a continuous period of 12 months, assisted a holder of an Internal Combustion Engine-driver's Certificate of Competency in operating -

(i) an internal combustion engine having an output of 150 kW and the accessories connected to it; or

(ii) a gas turbine of a rating not less than 0.5 MW and the accessories connected to it;

(c) that he has completed an approved course of instruction relating to the construction, management and maintenance of internal combustion engines and gas turbines; and

(d) that he has attained at the date of examination the age of 19 years.

88. EXAMINATION FOR AN INTERNAL COMBUSTION ENGINE-DRIVER'S CERTIFICATE

An applicant for an Internal Combustion Engine-driver's Certificate of Competency shall sit for an examination covering -

(a) the use and the general principles of the working parts of internal combustion engines and gas turbines and their accessories;

(b) the various fittings on internal combustion engines and gas turbines and how the fittings may be used;

(c) the actions necessary in an emergency and dangers which may arise in relation to the management and maintenance of internal combustion engines and gas turbines; and

(d) the basic rules of mathematics.

89. GENERAL REQUIREMENTS FOR REFRIGERATING MACHINERY DRIVERS' CERTIFICATE

An applicant for a First Class Refrigerating Machinery Driver's Certificate of Competency or a Second Class Refrigerating Machinery Driver's Certificate of Competency shall produce evidence satisfactory to an examiner that -

(a) he is able to read and write the English language and understand the basic rules of mathematics; and

(b) that he has attained at the date of the examination the age of 19 years.

90. REQUIREMENTS AND EXAMINATION FOR A FIRST CLASS REFRIGERATING MACHINERY DRIVER'S CERTIFICATE

An applicant for a First Class Refrigerating Machinery Driver's Certificate of Competency shall -

(a) produce evidence satisfactory to an examiner, that he has for 9 months been the holder of a Second Class Refrigerating Machinery Driver's Certificate of Competency during which time he has assisted a holder of a First Class Refrigerating Machinery Driver's Certificate of Competency in the working of refrigerating machinery for 300 hours, at a rate of not more than 40 hours a week, during that period; and

(b) sit for an examination covering -

(i) the various systems of refrigeration in general use;

(ii) the various fittings used in or on refrigerating machinery;

(iii) the material of construction used for refrigerating machinery and its significance to that machinery;

(iv) the use of thermometers as applied to refrigeration;

(v) the carrying out of simple repairs to refrigerating machinery;

(vi) the characteristics of the various refrigerants and their general uses; and

(vii) the basic rules of mathematics.

91. REQUIREMENTS AND EXAMINATON FOR A SECOND CLASS REFRIGERATING MACHINERY DRIVER'S CERTIFICATE

An applicant for a Second Class Refrigerating Machinery Driver's Certificate of Competency shall -

(a) produce evidence satisfactory to an examiner, that for 600 hours, at a rate of not more than 40 hours a week during a continous period of 12 months, he has assisted a holder of a First Class Refrigerating Machinery Driver's Certificate of Competency in the working of -

(i) refrigerating machinery -

(A) in which a toxic refrigerant is used; or

(B) which is not used in air-conditioning and in which non-toxic refrigerant is used,

having a refrigerating capacity exceeding 20 kW; or

(ii) refrigerating machinery which is used for air-conditioning in which a non-toxic refrigerant is used, having a refrigerating capacity exceeding 70 kW; and

(b) sit for an examination covering -

(i) the principles of refrigeration;

(ii) the principles of condensers;

(iii) the precautions to take to prevent the harmful escape of refrigerants;

(iv) the method of pumping out refrigerating systems; and

(v) the basic rules of mathematics.

92. CALCULATION OF REFRIGERATING CAPACITY

In calculating the refrigerating capacity of refrigerating machinery, the refrigerating capacity of any refrigerating machinery which is in a building may be added to the total refrigerating capacity of all other refrigerating machinery of the same class in that building but the refrigerating capacity of refrigerating machinery in one building shall not be added to the refrigerating capacity of any refrigerating machinery in another building.

93. COPY OF LOST CERTIFICATE

(1) A person wishing to obtain a copy of a certificate issued to him, as a result of the loss or destruction of the original certificate, shall make an application in writing to the Chief Inspector and shall include in that application -

(a) his name;

(b) his postal address;

(c) his residential address;

(d) his place and date of birth;

(e) the reason for requiring the copy;

(f) particulars of the lost or damaged certificate including -

(i) the number of the certificate;

(ii) the type and class of the certificate; and

(iii) where the certificate was granted; and

(g) a statutory declaration that the stated particulars are true

(2) An application made under sub-regulation (1) shall be accompanied by the fee specified in Schedule 2, and 2 passport size photographs of the applicant.

PART VII - GENERAL

94. FEES

A fee in accordance with Schedule 2 shall be charged for any of the following matters:

(a) review of the design of machinery, including boilers;

(b) inspection of machinery or of a boiler;

(c) issue of a certificate of inspection;

(d) application and granting of certificates of competency and interim certificates of competency; and

(e) lost certificates.

95. ADDITIONAL FEES FOR INSPECTIONS

(1) Subject to a contrary determination by the Chief Inspector, where an arrangement for an inspection of machinery is made by the owner or by an inspector in a notice of inspection issued to the owner, and the inspector is unable to carry out the inspection because the machinery -

(a) is not made ready to the satisfaction of the inspector for his inspection; or

(b) is not available for the inspection,

and a further visit is necessary a fee may be charged for all visits made by the inspector.

(2) Where any person requires an inspection of machinery at a time that does not coincide with the inspector's regular visit for that purpose, a request in writing shall be made to the Chief Inspector -

(a) enclosing written permission of the owner of the machinery, where the request does not come from the owner; and

(b) stating the nature of the inspection required,

and the specified fees and all expenses, excluding the inspector's salary, shall be paid in advance where required by the Chief Inspector.

(3) Fees payable for reports on special inspection work shall be assessed by the Chief Inspector having regard to the service performed by the inspector.

96. ADDITIONAL FEES FOR DESIGN REAPPRAISEMENT

Where the design of machinery has been approved and the design is subsequently modified, the design shall be reappraised before any alteration is made to the machinery and a further design fee shall be paid for the machinery in accordance with Column 2 of Schedule 2.

97. FEES FOR INSPECTION OF BOILERS, UNFIRED PRESSURE VESSELS AND MACHINERY

(1) The fee for inspection of machinery appearing in column 1 of Schedule 2 shall be the fee appearing opposite in column 3 of Schedule 2.

(2) For electrically heated steam generating boilers the heating surface of that boiler shall be determined by multiplying the electrical energy input in kilowatts by 0.1.

SCHEDULE 1

Regulation 18(1)(b) and (3)

General

A.S.	B278	Shackles
	B283	Bordeaux connections
	B291	Lifting rings and links
	1138	Thimbles for use with wire rope or fibre (natural or synthetic) rope
	2076	Wire rope grips
	2089	Sheave blocks (including ships' cargo blocks) of maximum lift 60 tonne
	2317	Eyebolts
	2318	Swivels
	2319	Rigging screws and turnbuckles

Hooks

B.S.	482	Wrought iron and mild steel hooks for cranes, slings, blocks and general engineering purposes
	2903	Higher tensile steel hooks for chains, slings, blocks and general engineering purposes

Ropes

A.S.	1394	Round steel wire for ropes
	1504	Fibre ropes (3 strand hawser laid)
	1656	Steel wire ropes
	M.B.I.	Steel wire rope manual

Slings

A.S.	1353	Synthetic - webbing, flat slings
	1380	Fibre rope slings (of natural or synthetic rope)
	1438	Wire coil flat slings
	1666	Wire rope slings

Chains

A.S.	2321	Short-link chain for lifting purposes - non-calibrated

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SCHEDULE 2

Regulation 67(d), 73 and 94

	Design review	Inspection
	$	$
A boiler having a heating surface		
not exceeding 5 m^2	10	10
exceeding 5 m^2 but not exceeding 15 m^2	20	25
" 15 m^2 " " " 75 m^2	25	30
" 75 m^2 " " " 150 m^2	50	35
" 150 m^2 " " " 300 m^2	75	30
" 300 m^2 " " " 1,000 m^2	100	80
" 1,000 m^2	150	150
Vulcanizers		
For every vulcanizer used under steam pressure	20	8
Unfired pressure vessels determined by diagonal or diameter measurement		
A vessel not exceeding 0.5 m in diameter or diagonally	10	8
exceeding 0.5 m but not exceeding 1 m in diameter or diagonally	20	15
exceeding 1 m in diameter or diagonally	20	25
Unfired pressure vessels determined by cubic capacity		
A pressure vessel with a cubic capacity		
not exceeding 2 m^3	15	10
exceeding 2 m^3 but not exceeding 15 m^3	20	20
" 15 m^3 " " " 50 m^3	30	30
" 50 m^3	50	50

Inspection of Machinery

	Design review	Inspection
	$	$
Lifts and escalators		
Passenger and goods lift serving 2 landing levels	40	15
Additional fee for every level in excess of 2	2	3
Service lifts serving 2 landing levels	25	10
Additional fee for every level in excess of 2	2	2
Escalators	40	15
Cranes and hoists		
Where the safe working load does not exceed 5 t	30	10
Exceeding 5 t but not exceeding 20 t	50	20
Exceeding 20 t but not exceeding 50 t	60	35
Exceeding 50 t	100	50
General machinery		
For motor-driven machinery the power or aggregate power of which -		
does not exceed 5 kW		3
exceeding 5 kW but not exceeding 10 kW		6
exceeding 10 kW but not exceeding 20 kW		9
exceeding 20 kW but not exceeding 50 kW		12
exceeding 50 kW but not exceeding 100 kW		15
exceeding 100 kW but not exceeding 1,000 kW		$15 plus $10 for every 100 kW or part in excess
exceeding 1,000 kW		120

	Design review	Inspection
	$	$
Copy of a certificate of inspection		5
Where a design has approval of an approved authority and is submitted with copies of such approval.	10	

FEES FOR CERTIFICATE OF COMPETENCY

Application for any certificate other than a reciprocal certificate or interim certificate	5
Granting of a certificate other than a reciprocal certificate or interim certificate -	
(a) First class engine-driver	7
(b) First class refrigerating machinery driver	7
(c) Internal combustion engine-driver	7
(d) Second class engine-driver	5
(e) Second class refrigerating machinery driver	5
(f) Boiler attendant	5
(g) Crane and hoist driver	5
(h) Locomotive and traction engine-driver	5
Grant of a reciprocal certificate	5
Grant of an interim certificate	5
Grant of a copy of any lost certificate	5

GENERAL FEES

Perusal of inspection records of any machinery or boiler by any person other than the owner or his direct representative, authorized in writing by the owner	3
For the supply of a precis of any such records	10

For an extension certificate issued under section 42 of the Act, the fee payable shall be half the prescribed inspection fee.