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REGULATIONS 1978, No. 36*

Rules under the *Construction Safety Act*

I, ROBERT STANFORD MARTIN, the Chief Inspector of Construction Safety for the Northern Territory of Australia, pursuant to section 30 of the *Construction Safety Act*, hereby make the following Rules.

Dated this twentieth day of December, 1978.

R. S. MARTIN
Chief Inspector of
Construction Safety

CONSTRUCTION SAFETY RULES

PART I — GENERAL

Citation

1. These Rules may be cited as the Construction Safety Rules.

Commencement

2. These Rules shall come into operation on a date to be fixed by the Administrator by notice published in the *Gazette*.

Definitions

3.(1) In these Rules, unless the contrary intention appears —

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

"abrasive blasting" means the cleaning, smoothing, roughening, cutting, preparation, removal or other treatment of the surface or part of the surface of an article or structure by the use of an abrasive propelled by compressed air, steam or by any other means;

"approved" means approved by the Chief Inspector;

"bay" means the space enclosed by 4 adjacent standards or the equivalent space in the case of a putlog scaffolding;

"birdcage scaffolding" means independent pole scaffolding consisting of more than 2 rows of standards connected together by ledgers, transoms and bracing;

"bracing" means members secured to 2 or more other members in a scaffold to ensure the rigidity of that structure;

"bracket scaffolding" means a working platform supported by brackets of timber or metal;

* Notified in the *Northern Territory Government Gazette* on 29 December, 1978.

"builder's hoist" includes a skip, cantilevered or tower hoist used for raising or lowering men or materials, and any other hoisting appliance the platform, skip or cage of which is normally restricted to vertical movement by a guide or guides of which a tower forms an integral part;

"caisson" means a watertight chamber open at the bottom, from which water is kept out by air pressure;

"cantilever scaffolding" means scaffolding, the platform of which is supported by cantilevers;

"cofferdam" means a watertight case or casing used for the protection of workers from water on a construction site;

"competent person" means a person suitably qualified for the class or kind of construction work in which he is engaged and authorized to do that work by the person in charge of the construction work;

"confined space" means an excavation, vat, tank, pit, pipe flue, silo, container or other similar structures and includes any area —

(a) where a worker is required to work in a stooped or cramped position;

(b) where dangerous fumes are likely to be present at any time; or

(c) where the atmosphere is liable at any time to contain insufficient oxygen for normal respiration;

"conveyor" means a power-operated apparatus used or capable of being used for transporting, lowering or raising loads by means of —

(a) an endless belt, rope, chain or other similar means;

(b) buckets, trays or other similar containers attached to one of the items specified in paragraph (a); or

(c) a rotating screw;

"crane" means a structure equipped with a mechanical means for moving or placing a load by raising, lowering or transporting it, and includes —

(a) machinery or associated lifting apparatus necessary for its operation;

(b) the supporting structure and foundations;

(c) an excavator equipped with a jib or boom,

but does not include a hoist, lift, escalator, conveyor, mobile fork-lift or any earthmoving machinery;

"electrical equipment" means any electric motor-operated tool or other device, including a portable lamp, the equipment current rating of which does not exceed 15 amperes per phase for single, 2 or 3 phase low or medium voltage operation, in which electricity is converted into heat, motion or any other form of energy, or is substantially changed in its electrical character;

"electrical equipment, hand held" or "hand held electrical equipment" means any portable electrical equipment intended to be held in the hand during normal use, the motor of which, when provided, forms an integral part of the equipment;

"electrical equipment, portable" or "portable electrical equipment" means any electrical equipment that is moved in operation or which can be moved easily

from one place to another while connected to the power supply by means of a flexible cord and plug, but does not include a lifting appliance such as a crane, hoist or similar device or any electrical equipment, hand held;

"falsework" means the structural supports and bracing for formwork and includes any arrangement of fixed or adjustable supports necessary for the support of any building components or structural components until they become self-supporting and able to support a superimposed load;

"formwork" means temporary boarding or sheeting designed and erected to contain concrete or material of a similar kind until it is self-supporting;

"frame scaffolding" means scaffolding assembled from portable prefabricated frames, and includes members not forming an integral part of, but used in connexion with, those frames;

"framework" means framework constructed of metal, concrete, timber, brick or other rigid material;

"gangway" means a narrow platform on a site used as a passage for the transporting of men or materials;

"hoist" means a mechanical contrivance, other than a builder's hoist, crane, lift, escalator or conveyor, the principal function of which is the raising, lowering or conveying of men, goods or materials, and includes all the equipment associated with the operation of a hoist, whether detached or not, and any part of the structure or supporting structure that is stressed by the hoist under working conditions;

"independent scaffolding" or "pole scaffolding" means scaffolding consisting of 2 rows of standards connected together with ledgers, braces and transoms which is independent of support from a wall or other structure except by ties;

"ledger" means a horizontal member spanning longitudinally between standards which may support putlogs or transoms;

"lux" means the illuminance arising when a luminous flux of one lumen is uniformly emitted from an area of one square metre;

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

"mobile scaffolding" means a scaffolding supported on wheels, castors or any other device that allows it to be moved;

"modular scaffolding" means a system of scaffolding using standards, ledgers, transoms, putlogs and braces made of metal that are capable of being assembled into scaffolding of predetermined shape;

"putlog" means a scaffold member spanning horizontally between ledgers or between a ledger and an adjacent wall to support a working platform;

"run" means an incline provided as a means of access from one working area to another;

"SAA" means the Standards Association of Australia;

"scaffolding winch" means a mechanical appliance for the purpose of suspending scaffolding by steel wire rope from supports, and designed for raising or lowering the scaffolding;

"standard" means a vertical or near vertical supporting member;

"tie" means a member to secure a scaffold to a structure to prevent horizontal movement;

"transom" means a member used to horizontally and transversely secure standards to the scaffolding by the use of right angle couplings or other approved fittings;

"working area" means that area in a site in which construction work is actually in progress.

(2) In these Rules, unless a contrary intention appears —

"J" means joules;

"kg" means kilogram;

"kPa" means kilopascal;

"m" means metre;

"m^2" means square metre;

"m^3" means cubic metre;

"mm" means millimetre;

"MPa" means megapascal;

"N" means newtons.

Australian Standards

4.(1) A reference to the letters "A.S." followed by a numeric, alphabetic or numeric and alphabetic series shall be read as a reference to an Australian Standard of that series as defined in the Construction Safety (Australian Standards) Rules.

(2) Where any provision in these Rules adopts by reference any standard, rule, code or specification of the Standards Association of Australia, the adoption shall not, unless the relevant rule specifies otherwise, include the adoption of any provision —

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

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

(c) specifying that any item shall be submitted to the Standards Association of Australia or a committee of the Association for expression of opinion; or

(d) permitting a departure from any provision of the standard, rule, code or specification at the sole discretion of the manufacturer or purchaser, or by arrangement between the manufacturer and purchaser.

(3) The Chief Inspector may grant an exemption from complying with a standard, rule, code or specification if compliance exists with another standard which, in the opinion of the Chief Inspector, is similar to the standard, rule, code or specification specified in the Rules.

(4) Where there is a descrepancy between these Rules and any standard rule, code or specification adopted as a Rule, then these Rules shall take precedence.

PART II — DUTIES OF EMPLOYER

Limitation on assigning infirm workers

5. A constructor who undertakes construction work shall not knowingly assign a worker —

(a) who is suffering from deafness, giddiness, poor vision, epilepsy or any similar physical or mental infirmity; or

(b) who is under the influence of a drug or alcohol,

to employment on which he could endanger himself or other persons.

PART III — SITE PROVISIONS

Division 1 — General

Safety and cleanliness of sites

6.(1) A scaffolding platform, working area, shaft, gangway, run or stairs on or at a site shall be kept free from rubbish or unnecessary obstruction.

(2) All gear, material and equipment used for or in connexion with construction work on a construction site shall be stacked, piled or placed in a safe and orderly manner.

Manner of removal of material

7.(1) Where material is to be lowered from a building or structure and —

(a) the dumping or dropping of the material from the building or structure would be dangerous to any person; or

(b) the material is such that, if it were dumped or dropped from the building or structure, a substantial quantity of dust would be released from the material that may be offensive or injurious to any person,

the material shall not be lowered from the building or structure except by means of a crane, hoist or conveyor or by the use of chutes.

(2) Where material may, without contravention of this rule, be dumped or dropped from a building or structure otherwise than by the use of chutes, the following provisions shall be observed:

(a) all openings in walls below the position where dumping is carried out shall be boarded up so as to prevent danger to persons from falling or deflected material;

(b) where material is dumped or dropped through a hole or opening in a floor and the whole, or any part of, the space between any 2 floors and between the lowest floor and the ground through which the material may fall is not boarded up, the area on each floor and on the ground within 2 m of that space shall be fenced and notices placed in accordance with these Rules;

(c) measures shall be taken, before, during and following dumping, so as to adequately prevent dust;

(d) an area into which the material is dumped or dropped shall be effectively enclosed to contain that material, and kept enclosed at all times, except during the removal of material; and

(e) material shall not be dumped or dropped into an area to which paragraph (d) refers when a person is in that area.

(3) The following provisions shall be observed in relation to chutes used for lowering material from a building or structure:

(a) the lower chute of any series of chutes or, where only one chute is used, that chute, and every retaining bin or hopper into which material is discharged from a chute shall, where persons may be struck by material ejected from the chute, bin or hopper, be equipped with an effective gate or stop and with suitable provision for stopping or regulating the flow of material by means of the gate or stop;

(b) a gate or stop to which paragraph (a) refers shall be kept closed except during the discharge of material;

(c) a vertical chute, or a chute inclined at an angle to the horizontal which exceeds 45 degrees, shall be completely enclosed;

(d) a chute inclined at an angle of 45 degrees or less to the horizontal shall have vertical sides of a height not less than half the width of the chute tray, or of a greater height as is necessary to prevent spillage of material but, where material is transferred or fed from one chute to another and at any other points where an accumulation of material may occur, the height of the chute sides shall be increased to the extent necessary to prevent spillage; and

(e) readily visible and clearly legible notices warning of the danger from falling or ejected material shall be placed at the discharge end of every chute.

Control of dust

8.(1) Material shall not be loaded or transported on the site of construction work in a manner that gives rise to a substantial quantity of dust that may be offensive or injurious to any person.

(2) Measures used to control dust shall not endanger the health or safety of a person engaged on construction work.

Stability of structures

9. Reasonable precautions shall be taken on a site —

(a) to avoid the collapse of a structure or part of a structure during the erection or dismantling of the structure; and

(b) to prevent danger to a person through the collapse of that structure or a part of it.

Artificial lighting

10.(1) Subject to this rule, where there is insufficient natural light all access ways, working areas, scaffolding, gear, hoisting appliances and power-driven equipment used for or in connexion with construction work shall be adequately lit by artificial light.

(2) Where artificial light is provided pursuant to sub-rule (1) it shall be not less than the following:

(a) for a road, way or other outdoor area — 20 lux;

(b) for stairs or other areas giving access to a working area — 50 lux; and

(c) for a working area — 200 lux.

(3) Artificial light provided pursuant to sub-rule (1) shall be installed, spaced and guarded so as to prevent —

(a) damage to machinery providing the artificial light; and

(b) glare on deep shadows in any working area or in any area giving access to a working area.

Division 2 — Protective Fencing

Protective fencing

11.(1) Where excavation work or construction work is adjacent to a public place, a protective fence or an overhead protective structure, with a protective fence, shall be erected for the protection of persons who are or may be in the public place.

(2) The lifting or transporting of material by mechanical means shall not be carried out over a public place unless a protective structure or fence is provided over the public place.

(3) Notwithstanding sub-rules (1) and (2), a protective fence without an overhead protective structure may be used —

(a) where the horizontal distance from a building or structure to the boundary of the public place is greater than one-quarter of the completed height of the building or structure or more than 3 m; or

(b) in the case of demolition work, where the work is carried out within an area, where —

(i) the distance from the building to the boundary exceeds one-half times the height of the building being demolished or more than 3 m; and

(ii) the demolished material is at all times during the carrying out of the work prevented from falling or rebounding outside the area.

(4) A protective fence required by this rule —

(a) shall be constructed and secured in an approved position;

(b) shall, where an overhead protective structure is provided, be erected on the side of the overhead protective structure which is nearest the site;

(c) shall be at least 2 m in height;

(d) shall be secured in position in such a manner that it will not shift, be blown down or fall;

(e) shall be erected before the commencement of the construction work;

(f) shall be designed and constructed in accordance with these Rules; and

(g) shall be kept in position at all times during the progress of the work where there is danger of persons in the public place being struck by falling material from the building or structure being built, constructed or demolished.

(5) All openings, other than access openings, in a protective fence shall be effectively screened with 50 mm by 50 mm by 2.5 mm gauge wire mesh or some other material approved by an Inspector.

(6) Access openings shall be provided with doors capable of being locked or provided with other means of securing them against unauthorized entry and those doors shall open into the site.

(7) Material shall not be allowed to accumulate against a protective fence.

Overhead protective structure

12.(1) Where it is not physically practicable to provide a protective fence in the manner prescribed in these Rules, an overhead protective structure without a protective fence shall be erected for the protection of persons who are or may be in the public place.

(2) Subject to sub-rule (3), a protective structure referred to in sub-rule (1) —

(a) shall be constructed, erected and secured in an approved position;

(b) shall be erected over the relevant part of the public place for the full length of the building;

(c) shall be erected before the commencement of the construction work; and

(d) shall be kept in position at all times during the progress of the construction work where there is a danger of a person in the public place being struck by falling material from the building or structure being constructed or demolished.

(3) Where it is not physically practicable to comply with sub-rule (2), the Chief Inspector may approve of the method of construction of a protective structure.

Design and construction of protective fences, &c.

13.(1) A person who designs protective fences and overhead protective structures of timber construction to which this Part applies shall design them in accordance with A.S.1720, and that design shall specify the minimum stress grading for timber members of softwood or hardwood where applicable for dead loads, live loads and wind loads as specified in A.S.1170, Parts I and II.

(2) A person who designs overhead protective structures of steel construction, to which this Part applies, shall design them in accordance with A.S.1250 and shall specify the material and permissible design stress for that material for dead, live loads and wind loads as specified in A.S.1170 Parts I and II.

(3) The decking of all overhead protective structures to which this Part applies shall be constructed as follows:

(a) weld steel mesh of 100 mm by 100 mm by 6 mm gauge shall be laid on the timber or steel joists and the ends at joins in the mesh shall overlap for a distance of 300 mm;

(b) 50 mm thick hardwood planking shall be laid over the wire mesh;

(c) waterproof membrane shall be laid over and cover the planking;

(d) 19 mm thick plywood shall be laid over and cover the waterproof membrane referred to in paragraph (c); and

(e) the decking shall be drained so that any matter flowing from the decking must flow into the construction site.

(4) Protective structures to which this Part applies shall be painted with white paint or other approved coloured paint.

(5) Lighting shall be provided and maintained at or near a protective fence or overhead protective structure so as to provide illumination between sunset and sunrise as is suitable to prevent danger to persons using the public place.

Maintenance of protective fences, &c.

14. A protective fence and an overhead protective structure shall be properly maintained during the period of construction work.

Protective fences for excavations

15. A protective fence for an excavation shall be constructed in accordance with Part VI.

Division 3 — Amenities

Drinking water

16. A constructor shall provide on a site of construction work an adequate supply of clean and cool drinking water.

Washing facilities

17.(1) Except as otherwise provided in this rule, where workers are employed on a site of a construction work, the constructor shall provide one wash basin for every 10 workers employed, together with a sufficient supply of water to enable those workers to wash.

(2) Where adequate washing facilities are available for workers on a site, the constructor shall not be required to comply with sub-rule (1).

Storage for workers' tools

18.(1) Subject to sub-rule (2), a constructor shall provide on the site of a construction work a suitable, secure and waterproof lock-up structure solely for the purpose of storing the tool kits of tradesmen engaged on that site.

(2) Where less than 5 workers are employed at any one time, it is sufficient compliance with this rule if tool kits are stored in the foreman's office, or some other suitable storage is provided.

Accommodation for meals and storage of clothing

19.(1) The constructor shall provide, on any site on which more than 20 workers are to be employed at any one time, such accommodation as will enable those workers to keep their clothing and personal belongings in safety and to eat their meals and shelter from weather.

(2) The accommodation required by sub-rule (1) —

(a) shall be weatherproofed, adequately ventilated and provided with a dry floor and with windows that can be opened;

(b) shall be equipped with adequate facilities for hanging the clothing of the workers;

(c) shall have a floor area —

(i) of at least 0.75 m^2 for each worker employed on the site at any one time, with a minimum floor area of 9 m^2; or

(ii) where more than 20 workers are employed on a site at any one time and messing and dressing accommodation is combined, of at least one square metre for each worker so employed;

(d) shall include table and seating accommodation sufficient for the use by the workers employed at the site at meal periods, and the table shall be made of a solid construction with an upper surface of dressed timber or some other suitable material of at least that standard;

(e) shall be kept in a clean condition;

(f) shall not be used for the storage of building or other materials; and

(g) shall be provided with flyproof and verminproof waste receptacles that shall be emptied daily and kept clean.

(3) A constructor shall, on the site of any construction work, provide an adequate supply of boiling water, for use by a worker who requires it, for beverages and for washing utensils after meals.

(4) Notwithstanding sub-rules (1), (2) and (3), if requested by the constructor, an Inspector may, in writing, excuse the constructor from the necessity to comply with any or all of those sub-rules or any part of them for such a period as the Inspector considers that it is impracticable for the constructor to comply with them because of the conditions on the site.

20.(1) A constructor shall provide on the site of any construction work one temporary latrine for each 20 workers or fraction of 20 workers employed on the site. Temporary latrine accommodation

(2) Sub-rule (1) does not apply where existing latrine accommodation is made available to workers at a site and that accommodation complies with this rule and is in reasonable proximity to the site.

(3) A latrine required by this rule —

(a) shall be of sound construction with the walls fixed on a frame of metal or sawn timber, provided with a roof and have a door that opens inwards with provision for fastening on the inside;

(b) shall have a floor area of at least 1.2 m^2 and a height from floor to ceiling of not less than 2 m;

(c) shall have a floor of concrete or other approved impervious material, with a gradient downwards to the door of not less than 1 in 24 and the floor shall be not less than 75 mm above the surrounding ground level;

(d) shall have light and ventilation provided by an opening or openings of a total area of at least 0.2 m^2;

(e) shall —

(i) wherever practicable, be located at such a distance from the construction work as will avoid nuisance; or

(ii) if such location is not practicable, be located where it is least likely to cause nuisance; and

(f) shall, subject to sub-rule (4), be provided with a water closet pan connected to a sewer or septic tank.

(4) The constructor may, in lieu of a compliance with sub-rule (3)(f), provide a borehole or pit latrine constructed in accordance with the requirements of the law in force in the Territory, when —

(a) a sewer or septic tank and an adequate water supply are not available or cannot be made readily available;

(b) the work to be carried out is the erection of a single dwelling house or a similar construction; or

(c) it is impracticable to comply with sub-rule (3)(b) because of difficulties of the construction of the latrine or the connexion of the latrine to a sewer or septic tank.

(5) Where a borehole or pit latrine is provided under sub-rule (4) —

(a) it shall be provided with a flyproof pan of metal or other impervious rigid material; and

(b) the pan shall, subject to sub-rule (6), discharge into a borehole at least 250 mm in diameter and 4 m in depth.

(6) If it is not practicable to provide latrine accommodation at the site of any construction work because of soil conditions or high sub-surface water, the constructor shall construct a latrine having a sanitary pan or chemical pan with a seat and cover, and shall arrange for the disposal of the contents of that pan by burial in the soil on each day that workers are employed on the site or shall provide a suitable alternative latrine off the site.

(7) A supply of lime or dry earth shall be available in a borehole latrine, pit latrine or pan latrine at a site and shall be used for covering purposes after each use of the latrine.

(8) A borehole pan, chemical pan or pit latrine at a site shall be constructed with a superstructure and seat cover so as to deny flies, insects and vermin access to the contents of the borehole, pan or pit.

(9) Latrines at sites may be constructed so that they can be moved from site to site.

(10) A constructor shall ensure that latrine accommodation at the site of any construction work —

(a) is maintained in good working order, kept clean and supplied with toilet paper; and

(b) on completion of the work, is removed from the site and the hole or pit filled in to ground level with earth.

Mistreatment of amenities

21. A person shall not damage, disfigure or pollute an amenity provided at a site in accordance with these Rules.

Division 4 — First Aid

First aid requirements

22.(1) A constructor shall provide and maintain at the site of any construction work a dustproof first aid box or cupboard which shall contain the items specified in Schedule 1 to the Construction Safety (Australian Standards) Rules in quantities not less than those specified in the figures opposite those items in that Schedule, having regard to the number of workers employed at the site.

(2) The exterior of a first aid box or cupboard provided in accordance with sub-rule (1) shall be coloured and marked in accordance with A.S.1319.

(3) All first aid boxes or cupboards shall be located in the foreman's office at a site or other place approved by an Inspector.

(4) First aid boxes or cupboards shall be provided on the basis of one box or cupboard for every 100 workers or every fraction of 100 workers employed at a site.

(5) Where workers are engaged on construction work and that work is carried out —

(a) on a site that is located outside the municipal boundary of a city or town, a constructor shall, wherever practicable, keep at the site, available for use at any time, a motor vehicle capable of transporting a sick or injured person in reasonable comfort to a city or town to receive medical assistance; or

(b) where established facilities for communication or transport are not readily available, a constructor shall, wherever practicable, provide and maintain a reliable means of communication for rapidly seeking assistance for a sick or injured person.

(6) A person shall not interfere with any first aid facilities provided under this Division.

Division 5 — Safety Supervisors

Safety supervisors

23.(1) A constructor may assign to a safety supervisor such other duties as he deems fit provided that those other duties shall not prevent him from exercising his duties as safety supervisor.

(2) A person appointed as a safety supervisor —

(a) shall, unless otherwise approved, have attended an approved course in accident prevention; and

(b) shall have an adequate knowledge of the Act, Regulations and Rules.

Division 6 — Fire Safety

Emergency egress and equipment for extinguishing fires

24.(1) A constructor shall provide and maintain adequate means at a working area to afford workers safe egress from the working area for use when a situation arises when it is dangerous for workers to remain on the working area.

(2) Subject to these Rules a contractor shall further provide suitable portable extinguishers for extinguishing any fire that may occur on a construction site in numbers approved by an Inspector and stored in each of the following places:

(a) in any workshop;

(b) in any place where combustible material is stored;

(c) in any place where a welding, riveting or cutting process is carried out;

(d) on each floor of a building or structure;

(e) where flammable liquids are stored, handled or used;

(f) where oil or gas fire heating equipment is used; and

(g) where tar or asphalt is heated.

(3) Fire extinguishers provided pursuant to this sub-rule shall be adequately protected so as to prevent accidental damage to that fire extinguisher.

(4) Fire extinguishers provided pursuant to this sub-rule shall comply with the following:

(a) A.S.1840, A.S.1841 and A.S.1842 for water type portable fire extinguishers;

(b) A.S.1843, A.S.1844 and A.S.1845 for foam type portable fire extinguishers;

(c) A.S.1846 for dry chemical type portable fire extinguishers;

(d) A.S.1847 for carbon dioxide type portable fire extinguishers; and

(e) A.S.1848 for halogenated hydrocarbon type portable fire extinguishers.

(5) Fire extinguishers, provided pursuant to this sub-rule —

(a) shall comply with A.S.1849 and A.S.1850; and

(b) shall be maintained in good working order pursuant to Part I of A.S.1851.

(6) Other equipment for the extinguishing of fires shall be provided at a site in accordance with the *Fire Brigades Act* and the Regulations under that Act.

Containers for storing fuel to be labelled

25. A constructor shall ensure that a container of capacity greater than 25 litres used for the storage of fuel on a site is clearly marked to indicate its contents and has attached to it or designated on it a flammable liquid sign bearing the words "DANGER — NO SMOKING OR NAKED FLAME".

Signs

26. The sign referred to in Rule 25 shall accord with Figure 1 of A.S.1319.

Combustible material

27. A constructor shall ensure —

(a) that combustible material is not permitted to accumulate on any site and constitute a fire hazard;

(b) that combustible materials are not burnt in an open fire on prohibited days, unless approved by the Chief Fire Officer for the District appointed under the *Fire Brigades Act*;

(c) that, where practicable, effective means of communication are provided throughout a site to facilitate the immediate operation of emergency services; and

(d) that when construction work commences, a water supply is provided for use in the prevention of fires on the site and that water supply is maintained until the completion of the work or a suitable number of fire extinguishers are provided by the constructor.

Handling and using gas cylinders

28.(1) A gas cylinder kept at a site shall be periodically inspected, tested and maintained in accordance with A.S.2030 by a competent person authorized by the constructor.

(2) Where storage of compressed flammable liquefied gas at a site exceeds in aggregate 60 m^3, a constructor shall provide a separate storage area for that compressed gas and shall ensure that that area —

(a) is well ventilated;

(b) is kept free of naked flame for a distance of not less than 15 m and of other sources of ignition for a distance of not less than 3 m; and

(c) is maintained in all other respects as a safe storage area.

(3) A person at a site —

(a) shall not throw or drop a gas cylinder;

(b) shall, when raising or lowering by mechanical means a gas cylinder, employ a suitable cradle or box; and

(c) shall, when using a gas cylinder, ensure —

(i) that it is secured in an upright position by chains or other approved means;

(ii) that it is protected from the processes of welding, riveting or oxy-acetylene cutting;

(iii) that it is otherwise protected from damage;

(iv) that the shut-off valve on the gas cylinder is closed when the appliance attached to the end of the hose is not in use;

(v) that the hose fittings and connexions are of a suitable type;

(vi) that the hose connexions are marked for identification and that hoses for oxygen are coloured black and acetylene gas are coloured maroon; and

(vii) that a faulty hose is not used.

PART IV — HEALTH PROVISIONS

Division 1 — Protective Equipment

Eye protection

29. Where a person engaged on any construction work is likely to be exposed to the risk of eye injury, a constructor employing that person shall provide him with suitable eye protection which complies with A.S.1336, A.S.1337 and A.S.1338.

Head protection

30.(1) Where a person engaged in any construction work is likely to be struck by any falling object, the constructor employing that person —

(a) shall supply him with a safety helmet which complies with A.S.1800 and A.S.1801; and

(b) shall cause to be displayed on or near the site a prominent notice bearing the words "HARD HAT AREA — SAFETY HATS MUST BE WORN" so that these words are clearly legible to a person entering the site.

(2) Unless an Inspector otherwise approves, a person who enters a site where a sign is displayed in compliance with sub-rule (1)(b), shall wear a safety helmet when in that working area.

Hearing protection

31. Where a person on a site is exposed to a level of noise likely to be injurious to his health, the constructor shall provide ear protective equipment that complies with A.S.1270 for his use.

Foot protection

32. A person on a site shall wear adequate protective footwear that completely covers his feet.

Hand protection

33.(1) Where a person on a site is required to handle materials, tools, equipment or substances which could cause injuries to the hand, he shall wear gloves that comply with A.S.2161.

(2) Where a person on a site is required to handle harmful substances that may cause injury or irritation to the skin, the constructor shall provide suitable protective substances for his use.

Rescue equipment

34.(1) Where, on or adjacent to the site of any construction work, there is water into which a person engaged on that work is liable to fall during the course of his employment with the risk of drowning or injury, the constructor shall provide and maintain suitable rescue equipment and shall keep that equipment in a convenient place ready for use.

(2) The location of rescue equipment referred to in sub-rule (1) shall be effectively illuminated, when work at a site is being carried out during the hours of darkness.

(3) If required by an Inspector, the constructor shall provide each person employed as referred to in sub-rule (1), with a suitable safety belt, harness, a buoyancy vest or life jacket which comply with A.S.1499 or A.S.1512.

Safety harness

35.(1) A constructor shall not allow a person to work on any construction work where there is a likelihood of that person falling from the construction work and causing injury to himself unless —

(a) scaffolding is provided for his support;

(b) that person is supplied, where physically practicable, with a suitable safety belt or harness; or

(c) that person is supplied, where physically practicable, with a suitable safety net or other contrivance which will enable that person to carry out the work without risk or injury.

(2) A safety belt or harness supplied pursuant to sub-rule (1) shall comply with A.S.1891.

Ventilation and respirators

36.(1) Where, at a site, a person is required —

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

(b) to handle any material; or

(c) to perform any construction work,

that emits any gas, vapour or dust that is likely to be injurious to the health of any person or produce any other unsafe conditions, the constructor shall —

(d) provide adequate ventilation for that person;

(e) supply him with a suitable respirator; or

(f) take such action or provide such other equipment,

to prevent the inhalation of that gas, vapour or dust or any injury to any person from such other unsafe conditions.

(2) Respiratory protective equipment supplied under sub-rule (1) shall comply with A.S.1715 and A.S.1716.

Persons to wear protective clothing and equipment

37.(1) Where protective clothing or equipment is, as required by this Division, provided for the use of persons on a site, those persons shall wear that clothing and use that equipment, as the case may be, in the circumstances prescribed in these Rules for its wearing or use.

(2) A constructor shall maintain protective clothing or equipment available for issue under this Division in good order and condition unless the protective clothing or equipment is permanently issued to a worker.

(3) A person who notices a defect in protective clothing or equipment at a site shall report that defect to the constructor.

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

Division 2 — Abrasive Blasting

Blasting to be safe

38. A constructor shall ensure that abrasive blasting operations carried out on or in connexion with construction work are carried out in a safe manner and in accordance with the provisions of these Rules.

Limitations on use of abrasives

39. A constructor shall not use, permit or allow to be used as an abrasive at the site of any construction work a substance that has previously been used as an abrasive, unless that substance has been separated as far as is practicable from dust and particles of materials arising from abrasive blasting.

Precautions against overspray

40. Where abrasive blasting is carried out at a site, the constructor 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 blasting is carried out is open to or used by the public.

Warning sign

41. Where abrasive blasting is being carried out on a site, the constructor shall ensure that a clearly legible warning notice complying with A.S.1319 is displayed and clearly legible to persons on or entering onto the site.

Protective clothing and equipment to be provided

42.(1) A constructor shall, at a site 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.

(2) The clothing and equipment referred to in sub-rule (1) shall include —

(a) hood or helmet type airline respiratory protective devices which comply with A.S.1715 and A.S.1716;

(b) suitable gauntlet-gloves which comply with A.S.2161; and

(c) eye protection complying with A.S.1336 and A.S.1337.

Persons to wear protective clothing, &c.

43. Where a constructor provides a person with personal protective clothing or equipment under rule 42 that person —

(a) shall wear and use the clothing or equipment provided; and

(b) shall exercise care to keep that clothing and equipment clean and effective.

Medical examination required

44. A person at a site shall not work as an abrasive blaster or as an assistant to an abrasive blaster, unless a medical practitioner has examined him and certified —

(a) that he is not suffering from pneumoconiosis; and

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

Frequency of medical examinations

45. A person to whom rule 44 applies shall be examined by a medical practitioner —

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

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

(c) at the constructor's expense, after he has ceased to be so employed.

Incapacity to work as abrasive blaster

46. A constructor shall not employ a person as an abrasive blaster or an assistant to an abrasive blaster if that person is disqualified by virtue of rule 44 from being employed in that capacity.

Division 3 — Spraying and Handling Asbestos

Definitions

47. In this Division —

"asbestos" means crocidolite, amosite, chrysolite, fibrous anthophyllite, tremolite or actinolite and any material containing any of those substances;

"asbestos process" means a construction process involving the use, application (including spraying), removing, mixing or handling of asbestos or any substance containing asbestos, but does not include a process or work in connex-

ion with which asbestos dust is not given off in excess of the threshold limit value for the particular material being processed;

"exhaust equipment" means any collecting load, ductwork, fan or air-cleaning device whereby dust containing asbestos is collected and includes any receptacle into which that dust is placed;

"threshold limit value" means a long-term average fibre concentration as determined by an approved method, of 2 fibres per millilitre of air for all asbestos substances except crocidolite, the concentration of which shall not exceed 0.1 fibres per millilitre of air.

Protective clothing and equipment

48.(1) A constructor —

(a) shall provide suitable protective clothing and protective respiratory equipment at a site for use by persons engaged on an asbestos process;

(b) shall require the use of the clothing and equipment referred to in paragraph (a); and

(c) shall provide lockers especially for the changing and storage of the clothing and equipment referred to in paragraph (a).

(2) A person engaged in an asbestos process on a construction site —

(a) shall wear and make full and proper use of the protective clothing and protective respiratory equipment provided for his use;

(b) shall make full use of any special lockers provided for the changing and storage of clothes and other protective equipment provided; and

(c) shall, on becoming aware of any defect in any exhaust equipment, protective clothing, protective respiratory equipment or any other object provided, immediately report the existence of that defect to the constructor.

Exhaust equipment

49. A constructor shall, by means of exhaust equipment or some other means, satisfactory to an Inspector, ensure —

(a) that crocidolite dust is not present in the breathing air of a person on a site; and

(b) that any other asbestos dust is not present in the breathing air of that person in a concentration exceeding the threshold limit value.

Equipment inspection and cleaning

50.(1) Exhaust equipment and all other equipment provided by a constructor pursuant to rules 48 and 49 shall be inspected and cleaned at intervals not exceeding 5 working days when in use or at other intervals as directed by an Inspector.

(2) Asbestos dust collectors used pursuant to rule 48 shall not be emptied, cleaned, agitated or reconditioned except by mechanical or other approved means.

Other means of compliance

51. Where it is impracticable for the work on a construction site to be carried out pursuant to rules 48 and 49, provision shall be made by means of screens, partitions or by other approved means to ensure that asbestos dust does not enter the breathing air of any person on or near the site.

Cleaning and storage of protective equipment

52. Protective clothing or protective respiratory equipment which has been used by a person employed on a construction site shall not be used again unless it is thoroughly cleaned before use and has been stored in a locker provided solely for that clothing and equipment.

Cleaning in asbestos process

53.(1) All machinery, apparatus, work benches, plant and equipment, external surfaces of exhaust equipment and vacuum cleaning equipment, floors, inside walls, ceilings (or where there is no ceiling, the inside parts of the roof), fittings and furniture on any area used on a construction site for the purposes of any asbestos process or in asbestos processing areas, shall be kept as far as is physically practicable in a clean state and free of asbestos dust.

(2) Subject to sub-rule (1), cleaning shall be carried out —

(a) immediately after the cessation of each shift or period of work in an asbestos process or at more frequent intervals as is directed by an Inspector; and

(b) by means of approved vacuum cleaning equipment or other approved dustless methods.

Storage and transport of asbestos

54. Material, dust or waste which contains or may contain asbestos —

(a) shall be transported onto and stored on a construction site in receptacles from which asbestos dust cannot escape and shall be clearly marked to show the contents of the receptacle; and

(b) shall not be removed from the construction site other than by an approved method.

Spraying asbestos

55.(1) Unless approval in writing is granted by the Chief Inspector, asbestos or any material containing asbestos shall not be applied by spraying to any surface on any construction work.

(2) The Chief Inspector shall not grant approval for the use of crocidolite during any construction work.

(3) Where, prior to the operation of these Rules, crocidolite was used on any building or structure, construction work shall not be commenced or continued without the written approval of the Chief Inspector.

(4) An application for approval for the purposes of sub-rule (1) —

(a) shall be made in writing by the constructor and received by the Chief Inspector not less than 7 clear days before such spraying is to be commenced; and

(b) shall contain all necessary information as may be required by the Chief Inspector relating to —

(i) the duration of and the manner in which it is proposed to carry out the spraying; and

(ii) the proposed precautions to prevent any person being exposed to airborne asbestos fibres exceeding the threshold limit value.

(5) The Chief Inspector may grant approval under this rule subject to such reasonable restrictions and limitations as he may deem necessary.

Division 4 — Hearing Conservation

Hearing protection

56.(1) The constructor shall provide suitable hearing protection equipment to any person or persons engaged on a construction site when the level of noise is likely to exceed levels stated in rule 58.

(2) All such ear protection equipment provided by a constructor shall comply with A.S.1270.

Safety provisions

57. The constructor shall provide adequate measures to ensure the safety of persons employed on a construction site when —

(a) equipment provided pursuant to rule 56 is being worn by a person on a construction site; and

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

Noise levels

58.(1) The constructor shall, as far as practicable, ensure that —

(a) a worker on a construction site is not exposed to a noise level in excess of 90 decibels unless he is wearing personal hearing protection equipment; and

(b) the Daily Noise Dose does not exceed 1.0

(2) The Daily Noise Dose is derived from the measurement of noise levels and the actual duration of exposure of persons to those noise levels.

(3) Measurements of noise levels shall be in accordance with A.S.1269.

Division 5 — Dangerous Substances in Excavations or Confined Spaces

Precautions against dangerous gases or vapours in confined spaces

59. A constructor or any person in charge of any construction work —

(a) shall take all precautions necessary including adequate testing by a competent person, to determine the presence of any noxious gas, flammable liquid, vapour or any other harmful matter which is present or likely to be present in any excavation or confined space;

(b) shall, upon discovery of such harmful matter in any excavation or enclosed space, whether by the testing by a competent person or otherwise, ensure that —

(i) no person is permitted to enter such excavation or confined space unless equipped with an efficient respirator and lifeline attached to his body and attended by some other person;

(ii) an approved method of mechanical extraction is employed to remove or disperse any noxious gas, flammable liquid, vapour or other harmful matter; and

(iii) warning signs clearly visible to approaching persons, printed in easily legible characters, are displayed near the excavation or confined space;

(iv) all working places and approaches shall be adequately ventilated by the circulation of fresh air and the ventilation shall be such as to render harmless all fumes, dust or other impurities that may be injurious to health, generated or produced by any means in any such working place and approach;

(v) the exhaust gases of every internal combustion engine used in an enclosed or confined space shall be conducted to the open air or otherwise effectively rendered harmless and the place shall be adequately ventilated so as to prevent danger to the health of any person from such exhaust gases; and

(vi) adequate and suitable fire extinguishing equipment shall be provided and maintained close at hand to a confined space.

PART V — GEAR

Division 1 — General

Gear to be suitable and safe

60.(1) All scaffolding or gear used on or in connexion with construction work shall be of sound material, good construction, adequate strength, free from apparent defects and suitable and safe for the purposes for which it is used.

(2) If an Inspector has reason to doubt the quality or strength of any scaffold or gear he may require the item or sample of the item to be forwarded for the purposes of testing to an approved testing authority.

(3) Expenses incurred in connexion with tests under sub-rule (2) shall be borne by the owner of the item except where the tests show that the condition of the item tested was in good order and then the costs of testing shall be borne by the Crown.

(4) Where an Inspector has issued a written direction pursuant to section 9 of the Act he may also place a notice on the scaffolding, gear, shoring, hoisting appliance or power-driven equipment, the subject of the direction, stating that its use is prohibited until the requirements of the written direction have been satisfactorily carried out.

(5) A notice under this rule shall only be removed by an Inspector or by a person authorized by the Chief Inspector.

Alteration or interference with gear, &c.

61.(1) No person shall alter or modify any shoring, power-driven equipment or other device used for or in connexion with construction work, or carry out repairs (other than those required for normal maintenance purposes), unless authorized to do so by the person in charge of the equipment or by any other authorized person.

(2) No unauthorized person shall interfere with any part of any shoring, power-driven equipment or other device used for or in connexion with construction work.

Marking of safe working load

62.(1) All lifting and rigging equipment shall be marked with its respective safe working load and where applicable in accordance with the relevant Australian Standard in accordance with Schedule 2 Construction Safety (Australian Standards).

(2) All lifting and rigging equipment shall be used in accordance with the relevant Australian Standard specified in sub-rule (1).

(3) All chains, hooks, swivels, turnbuckles and other lifting and rigging equipment not specifically mentioned shall be as approved.

Use of rope

63.(1) Rope which has been in contact with acid or other corrosive substances, or which is otherwise defective, shall not be used for the purposes of construction work.

(2) A fibre rope shall not be used in places where welding equipment is being used unless it is adequately protected from the welding process.

Splicing of wire

64.(1) Eye splices of wire rope shall have at least 3 tucks with each whole strand of the rope with one-half of the wires cut out of each strand, under and over, against the lay of the rope and shall be tightly drawn and neatly made.

(2) Eye splices of fibre ropes shall have at least 3 tucks for natural fibre ropes and 5 tucks for synthetic fibre ropes, with each whole strand of the rope, made under and over against the lay of the rope and be tightly drawn, neatly made and efficiently knotted.

(3) Thimbles shall be used where wire or fibre ropes are permanently spliced to hooks, shackles, rings, swivels, pins, eyes and similar fittings.

(4) This rule shall not operate to prevent the use of approved mechanical splicing of wire or fibre ropes.

Handling of loads

65.(1) Every part of a load shall be securely suspended or supported whilst being raised or lowered and adequately secured to prevent danger from slipping or displacement.

(2) Every receptacle used for raising or lowering any materials shall be designed, constructed and used so as to prevent danger to any person from the accidental fall of material.

(3) Adequate precautions shall be taken to prevent the edges of a load from damaging any sling, rope or chain.

(4) Tag lines shall be provided and used on loads when necessary to ensure safe control of the load.

Safety of person suspended from crane hook

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

(2) Subject to sub-rule (1), permission 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) the person is accompanied by a licensed dogman, if required by an Inspector; and

(d) the following conditions are complied with:

(i) a cradle shall be used to support the person or persons suspended. The cradle shall be constructed from sound structural grade timber or steel, is of adequate strength for the purpose and enclosed on all sides to a height of at least 1 m, to prevent the fall of any person, material or gear from the cradle; and

(ii) the cradle shall be secured to the hauling rope by a screwed shackle or shackles and slung to prevent swinging or tipping.

Division 2 — Portable Ladders

Definitions

67. In this Division, unless otherwise specified "ladder" means any of the following types of industrial ladders:

(a) single ladder;

(b) cleat or batten ladder;

(c) extension ladder;

(d) folding step-ladder;

(e) platform step-ladder;

(f) trestle ladder; or

(g) any other ladder of an approved type which may be required to be used in construction work.

Design and construction

68.(1) Timber ladders shall comply with A.S.1688.

(2) Metal ladders shall comply with A.S.1892.

(3) Ladders designed and constructed from any material for which an Australian Standard does not exist, shall be of an approved type and such ladders shall be manufactured and tested in accordance with conditions specified by the Chief Inspector.

Use and maintenance of portable ladders

69.(1) Portable timber ladders shall only be used and maintained in accordance with A.S.1689.

(2) Portable metal ladders shall only be used and maintained in accordance with Appendix B of A.S. 1892.

(3) Notwithstanding sub-rules (1) and (2), the following additional safeguards and practices shall also apply:

(a) a ladder used as a place from which a person has to work shall rise to a height at least one metre above the highest rung to be reached by the feet of the person working on the ladder;

(b) every ladder or run of ladders, rising a vertical distance of 6 m or more shall be provided with a landing platform so that the vertical distance between any 2 successive landing platforms does not exceed 6 m;

(c) when a ladder is set up in a public place or thoroughfare and accidental collision may occur, effective means shall be provided to prevent any displacement of the ladder or dislodgement of any person using such ladder;

(d) every ladder shall be placed on a firm footing and effectively secured to prevent sideways movement;

(e) ladders shall not be supported by boxes, loose bricks or other types of loose packing;

(f) every single ladder and extension ladder shall be set up so that the length of the horizontal line drawn from the base of the ladder to its intersection with the vertical line drawn from the top support of the ladder is one-quarter of the supported length of the ladder, unless otherwise approved by an Inspector;

(g) no trestle ladder shall be used to support more than 2 people and 125 kg of tools and materials;

(h) no ladder shall be used as a guy, brace, tom, strut, beam, plank or skid or for any use other than as a ladder;

(i) ladder brackets shall not be used unless approved by an Inspector and the ladder is adequately restrained.

Metal and wire reinforced ladders

70.(1) No metal ladder or ladder reinforced with wire shall be used in the vicinity of any electrical conductor or any electrified equipment or apparatus if there is a danger to any person from receiving an electric shock.

(2) Ladders which are required to be used for carrying out electrical installations, maintenance repairs, inspections or similar electrical work shall have been tested and proved satisfactory for electrical conductivity according to the requirements of the Northern Territory Electricity Commission established under the *Electricity Commission Act*.

Roof ladders

71.(1) All ladders used for working on roofs shall be approved.

(2) All roof ladders shall extend the full slope of the roof or such area of the roof as is under construction.

(3) Ladders used on roofs shall not be supported by gutters.

PART VI — EXCAVATION WORK

Division 1 — Shoring

Material for shoring

72.(1) On all excavation work, an adequate supply of timber of suitable quality and dimensions, or other suitable material for use as shoring, shall be provided and used where necessary to prevent injury to any person from a fall or dislodgement of earth, rock or other material forming the side of, or adjacent to, any excavation or earthwork.

(2) Timber shoring members shall be used in accordance with Schedule 3 to the Construction Safety (Australian Standards) Rules.

Use of shoring

73.(1) Timber or material provided pursuant to rule 72 shall be used to adequately support the sides of every excavation or other opening in the ground 1.5 m or more in depth, in which workers are required to work, against collapse, unless the sides of the excavation are self-supporting under all conditions of operation.

(2) An Inspector may require such additional shoring in an excavation as he considers necessary in accordance with these Rules.

Strength of shoring material

74.(1) All timber, metal, gear or other equipment or material used in connexion with the support of any excavation shall be designed, constructed and maintained in a safe and satisfactory condition.

(2) All struts, braces, runners and walings in any excavation shall be properly and adequately secured to prevent their accidental displacement or fall.

Erection of shoring

75.(1) Excavation work and the erection of shoring, bracing and sheet piling shall be carried out under the direct supervision of a competent person, and the excavation, shoring, bracing and sheet piling shall, at all times, be maintained in good and safe order and condition.

(2) The Chief Inspector may require the constructor to submit such information as he may require relating to any shoring, bracing or sheet piling used or intended to be used in an excavation.

(3) During the course of excavation work a competent person shall examine that work each day before work commences and so often as may be necessary to determine whether the shoring is adequate and secure.

(4) A person, not being a person engaged in the erection of shoring, shall not be permitted to enter an excavation unless shoring is provided and secured in that excavation.

Prevention of collapse of structures

76.(1) Excavation which is likely to reduce the security or stability of any part of any temporary or permanent structure, shall not be commenced or continued unless adequate precautions are taken before and during the progress of the work to prevent danger to any person from the collapse of the structure or any part of the structure.

(2) Where a workman is in an excavation and other workmen are above him —

(a) the contractor shall provide an adequate diaphragm to safeguard workmen against injury from tools or other objects falling from above; and

(b) the doors of the diaphragm shall be as small as practicable, open upwards only and kept closed except when necessarily open for the passage of persons, gear or materials.

Protection of excavations and other openings

77.(1) Every accessible part of an excavation shall be securely fenced or adequately protected by other approved means to prevent a person from sustaining injury.

(2) Protective fences provided pursuant to this rule —

(a) shall be of sufficient height, but not less than 1 m, and strength to ensure that it supports any person falling against it; and

(b) shall be of an approved type.

(3) Protective fences shall be maintained in good condition until the excavation is backfilled.

(4) Notwithstanding sub-rules (1), (2) and (3) of this rule —

(a) the constructor may isolate the area where the excavation is in progress by providing a perimeter fence not less than 1.5 m in height with lockable gates; and

(b) the constructor shall be required to ensure the safety of workmen from excavations by erection of suitable signs and barricades within the perimeter of the fenced area.

(5) All excavations and associated protective fences or means referred to in sub-rule (1) shall be clearly defined by day and night by signs as specified in A.S.1742, A.S.1743 and A.S.1744.

Placing of material

78. Material shall be placed at least 1 m back from the edge of the excavation and placed and retained so that no excavated material can fall into the excavation.

Placing of machinery and equipment

79. No hoisting appliance, power-driven equipment or other heavy object shall be placed or moved near the edge of any excavation where collapse of the side of the excavation or other opening may occur unless the side of the excavation or opening has been adequately supported to resist any extra pressure due to superimposed loads.

Safe access and egress

80.(1) Safe access and egress shall be provided in every excavation at each end in which persons are working or will be required to work.

(2) Every excavation in the form of a trench or pit shall have safe means of access and egress at least every 30 m along the length of the trench or pit.

(3) Ladders used as a means of access or egress in an excavation shall extend from the bottom of the excavation to at least 1 m above the top of the excavation.

Placing or withdrawing sheet piling or shoring

81. Hoisting appliances or other equipment shall not be used for placing or withdrawing sheet piling or shoring unless the hoisting appliance or other equipment is designed for that purpose or measures are taken to ensure that the appliance or other equipment is not subjected to loads greater than those specified by the manufacturer for the safe operation of that equipment.

Shoring for excavation with sloping side

82.(1) Shoring shall be provided in conformity with rule 73 when the sloping side of an excavation, not exceeding the angle of repose of the soil, does not extend to the bottom of the excavation.

(2) Shoring shall extend not less than 300 mm above the bottom of the slope.

(3) Boards shall be placed behind the shoring referred to in sub-rule (2) where necessary, to prevent material sliding into the excavation.

Additional loads

83. Shoring, bracing or sheet piling shall not be used to support scaffolding or any other superimposed loads unless the shoring, bracing or sheet piling has been designed or reinforced to withstand the additional loads.

Movement or alteration to be authorized

84. No person shall interfere with, move or alter in any way, any shoring, bracing, sheet piling, barricade, guard rail or other material which has been provided in connexion with construction work unless the person carrying out or in charge of the work authorizes the interference, moving or alteration.

Shoring in soft soil, &c.

85.(1) Excavations in —

(a) loose, sandy or soft soil;

(b) soil previously excavated; or

(c) soil under hydrostatic pressure,

shall have sheeting, held firmly in place, either driven into the bottom of the excavation or by other suitable means.

(2) Timber walings used in shoring an excavation shall have the smaller dimension of the waling placed against the sheeting.

(3) Shoring of excavations shall proceed as an excavation progresses and when a mechanical digger is used, shoring shall be kept as close as practicable to the digger unless otherwise approved by an Inspector.

Shafts, wells and tunnels

86.(1) Every shaft and well shall be securely cased, lined or otherwise made safe from collapse.

(2) Every drive and tunnel shall be securely protected and made safe from collapse.

(3) All entrances between the bottom of every shaft and the poppet head pulley wheel shall be securely fenced, including any entrances from an elevated platform.

(4) Any fence or cover may be temporarily removed, in order to facilitate the work which is in progress.

(5) When a fence or cover is removed from any shaft entrance to allow work to proceed, 2 horizontal bars shall be fixed across an entrance not less than 600 mm nor more than 1.2 m from the floor.

(6) When access to a working area is by means of a shaft, and the shaft is also used for haulage purposes, then the shaft shall be divided into 2 compartments, one to be used for a ladder way, the other for haulage purposes.

(7) Ladder way compartments shall be securely fenced from haulage compartments.

(8) In addition to any mechanical means of ingress and egress, every shaft shall have at least one adequate ladder or footway communicating from the surface of the working area.

(9) Ladders permanently used in a shaft for ingress and egress of persons shall be erected in accordance with A.S.1657.

(10) Every ladder-shaft shall have substantial platforms fixed at intervals of not more than 6 m.

Cofferdams and caissons

87.(1) Every cofferdam or caisson and every part of them shall be of good construction, sound material, adequate strength and properly maintained.

(2) A cofferdam or caisson shall be secured in position so as to prevent movement likely to be dangerous to any person.

(3) Bracings and ties of every cofferdam or caisson shall be properly secured to prevent accidental displacement or fall of the cofferdam or caisson.

(4) Persons in charge of the construction, placing in position, substantially adding to, altering or dismantling a cofferdam or caisson, and as far as practicable, every worker employed for this work, shall possess adequate experience of that type of work.

(5) Safe means of ingress and egress to a cofferdam or caisson shall be provided by the constructor where persons are employed in a cofferdam or caisson.

(6) Adequate means of egress shall be provided for all persons in every cofferdam and caisson in case of an inrush of water.

(7) Approved safety lines shall be provided by the constructor on all cofferdams and caissons.

PART VII — EXPLOSIVES

Conditions of use

88.(1) Where explosives are used on or in connexion with construction work, the constructor shall ensure that all explosives are transported, stored, handled and used in accordance with the *Explosives Act*.

(2) A person who is under the age of 18 years or who does not understand the English language sufficiently to be able to discharge his duties, shall not handle, charge or fire explosives.

(3) A person shall not fire an explosive charge, by fuse or electricity, unless he holds a current Northern Territory Shotfirer's Certificate for that particular type of work.

(4) A person in charge of an operation in which an explosive is used shall not permit a person to use an explosive unless he has first sighted that person's Shotfirer's Certificate issued under the *Explosives Act* and is satisfied that it is in force.

PART VIII — SCAFFOLDING

Division 1 — General

Approvals for use

89.(1) Subject to this rule, no scaffolding or component part of scaffolding shall be used which does not comply with the provisions of these Rules unless the design and details, accompanied by the prescribed fee, are submitted to the Chief Inspector for his written approval.

(2) An Inspector may require a proposed method of scaffolding to be submitted to the Chief Inspector for approval and the constructor shall submit drawings and calculations as required by the Chief Inspector.

(3) A scaffolding, designed and certified to be safe by a practising structural engineer, which does not comply with the provisions of these Rules may be used.

(4) An Inspector may require the constructor to supply to the Chief Inspector for his approval drawings and calculations in respect of a scaffold designed under sub-rule (3).

Quality of timber

90.(1) All timber used for scaffolding, planks, gangways and runs shall be of sound structural timber, have long fibres, be free from apparent defects and shall not be painted or treated in a manner likely to hide any defects.

(2) Timber used pursuant to this Part shall comply with the requirements of A.S.1720.

Repair of damaged scaffolding

91.(1) Subject to section 24 of the Act, scaffolding which has been damaged shall be immediately repaired or replaced.

(2) No person shall cause or permit a worker to be on any damaged scaffolding, except for the purpose of effecting repairs.

(3) After permission is given pursuant to section 24 of the Act the scaffolding or related equipment shall be immediately repaired by a competent person authorized by the constructor or replaced by a licenced scaffolder.

Alteration or interference with scaffolding, &c.

92. Except as provided in rule 91 no person shall alter, interfere or modify any scaffolding, shoring, power-driven equipment or other device used for or in connexion with construction work, or carry out repairs (other than those required for normal maintenance purposes), unless authorized to do so by the person in charge of the construction work.

Erection and examination of scaffolding

93.(1) Scaffolding of a height greater than 2 m shall not be erected, taken down or altered except under the direction of a licensed scaffolder.

(2) All scaffolding —

(a) shall be secure;

(b) shall form a rigid stable structure under all conditions of use; and

(c) shall be maintained in good and safe order and condition.

(3) Before scaffolding of a height greater than 2 m is erected, all components and gear shall be examined by a licensed scaffolder.

(4) No scaffolding or scaffolding component shall be used for any purpose other than that for which it was designed.

(5) Scaffolding shall not be set up within 4.6 m of any overhead electrical power line or equipment until the line or equipment has been de-energized by the Northern Territory Electricity Commission or has been protected in an approved manner.

Size and end protection of scaffolding planks

94.(1) Scaffolding planks shall either be approved or comply with the requirements of A.S.1577 or A.S.1578.

(2) Scaffolding planks less than 38 mm thick by 225 mm wide shall not be used unless otherwise approved.

(3) The ends of scaffolding planks shall be free from splits and cracks and may be protected from splitting by either —

(a) binding the ends with 25 mm wide by 0.9 mm minimum thickness galvanized hoop iron, extending for a minimum distance of 150 mm along each edge and secured with not less than 2 large headed clout nails not less than 30 mm long on each edge and 2 mm at the end. The ends of the hoop iron shall be finished so that injury through sharp ends is avoided;

(b) a 6 mm diameter steel bolt (not more than 150 mm nor less than 75 mm in length) through a drilled and counter-bored hole. The bolt shall be secured in position by a nut tightened onto a steel washer, and the thread burred over. The bolt head, nut and washer shall each finish below the edge surface;

(c) laminating the ends by cutting a 100 mm deep trench across the width of the plank end and in the centre of the edge thickness, and driving in a 100 mm wide by 10 mm thick piece of plywood the same width as the plank, and the plywood insert shall be waterproof, glued and then screwed in place with 2 counter-sunk wood screws either side; or

(d) any other approved manner.

Plank span length

95. Except as provided by rule 97(1) no timber scaffolding plank shall span a greater distance than —

(a) 2.3 m where the dimensions of the plank are 225 mm wide by 38 mm thick; or

(b) 3 m where the dimensions of the plank are 225 mm wide by 50 mm thick,

provided that a competent person may approve these spans to be increased by securely connecting 2 or more planks to increase their strength in bending.

Division 2 — Platforms, Walkways and Guard Railings

Construction of working platforms

96. All scaffold planks or working platforms —

(a) shall be laid close together except where the working platform is erected for solid plaster or similar trades and then the scaffold planks —

(i) shall be spaced at distances not exceeding 225 mm up to a height of 6 m; or

(ii) shall be close laid for a platform that exceeds a height of 6 m; or

(b) shall be laid so that the scaffold planks forming a working platform shall not endanger the safety of workers using the platform.

Width of working platforms

97.(1) No working platform shall be less than 450 mm wide except that a single plank 225 mm wide by 50 mm thick may be used for the support of a worker over a span of not more than 3.6 m if the worker cannot fall a greater distance than 2.5 m.

(2) No working platform need be used in the construction of a timber framed single dwelling-house except on scaffolding used external to the house in which case it shall conform to the requirements of sub-rule (1).

(3) Working platforms that do not comply with this rule may be used with the approval of an Inspector.

Guard railing for working platforms

98.(1) Except as provided in these Rules, every platform or working area from which it would be possible for a person to fall a distance of 2.5 m or more shall have a guard rail which shall be not less than 75 mm by 50 mm in dimension or formed of a round metal tube complying with rule 104(2).

(2) Each guard rail shall be placed 1 m above the floor of the platform or working place and shall be securely and effectively connected to supporting members, which shall be not more than 2.5 m apart unless otherwise approved by an Inspector, and the dimensions of which shall comply with the requirements of rule 98(1) or be of adequate strength for the purpose intended.

(3) A person may remove any guard rail, fence or part of a guard rail or fence for the purpose of handling material or for the installation of other work and any guard rail, fence or part of them removed shall immediately be replaced upon completion of that work.

(4) Toe boards, unless otherwise provided in these Rules shall be of timber not less than 225 mm wide by 25 mm thick and shall extend throughout the whole length of every working platform or working place, except parts used for ladderways or hoist ways. Each toe board shall be placed so that one edge rests on the floor of the platform or work place and is securely fastened in position and, where a greater measure of safety is necessary, the vertical space between the guard rails and the platform plank shall be enclosed by netting or sheeting.

(5) This rule shall not apply to the elevated floor of a timber framed single dwelling-house.

Fixed ladders

99.(1) Where ladders provide fixed access to different floors or levels —

(a) the position of the ladders shall be staggered;

(b) a protective landing with the smallest practicable opening shall be provided at each floor or level; and

(c) they shall be set up so that the length of the horizontal line drawn from the base of the ladder to its intersection with the vertical line drawn from the top support of the ladder is one-quarter of the supported length of the ladder, unless otherwise approved by an Inspector.

(2) Every ladder or run of ladders rising a vertical distance between any 2 successive landing places shall not exceed 6 m.

Safe access to working platforms

100.(1) Safe and suitable access shall be provided and maintained at all times to every working platform or working place.

(2) Stairs shall conform to A.S.1657.

Height of ladders

101. All ladders shall extend at least 1 m above the working platform or work place to which they provide access.

Protection of openings

102.(1) Every opening in —

(a) the floor of a building or in any place where construction work is being carried out; or

(b) the perimeter, wall or parapet surrounding or adjacent to any floor,

shall be securely protected to safeguard persons from falling or being injured by material falling through the opening.

(2) When the protection consists of —

(a) fencing, it shall be at least 1 m in height and shall comply with the provisions relating to protective fencing in rule 77; or

(b) a cover, it shall be so constructed and fixed in position to securely cover the opening and shall be made of material of adequate strength to prevent a person from falling through the opening.

(3) No cover, fencing or other means of protection of an opening or perimeter shall be removed, except for the time and to the extent required to allow the access of persons, or the transport or shifting of materials, and shall be replaced immediately after use.

Gangways and runs

103.(1) Every gangway or run, any part of which is 2 m or more above the ground or floor level, shall be closely boarded or planked and be at least 450 mm wide.

(2) Where the gangway or run is used for the passage of material, a clear passageway shall be maintained which is not less than 600 mm wide and is adequate in width for transport of material without the removal of guard rails and toe boards.

(3) All planks forming a gangway or run shall be securely fixed and supported so as to prevent undue or unequal sagging of the planks.

(4) Where the slope of the gangway or run renders additional footholds necessary, and in every case where the slope exceeds 1 vertical to 3 horizontal, there shall be proper stepping cleats which —

(a) shall be 50 mm wide by 12 mm thick wooden cleats fastened to the planks at 400 mm centres; and

(b) shall be the full width of the gangway except that they may be interrupted over a breadth of 100 mm to facilitate the movement of barrows.

(5) Stairs and landings shall be provided with guard rails throughout their length.

(6) Gangways and runs from which a person may fall a distance of 2 m or more shall be provided with suitable guard rails and toe boards.

Division 3 — Tubular Metal Scaffolding

Tubes for scaffolding and construction of tubular metal scaffolding

104.(1) All metal tubes used for scaffolding purposes shall comply with A.S.1575.

(2) The outside diameter of every tube shall be not less than 48 mm the wall of a tube shall be not less than 4 mm thick if the tube is of steel construction and 4.5 mm if of aluminium construction.

(3) Tubular metal scaffolding shall be constructed in accordance with the requirements of A.S.1576.

Classes of tube and coupling scaffolding

105. For the purpose of these Rules, tube and coupling scaffolding is divided into the following 3 classes:

(a) "heavy duty scaffolding", the loading on any one working platform bay of which shall not exceed 625 kg, including men and material;

(b) "medium duty scaffolding", the loading on any one working platform bay of which shall not exceed 430 kg, including men and material;

(c) "light duty scaffolding", the loading on any one working platform bay of which shall not exceed 190 kg, including men and material.

Tubes to be free from defects

106.(1) Tubes for use in the construction of tubular metal scaffolding shall be straight and free from indentations, corrosion and other defects.

(2) Ends of each tube shall be squared to ensure even bearing over the whole area of the section at joints and connexions.

Fittings for tubes

107.(1) Every fitting used for connecting members of tubular metal scaffolding shall accurately embrace over the whole area of its bearing surface the member or members on which it is used.

(2) No fitting which uses frictional grip shall be used to transmit primary tensile forces.

(3) A fitting shall not be used if it has screw heads in a blind boss or nut and the amount of screw thread within the boss or nut cannot be directly observed.

Construction of scaffolding

108. Tubular metal scaffolding shall comprise a number of standards to which are fixed horizontal ledgers supporting putlogs on which are laid scaffolding planks, the structure being braced both longitudinally and transversely.

Stability of scaffolding

109.(1) Tubular metal scaffolding shall be adequately braced in all directions to form a rigid structure capable of maintaining a wide margin of stability under all conditions of use and shall be effectively tied to the building or structure by ties securely fixed to standards, unless the scaffolding is so designed and constructed as to ensure stability without such ties.

(2) Bracings and ties shall be of round metal tubing complying with rule 104 and A.S.1576.

(3) Reveal screws shall not be used as ties unless approved by an inspector.

Base plates

110.(1) A base plate —

(a) shall be fitted in the bottom of every standard used in tubular metal scaffolding; and

(b) shall be on a firm footing.

(2) Where standards are likely to be struck by vehicles or moving equipment, their bases shall be effectively protected from dislodgement by approved fenders.

(3) Where settlement of a standard is likely, the standard shall be provided with a foundation of a size and strength to spread the load from the standard over an area sufficiently large to prevent settlement.

Dimensions of base plates

111.(1) A base plate for a standard used in tubular metal scaffolding shall have a level surface not less than 150 mm long by 150 mm wide concentric with the axis of the shank.

(2) The upper surface of the plate shall provide a smooth and even bearing for the end of a tube and shall not damage or distort the tube under load.

(3) The shank —

(a) shall be not less than 50 mm long and 16 mm in diameter or equivalent cross-sectional area; and

(b) shall be a loose fit to allow the insertion of the full depth of the shank inside the tube.

(4) A base plate of mild steel shall be not less than 6 mm thick.

(5) Where holes are provided in a base plate they shall be provided diametrically opposite each other at a distance of not less than 50 mm from the centre of the plate and not less than 20 mm from the edge of the plate.

(6) Adjustable base plates shall comply with sub-rule (1) and shall be capable of supporting without distortion the maximum loadings transmitted from the member it is supporting.

Sole plates

112.(1) A sole plate shall be provided when erecting scaffolding if the existing or future condition of the ground requires it.

(2) A sole plate shall be continuous and consist of timber at least 225 mm wide by 38 mm thick.

(3) The joints in the sole plates shall be located within the middle third of the bay length.

(4) At the ends of the scaffolding the boards shall project at least 600 mm beyond the last standard.

Joints in standards

113.(1) Standards shall be pitched on base plates and shall be vertical.

(2) Joints in standards shall be staggered and shall not occur —

(a) in adjacent standards in the same lift;

(b) in the same standard in adjacent vertical lifts; or

(c) more than once between any 2 adjacent ledgers.

(3) Joints in standards shall be arranged so that they occur as near as practicable to a ledger.

Ledgers

114.(1) Ledgers shall be horizontal and fixed on the inside of standards with right angle couplings.

(2) Joints in ledgers shall be staggered and shall not occur —

(a) in horizontally adjacent ledgers in the bay;

(b) in vertically adjacent ledgers in the same bay; or

(c) in the same ledger in adjacent bays.

(3) Ledgers shall not be joined in the end bays of any scaffolding.

Gin wheel

115.(1) Where a gin wheel is used for the erection of scaffolding the load lifted shall not exceed the safe working load of the gin wheel stamped on the wheel.

(2) Rope used on a gin wheel shall be not less than 16 mm in diameter.

(3) Where the load to be lifted does not exceed a mass of 50 kg —

(a) on independent scaffolding the gin wheel support tube shall be attached to 2 standards and the point of suspension of the wheel shall not project more than 600 mm beyond the outer supporting standard; or

(b) on putlog scaffolding, the supporting tube shall be connected to a standard and be braced to form a safe and adequate support for the gin wheel.

(4) For loads of mass in excess of 50 kg the support shall be specially designed and approved.

Access through scaffolding

116.(1) Openings through scaffolding for clear entry of trucks or for any other reason may be constructed by omitting the standards between adjacent bays for a maximum height of 6 m by forming a trussed assembly above the opening.

(2) The construction of the truss shall not reduce the strength or stability of the scaffolding.

(3) Construction of openings greater than 2 bays wide or 3 bays high shall be approved.

Spacing of standards

117.(1) The transverse spacing of the rows of standards shall not exceed 1.5 m measured centre to centre.

(2) The longitudinal spacing of standards shall be in accordance with Schedule 4 to the Construction Safety (Australian Standards) Rules.

(3) Ledgers shall be spaced at not more than 2 m vertical centres.

(4) Putlogs used in independent scaffolding shall be placed at each side of a standard, except standards at ends of the scaffolding frame, where only one putlog need be used.

(5) Putlogs shall be placed not more than 225 mm from a standard measured from the centre line of the standard to the centre line of the putlog.

(6) On lifts not used as working platforms, a single transom shall be connected to the standard with a right angle coupling at the intersection of the ledger and the standard.

(7) Vertical spacing of ties shall not exceed 4 m.

(8) Ties shall be fixed at each end of the scaffolding, or one bay from each end, at intervals along the length of the scaffolding in accordance with Schedule 5 to the Construction Safety (Australian Standards) Rules.

(9) If scaffolding is to exceed 15 m in height, ties shall be fixed on every standard or every second standard to suit the requirements for the full height of the scaffolding.

(10) The height of any class of independent scaffolding shall not exceed 45 m unless approved.

(11) No more than 2 working platforms along the full length of the scaffold shall be set up and used on any class of independent scaffolding at the same time.

(12) Working platforms may be continuous on one level or planked out on different levels.

Light duty independent

118.(1) Standards used in special light duty independent scaffolding shall be spaced not more than 3 m apart in any row measured from the centre line of one standard to the centre line of the adjacent standard in the same row.

(2) Spacing between rows of standards shall be 800 mm from the centre line of the standard to the centre line of the adjacent standard.

(3) Ledgers used in special light duty independent scaffolding shall be spaced less than 2 m apart.

(4) Placing of putlogs used in special light duty independent scaffolding shall comply with rule 117(5).

(5) Spacing of ties for special light duty independent scaffolding shall comply with rule 117(7) and (8).

119.(1) The spacing of standards used in single pole scaffolding shall not exceed — Single pole scaffolding

(a) 1.8 m if aluminium tube 4.5 mm wall thickness or steel tube 4 mm wall thickness is used; or

(b) 2.3 m if steel tube 4.88 mm wall thickness is used.

(2) The span of a putlog used in single pole scaffolding from the centre line of the standards to the face of the supporting wall shall not exceed 1.5 m.

(3) Putlogs shall be placed at each side of each standard except the standards at the ends of the scaffolding frame where only one putlog need be used.

(4) Every putlog shall be placed not more than 225 mm from a standard, measured from the centre line of the standard to the centre line of the putlog.

(5) The spacing of ties for single pole scaffolding shall comply with the requirements of rule 117(7) and (8).

(6) Ledgers used in a single pole scaffolding shall be fixed at less than 2 m, provided that such placing shall not necessitate overhand brick laying methods hazardous to workmen laying the bricks.

(7) No working platform on single pole scaffolding shall exceed a height of 45 m above the base of the scaffolding unless approved.

(8) No more than one heavy duty working platform and one light duty working platform shall be set up along the full length of the scaffolding at the same time.

(9) A working platform may be continuous on one level or planked out on different levels.

120.(1) The spacing of the standards of tower scaffolding shall be not less than 1.2 m wide by 1.2 m thick, or more than 3 m wide by 2.4 m thick. Tower scaffolding

(2) Ledgers and transoms shall be at 2 m centres maximum.

(3) Putlogs —

(a) shall be located 225 mm from standards; and

(b) shall be supported at midspan when one span exceeds 1.5 m.

(4) No more than one working platform shall be erected on tower scaffolding unless approved by an Inspector.

(5) Face bracing shall be installed on the 4 sides of tower scaffolding and diagonal plan bracing shall be provided at every third lift spacing throughout the full height of the scaffolding.

(6) The maximum height of a free-standing tower shall not exceed 3 times the least base dimension measured centre to centre of the standards.

(7) The maximum height of a tied tower shall not exceed 45 m.

(8) The maximum height of a guyed tower shall not exceed 15 m unless approved.

121.(1) Standards used in birdcage scaffolding shall be spaced as set out in Schedule 6 to the Construction Safety (Australian Standards) Rules. Birdcage scaffolding

(2) Ledgers and transoms used in birdcage scaffolding shall be spaced at not more than 2 m centres, and shall be fixed to standards with right angle couplings.

(3) Putlogs used in birdcage scaffolding shall be placed to comply with rule 117(4) and (5).

(4) When scaffolding is to be used by solid plasterers or similar tradesmen, platform planks may be spaced not more than 225 mm apart.

(5) No more than one working platform shall be set up on the birdcage scaffolding frame at any one time.

(6) The maximum height of any class of birdcage scaffolding shall not exceed 3 times the least base dimension unless the scaffolding is tied to or butted against surrounding walls.

(7) Notwithstanding sub-rule (6), the maximum height of birdcage scaffolding shall not exceed 45 m.

Mobile scaffolding

122.(1) A mobile scaffolding shall be constructed in accordance with the requirements for a birdcage or tower scaffolding.

(2) A mobile scaffolding —

(a) shall be constructed to form a rigid and stable structure under all conditions of use;

(b) shall have horizontal diagonal bracings as near as practicable to the base; and

(c) shall have at least 4 castors under the standards to safely support the scaffolding and every standard not fitted with a castor shall be strutted.

(3) A castor on a mobile scaffolding —

(a) shall be designed and constructed to provide adequate strength, rigidity and bearing surfaces for its purpose;

(b) shall be clearly marked with the safe working load as assembled;

(c) shall have approved means to prevent the castor falling from the end of the scaffolding tube;

(d) shall either be fitted with an effective wheel brake that cannot be accidentally released or adequately restrained so as to prevent accidental movement; and

(e) shall comply with A.S.1961.

(4) The maximum height of the working platform on mobile scaffolding above the base level shall not exceed 3 times the minimum base width.

(5) All scaffolding planks used to form the working platform on mobile scaffolding shall be lashed or cleated or otherwise secured to prevent displacement.

(6) No person shall remain on mobile scaffolding while it is being moved.

(7) A mobile scaffold tower should be used and moved only on surfaces sufficiently firm and level to avoid instability.

Division 4 — Timber Scaffolding

Definitions

123. Terms used in describing timber shall have meanings as defined in A.S.01, or as defined herein:

"Grade" means the structural quality of a timber section as determined in accordance with the Australian Standard visual grading rules appropriate to its species;

"Stress Grade" means a value assigned to a piece of timber to indicate for the purposes of structural design the set of basic stresses appropriate to that piece.

Timber strengths

124.(1) Timber used in the construction of scaffolding shall be Strength Group 4 Standard Grade or better.

(2) Timber of Strength Groups 5 and 6 with stress grades of F8 or better may be used with approval when designed and certified as satisfactory by a practising structural engineer.

Design criteria

125.(1) Where a timber scaffold has not been designed for a particular load the following standard criteria will apply so that —

(a) all timber is to be in accordance with the requirements of rule 124(1);

(b) heavy duty loading and light duty loading shall be in accordance with rule 105;

(c) standards are to be tied into the building at intervals not greater than 3 m vertical and every second standard unless otherwise directed by an Inspector;

(d) standards are not to be greater than 2.5 m apart centre to centre;

(e) if 2 or more rows of standards are used they shall not be spaced more than 1.4 m apart;

(f) ledgers shall not be spaced more than 1.8 m apart vertically for an independent scaffold and 1.4 m apart for a single pole scaffold;

(g) putlogs shall not be spaced greater than 2 m apart;

(h) face braces shall be attached to the external row of standards of the scaffolding for the full height and length of the scaffolding; and

(i) transverse braces shall be attached diagonally on every lift connecting the internal and external standards at —

(i) both ends of the scaffolding; and

(ii) intervals not exceeding 15 m.

(2) For a scaffold not greater than 10 m high, timber with the sectional dimensions shall be used as specified in Schedule 7 to the Construction Safety (Australian Standards) Rules.

(3) Timber scaffolding greater than 10 m high shall not be used unless approved.

(4) Concentrated loads on any bay of a non-designed scaffold shall not exceed 180 kg.

(5) No more than 2 working platforms shall be set up and used on a scaffolding bay.

(6) Working platforms shall be fully decked when set up.

Standards, &c.

126.(1) Standards shall be one piece of timber, or more than one piece but joined with timber fish plates the same size as the standard, 1 m long secured on either side of the join with 2 bolts 15 mm in diameter.

(2) Ledgers for heavy duty scaffolding shall be fixed to the outside of every standard with 15 mm diameter bolts.

(3) Ledgers for light duty scaffolding shall be securely nailed or lashed to the standards against the underside of the putlogs.

(4) Ledgers shall be one piece of timber, or pieces with all joints butt-joined with a timber fish plate 1 m long, the same width and thickness as the ledger and secured on either side of the join by 2 bolts 15 mm in diameter.

(5) Ledgers shall be continuous for the length of a scaffold frame and fixed so that the greater rectilinear dimension is vertical.

(6) Joints shall not be made in a ledger of one span or in the vicinity of the end or outer standards or in adjacent spans, but shall be at or adjacent to the ledger.

(7) A putlog —

(a) shall not be joined;

(b) shall be secured on each side of each standard used in heavy duty scaffolding using 15 mm diameter bolts;

(c) shall be securely nailed or lashed to the standard when used on light duty scaffolding; and

(d) shall be securely fixed to the wall of the building or structure when used on single pole scaffolding.

(8) Braces shall be secured to standards to ensure a rigid, safe and secure scaffold, and shall be bolted using 15 mm diameter bolts when used on heavy duty scaffolding.

(9) Bolts used in timber scaffolding shall have 2 washers and be kept properly tightened.

(10) Sole plates used in timber scaffolding shall comply with rule 112.

Other timber scaffolds

127. Timber scaffolding not complying with rules 125 and 126 —

(a) shall be designed by a practising structural engineer; and

(b) shall comply with the Australian Standards in Schedule 8 to the Construction Safety (Australian Standards) Rules.

Approval of fixing and framing

128. This Division prohibits the use of fixing methods or framing not specifically mentioned unless otherwise approved.

Division 5 — Suspended Scaffolding

Warning notice

129.(1) Suspended scaffolding erected or used over a thoroughfare shall have attached at each end of the thoroughfare and under the scaffolding a notice visible to any approaching person.

(2) The notice required by sub-rule (1) —

(a) shall be of rigid material;

(b) shall be not less than 750 mm wide and 450 mm high;

(c) shall bear the words "DANGER — MEN WORKING ABOVE" in black lettering not less than 75 mm high on a yellow background; and

(d) shall not bear any other words.

Outriggers

130.(1) Heavy duty suspended scaffolding shall comply with this rule unless otherwise approved.

(2) Outriggers —

(a) shall be rolled steel sections with minimum dimensions of 178 mm by 89 mm weighing 22 kg per metre or other steel sections of equivalent strength, and the length shall be greater than 5 m;

(b) shall be installed at right angles to the building face; and

(c) shall be spaced not more than 3 m apart.

(3) Outriggers from a building face shall overhang not more than 2 m so that a platform affixed hangs as close as practicable to the building face.

(4) Outriggers shall be securely affixed to the building or structure —

(a) by at least 2 bolts of a minimum diameter of 16 mm;

(b) by counterbalancing with weights to provide a safety factor of 3 under maximum loading conditions; or

(c) by other approved means.

(5) No part of a building or structure shall be used as a support for an outrigger or suspended scaffolding unless it is of sound material and sufficiently stable and of adequate strength to afford safe and reliable support.

(6) Stops shall be provided at the end of each outrigger.

(7) Wire rope anchorages provided on an outrigger —

(a) shall be located vertically above the suspension point or the rope drum centre of the scaffolding winch on heavy duty suspended scaffolding; and

(b) shall be capable of sustaining the ultimate strength of the wire rope.

(8) Bearers used to support a platform —

(a) shall be formed of 64 mm by 64 mm by 10 mm steel angle or other steel sections of at least equivalent strength; and

(b) shall be securely fixed to each scaffolding winch with a minimum of 2 steel bolts 15 mm in diameter, securely fixed in position by lock nuts, split pins or other effective methods.

(9) Wire ropes used to support heavy duty suspended scaffolding —

(a) shall be in sound condition and of approved construction with a minimum diameter of not less than 10 mm;

(b) shall have a safety factor of at least 10, based on the maximum load the ropes support;

(c) shall have at the lowest position of the platform at least 2 turns of wire rope on each drum;

(d) shall be fitted at one end with a thimble securely spliced into each rope in accordance with rule 64; and

(e) shall be effectively anchored to the outrigger with a 20 mm diameter steel bolt or its equivalent.

(10) Wire rope clips or metalled sockets shall not be used in the support of heavy duty suspended scaffolding.

(11) The total weight of workers, tools and materials on any one bay shall not exceed 550 kg and the total weight of the scaffolding platform, winches, ropes, workers, tools and materials on any one outrigger shall not exceed 820 kg.

(12) Each plank shall be of a minimum dimension of 225 mm wide by 38 mm thick.

(13) A cleat formed of 100 mm by 38 mm timber and secured to the underside of the platform shall be placed at the centre of the platform to prevent unequal deflection of the planks.

(14) Each plank shall be securely fixed to the platform bearers to prevent displacement with overlap not less than 200 mm.

(15) When a platform overlaps an adjacent platform both platforms shall be secured together to the supporting bearer by 100 mm diameter bolts.

(16) The maximum width of the platform of any heavy duty suspended scaffolding shall be 1.5 m.

(17) Guard rails and toe boards shall be provided on each side and end of the platform.

(18) The guard rails and toe boards shall comply with the provisions of rule 98 provided that the maximum distance between guard rail supports may exceed 2.5 m but may not exceed 3 m. If the distance between guard rail supports exceeds 2.5 m but does not exceed 3 m, the dimensions of guard rails shall be not less than 100 mm wide by 75 mm thick.

(19) If a toe board is insufficient to prevent falling materials, each side and end of the scaffolding shall be securely enclosed with wire mesh or other effective means.

(20) All reasonable precautions shall be taken to prevent the swaying of heavy duty suspended scaffolding.

(21) Whenever a heavy duty suspended scaffolding is erected, it shall be tested before use in the presence of an Inspector or a person nominated by the Chief Inspector by being overloaded by 10 per cent of the load specified in sub-rule (11) of this rule with the scaffolding raised clear of a suitable support surface no more than is necessary to verify the scaffolding's ability to support the test load.

Light duty suspended scaffolding

131.(1) Scaffolding on which the working platform is not more than 675 mm nor less than 300 mm wide and the weight of tools and material carried is less than the weight of the workers using the scaffolding, provided that the total weight does not exceed 225 kg, is light duty suspended scaffolding and shall comply with this rule.

(2) Outriggers —

(a) shall be either of structural steel sections of adequate strength or of timber having dimensions of 150 mm by 100 mm cross-section, to enable them to sustain a load 3 times greater than the maximum load to which they will be subjected;

(b) shall be installed at right angles to the building face; and

(c) shall be spaced not more than 3.6 m apart.

(3) The overhang of an outrigger from its point of bearing on the building or structure shall not exceed 600 mm unless approved.

(4) Each outrigger shall be securely anchored to the building or structure by at least 2 bolts having a minimum diameter of 15 mm or by counter balancing with weights that provide a safety factor of 3 under maximum loading conditions or by other approved means.

(5) No part of a building or structure shall be used as a support for an outrigger or suspended scaffolding unless it is of sound material, sufficiently stable and of adequate strength to afford safe and reliable support.

(6) Stops shall be provided at the end of each outrigger.

(7) Wire rope anchorages provided on an outrigger shall be located vertically above the rope drum centres of the scaffolding machine or pulley blocks on the scaffolding and capable of sustaining the ultimate strength of the rope.

(8) The bearers used to support the platform —

(a) shall be formed of 50 mm by 13 mm steel bar rectangular sections or other steel sections of at least equivalent strength; and

(b) shall be securely fixed to the platform, continue around the sides and bottom of the platform, with an eye or other suitable anchorage provided on each bearer to which the scaffolding machine or pulley may be attached.

(9) Wire ropes used to support light duty suspended scaffolding —

(a) shall be in sound condition and have a minimum diameter of 10 mm;

(b) shall have at all times a safety factor of at least 10, based on the maximum load that the ropes support; and

(c) shall have at the lowest position of the platform at least 2 turns of rope on each drum.

(10) Fibre ropes used to support light duty suspended scaffolding —

(a) shall be in sound condition and of sufficient length to effectively control the lowering of the platform to the ground or other safe level;

(b) shall be not less than 22 mm in diameter when a combination of double and single blocks is used; and

(c) shall be not less than 18 mm in diameter when a combination of double and treble blocks with sleeves measuring not less than 100 mm is used.

(11) Nothing in sub-rule (10) shall prevent the use of approved synthetic fibre ropes in approved conditions.

(12) Wire rope clips or metalled sockets shall not be used in the support of light duty suspended scaffolding.

(13) Each plank shall be of a minimum dimension of 225 mm wide by 50 mm thick, provided that if the supports of a plank are not more than 1.8 m apart, the plank may be 38 mm thick.

(14) Each plank shall be securely fixed to the platform bearers by a bolt 10 mm in diameter and overlap shall be not less than 300 mm or more than 1 m.

(15) Guard rails shall be provided on each side and each end of the scaffolding platform, which guard rails shall comply with the provisions of rule 98.

(16) Toe boards shall be provided on the outside and each end of the scaffolding platform and if no worker is required to sit whilst working, a toe board shall also be provided on the inside of the scaffolding platform.

(17) Toe boards shall be not less than 150 mm wide by 25 mm thick, and securely fixed in position.

(18) Toe boards insufficient to prevent falling materials shall have the outside and ends of the scaffolding securely enclosed with suitable wire mesh or by other effective means.

(19) All reasonable precautions shall be taken to prevent the swaying of light duty suspended scaffolding.

(20) The maximum length of the platform of any light duty suspended scaffolding shall be 6 m unless otherwise approved.

(21) Whenever a light duty suspended scaffolding is erected, it shall be tested with a load of 300 kg before use, and witnessed by an Inspector or some other person nominated by the Chief Inspector.

Hand-operated scaffolding winch

132.(1) Every hand-operated scaffolding winch —

(a) shall comply with A.S.B231; and

(b) shall be installed within the framework of the scaffolding so that its moving parts are readily accessible for inspection at all times.

(2) Power-operated scaffolding winches shall not be used to support suspended scaffolding unless approved.

(3) Before a scaffolding winch is erected on a construction site it shall be examined by a scaffolder or rigger to determine that it is in good repair and working order.

(4) After a scaffolding machine has been installed, repaired or an alteration has been made to any load-bearing part of it, the machine shall be tested in the presence of an Inspector or a person nominated by the Chief Inspector by being overloaded by not more than 10 per cent of its maximum rated load before reuse.

(5) During the test referred to in sub-rule (4) the machine shall be operated in both directions until the slowest revolving part has moved through at least one revolution.

Boatswain's chairs

133.(1) Boatswain's chairs or equipment used in a similar manner shall be used as suspended scaffolding only under the supervision of a competent person.

(2) A person shall not construct a boatswain's chair unless its construction —

(a) is an approved type; or

(b) conforms to these Rules.

(3) A person shall not use a boatswain's chair until it has been examined by an Inspector or a person nominated by the Chief Inspector and is a stable structure under all conditions of loading.

(4) A person shall not construct or use a boatswain's chair unless —

(a) the overhead support is properly secured in position and counterbalanced to sustain a load of not less than 3 times the maximum weight to be suspended from the boatswain's chair when in use;

(b) the rope blocks for suspending, raising or lowering the boatswain's chair consist of at least one 2 sheave upper block and at least one single sheave lower block that —

(i) have metal carcasses;

(ii) have sheaves not less than 100 mm in diameter that are grooved to accommodate the rope; and

(iii) are fitted with a head fitting of a swivel closed eye type and the rope anchor or becket of the lower block shall not be welded to the block unless approved;

(c) the suspending rope of the tackle is made of manila or sisal fibre not less than 16 mm in diameter and reeved to form a 4 rope tackle;

(d) the sling supporting the seat —

(i) is of 6 by 24 cross-section construction flexible steel wire rope with a diameter of not less than 8 mm;

(ii) passes through holes in each corner of the seat to form a cross;

(iii) is crossed under the seat;

(iv) is arranged to form a loop fitted with a suitable thimble that is —

(A) not more than 800 mm above the seat; and

(B) fitted by a mild steel shackle not less than 9.5 mm in diameter to the swivel eye of the rope block;

(v) is spliced or joined by 2 bulldog grips underneath the seat; and

(vi) is fixed to the seat on the underside to prevent the seat from tilting in the sling; and

(e) the seat —

(i) is constructed of timber not less than 230 mm wide and 30 mm thick;

(ii) has a distance exceeding 450 mm but not exceeding 550 mm between the slings; and

(iii) has cleats made of timber not less than 75 mm by 25 mm sectional dimensions firmly fixed to the underside so that they bear the weight of the sling and prevent the seat from splitting.

(5) No boatswain's chair, rope block, suspension rope, sling or any other part of that equipment shall be used to support any person unless throughly checked by a scaffolder or rigger before use.

Division 6 — Scaffolding in Connexion with Shipbuilding

Scaffolding to comply with Rules

134. All scaffolding used in connexion with shipbuilding shall comply with the relevant requirements of these Rules and A.S.1576 unless otherwise approved.

Safe access

135.(1) Safe and adequate means of access shall be provided by the constructor to every ship, floating structure, scaffolding platform, stage or working place and to all places to which workers must proceed in the course of their employment.

(2) Adequate ladders giving direct access to the outside stages shall be provided by the constructor.

(3) All ladders shall be sound, maintained in good condition and be adequately secured to prevent movement.

Division 7 — Other Types of Scaffolding

Frame scaffolding

136. Frame scaffolding —

(a) shall be of an approved type and erected and used in accordance with the conditions of approval;

(b) shall be braced in each panel in the internal and external faces of the scaffolding;

(c) shall be provided with adjustable base plates where the ground or surface is not level;

(d) shall be loaded in accordance with rule 105;

(e) shall be tied together by a continuous ledger that is fixed to the external standard of each frame spaced at vertical intervals not exceeding 15 m; and

(f) shall be tied to the building or structure in accordance with rule 117.

Modular scaffolding

137. Modular scaffolding —

(a) shall be of an approved type and erected and used in accordance with conditions of approval;

(b) shall be provided with adjustable base plates where the ground or surface is not level;

(c) shall be planked with planks designed for that modular system;

(d) shall be braced in accordance with the approval;

(e) shall be loaded in accordance with rule 105; and

(f) shall be tied to the building or structure in accordance with rule 117.

Proprietary systems

138. Proprietary systems of scaffolding shall not be mixed unless the mixing is approved.

Bracket scaffolding

139.(1) Bracket scaffolding shall be of good construction, sound material, adequate strength and free from apparent defect.

(2) The platform of bracket scaffolding shall be —

(a) constructed of timber complying with rule 124, the dimensions of which timber shall be not less than 225 mm wide by 38 mm thick;

(b) not less than 450 mm wide; and

(c) not more than 2.3 m between supports.

(3) Planks forming the platform shall be cleated to prevent unequal deflection and fastened to prevent displacement.

(4) Each bracket scaffolding shall be fitted with guard rails, which shall be either of timber, steel or other approved material and securely fastened to the stage at a height of 1 m above the platform.

(5) An Inspector may require an additional guard rail which shall be placed at a height of 450 mm above the platform.

(6) A bracket scaffolding shall be securely attached to the supporting structure by a method of attachment that does not require a stage bracket to be hammered into position.

(7) The number of workers in any bay on the platform of bracket scaffolding at any one time shall not exceed 2 and the weight of the material shall not exceed 25 kg unless approved by an Inspector.

(8) Adequate provision shall be made to prevent lateral movement of supporting brackets.

Trestles

140.(1) A trestle or trestle tower on which a working platform is placed to support a worker shall be manufactured from mild steel or other approved material and be constructed to support with an adequate margin of safety the loads for which it has been designed.

(2) The length of the horizontal bearer of such a trestle or trestle tower shall be not less than 1 m measured at the base from inside the trestle legs. Suitable stops shall be placed at each end of the bearer to prevent scaffolding planks from being displaced vertically.

(3) The minimum width at the top of the trestle or trestle tower shall be 500 mm.

(4) The slope of each leg shall not be steeper than 1 horizontally to 5 vertically.

(5) The maximum height of a trestle or trestle tower shall be 5 m.

(6) No hand rail is required on a trestle or trestle tower working platform used in the construction of single dwelling-houses.

(7) The maximum loading on a trestle or trestle tower working platform is not to exceed 2 persons and 125 kg of tools and material.

(8) A scaffolder is not required to erect or dismantle trestles or trestle towers.

Construction of certain types of scaffolding

141. Notwithstanding the rules contained in this Division, spur scaffolding, hung scaffolding, cantilevered scaffolding, ladder access towers and all other scaffolding formed of metal tubing and couplings shall be constructed in accordance with A.S.1575 and A.S.1576.

142. Formwork and its accessories used to support workers —

(a) shall be constructed of sound material and have adequate strength for the safe support of the loads and stresses to which it will be subjected and erected in a safe and secure manner, under the supervision of a competent person; and

(b) notwithstanding anything contained in this Rule all formwork shall comply with A.S.1509.

Falsework

143.(1) Struts or props used as falsework shall be adequately braced to form a rigid and stable structure under all conditions of loading.

(2) Struts or props shall be safeguarded against possible settlement of the ground by fitting a base plate or sole plate of sufficient size and strength.

(3) The Chief Inspector may, by notice in writing, require a constructor to furnish him with the detailed design drawings and load calculations of any proposed falsework.

(4) Falsework shall be erected and dismantled under the direction of a competent person.

PART IX — EXPLOSIVE-POWERED TOOLS

Definitions

144. In this Part —

"direct-acting tool" means a tool in which the driving force is directly applied to the fastener and is capable of transmitting to the fastener a kinetic energy of more than 37 Joules or propelled in excess of 100 m per second measured at a distance of 2 m from the muzzle of the tool;

"explosive-powered tool" means a direct-acting tool or an indirect-acting tool;

"fastener" means a stud, pin, nail, projectile, dowel, rivet or any similar object driven or adapted or intended to be driven against, into, or through any substance by means of an explosive-powered tool;

"indirect-acting tool" means a tool in which the driving force is transmitted to the fastener by means of a piston with limited axial movement and is not capable of transmitting to the fastener a kinetic energy of more than 37 J or propelled less than 100 m per second measured at a distance 2 m from the muzzle of the tool and the driving force is transmitted to the fastener by means of a piston with limited axial movement. An indirect-acting tool may include such tools as the coaching type, the impact piston type or the contact piston type.

Approval of type or branding of tool

145.(1) The manufacturer of an explosive-powered tool, or other person, shall apply to the Chief Inspector to have a particular brand or type of explosive-powered tool approved for the purposes of this Part.

(2) Subject to sub-rule (1), every person applying for approval shall submit to the Chief Inspector —

(a) a specimen of the tool, complete with contained and relevant accessories, to enable the determination by examination and tests of its functioning and characteristics;

(b) such samples of the materials used in the construction of the tool as the Chief Inspector may, from time to time, require;

(c) fully dimensioned drawings and specifications of the tool as will establish its pattern, detailed construction and nature; and

(d) a certificate from an approved authority as to the measured velocity and kinetic energy of the fastener at a distance of 2 m from the muzzle of the tool.

(3) Any drawings, specifications, equipment or other information submitted in accordance with this rule may be retained by the Chief Inspector.

(4) Every person applying for approval of a tool shall satisfy the Chief Inspector that the tool —

(a) will not discharge if dropped on a concrete floor or a steel surface from a height of 3 m;

(b) cannot be accidentally discharged while being handled;

(c) cannot be discharged —

(i) by the operator unless an axial force of not less than 50 N or 1.5 times the mass (whichever is greater) is applied by the operator;

(ii) in the case of a direct-acting tool or an indirect-acting tool with the same energy and velocity limits as a direct-acting tool, if the axis of the barrel of the tool deviates by more than 7 degrees from the perpendicular to the surface into which a fastener is fired, and the axial force is not less than 100 N or 1.5 times the mass, whichever is the greater; and

(iii) if a guard is not fitted to the tool;

(d) if an indirect-acting tool, is fitted with an energy absorbing device;

(e) if a direct-acting tool, it has a protective guard or device attached to the muzzle end of the tool in such manner —

(i) to effectively arrest the escape of fasteners and other objects and particles, liberated by the discharge of the tool; and

(ii) that the outer edge is not at any point closer to the centre of the barrel than a distance of 50 mm, except where the tool is to be used in accordance with these Rules;

(f) has a notice permanently engraved or embossed upon the tool in a conspicuous position so as to be clearly legible at all times, reading as follows: "DO NOT REMOVE FROM WORK SURFACE FOR AT LEAST 10 SECONDS IF TOOL FAILS TO FIRE"; and

(g) has a clearly legible manufacturer's name, trade name or trade mark, serial number and model identification permanently engraved or embossed upon the tool.

(5) All explosive-powered tools shall comply with A.S.1873.

(6) Where the Chief Inspector is satisfied that any specimen of a tool defined in rule 144 is so manufactured as to be in accordance with these Rules, he may grant his approval in writing, and no modification, addition or alteration shall be made to the tool without further approval.

(7) No person shall falsely represent in any manner that a tool corresponds with a specimen approved under this rule.

(8) No person shall sell, offer for sale, hire out, lend, use or cause to be used any tool to which this rule applies unless such tool has been approved.

Qualifications of operator

146.(1) A person shall not use or allow an employee or other person under his control to use an explosive-powered tool unless he or that employee or other person —

(a) is 18 years of age or over;

(b) has been thoroughly trained in the correct use, adjustment, assembly and disassembly of that explosive-powered tool and the correct identification and use of the different explosive charges for that tool;

(c) has been fully instructed about the dangers associated with explosive-powered tools and the precautions to be taken in respect of them; and

(d) is not suffering from a defect in colour vision that would render him unfit to use the tool safely.

(2) Notwithstanding sub-rule (1), a trade apprentice who is under 18 years of age may use an explosive-powered tool while under the direct supervision of a person who is competent to use such a tool.

Evidence of instruction

147. Before allowing an employee to use an explosive-powered tool, an employer shall ensure that such employee has been trained and instructed as required by rule 146.

Prohibition of use of tools

148.(1) The Chief Inspector may, by written notice served on a person, on being satisfied that —

(a) the person has committed an offence against the Act or these Rules in respect of an explosive-powered tool; or

(b) the person is, in the opinion of the Chief Inspector, unlikely to be able to safely use an explosive-powered tool,

prohibit that person from using an explosive-powered tool.

(2) A notice under this rule may be cancelled at any time by the Chief Inspector.

(3) No person shall operate an explosive-powered tool while a notice under this rule relating to him is in force.

Use of explosive-powered tool

149.(1) An explosive-powered tool shall not be used unless it —

(a) is of a description or type approved; and

(b) has been properly maintained and is in good repair.

(2) A person having in his possession or control on a site an explosive-powered tool shall, if required by an Inspector, submit the tool to the Chief Inspector for examination and testing.

Limitations of use

150.(1) An explosive-powered tool shall not be used to drive a fastener against, into or through —

(a) steel which has a nominal ultimate tensile strength exceeding steel hardened by heat treatment, cast iron or other unusually hard substances;

(b) hard tile, hard terracotta, glazed brick, marble, granite, thin slate, breeze blocks, cell concrete, hollow concrete blocks, glass or other brittle substances;

(c) the joint of brickwork, stonework or other similar joints;

(d) a timber member, for the purpose of securing it to another timber member;

(e) a point so close to an edge of a substance or to any hole therein that, by reason of the nature of the substance, the size and shape of the fastener or the strength of the charge to be used, there is a likelihood that the substance may crack or break or that the projectile may fly from it;

(f) a point within 12 mm of an edge of a piece of steel; or

(g) a point within 75 mm of an edge of brickwork, concrete or other like material.

(2) An explosive-powered tool shall not be used in the presence of an explosive or flammable gas, dust, vapour, compressed air or in any other dangerous circumstance.

(3) Where it is not possible to bring the muzzle of an explosive-powered tool into contact with any surface at the point where the fastener is to be driven against, into or through such surface, a suitable barrel extension shall be used.

Area where tool used to be kept cleared

151. An explosive-powered tool shall not be used —

(a) on any roof or penetrable elevated surface unless the area beneath or above the operator is cleared and kept cleared for a distance of 6 m in every direction from the place where the operator is working;

(b) to drive a fastener against, into or through a wall or partition unless the areas on both sides of the wall or partition are kept clear in all directions to ensure the safety of all persons in the vicinity where the tool is being used; or

(c) in any other place unless an area is kept clear in all directions to ensure the safety of all persons in the vicinity where the tool is being used.

Strength of charges

152.(1) All practical precautions, including the making of suitable tests, shall be taken to ensure that the explosive charge to be used in an explosive-powered tool —

(a) is of no greater strength than is necessary for the purpose for which the tool is being used; and

(b) is not of such strength that the whole of the fastener may pass through the substance on which the tool is being used, unless the substance is backed by protective material capable of fully absorbing the energy of the projectile.

(2) An explosive charge shall not be used in an explosive-powered tool unless the charge is marked on the top or the bottom in colour in accordance with Schedule 9 to the Construction Safety (Australian Standards) Rules.

(3) No person shall sell, offer for sale or have in his possession for sale any explosive charge for use in a tool unless the cartridge cases containing the charge are marked either at the top or at the bottom with a colour and number to conform with the appropriate Australian Standard.

Storage of charges

153. Explosive charges for use in an explosive-powered tool shall be kept in a metal or other approved container and each such container —

(a) shall be kept clearly marked with the words "EXPLOSIVE CHARGES";

(b) shall be kept locked at all times except when explosive charges are being placed in or removed from the container;

(c) shall not be opened, except by a person permitted by these Rules to use an explosive-powered tool or a person under the direct supervision and control of such a person;

(d) shall not contain anything other than explosive charges; and

(e) shall be kept in the container referred to in rule 156(1).

Fasteners

154.(1) A fastener to be used in an explosive-powered tool shall be capable of undergoing the following test without cracking or breaking:

(a) a smooth-shanked fastener shall be bent through an angle of 60 degrees; or

(b) a knurled-shanked fastener shall be bent through an angle of 30 degrees.

(2) The test referred to in sub-rule (1) shall be carried out by bending the shank of the fastener about a pin of equal diameter so that a continuous steady load is applied to the fastener.

(3) All fasteners shall comply with A.S.1873.

Firing an explosive-powered tool

155.(1) A person shall not use an explosive-powered tool unless —

(a) he is in a safe, well-balanced position so that tilting or misalignment of the tool is not likely to occur at the time of firing; and

(b) the muzzle end of the barrel extension is flush with the substance against, into or through which the fastener is to be driven.

(2) If an explosive-powered tool fails to fire, such tool shall be kept flush against the surface for at least 10 seconds and if the tool has not then fired, it shall be unloaded or placed in a safe place.

(3) A person using an explosive-powered tool shall examine the tool carefully after each firing, and remove all pieces of fastener or cartridge and other foreign matter.

(4) A person shall not use an explosive-powered tool in such a manner as to cause the fastener to fly free.

(5) There shall not be used in or with an explosive-powered tool any unsuitable fastener explosive charge, breech plug, barrel extension or adaptor.

Safekeeping of explosive-powered tools

156.(1) An explosive-powered tool, when not being used, serviced or repaired, shall be kept in the container supplied by the manufacturer of the tool.

(2) A person other than a person permitted by these Rules to use an explosive-powered tool or a competent person engaged in the servicing or repair of an explosive-powered tool, shall not handle an explosive-powered tool.

(3) A person shall not leave unattended on a site an explosive-powered tool or any explosive cartridge, unless adequate precautions are taken to ensure that the tool or cartridge shall not be taken away, handled or used by a person other than a person permitted by these Rules to handle or use an explosive-powered tool.

(4) An explosive-powered tool shall not be loaded until immediately before use at the place on the site where it is to be used.

(5) A loaded explosive-powered tool shall be unloaded if, for any reason, the tool is not used immediately.

(6) A loaded explosive-powered tool shall not be taken from one place to another on a site unless by reason of mechanical failure the tool cannot be unloaded.

Warning notices

157.(1) Where an explosive-powered tool is being used, a warning notice, in letters at least 75 mm high, shall be displayed so as to be clearly legible by all persons who are at or near the place where the tool is being used.

(2) The notice referred to in sub-rule (1) shall read as follows:

"WARNING EXPLOSIVE-POWERED TOOL IN USE",

and shall be displayed on a rigid rectangular notice board measuring not less than 750 mm wide by 450 mm high.

Protective devices

158.(1) The owner of an explosive-powered tool shall provide for the use of every person using or assisting in the use of that tool —

(a) a device or devices to prevent the possibility of damage to the hearing of the persons; and

(b) spectacles or other devices that will protect the eyes of such persons from injury.

(2) Items specified in sub-rule (1) shall comply with A.S.1270, A.S.1336 and A.S.1337.

Inspection and repair

159.(1) In this rule "authorized person" means —

(a) a manufacturer of explosive-powered tools or a person authorized by the manufacturer to repair explosive-powered tools;

(b) a person who manufactures, repairs, tests or proves firearms; or

(c) a person working under the direct control and supervision of a person referred to in this sub-rule.

(2) A constructor shall cause explosive-powered tools in his possession —

(a) to be completely overhauled by an authorized person, at least once in every period of 12 months; and

(b) to be cleaned and inspected for defects every day before and after use.

(3) The owner shall cause explosive-powered tools to be dismantled and examined for defects once in every week in which the tool is used.

(4) The owner shall not use, or cause to be used, an explosive-powered tool unless —

(a) it has been inspected, cleaned, dismantled, examined and overhauled pursuant to sub-rules (2) and (3); or

(b) it is free from any defect that has been revealed by any inspection, examination or overhaul.

(5) An Inspector may declare any explosive-powered tool unsafe for use and the owner shall thereupon cause the tool to be removed from service until it has been repaired.

(6) The Chief Inspector shall be notified when the tool referred to in sub-rule (5) has been returned to service.

Manufacturer's recommendation

160. Where there appears, on an explosive-powered tool, on the container of the tool or in any printed matter supplied with the tool, any instruction, advice or recommendation, not inconsistent with these Rules, as to the safe use of the tool, that tool shall be used in accordance with that instruction, advice or recommendation.

PART X — POWER-DRIVEN PLANT AND EQUIPMENT

Provision and maintenance of guards

161. All dangerous parts of power-driven equipment used on construction work shall be securely safeguarded and the constructor shall cause all safeguards to be constantly maintained in an efficient state.

Guards to be replaced

162. Safeguards removed for maintenance or repairs shall be replaced as soon as practicable and, in any event, before the equipment is used.

Training of operators

163.(1) The constructor shall ensure that no worker operates without competent supervision, any power-driven machine unless the worker —

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

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

(c) is capable of safely operating the machine without supervision.

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

(3) No person who is required or permitted to work, move or pass in close proximity to the moving parts of any machinery shall wear clothing or accessories likely to become entangled in the moving parts.

(4) No person with hair of a style or length that may be caught in machinery shall work, move or pass in close proximity to the moving parts of any machinery unless his hair is securely fixed and confined close to his head.

Special precautions against fumes and dust

164. Power-driven equipment which emits harmful gases or fumes shall not be used in an enclosed or confined space unless the gases or fumes are conducted to the open air by other mechanical means.

Maintenance and use

165. All power-driven equipment in use on construction work shall be maintained in good order and safe condition and used in a safe manner.

Safe distance from live power lines

166. No person shall employ or permit any person to use any hoisting appliance, vehicle, equipment or load so that the appliance, vehicle, equipment or load or any part of it comes within 3 m of live power lines, unless otherwise approved by the Northern Territory Electricity Commission.

Design of machine guards

167.(1) Machine guards shall be designed, constructed and used so that they will —

(a) provide positive protection;

(b) prevent all access to the danger zone during operation;

(c) operate automatically;

(d) be suitable for the job and the machine;

(e) resist normal wear and shock, and not easily be rendered inoperative;

(f) not constitute a hazard;

(g) be securely fastened to the machine, floor, wall or ceiling and be kept in place when the machine is operating; and

(h) where practicable, permit lubrication of the machine without removal of guards.

(2) If access to parts protected by guards is required for maintenance or other reasons, machine guards or parts of them may be hinged or otherwise moveable and interlocked with the machine control when it is necessary to move the guards for machine maintenance.

(3) On any machine where the guard or guards are interlocked with the machine control, the machine shall be so constructed that, in the event of the interlocking mechanism failing to function in a safe manner, the machine shall stop and be incapable of being restarted until the interlocking mechanism is again functioning in a safe manner.

(4) All power-driven machinery shall comply with A.S.1470, A.S.1473, A.S.1893 and A.S.3000 where relevant to that machinery.

PART XI — ELECTRICAL EQUIPMENT

Application

168.(1) This Part applies to all electrical equipment used in construction work and in particular all hand-held and portable electrical equipment and associated plugs, all appliance plugs, cord extension sockets, extension cords, flexible cords and flexible cables which are designed for electrical operation at low voltage and medium voltage.

(2) The following definitions shall apply for this Part:

"cord extension" or "extension cord" means a length of flexible cord one end of which is terminated in a plug, and the other end in a cord extension socket;

"cord flexible" or "flexible cord" means a flexible cable, no wire of which exceeds 0.3 mm diameter and no conductor of which exceeds 4 mm cross-sectional area;

"double insulation" means insulation complying with the requirements specified in A.S.3000, Part II, or A.S.C100;

"earth wire monitoring device" means a device which monitors an earthing connection to an item of equipment in such a manner as to disconnect the supply to the equipment in the event of a break in the earthing connection or if the resistance of the earthing connection rises above a predetermined level;

"electrician" means a recognized electrical mechanic or electrical fitter who has the necessary trade ability to carry out electrical inspection and repairs and who is engaged by the constructor to carry out such work. For the purposes of this definition "recognized" means —

(a) persons holding a certificate issued by the Australian Apprenticeship Authority for an electrical fitter or electrical mechanic; or

(b) persons holding a Certificate of Recognition under the *Tradesman's Rights Act 1946-66* of the Commonwealth for an electrical fitter or electrical mechanic,

and is a person holding a licence to practise as an electrical mechanic issued by the Northern Territory Electrical Mechanics Licensing Board;

"isolating transformer" means a single phase air-cooled transformer suitable for connexion on the input side to low voltage circuits and intended to provide a

low voltage supply, effectively isolated from the source of supply and from earth, at a nominal voltage ratio of unity for the operation of one piece of electrical equipment and which complies with A.S.C167;

"low voltage" means a difference in potential existing between conductors and between conductors and earth normally exceeding 32 volts alternating current or 115 volts direct current but not exceeding 250 volts in either case;

"medium voltage" means normally exceeding 250 volts but not exceeding 650 volts;

"owner" means, when used in relation to construction work, the owner, mortgagee in possession, lessee, hirer or borrower;

"portable appliance tester" means a device which can indicate either insulation or continuity failure, should an appliance be near the point of breakdown;

"sensitive current operated core balance earth leakage protection equipment" means a component incorporating a magnetic core through which all active and neutral conductors of a circuit pass, capable of sensing a current imbalance as a result of earth leakage from a circuit and designed to isolate from the supply this circuit should the earth leakage current be between 15 to 30 mA or higher and that equipment shall comply with A.S.3190;

"supply flexible cord proving device" means a device which can determine that the earth wire in the flexible cord between the plug outlet and the device is at earth potential and that the earthwire circuit is electronically continuous and is capable of carrying without rupture the rated current of the active conductor of the cord.

Safe insulation for prevention of danger

169.(1) Before commencement, and during the progress of construction work, all practicable steps shall be taken to prevent danger from live electric cables or apparatus, either by rendering the cables or apparatus electrically dead or safely insulating them.

(2) A live cable or apparatus liable to be a source of danger to any persons during the course of construction work, whether from the operation of a lifting appliance or otherwise shall, by the provision of adequate and suitably placed barriers, warning signs or otherwise, be protected to prevent injury to any person.

Main switchboards

170.(1) Where main switchboards are installed, they shall have —

(a) a rating that is adequate for the full electrical load required;

(b) short circuit fault capacity which is at least equivalent to the maximum available short circuit fault level which may be expected at the location; and

(c) protection from the weather.

(2) A main switchboard shall be fixed in a readily accessible position free from the likelihood of damage.

Maximum length of flexible cable

171.(1) All electrical equipment shall be connected to main switchboards or sub-distribution switchboards and the switchboards shall be located as close as practicable to the place of work.

(2) Where the use of any electrical equipment would necessitate a flexible cable being longer than 36 m an additional switchboard shall be provided.

(3) Distribution switchboards shall be supplied from submains of adequate capacity for the demand.

Distribution switchboards mounting and isolation for switchboards

172.(1) Switchboards shall be controlled by an isolating switch mounted on the switchboard and within durable enclosures made of metal, suitably lined timber or other approved material.

(2) All 250 volt 3-pin plug sockets provided on switchboards shall be rated at 15 amps and controlled and protected by a double pole circuit-breaker being rated at a maximum of 15 amps.

(3) Provision shall be made for the connexion of subdistribution switchboards as required.

Protection of cables

173. Cables shall be double insulated or single insulated cable protected according to A.S.3000 and fixed in a position so as to be safe from accidental damage.

Temporary lighting and flexible extension lights

174.(1) Only an all-insulated festoon type lamp holder fitted on double insulated cable size 7 strand with minimum cross-sectional area of 4 mm^2 shall be used for temporary lighting and shall be fixed at least 2.5 m above the floor.

(2) Lamps installed in lift wells, stairways and low levels, shall be adequately protected from accidental damage.

(3) Only approved all-insulated portable hand lamps shall be used for flexible extension lights.

Earthing

175. Where fittings made of metal are used, the exposed metal shall be earthed according to A.S.3000.

Manufacture and protection of cables, pins and sockets

176.(1) Flexible cables made of PVC, tough rubber or other sheathed flexible cables of adequate size shall be used for the connexion of portable lights, electrical equipment and hand tools and shall be protected where liable to damage.

(2) In a building which consists of more than one floor level all flexible cables shall, wherever possible, be used only on the floor from which their power is obtained.

(3) All 3-pin plugs shall contain safety barriers and damaged plugs or sockets shall not be used.

(4) Plugs and sockets shall be manufactured from moulded nylon, flexible PVC, tough rubber or other impact resistant material.

Maintenance of equipment

177.(1) The owner of the equipment to which this Part applies shall cause all hand held and portable electrical equipment together with all flexible cords, flexible cables, extension cords and connexions to be maintained in a safe and satisfactory condition at all times.

(2) The equipment shall be inspected and tested at intervals not exceeding 12 months by an electrician or after each time the connexions are disturbed in any way unless it is used in accordance with rule 181.

(3) The first inspection under sub-rule (2) shall be carried out within a period of 6 months from the date of the commencement of these Rules.

Inspection

178.(1) Isolating transformers, portable sensitive current operated core balance earth leakage protection devices, portable earth wire monitoring devices, supply flexible cord providing devices and portable appliance testers shall be maintained in a safe and satisfactory condition at all times.

(2) The equipment to which this rule applies shall be inspected and tested at intervals not exceeding 12 months.

(3) The first inspection shall be carried out within a period of 6 months from the date of commencement of these Rules.

Mode of inspection

179. At each annual inspection under rules 177 and 178 the electrician —

(a) shall inspect and, where required, test each item of hand held or portable equipment for —

(i) damage to the body of the machine;

(ii) damage to or loosening of the connexions;

(iii) continuity of the earthing circuit between the exposed metal of the equipment, if any, and the earth terminal of the plug, the resistance so measured not exceeding 1 ohm;

(iv) insulation resistance between live conductors and exposed metal. The resistance so measured shall be not less than 0.5 megohm; and

(v) any other defective feature likely to create hazardous conditions in normal service; and

(b) shall inspect and, where required, test each flexible connexion or extension cord for —

(i) damage or deterioration of insulating sheathing;

(ii) damage to plugs, appliance plugs or cord extension sockets;

(iii) correct connexion of flexible cord to plug, appliance plug or cord extension socket;

(iv) continuity of conductors;

(v) insulation resistance between live conductors and between live conductors and earthing conductor. The resistance so measured shall be not less than 0.5 megohm; or

(vi) any other defective feature likely to create hazardous conditions in normal service.

Notification of inspection and attachment of tags

180.(1) An electrician having carried out the inspection and tests required by rule 178 shall notify the owner of the results of such tests in writing and indicate the date on which the inspection was made.

(2) The electrician making the inspection and test shall, having ensured that the equipment is in a safe and satisfactory condition, securely attach a tag of approved design to every item of hand held and portable electrical equipment, isolating transformer, earth wire monitoring device, sensitive current operated core balance earth leakage protection devices, supply flexible cord proving devices and every flexible extension cord.

(3) Tags referred to in sub-rule (2) shall bear the date before which the next inspection must be carried out and the number of the licence of the electrician.

(4) No person other than an electrician shall affix a tag as required by this rule to any of the equipment referred to in sub-rule (2).

Other allowed usage

181.(1) Where hand held or portable electrical equipment is used in accordance with this rule, rule 177 shall not apply.

(2) For single phase equipment —

(a) where the electrical equipment incorporates double insulation, hand held and portable electrical equipment shall be dismantled to a sufficient extent to allow a thorough electrical inspection and test before the end of each 24 month period provided that the first inspection shall be carried out within a period of 6 months from the commencement of these Rules;

(b) the electrical equipment is connected to either sensitive current operated core balance earth leakage protection device or an isolating transformer; or

(c) the electrical equipment shall be checked daily with a portable appliance tester or a supply flexible cord proving device and an accurate record of the test kept.

(3) For 2 or 3 phase equipment, supply to the equipment shall be through an earth wire monitoring device or sensitive current operated core balance earth leakage protection device except where hand held or portable electrical equipment is permanently connected to the fixed wiring of a permanent electrical installation which is effectively earthed and maintained to the satisfaction of the Northern Territory Electricity Commission and is maintained and tested in accordance with the remainder of this Part.

Effectiveness testing

182.(1) Any portable earth wire monitoring device or portable sensitive current operated core balance earth leakage protection device provided with test buttons or switches to assess effectiveness of operation shall be tested by using such buttons or switches before commencing work each day or after connecting to a different plug socket.

(2) A device and any hand held or portable electrical equipment requiring the use of such a device shall not be used when the test indicates that the device is not operating effectively.

Ratings

183. Plugs, appliance plugs, cord extensions, sockets, flexible cords and flexible cables shall have a rating not less than the marked current rating of the equipment and shall be of an approved type, and flexible cords shall be of a type specified in A.S.C100.

Flexible cord proving device

184.(1) A person shall not use an extension cord to supply power to an earthwire monitoring device or sensitive current operated core balance earth leakage protection device or to an isolating transformer used pursuant to rule 181 unless the device or equipment is fitted with an approved supply flexible cord proving device which shall be used to check the cord before commencing work each day and each time a change in the extension cord is made.

(2) If the supply flexible cord proving device indicates incorrect connexions at the earth wire monitoring device, the sensitive current operated core balance earth leakage protection device or the isolating transformer, the extension cord shall not be used.

Connexion of flexible cord

185. The method of connexion of a flexible cord to equipment —

(a) shall be a permanent connexion to the equipment with the earthing conductor connected to the exposed metal, if any, of the equipment;

(b) shall be by means of an appliance plug and appliance input socket currently approved by the Northern Territory Electricity Commission and having a rating not less than that of the equipment;

(c) shall be the other end of the flexible cord shall be terminated in a plug, with the earthing conductor, where required, correctly connected to the earthing terminal; and

(d) shall be the earthing conductor shall be coloured green or green and yellow except that with double insulated equipment an earthing conductor shall not be fitted.

Connexion of isolating transformer

186. A person shall not connect to an isolating transformer any electrical equipment having a marked current rating in excess of that of the isolating transformer.

Defect tags

187.(1) Any defective electrical equipment, flexible cords or extension cords, shall be removed from service and tagged with a defect tag marked:

"DANGER — NOT TO BE USED".

(2) An Inspector may, at his descretion, affix or cause to be affixed a defect tag to any item of hand held or portable electrical equipment, or any plug, cord, extension socket, extension cord, flexible cord, flexible cable, earth wire monitoring device, sensitive current operated core balance earth leakage protection device or isolating transformer which he considers constitutes a risk to the safety of any person who may use such equipment.

(3) Any item of hand held and portable electrical equipment together with cords, cables and connexions not being used with an isolating transformer, current operated core balance earth leakage protection device, earth wire monitoring device or appliance testing equipment and not affixed with a tag indicating it has been tested may have a defect tag affixed to it by an Inspector in accordance with this rule.

(4) No person shall use any equipment with a defect tag or remove a tag affixed until the equipment has been repaired by an electrician and a report of the repairs is made to the Chief Inspector or the inspector who affixed the defect tag.

Supply of electrical service

188.(1) Where an electrical service is required on or in connexion with construction work, the constructor shall provide and maintain consumer mains, the main switchboard, submains, distribution and subdistribution switchboards together with all necessary wiring, except where an existing approved electrical service is available.

(2) All electrical equipment shall be installed in accordance with the requirements of the Northern Territory Electricity Commission for that particular locality.

PART XII — HOISTING APPLIANCES

Division 1 — Cranes and Hoists

Meaning of hoisting appliance

189.(1) In this Division, unless the contrary intention appears, the term "hoisting appliance" includes cranes and hoists, but does not include a builder's hoist.

General requirements for safe operation

190.(1) Every part of the structure, working gear and anchorages of every hoisting appliance and appliances used for fixing every hoisting appliance —

(a) shall be of good mechanical construction, sound material and adequate strength and free from apparent defect;

(b) shall be kept in good repair and working order;

(c) shall be examined in position at least once in every week by the driver or other competent person; and

(d) shall be maintained and operated according to A.S.1418 and these Rules.

(2) Any structural member which is constructed from high tensile steel having a specified yield stress of 294 MPa or higher shall have clearly and permanently marked on it the specification of the steel, or alternatively a prominent notice showing the specification and location of any high tensile steel used shall be permanently affixed in the cabin of the hoisting appliance or some other suitable position. No marking shall impair the strength of a member.

(3) Every person who intends to carry out any repairs other than normal maintenance to any structural member of a hoisting appliance shall, before commencing repairs, give to the Chief Inspector notice in writing describing the intended repairs, within the meaning of the *Inspection of Machinery Act.*

(4) A person shall not work or use, or cause to be worked or used any hoisting appliance, any load bearing part of which has been repaired, except normal maintenance, until an Inspector within the meaning of the *Inspection of Machinery Act*, has given his approval to work or use that hoisting appliance.

Examination and testing

191.(1) In addition to rule 190, every hoisting appliance shall be examined and tested by an Inspector or a person nominated by the Chief Inspector, within the meaning of the *Inspection of Machinery Act* —

(a) after a non-mobile crane has been re-erected in any new position;

(b) after any structural member has been altered or repaired; and

(c) at intervals of not more than 12 months or as soon as practicable thereafter, when the appliance shall be subjected to a thorough examination and overhaul pursuant to the *Inspection of Machinery Act.*

(2) The safe working load shall be plainly and conspicuously marked upon every hoisting appliance.

(3) Every hoisting appliance of variable operating radius —

(a) shall have plainly and conspicuously marked on, or attached to it, the safe working load at the various positions of the boom or jib and the maximum radius at which the load may be lifted; and

(b) shall be fitted with an accurate indicator clearly visible to the driver showing the position of the boom or jib at any time and the safe working load corresponding to that position.

(4) The boom or jib of any hoisting appliance shall not be used for any purpose other than that for which it is designed.

Safeguarding of dangerous moving parts

192.(1) Motors, gearing, transmission, electrical wiring and other dangerous parts of hoisting appliances shall be securely safeguarded and the owner shall cause all safeguards to be constantly maintained in an efficient state while the machinery or apparatus is in use.

(2) No safeguard shall be removed whilst the machinery or apparatus is in use.

(3) If necessary to remove any safeguard it shall be replaced as soon as practicable and before the machinery or apparatus is again used.

Adequate support to be provided

193.(1) Every hoisting appliance shall be securely supported.

(2) Every part of a stage, scaffolding, framework, mast, beam, pole or other article of plant or equipment supporting a hoisting appliance shall be of good construction, adequate strength, sound material and free from apparent defect.

(3) Any anchoring or fixing arrangement provided in connexion with a hoisting appliance shall be adequate and secure. Every rope, chain or other plant or equipment temporarily used in the erection or dismantling of any hoisting appliance shall be adequate and secure.

Use of counterweights

194.(1) Where a counterweight is used with a hoisting appliance the owner of the crane shall comply with this rule.

(2) 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 steel containers, so that movement or displacement cannot occur during the working of the hoisting appliance.

(3) A fixed counterweight shall be positively attached to the hoisting appliance.

(4) A movable counterweight shall be permanently marked with its weight.

(5) A concrete counterweight shall be effectively reinforced with steel rods, and not used where the counterweight may strike objects during the working of the hoisting appliance unless the counterweight is protected by a suitable steel container.

Stability and working tests

195.(1) All necessary additional precautions shall be taken to ensure the stability of any hoisting appliance which is used on a soft or uneven surface or on a slope.

(2) To ensure the stability of any hoisting appliance, it shall either be securely anchored or adequately weighted by suitable ballast firmly secured to the structure of the hoisting appliance in a manner to prevent accidental displacement of the ballast.

(3) No part of any rails on which a crane or hoisting appliance is mounted, or the sleepers supporting such rails, shall be used as anchorage for this purpose.

(4) The whole of the system of anchorage and ballasting of a hoisting appliance shall be examined by an Inspector or a person nominated by the Chief Inspector, within the terms of the *Inspection of Machinery Act.*

(5) No hoisting appliance shall be used until —

(a) the security of the anchorage and the adequacy of the ballasting have been tested by an Inspector or competent person nominated by the Chief Inspector by raising the design load just clear of the ground and then adding a 25 per cent overload without shock; and

(b) a successful working test consisting of the hoisting appliance lifting the design load increased by 10 per cent and performing each function without adversely affecting any part of the hoisting appliance has been carried out by an Inspector or a competent person nominated by the Chief Inspector.

(6) No hoisting appliance shall be used or erected under weather conditions likely to affect its stability.

(7) If exposure to weather conditions is likely to have affected the stability of a hoisting appliance, the anchorage arrangement and ballast shall be examined by a competent person as soon as practicable and in any event before the hoisting appliance is used.

(8) All things necessary to ensure the stability of the hoisting appliance shall be done.

Control of hoisting appliance and load

196.(1) Every hoisting appliance —

(a) shall be provided with an efficient brake or brakes which will prevent any movement downwards of the load when suspended;

(b) shall be so constructed that the load can be controlled whilst being raised or lowered independently of the braking system of the appliance; and

(c) shall, if hydraulically operated, be capable of holding a suspended load without engagement of the lift mechanism.

(2) Every lever, handle, switch or other device which is provided for controlling the operation of any part of a hoisting appliance shall, where practicable, be provided with a locking device to prevent any accidental movement, unless it is so placed or the hoisting appliance is so constructed as to prevent accidental movement or displacement.

(3) Every lever, handle, switch or other device shall have upon or adjacent to it clear markings to indicate its purpose and mode of operation.

(4) Every such lever shall return to the neutral position upon being released.

(5) Sub-rule (3) does not apply to hand operated hoisting appliances.

Rail mounted cranes

197.(1) The rails on which a rail mounted crane moves —

(a) shall be supported on a firm surface to prevent movement of the rails;

(b) shall have an even running surface, be adequately supported and be of adequate sections;

(c) shall be securely joined;

(d) shall be securely fastened to sleepers or bearers;

(e) shall be laid in straight lines or in curves of such radii that the crane can be moved freely and without danger of derailment; and

(f) shall be provided with stops to each rail at each end of the track.

(2) All such rails and other equipment shall be properly maintained.

(3) Rail mounted cranes shall be capable of being securely fixed in position on their supporting tracks.

(4) Every crane mounted on rails shall be provided with effective brakes on the travelling motion.

(5) Where a stiff leg derrick crane is mounted on more than one bogie, trolley or wheeled carriage the crane sleepers and, if necessary, the bogies, trolleys and wheeled carriages shall be rigidly braced and properly connected together, and the rails on which each bogie, trolley or wheeled carriage moves shall be level.

(6) A crane shall not be moved on its tracks if such movement is likely to cause instability, racking or distortion of the crane tracks or of the supporting framework.

(7) An access ladder and platform shall be provided to all overhead travelling cranes.

(8) Electric overhead cranes shall have an isolator switch capable of being locked in the off position located at the base of the access ladder with a sign bearing the words "CRANE ISOLATOR SWITCH" in letters not less than 75 mm high fixed adjacent to such switch.

Clutch interlock for derricking jib

198.(1) Cranes having a derricking boom operated through a clutch, shall be provided with a properly maintained interlock arrangement between the derricking clutch and the pawl locking the derricking drum. The interlocking arrangement shall ensure that the clutch cannot be disengaged unless the pawl is in engagement with the derricking drum and the pawl cannot be disengaged unless the clutch is in engagement with the derricking drum.

(2) This rule shall not apply to any crane on which —

(a) the hoisting drum and the derricking drum are independently driven; or

(b) the mechanism driving the derricking drum is self-locking.

(3) A crane with a derricking boom shall not be used with the boom at a radius exceeding the maximum radius for which the crane is designed.

Loading and stability of stiff leg derrick crane

199.(1) The boom of a stiff leg derrick crane shall not be erected between the back stays of the crane.

(2) No load which lies in the angle between the back stays of the stiff leg derrick crane shall be moved by that crane.

(3) A stiff leg derrick crane shall not be used in a manner that is likely to cause the foot of the king post to be lifted out of the socket or support.

(4) Where the guys of a guy derrick crane cannot be fixed at approximately equal inclinations to the mast and so that the angles between adjacent pairs of guys are approximately equal, measures to ensure the stability of the crane shall be taken.

Suspended load to be attended

200. No load shall be left suspended from a hoisting appliance or on a winch unless there is a person actually in charge of the controls of the machine at that time.

Signalling systems

201.(1) Where the driver of a hoisting appliance does not have a clear and unrestricted view of the load, there shall be provided an efficient signalling arrangement between the driver and a person employed at a loading or unloading point.

(2) Signals given for the operator of a hoisting appliance shall be distinctive in character and easily visible or audible to the person to whom it is given.

(3) Devices or apparatus used for signals shall be properly maintained and protected from accidental interference.

(4) No person other than a licensed dogman, cranechaser, rigger or the holder of a provisional dogman's, cranechaser's or rigger's licence shall give a signal for the operation of a hoisting appliance except in the case of an emergency.

Clear passageway for access

202.(1) In every case where a hoisting appliance which has a travelling or slewing motion is used, an unobstructed passageway not less than 600 mm wide shall be maintained between any part of the hoisting appliance liable to move, and any guard rail, fencing or other nearby fixture.

(2) If at any time it is impracticable to maintain the passageway at any place, the access of any person to that place or point shall be prevented by adequate means.

Access for maintenance

203. Safe means of access and egress shall be provided and maintained for persons engaged on the examination, inspection, repair, lubrication or operation of a hoisting appliance.

Platforms

204. Where a platform is provided for a person driving or operating a hoisting appliance or for signalling, the platform —

(a) shall be of sufficient area for the accommodation of persons employed on it;

(b) shall be closely planked or plated;

(c) shall be provided with safe means of access and egress; and

(d) shall be fitted with guard rails and toe boards which shall comply with rule 98.

205. No person shall load or operate, or cause to be loaded or operated, a hoisting appliance so that it is likely to become a danger to any person or cause damage to the hoisting appliance. Dangerous operation of hoisting appliance

206. No person shall use a hoisting appliance so that the appliance, rope or load carried is closer than 3 m to any electrical power lines unless permission is granted by the Northern Territory Electricity Commission. Safe distance from live power lines

Division 2 — Builders' Hoists

207. In this Division, unless the contrary intention appears, "hoisting appliance" means a builder's hoist and includes a cantilevered hoist, gallows frame hoist, sheer leg hoist, skip hoist, tower hoist, whip hoist and men and material hoist. Definitions

208. Every part of the structure, working gear, anchorages and appliances used for fixing a power-operated builder's hoist — General requirements for safe operation

(a) shall be of good mechanical construction, sound material and adequate strength and free from apparent defect;

(b) shall be kept in good repair and good working order;

(c) shall be examined in position at least once in every week by the driver of the hoist or other person appointed by the constructor; and

(d) shall be maintained and operated according to A.S.1418 and these Rules.

209.(1) No person shall ride on a builder's hoist unless — Persons riding on tower hoists to be authorized

(a) he is authorized by the person carrying out or in charge of construction to carry out maintenance and inspection of that hoist;

(b) he rides on the platform;

(c) maintenance and inspection is restricted to work which can conveniently be done from the platform only; and

(d) an effective signalling arrangement is provided to enable the person riding on the platform to signal to the winch driver when to start or stop the platform at any point of its travel.

(2) No person shall ride on a skip hoist.

(3) A prominent notice prohibiting persons from riding on a builder's hoist shall be fixed to the platform and displayed at every gate and entrance to the builder's hoist.

210.(1) The tower of every builder's hoist shall be effectively braced, guyed or otherwise securely supported so as to form a rigid and stable structure. Support of hoists

(2) Unless otherwise approved by an Inspector, a tower shall be effectively and adequately supported laterally at a level not more than 10 m above its base and thereafter at levels not more than 10 m apart so that no greater length of tower than 10 m remains unsupported, and the top of the tower shall be supported if it is more than 5 m above the next lower lateral support.

(3) A tower less than 10 m high above its base shall be adequately braced to ensure stability.

(4) A tower of a builder's hoist carrying a hopper, tipping bucket, jib or other similar device, shall be effectively supported at the level at which the load is discharged or the jib is fixed.

(5) Subject to sub-rule (6), the tower of every builder's hoist shall be enclosed with wire mesh, steel fabric or other approved material to prevent persons from falling or being struck by the moving platform, bucket or falling materials.

(6) A skip hoist may be partially enclosed to not less than 2 m high from the ground and from any floor or platform.

Safety gates

211.(1) At every level at which the platform of any builder's hoist can be loaded or unloaded, a gate shall be provided and constructed, installed and maintained to safeguard persons from falling or being struck by the moving platform or falling materials.

(2) A skip hoist shall be provided with a gate at the discharging point unless a fixed enclosure is fitted to the hoist which will effectively safeguard persons from falling or being struck by the moving bucket or falling materials.

(3) Gates provided pursuant to this rule shall be not less than 2 m high.

Operation and control

212.(1) An efficient independent signalling system shall be provided to transmit operation signals to the operator of a builder's hoist.

(2) The gates at every loading and unloading point served by a builder's hoist shall be either —

(a) connected to an interlocking system so that when any gate is opened the power supply to the winch is positively disconnected; or

(b) connected by an efficient electrical signalling system which will indicate to the operator whether all gates are in the closed position.

(3) An indicator which accurately indicates the floor levels shall be provided at the normal operating position of the operator of a builder's hoist to indicate when the platform or skip is level with any particular loading or unloading point.

(4) Sub-rules (2) and (3) shall not apply if the operator of a builder's hoist can clearly and conveniently observe from his normal operating position all loading and unloading points not exceeding 12 m high above the tower base level.

(5) The operator of a builder's hoist shall not move the hoist platform up or down until all the gates are closed.

(6) No person shall open any gate of a tower unless the platform is stationary and level with the floor or surface at which such gate is provided.

(7) All equipment and wiring forming part of or used in connexion with a signalling system shall be protected from accidental interference.

Limitation of travel of platform or bucket

213. Every builder's hoist shall have a power or mechanical interlock that prevents the top suspension point of the platform or skip from coming closer than 2 m to the underside of the head sheave support.

Positive control of load

214.(1) Winches of a builder's hoist shall be positive drive-up and drive-down types.

(2) Every builder's hoist —

(a) shall be provided with an efficient brake or brakes which will prevent the fall of the load when suspended; and

(b) shall be constructed so that the load can be effectively controlled whilst being raised or lowered.

(3) The brakes of every builder's hoist shall be protected from the entry of water or lubricant and non-automatic brakes shall be provided with means to lock them in the fully engaged position.

Safeguarding of dangerous moving parts

215. All parts of the machinery used upon or in connexion with a builder's hoist including the hoist rope shall be effectively guarded at all times when the hoist is in motion or in use.

Fencing

216.(1) If the platform of a builder's hoist does not work within a framed tower, the platform shall be fenced with wire mesh or other approved material.

(2) The top of the fence shall be not less than 1 m above platform level.

(3) Notwithstanding the provisions of rule 211(1), access gates shall be provided on the platform and the gates when closed shall effectively prevent material from falling off the platform.

(4) The area around the base of the tower of a builder's hoist to which this rule applies shall be securely fenced off at all times to prevent injury to any person.

Access to head sheaves

217. Safe and convenient access shall be provided to the head sheaves of every builder's hoist.

Load limit to be displayed

218.(1) A prominent sign indicating the safe working load of the builder's hoist shall be displayed on each builder's hoist where it can be clearly seen by the operator of such hoist and by all persons loading such hoist.

(2) No person shall use, operate or control any builder's hoist which is loaded in excess of the safe working load.

(3) Whenever a builder's hoist is re-erected it shall be tested with a load equal to 10 per cent in excess of its safe working load in the presence of an Inspector or a competent person nominated by the Chief Inspector.

Approval of design

219. No person shall install or use or operate a builder's hoist for the first time unless the Chief Inspector, within the meaning of the *Inspection of Machinery Act*, has approved in writing the design.

Dangerous operation of hoisting appliance

220. No person shall load or operate or cause to be loaded or operated a builder's hoist so that it is likely to become a danger to any person or cause damage to the structure of the tower hoist.

Safe nearby load for winches

221.(1) Every winch of a builder's hoist shall have legibly marked on the frame the working load for which it was designed, and an identifying number.

(2) Every electrically operated winch shall have an isolating switch with provision for locking off accessible to the operator.

(3) Every internal combustion engine used for driving a winch shall be provided with provisions for locking off.

(4) Every winch shall be securely fastened down or counterweighted.

Steel wire ropes

222.(1) Steel wire ropes used in conjuction with hoisting appliances shall be in accordance with A.S.1656.

(2) Hoisting ropes shall have a safety factor of not less than 5 based on the guaranteed breaking strength of the rope except for hoists carrying men, the rope safety factor shall be not less than 10.

(3) The minimum diameter of any steel wire rope used in conjunction with hoisting appliances shall be 10 mm.

PART XIII — DEMOLITION OF BUILDINGS AND STRUCTURES

Application

223.(1) This Part shall apply to the demolition of any building or structure, or part of a building or structure, except that rule 233 shall not apply to or in respect of the demolition of part of a building or structure where —

(a) the work is carried out wholly within the confines of the building or structure; and

(b) the demolished material is, at all times during the carrying out of the work, prevented from falling or rebounding outside those confines.

(2) Where in this Part, reference is made to the height or number of storeys of a building or structure or part thereof, the reference is to the height or number of storeys of the building, structure or part, as the case may be, as measured from the level of the ground immediately adjacent to the base of the building or structure at the point where the height is to be measured or the number of storeys ascertained.

(3) All demolition work shall be carried out at all times under the supervision of a rigger or a competent person.

Protective equipment

224. Protective equipment used in demolition work shall conform to the requirements of Division 1 of Part IV.

Inspection prior to demolition

225. Before the commencement of any demolition work the condition of the floors and walls of the building or structure to be demolished in whole or in part shall be carefully ascertained in order that injury or damage through the collapse, as a result of the demolition work, of any such floor or wall may be avoided.

Emergency measures in event of instability

226. Where, during demolition work, any building, structure, or part of a building or structure, including an undemolished part of a building or structure being demolished in whole or in part, becomes unstable and there is a danger that its collapse would injure any person —

(a) all practicable precautions shall be taken to prevent such collapse and to prevent persons from being injured by such collapse should it take place; and

(b) where there are or may be any persons liable to be injured in a public place, or in any place not under the sole occupation or control of the person in charge of the demolition work, an Inspector shall immediately be informed by telephone or otherwise of the danger of such collapse.

Dumping, dropping and removing material

227. The dumping, dropping and removal of material shall comply with the requirements of rules 7 and 8.

Fencing and protection of dangerous areas

228. At all times during the progress of the demolition work —

(a) there shall be exhibited at the site of the work at all points of access, readily visible and clearly legible notices warning persons that demolition work is in

progress and that unauthorized persons are prohibited from being on the site; and

(b) where the building or structure to be demolished is adjacent to a public place, a protective fence or an overhead protective structure, complete with a protective fence in accordance with Division 2 of Part III shall be erected to prevent persons from entering and for the protection of persons who are or may be in the public place.

Entry of unauthorized persons

229. The constructor and the person in charge of any demolition work shall, at all times during the progress of the work, take all practicable steps to ensure that persons who are not —

(a) engaged in the carrying out of the work;

(b) authorized by the constructor to enter the site of the work for a purpose connected with the carrying out of the work; or

(c) entitled or authorized by or under any law in force in the Territory to enter that site,

do not enter or remain on the site of the work.

Closing of openings and means of access

230. At all times during the carrying out of any demolition work —

(a) all exterior wall openings of the building, structure or part thereof being demolished at ground level, not being openings which are used as means of access or egress in connexion with the carrying out of that work, shall be barricaded to a height of at least 1 m above floor level in order to prevent persons from passing through them; and

(b) all roads, paths and other means of access to the site of the demolition work shall, except when in use in connexion with the carrying out of that work, be closed off to prevent access.

Use of existing stairs for access

231. Where stairs of the building or structure being demolished in whole or in part are used or liable to be used as means of access to working places the stairs, together with any landings and stair railings, shall be kept in place and in a safe condition and free from demolished or other material.

Heavy duty scaffolding and cantilevered catch platforms required

232.(1) Where the building or structure being demolished or, where a part of a building or structure is being demolished, that part exceeds 9 m in height from the public place, or from a building of lesser height that is or may be used or occupied, the building structure or part to be demolished is one to which this sub-rule applies, heavy duty scaffolding or cantilevered catch platforms shall, subject to and in accordance with this rule, be erected for the protection of persons who are or may be in the public place or the building of lesser height, as the case may be.

(2) Scaffolding or platforms as prescribed by this rule —

(a) shall be erected on that side or part of the building or structure or part thereof being demolished which faces the public place or the building of lesser height, as the case may be;

(b) shall be erected before the commencement of the work; and

(c) shall be kept in position at all times during the progress of the work.

Cantilevered catch platforms

233.(1) Where the building, structure or part being demolished is one to which this rule applies and exceeds 9 m in height but is less than 24 m in height, a cantilevered catch platform conforming to this rule, shall be erected.

(2) A platform referred to in sub-rule(1) need not be erected —

(a) if heavy duty scaffolding is erected and maintained to conform to the requirements of this rule as to scaffolding where applicable;

(b) if the building, structure or part does not exceed 9 m in height and is 3 m or more from the adjoining boundary or building of lesser height referred to in rule 232; or

(c) if the building, structure or part does not exceed 9 m in height and an overhead protective structure as prescribed in Division 2 of Part III is erected and is such, and so maintained, that it would conform to the requirements of this rule.

(3) The platform or platforms shall be erected —

(a) where the building, structure or part does not exceed 9 m in height, at not less than 4 m above ground level; or

(b) where the building, structure or part exceeds 9 m in height, at not more than 11 m below a level at which the outer wall or other exterior part of the building or structure is being demolished but in no case less than 4 m above ground level.

(4) Before any platform is removed or repositioned it shall be cleared of all loose material and a further cantilevered catch platform shall be erected not more than 11 m below it in order to prevent any material that may be dislodged by such removal or repositioning from falling to the ground.

(5) This sub-rule shall not apply where the building or structure or part thereof has been demolished to a height of less than 9 m and an overhead protective structure referred to in rule 11 has been erected.

(6) The minimum width of a cantilevered catch platform measured horizontally from the outermost projection of the building or structure shall be one-quarter of the height from the cantilevered catch platform to the level at which material is being demolished, or 1.8 m, whichever is the greater. The platform shall be fully decked with 250 mm by 50 mm planks or other approved covering, spiked to or otherwise positively secured to the supporting members.

(7) Wherever practicable, a cantilevered catch platform shall be set up with an inclination of the deck towards the building or structure of not less than 30 degrees and not more than 45 degrees from the horizontal.

(8) The angle of inclination of a cantilevered catch platform may be less than 30 degrees if a closely boarded fence at least 1 m high is provided on each open edge of the platform.

(9) No cantilevered catch platform shall be inclined below the horizontal.

(10) The inner edge of the cantilevered catch platform decking shall closely abut the wall or the external part of the building or structure and extend into any openings of the wall or external part to such a distance as to prevent any material caught by the platform from falling outside the building or structure.

(11) Supporting members shall be provided for each cantilevered catch platform and shall be of timber, set on edge, or of other approved material and construction.

(12) The mimimum size of timber supports for cantilevered catch platforms shall be 250 mm by 65 mm Douglas fir or 250 mm by 50 mm hardwood or their equivalent, for support spacing not exceeding 3 m centre to centre, or 250 mm by 50 mm Douglas fir or 230 mm by 50 mm hardwood, or their equivalent, for spacing not exceeding 2.4 m centre to centre.

(13) The inboard end of a cantilevered catch platform shall extend at least 2.4 m in length from the cantilever support point and be secured to the floor joists, concrete floors or some other effective anchorage in a safe and effective manner.

(14) Adequate and effective measures shall be taken to prevent the supports of a cantilevered catch platform from rolling or tilting over.

(15) Cantilevered catch platforms shall be of sufficient length to effectively catch and retain any falling material.

(16) Where possible, cantilevered catch platforms shall extend 1.5 m beyond the point of demolition and where this is not possible the ends of the platform shall be fenced to the height of at least 1 m, the fence being sloped outwards in such manner as to catch and retain any falling material.

(17) A cantilevered catch platform shall be kept clear of all material so that the platform is not overloaded.

(18) Each platform shall be cleared of all material at least twice in every working day or every 6 working hours, whichever is the shorter interval, and overhead work shall cease during such clearing operations.

(19) Nothing in rules 232 and 233 applies to or in respect of the demolition of a chimney stack.

Dropping of materials on cantilevered catch platforms

234.(1) No person shall wilfully dump or drop demolished or other material onto a cantilevered catch platform.

(2) No constructor for any demolition work on which there is such a platform, and no person in charge of such work, shall cause to permit another person to dump or drop material onto the platform contrary to this rule.

Heavy duty scaffolding

235.(1) This rule applies to a building, structure or part being demolished that exceeds 24 m in height or is more than 7 storeys.

(2) Heavy duty scaffolding conforming to these Rules shall, unless otherwise approved, be erected, and where spurred scaffolding is used it shall be erected to the satisfaction of an Inspector.

(3) The scaffolding shall be at least the height of the external wall or part of the building or structure to be or being demolished.

(4) Unless otherwise approved —

(a) each scaffold shall be provided with 2 platforms;

(b) one platform shall be located at the working level and the other not more than 2 storeys under that level, but in no case more than 7.5 m below the first-mentioned platform; and

(c) each platform shall extend the full width of the scaffolding frame, be closely boarded, abut the wall or, where there is no wall, abut the external part of the building or structure and extend into any openings of such wall or external part to a sufficient distance to prevent any material caught by the platform from falling outside the building or structure.

(5) No platform or section of a platform, other than the platform at the final lower level of the scaffolding, shall be dismantled, repositioned or removed unless a further platform has been installed not more than 2 storeys below that level but in no case more than 7.5 m below the platform or section of platform to be repositioned or removed.

(6) No platform or section of a platform shall be dismantled, repositioned or removed unless all material on the platform has been removed.

(7) The scaffolding shall be effectively enclosed on the outer faces and ends for the full height with 0.63 mm steel wire mesh having an aperture not greater than 12 mm or 1.4 mm steel wire mesh having an aperture not greater than 25 mm, or other approved mesh or enclosure.

(8) The mesh shall be positively secured to the scaffolding at not more than 2 m centres to the vertical and horizontal supports.

(9) The edges of the runs of mesh shall be overlapped a minimum of 100 mm and where there is a horizontal lap the upper run of mesh shall overlap the inner face of the lower mesh.

(10) The overlaps shall be secured every 300 mm with effective wire ties.

Overhead protection

236.(1) Where no express provision is made by these Rules for the provision at any place of overhead protection for persons and, at that place —

(a) persons work below other persons; or

(b) there is a likelihood of persons being injured by objects falling from above,

overhead protection shall, if practicable, be provided in order to prevent injury to persons.

(2) The overhead protection referred to in sub-rule (1) shall be by means of timber or other material of strength and construction reasonably adequate to catch, deflect or hold any material or objects that may reasonably be expected to fall on it.

Disconnexion of electricity, gas and water

237.(1) No demolition work shall be carried out unless all existing supplies of gas to the building, structure or part of a building or structure being demolished have been disconnected.

(2) Demolition of a building or structure shall not be commenced until all electrical supply to electrical systems and apparatus of the building or structure is disconnected by the Northern Territory Electricity Commission.

(3) Temporary supply of electricity necessary for the purpose of carrying out the work shall be installed in accordance with the standards specified in Part XI of these Rules.

Glazed windows

238. Where the glass in any glazed window, door or other opening of a building or structure to be demolished in whole or in part would be liable to break during the demolition, at the commencement of the demolition work either —

(a) all glass shall be removed from the window, door or other opening; or

(b) the window, door or other opening shall be boarded.

Support during demolition

239. No floor or other surface of the building or structure being demolished in whole or part shall be used for supporting any worker engaged in the demolition work, or any crane, plant or other equipment used or intended to be used in the work, or for the transport of or to support demolished material or materials being or to be used in or in

connexion with the work, unless the floor or surface is of sufficient strength to support all such persons, cranes, plant, equipment and material.

Demolition of unsafe walls

240.(1) A wall less than 450 mm thick, or which is structurally weak, shall not be demolished by a person or persons standing on the wall, if any such person or persons could fall a distance of more than 2 m from the working position.

(2) Such demolition work shall be carried out from a working platform or other scaffolding so constructed and located that the work can be carried out safely.

(3) No work of demolishing a wall shall be done within 3 m of an opening in a floor unless otherwise approved by an Inspector.

(4) The opening is to be protected by being planked over or otherwise to prevent material from falling through it.

Support and demolition of walls

241. The demolition by felling of any walls, columns, piers or other vertical structural members of a building or structure shall be performed so that —

(a) adequate precautions are taken to ensure that there is no danger to any person or property from falling, collapsing or rebounding material;

(b) any portion of the building or structure left standing is of sufficient strength to withstand any loads, impact or vibrations caused by the demolition; and

(c) adequate precautions are taken to prevent the collapse or fall caused by the demolition in progress.

Safety during demolition

242.(1) Where the demolition or removal of any framework of a building or structure is carried out, during that demolition or removal, the following measures shall be taken for the safety of persons below, unless such persons are effectively protected from injury by a floor or other part of the building or structure:

(a) every area which persons may enter, and into which material from such demolition or removal might fall, shall be so decked over as to prevent any such material from falling into it; and

(b) effective barricades and readily visible and clearly legible warning signs prohibiting entry shall be erected in order to prevent persons not directly engaged in the demolition or removal of framework from entering every such area.

(2) Demolition or removal of framework shall proceed in reasonably even tiers working from the top downwards. Any framework or member which is not demolished or removed shall be strong enough to remain safely in position or shall be guyed or otherwise supported to ensure that it is stable against the effects of wind or storm.

(3) Before any framework is demolished or removed, all practicable precautions shall be taken to prevent the remainder of the building from collapsing after such demolition or removal.

(4) Members shall not be cut until adequate precautions have been taken to support them safely and effectively.

(5) Members shall not be dropped but shall be lowered in a safe manner.

Loose material on framework

243. Framework remaining in place during demolition shall be kept cleared of loose material.

Demolition of chimney stacks

244. Where a chimney stack is demolished by the removal of successive courses of brickwork or masonry from the top, the following provisions shall be observed:

(a) safe and suitable scaffolding and access thereto shall be provided for the carrying out of the work;

(b) demolished or other material shall be dumped or dropped inside the stack, and a discharge chute or other effective means shall be installed to prevent the accumulation of such material inside the stack;

(c) an overhead protective canopy of adequate size, decked with 50 mm planks and so constructed and supported as to be capable of sustaining a load of at least 700 kg per square metre shall be provided over the discharge end of any chute, hopper, bin or material outlet, to protect any person from falling objects while he is removing material from the discharge area;

(d) material shall not be allowed to accumulate on, or to overload, the protective canopy;

(e) in any case, all material shall be removed from the canopy at least twice every working day; and

(f) all overhead work shall cease during such removal.

Openings in floors

245.(1) Openings made in floors shall not be larger than is reasonably necessary for the carrying out of the demolition work.

(2) Where openings are made in timber floors, any floor joists cut shall be trimmed and tommed.

(3) No beams supporting a floor joist shall be cut in making an opening in a floor.

Control of dust

246.(1) Material shall be loaded or transported on the site of the demolition work in such a manner as to minimize dust.

(2) Dust from the demolition operations shall not be allowed to accumulate on floors or stairways used as working places or at other working places.

(3) Damping or other suitable means shall be used to prevent dust from the demolition operations that has settled on any surface from rising into the air.

(4) Dust shall be controlled so as not to endanger the health or safety of any person engaged in the demolition work.

Demolition of asbestos cement

247.(1) No demolition work shall be carried out by a person standing on a roof or other surface which consists of asbestos cement or other fragile or brittle material.

(2) Demolition work to be carried out on or above such a roof or other surface shall be carried out from a working platform or other scaffolding so constructed and located that the work can be carried out safely and conveniently.

Dangers from gas, &c.

248. The constructor for any demolition work, and the person in charge of that work, shall, before the commencement of that work, and at all times whilst it is being carried out, take all practicable steps to prevent danger to persons engaged in carrying out the work from —

(a) leakage or accumulation of gas or vapour;

(b) the flooding of water mains, drains or sewers;

(c) electric shock;

(d) fire or explosion; and

(e) any other materials considered as dangerous goods.

Lighting of fires

249.(1) No person shall light any fire on the site of any demolition work if the lighting of the fire would be likely to cause danger to human life or limb.

(2) No constructor or person in charge of such work shall cause or permit another person to light a fire on the site of the work contrary to sub-rule (1).

(3) Where a fire has been lit on the site of any demolition work, the constructor for, and the person in charge of, that work shall ensure that the fire is constantly attended and kept under control and, where necessary, extinguished so that it will not endanger any person or property.

PART XIV — COMPRESSED AIR WORK

Rules for compressed air work

250. All compressed air work shall be carried out in accordance with the requirements of Schedule 10 to the Construction Safety (Australian Standards) Rules.

PART XV — MISCELLANEOUS

Approval

251. For the purposes of these Rules, approval may be granted orally or in writing and shall be recorded by the Chief Inspector.

Penalties

252. Any person who contravenes or fails to comply with these Rules is guilty of an offence.

Penalty: $200.