



Lifting Operations Procedure

Brief description

The purpose of this Procedure is to define the requirements for conducting lifting operations at GPC.

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1 Terms and definitions

In this Procedure:

“Attachment Point” means any part of a structure, plant or equipment with sufficient strength for the intended load for the attachment of mechanical loading shifting equipment.

“Common Thoroughfare” means a way or place that people could be expected to use as passage to their work area.

“Competent Person” means a person who has through a combination of training, education and experience, acquired knowledge and skills enabling that person to perform correctly the specified task.

“Crane” means an appliance intended for raising or lowering a load and moving it horizontally, including the supporting structure of the crane and its foundations, but does not include an industrial lift truck, earthmoving machinery, an amusement device, a tractor, an industrial robot, a conveyor, building maintenance equipment, a suspended scaffold or a lift.

“CTO” means competency to operate.

“Dogger” means a person holding a Work Health and Safety Queensland high risk licence for dogging.

“Dogging Work” means:

- (a) the application of Slinging Techniques, including the selection and inspection of lifting gear to safely sling a load; and / or
- (b) the directing of a plant operator in the movement of a load when the load is out of the operator's view.

“Electrical Exclusion Zone” means a safety envelope around an overhead electric line. No part of a worker, operating plant or vehicle must enter an electrical exclusion zone while the overhead electric line is energised.

“Exclusion Zone” means the immediate work area to be delineated where no persons must enter to prevent exposure to potential dropped/falling objects (as referenced in the GPC Barricades Procedure).

“High Risk Work Licence” means any of the licences listed in schedule 3 of the WHS Regulation.

“Hoist” means an appliance intended for raising or lowering a load or people, and includes an elevating work platform, a mast climbing work platform, personnel and materials hoist, scaffolding hoist and serial hoist but does not include a lift or building maintenance equipment.

“Lifting Equipment” means any equipment / device that is used or designed to be used directly or indirectly to connect a load to a Crane and which does not form part of the load, e.g. wire rope slings, chain swings, man-made fibre slings, hooks and fittings, swivels, shackles, eye bolts, rigging screw, wedge sockets, plate clamps and lifting beams.

“Luffing” means angular movement, of a Crane boom or jib, in a vertical plane.

“Mechanical Load Shifting Equipment” means equipment such as but not limited to: Chain blocks, trifors, come-alongs, or similar.

“Mobile Crane” means a machine that is used primarily for raising or lowering a freely Suspended Load, is capable of travelling over a supporting surface without the need for fixed runways (including railway tracks), and relies only on gravity for stability, with no vertical

restraining connection between itself and the supporting surface, and no horizontal restraining connection (other than frictional forces at supporting-surface level) that may act as an aid to stability.

“**OEM**” means Original Equipment Manufacturer.

“**Rated Capacity**” means the maximum gross load that may be applied while in a particular working configuration and under a particular condition of use (see WLL).

“**Rigger**” means a person holding a Work Health and Safety Queensland high risk licence for rigging (either basic, immediate or advanced).

“**Rigging Work**” means:

- (a) the use of mechanical load shifting equipment and associated gear to move, place or secure a load using plant, equipment or members of a structure to ensure the stability of those members; or
- (b) the setting up or dismantling of Cranes or Hoists.

“**Shadow of Load**” means the line of energy that a Suspended Load would fall if the lifting device failed.

“**Slinging Techniques**” means exercising of judgement in relation to the suitability and condition of lifting gear and the method of slinging, by consideration of the nature of the load, its mass and its centre of gravity.

“**Spotter**” means a Competent Person who watches for obstructions that are out of sight of the Crane operator or Dogger and who relays information to the Dogger or Crane operator in charge of the lifting operation.

“**Sully box**” means a work stage designed for the purpose of carrying personnel; to perform work at a remote location, being connected to the Crane boom or jib by bolts or pins.

“**Supported Load**” means a load that cannot fall in the event of a Lifting Equipment failure as it is supported by either: an engineered support/structure, held by adequate weld or bolting; secured by rated chain, slings and shackles attached to fixed structure; or resting on suitable dunnage.

Supported Loads examples:

- Gearbox that has been temporarily supported on suitable dunnage;
- Dozer once supported on the engineered stands in the workshop;
- GTU (gravity take up) supported by approve beams;
- Tank sitting on its supports that will not fall if bolts removed;
- Load that is restrained by rated fixed length chain and shackles;
- Pulley mounted on a vertical beam that been bolted sufficiently to support the load.

Note: Supported Load risks are assessed using the normal GPC assessment of risk process.

“**Suspended Load**” means a load that is temporarily lifted by Lifting Equipment without any intervention to make the load a 'Supported Load'.

Suspended Load examples:

- Gearbox being lifted by a Crane;

- Raised blade of a dozer or a load on a forklift;
- Shore brow being lifted by a Crane;
- Conveyor belt lifted by a Crane if personnel are required to work directly under it and its supports.

Note: a load in a stable landed position where it can no longer fall vertically is no longer suspended. The risk of it falling over should be considered using the normal GPC assessment of risk.

“**Tagline**” means a 16mm (minimum) fibre rope attached to an object about to be lifted to control the sway, stability and placement of the object.

“**Workbox**” means a personnel carrying device, designed to be suspended from a Crane, which provides a working area for persons elevated by and working from the box.

“**Working Load Limit (WLL)**” means the maximum gross load that may be applied to the Crane and lifting attachments while in particular working configuration and under a particular condition of use.

Terms that are capitalised and not otherwise defined in this Procedure are defined in the GPC Corporate Glossary Instruction (as listed in Appendix 1 – Related documents).

2 Introduction

2.1 Purpose

This Procedure defines GPC’s minimum mandatory requirements for the use, design, testing, marking and correct care of lifting devices. This includes devices that may be fitted directly or indirectly to the hook or any other coupling device on a Crane, Hoist or winch, as defined in AS 2549, without affecting its integrity.

2.2 Scope

This Procedure applies at all GPC owned and operated sites and for all activities under GPC’s management. It applies to all Workers, Contractors and, where indicated, port users.

This Procedure does not apply to performing maintenance requirements on lifting plant or manual lifting.

This Procedure applies to all equipment that may be used to conduct lifting operations and lifting attachments used for lifting operations. (e.g. using a jib attachment).

2.3 Objectives

The objective of this Procedure is to:

- manage the risks associated with lifting operations;
- assist GPC with meeting legislative requirements; and
- provide a safe system of work for lifting operations.

3 Lifting Operations

3.1 Design

During the design stage of new constructions, actions shall be taken to optimise the layout, constructability, operability, maintainability and accessibility of facilities to eliminate or minimise the need for lifting operations. As a minimum the following shall occur:

- identify foreseeable lifts during the design of facilities;
- identify opportunities for installing fixed lifting devices for routine lifts;
- ensure access for mobile Lifting Equipment; and
- plan lifting activities to minimise risks associated with lifting operations.

3.2 Safe Systems of Work Requirements

The risks associated with lifting operations shall be minimised as far as practicable.

The following shall occur:

- all lifts must be assessed by a Competent Person (Crane Operator, Rigger, Dogger) to determine if it is a basic or complex lift as defined in Table 1. For repeated / routine lifts the determination of basic or complex lifts should be captured in the JSA or Safe Work Instruction which would negate the need to continually assess the lift each time;
- suitable risk control measures must be identified through a JSA and implemented prior to undertaking lifting operations;
- the proposed method of lifting must be documented in the JSA for the task;
- complex lifting operations must be planned by a qualified Rigger / Dogger and Crane operator. Details of the required rigging equipment and configuration must be documented in a complex lift plan; and
- plant and equipment is certified for use.

(a) Suspended Loads

Persons are not permitted to access under a Suspended Load. All Suspended Loads, including their line of energy, are to be risk assessed and controlled.

Alternate methods of work must be employed to avoid working under a Suspended Load, including:

- (i) work methodology such that persons are clear of the line of energy until the load is supported or the exposure to a Suspended Load is no longer a risk; and
- (ii) implementing controls such that the load becomes a Supported Load.

(b) Exclusion Zone and Restricted Work Area

Any Crane/lifting operation shall establish their working area, factoring in the potential for dropped items that may deflect off any infrastructure. This includes the immediate Exclusion Zone where no personnel (including dogger/rigger) must enter as well as the broader restricted work area.

Further guidance is provided in the GPC Barricades Procedure.

(c) **Lift Planning**

Planning of all lifting operations shall, as a minimum, ensure that:

- (i) machinery, plant, personnel boxes, serial Hoists and winches fitted with lifting attachments, have the Rated Capacity / WLL clearly marked and are appropriate for the intended loads;
- (ii) the travel path is clarified and any obstacles are removed before lifting commences;
- (iii) controls are in place to prevent personnel from walking or standing within the lift path or under the load;
- (iv) the lifting operation can be executed safely in relation to simultaneous operations;
- (v) Lifting Equipment is suitable and will be used in accordance with the manufacturers' instructions; and
- (vi) the lay down area can accommodate the load in terms of size and weight.

Lifting operations shall be risk assessed and planned in accordance with the following Lift Classification table.

| Lift Classifications | | |
|----------------------|---|--|
| Type | Description | Minimum Controls |
| Basic | <ul style="list-style-type: none"> • All lifting operations that are not classified as complex. (Includes the basic use of Davit Cranes, chain blocks, winches, come-a-longs etc.) | <ul style="list-style-type: none"> • Risk Assessment (JSA) • Dogger or Rigger selects appropriate equipment and method • Relevant licence and/or competency |
| Complex | <ul style="list-style-type: none"> • Lifting of persons in workbox. • Lifting within overhead power line exclusion zones. • Lifting large pressure vessels or tanks. • Heavy lifts where the load is 50 tonnes or more. • When using Cranes for demolition work. • Staggered lifts of multiple loads. | Lift Planning, including: <ul style="list-style-type: none"> • JSA • Complex lift plan • Pre-lift briefing • Dogger or Rigger selects appropriate equipment and method • Qualified Rigger must perform the task • Qualified and Competent Crane operator |

| Lift Classifications | | |
|----------------------|---|------------------|
| Type | Description | Minimum Controls |
| | <ul style="list-style-type: none"> Loss of the load would have a serious impact on production operations. Lifting over, or working near, live/energised plant or equipment. The use of Mobile Cranes on barges. For rotating loads. Tilt-up panel lifting tasks. Multiple Crane lift. | |

Table 1: Lift Classification Table

For repeated or routine lifting operations, such planning is only necessary once, provided a Safe Work Instruction or JSA is in place. Periodic revisions shall be carried out to make sure that no factors have changed.

Where required, the lift plan must be documented and include:

- (i) the loads to be lifted, including the mass of the Lifting Equipment, e.g. slings and spreader beams;
- (ii) the load working radius range to be used for the Cranes and confirm that at this radius the loads are within the Crane's capacity;
- (iii) the slinging and lifting sequence;
- (iv) where a Spotter is needed, e.g. to prevent a collision or contact with electric lines, what the duty/tasks are and who is responsible for performing the duties/tasks and what communication system is to be used;
- (v) the position of the Crane, load to be lifted and the final position to which it is to be lifted, where practicable, e.g. a diagram that shows a plan view of the site may assist;
- (vi) the maximum wind speed for the Crane and any lower wind speeds for specified loads, e.g. where the load has a large surface area;
- (vii) verification that the Crane standing (the ground surface, temporary support structure, grillage, track, parking, or similar support, on or from which the Crane is supported during operation) will support the maximum ground bearing pressure to be imposed by the Crane during operations; and
- (viii) the allowance for any factors that may require de-rating of the Crane, e.g. for multiple Crane lifts, extra radius caused by tilting of tilt-up panels; and
- (ix) the rigging requirements of the job.

Where the lift is being carried out in connection with high risk construction work, the lift plan must also include the information required for a safe work method statement (unless a separate safe work method statement is completed for the work).

Where two or more Cranes or other mobile plant work within a workplace, or share the same airspace, a lift plan must also ensure sufficient clearances are maintained between the Cranes, their loads and the mobile plant.

3.3 General Safe Work Practices

- (a) The following shall be ensured:
 - (i) all lifting operations are undertaken by a Competent Person;
 - (ii) Taglines constructed of 16mm Natural Fibre rope are used to prevent the pendulum motion of a load, unless their attachment presents additional risk;
 - (iii) loads are carried as near to the support surface as practicable;
 - (iv) loads do not exceed defined Working Load Limits of plant and equipment;
 - (v) operators of lifting plant conduct a pre-start check of all plant and equipment to be used;
 - (vi) a reliable and tested communication method is in place between all personnel involved in lifting operations (operators, Doggers, Spotters etc.);
 - (vii) lifting operations cease when wind is greater than the manufacturers specifications;
 - (viii) loads shall be lifted or suspended in a way that ensures the load remains under control during the lifting operations; and
 - (ix) operators of lifting plant comply with the GPC Fit for Work Standard, Fatigue Risk Management Procedure and Testing for Alcohol and Other Drug Procedure.
- (b) A Crane or Hoist shall not be left unattended unless the following actions, where applicable, have been taken:
 - (i) all loads have been removed from the hook;
 - (ii) the hook has been raised to a position where it is safely clear of other operators, hooked back or otherwise appropriately secured; and
 - (iii) all powered motions have been disabled.

3.4 Communication

A method of communication must be established and documented for all complex lifts and tested before commencement of work. The chosen method must take into account the operating environment in which the lift will occur. If radio communication is chosen, it must be conducted on a designated channel and a backup means should be available e.g. whistle.

Whenever there are two Cranes operating in close proximity there must be a separate form of communication for each Crane (e.g. not both using whistles).

If a mobile phone has to be used by a person directly involved in the lift, the lift must be stopped.

3.5 Overhead Electrical Conductors

Workers shall observe safe approach distances / exclusion zones for overhead power lines and implement controls as required.

Electrical Exclusion Zone

An Electrical Exclusion Zone is a safety envelope around an overhead electric line. No part of a worker, operating plant or vehicle must enter an Electrical Exclusion Zone while the overhead electric line is energised. Electrical Exclusion Zones apply whenever you need to carry out work, or operate plant or a vehicle, around a live overhead electric line and you cannot eliminate the risk by isolating the power. Electrical Exclusion Zones must be delineated in accordance with the GPC Barricade Procedure.

Electrical Exclusion Zones extend in all directions, not just sideways.

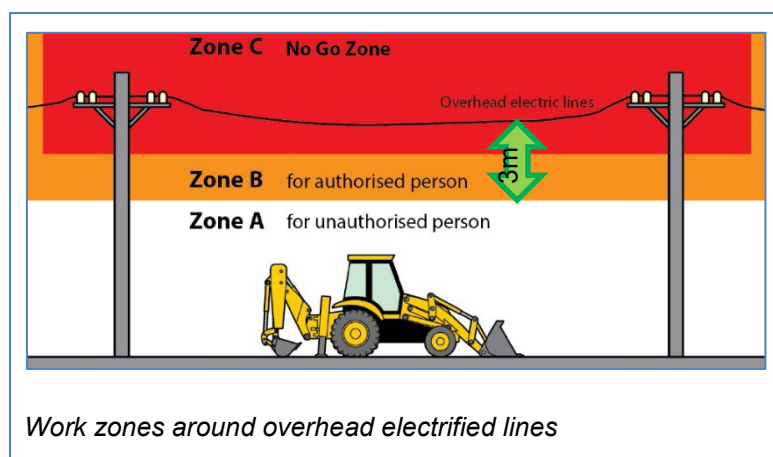
The Electrical Exclusion Zone will vary depending on the:

- voltage of the line, and
- whether the line is insulated or bare.

Electrical Exclusion Zone distances from the Electrical Safety Regulation are replicated in Appendix 6.

Consideration must be had for:

- the minimum clearance distance from the closest part of the equipment or its Suspended Load to the powerline;
- allowing for sway and sag of the overhead powerlines;
- ensuring all persons operating plant and vehicles stay outside the exclusion zone at all times; and
- ensuring a 'Spotter' is used when the Crane or equipment can enter into the Electrical Exclusion Zone.



3.6 Pick and carry operations

The following shall occur for all Crane pick and carry operations:

- A JSA / Safe Work Instruction has been developed.

- Only Lifting Equipment designed by the **OEM** to travel while a load is suspended from the hook shall be used for pick and carry operations.
- Tag line/s must be attached to the load and have sufficient length to enable the person controlling the load to maintain control at all times. Tagline/s may be tied off to a suitable Attachment Point on the Lifting Equipment to ensure the load is unable to swing while the equipment is in motion.
- Taglines must be a minimum diameter of 16mm – Natural fibre rope.

3.7 Forklift with Jib Attachment

A forklift fitted with a jib attachment may change its capability to perform a specialised task. Attachments on a forklift can change the stability and lift capacity of the forklift. Personnel using a forklift with any attachments must be trained and competent to do so.

3.8 Mobile Crane Operations

(a) General requirements

All Mobile Crane operations must be conducted in accordance with the Crane manufacturer's instructions and the Mobile Crane – Code of Practice Queensland.

Crane operators must have a comprehensive knowledge of the operating capabilities of the Crane, and be competent to carry out the lifting operation to ensure the Crane does not overturn. The operator must be satisfied that:

- the Crane is adequately supported on the ground and the Crane is level to within the tolerance specified by the Crane manufacturer;
- materials placed under the outrigger feet or crawler tracks are as per **OEM** specifications to ensure a level and even downward pressure to help prevent the Crane from overturning;
- outriggers are fully extended. Where this is not possible the Crane may need to be de-rated;
- where a slew Mobile Crane is utilised, a 360 degrees slew test must be conducted to confirm the ground stability;
- the Suspended Load will remain within the Rated Capacity of the load chart;
- the functions of the Crane are operating properly, including all Crane motions, brakes, load moment systems and indicators; and
- the wind is not excessive for the load being lifted, particularly for loads with a large surface area, and when the load is high above the ground.

Before and during Crane operation, the Crane operator must:

- check no unauthorised persons are present on the Crane;
- inspect the area, including the ground condition;
- monitor the ground condition during repetitive Crane lifts in one location;
- check each motion to be performed is safe and without risk; and
- complete an inspection in accordance with section 3.9.

(b) **Mobile Crane Operations on Wharves / Jetties**

This section is applicable to all Crane operators including port users. A Permit to Lift on Wharf is required for Mobile Cranes and truck mounted Cranes operated on a GPC owned or operated wharf. A Permit to Lift on Wharf is not required for lifts conducted at RGTCT wharf that meet any of the following:

- (i) Mobile Crane is less than 15T; or
- (ii) 15T Mobile Crane without the outriggers deployed; or
- (iii) truck mounted Crane without outriggers deployed; or
- (iv) 20T Terex Franna operating under the loads listed in the "RGTCT Wharf Maximum Allowable Loads for 20T Terex Franna" as shown in Appendix 2.

The Permit to Lift on Wharf requires approval from the Technical Services Civil / Structural Team.

All Crane operators who are required to operate a Mobile Crane on a GPC owned or operated wharf must first complete the relevant area's induction / wharf induction. For employees the content from this induction is within the CTO training packages.

3.9 Workbox / Sully box

Refer to the GPC Work at Height Procedure for the requirements for the use of and working out of Workboxes/Sully boxes.

3.10 Using other Mobile Plant (not Cranes) for Lifting Operations

Other mobile plant shall only be used for lifting operations if:

- the load is suspended by suitable lifting components;
- the equipment is designed and certified for use in lifting operations;
- mobile plant with a lifting capacity exceeding one tonne is fitted with burst protection valves;
- locking pins are used on quick-hitches; and
- the level of safety provided by the lifting set up is at least equal to that when a Mobile Crane is used.

3.11 Lifting Equipment and Attachment Points - Labelling and Inspections

Inspection by Competent Personnel

A Competent Person must ensure that the plant or equipment:

- is inspected in accordance with Manufacturers specifications;
- is inspected in accordance with WHS Regulations and Standards as applicable;
- records of all inspections are maintained and readily available; and
- equipment tagging is carried out in accordance with Execution Guide Inspection Tagging of Slings, Height Safety and Lifting Equipment.

(a) **Pre-Use Checks**

All Lifting Equipment must be inspected prior to each use by a Rigger, Dogger or other Competent Person. Any equipment identified as defective is to be either tagged out of service for repair or destroyed and discarded to prevent any further inadvertent use.

(b) **Inspection / Testing Regime**

Inspection and testing of Cranes and rigging equipment will be as per Appendix 3.

(c) **Hired and leased plant / equipment**

Plant and equipment may be leased or hired from various hire companies. Leased plant and equipment shall be inspected in accordance with this Procedure. The maintenance and inspection of hired units is the responsibility of the applicable hire company. If hired or leased by GPC, the Contract Supervisor must ensure that inspection certificates are current.

(d) **Lifting Equipment and Attachment Point Register**

A register will be maintained to show the Lifting Equipment and attachment/anchor points available at GPC sites and the inspection dates of those. The relevant area Superintendents are to ensure all their Lifting Equipment and anchor points are listed on the Lifting Equipment Register.

(e) **Labelling**

All lifting devices shall be clearly marked with the following information, as appropriate:

- (i) Identification of manufacturer (or authorised representative or importer);
- (ii) Model, where applicable;
- (iii) Identification number;
- (iv) Tare mass of equipment when it exceeds 50kg;
- (v) Working Load Limit/Rated Capacity in kilograms where less than 1 tonne;
- (vi) Working Load Limit/Rated Capacity in tonnes where greater than 1 tonne;
- (vii) Tare mass and Working Load Limit/Rated Capacity shall be marked in the same unit of measurement.

All Attachment Points shall be clearly marked with the following information:

- (i) Identification of the manufacturer (or authorised representative or importer);
- (ii) Identification number;
- (iii) Working Load Limit/Rated Capacity in kilograms where less than 1T, in tonnes where greater than 1T;
- (iv) When the equipment can be used in several configurations WLL/rated capacities for each configuration shall be indicated.

(f) **Additional marking**

In addition to the above, the following shall be stated, where applicable:

- (i) On equipment for bulk materials, the volumetric capacity (in cubic meters or litres).
- (ii) On equipment that holds the load using clamping forces, the permissible gripping range of the material to be handled.
- (iii) On lifting beams, the maximum permissible load including sling angle applicable to the design of the spreader or combination beam.

3.12 Manual Mechanical Loading Shifting Equipment Safety (Chain Hoists, come-alongs etc.)

Hand-operated Hoists have many applications. These devices are simple to use but misuse can result in sudden failure, property damage and serious injury.

A trained and Competent Person must only operate mechanical load shifting equipment.

Safe use requirements include:

- (a) Inspect the Hoist to be sure it is in good condition. Do not use any Hoist that appears to have been overloaded. Some things to look for include the following:
 - (i) Bent handle
 - (ii) Stretched hook opening
 - (iii) Stretched chain links
 - (iv) Broken ratchet teeth
 - (v) Stiff operation
- (b) Never use two Hoists to Hoist a load that is heavier than the capacity of either. A shifting load could put the entire load on one Hoist. Remember that the rating of the Hoist is based on new condition. Age, dirt, wear and improper maintenance will reduce the lifting capacity of the Hoist.
- (c) Never put a cheater bar on the operating lever or use more than one person to pull the lever. Hoists are designed to a certain capacity utilizing only one person pulling on the handle. Using a cheater bar or more than one person to pull on the handle is a sure sign that you are overloading the Hoist.
- (d) Never operate a Hoist in a manner that causes the load to bend or slide around objects, such as corners or sharp edges. Do not use the Hoist chains or cables as a substitute for a sling. Back hooking is not permitted.
- (e) Keep other helpers away from below the hoisted load. A drop zone must be established as per section 3.3 of this Procedure.
- (f) Check the load to be lifted for proper lifting points. Some equipment has lifting points built in while other items such as electric motors may have eyes in the top of the motor that are used in the manufacturing plant and distributor's warehouse, but are not designed to be used in the workplace.
- (g) Never leave a Suspended Load unattended.

- (h) Once the hoisting operation is completed, return the Hoist to its proper storage location. Keep it out of the weather and away from high moisture or wet areas.

3.13 Training and Competency Requirements

Training and competency requirements to complete tasks detailed in this Procedure are shown in the below table:

| Task | High Risk Work Licence | GPC Training Course |
|--|---|--|
| Slinging a load | Dogger* | N/A |
| Providing instructions to a Crane operator | Dogger* | N/A |
| Slinging a load as per a 'Standard Slinging / Lifting Plan/Instruction' | N/A | GPC safe slinging and mechanical Lifting Equipment awareness course |
| Mobile Crane operation | Relevant Crane licence as per Appendix 5* | GPC Mobile Crane familiarisation / CTO |
| Mobile Crane operation on wharf | | Contractors & Port Users - Relevant area induction / wharf induction* Employees – Mobile Crane CTO training package |
| Bridge / Gantry Crane | N/A | GPC Bridge / Gantry Crane familiarisation / CTO |
| Davit Crane | N/A | GPC Davit Crane familiarisation / CTO |
| Use of mechanical load shifting device | N/A | GPC safe slinging and mechanical Lifting Equipment awareness course |
| Use of multiple mechanical load shifting devices concurrently, Or Using a load shifting device to position a load that is suspended from a Crane | Intermediate Rigger* | N/A |

Table 2: Task Based Training and Competency Requirements

Table 2 primarily applies to employees only. The licences and GPC training that are applicable to contractors and port users are indicated by an *.

The full breakdown of the High Risk Work Licences are detailed in Appendix 5.

3.14 High Risk Work Licence Exemptions

(a) Sling a Load

Workplace Health and Safety Queensland apply an exemption to a Competent Person to enable them to sling a load, without holding a High Risk Work Licence (Dogging) when there is no judgement required for Slinging Techniques and the suitability and the condition of lifting gear because the following factors are predetermined:

- (i) the weight of the load (or within a weight range) to be lifted is predetermined by a Competent Person (e.g. may be marked on the load);
- (ii) selection of the sling and Slinging Techniques for the load is predetermined by a Competent Person;
- (iii) the condition of lifting gear is predetermined by a Competent Person;
- (iv) the lifting points are predetermined by a Competent Person and marked on the load;
- (v) the load is lifted within the view of the operator at all times; and
- (vi) standard slinging/lifting plan/instructions have been documented and signed off by a Competent Person. A form for a simple slinging / lifting task plan is available - Standard Slinging / Lifting Task Form.

GPC only allows this exemption to non-dogging licenced workers where the load to be lifted is under 1 tonne.

GPC considers a Competent Person in relation to this exemption someone who has successfully completed the GPC safe slinging and mechanical Lifting Equipment awareness course.

(b) Maintenance Work

- (i) A person who carries out high risk work involving plant is not required to be licensed if:
 - (A) the work is carried out at a workplace solely for the purpose of the manufacture, testing, trialling, installation, commissioning, maintenance, servicing, repair, alteration, demolition or disposal of the plant at that workplace or moving the plant within the workplace; **and**
 - (B) the plant is operated or used without a load except when standard weight loads with predetermined fixing points are used for calibration of the plant.
- (ii) A person who carries out high risk work with a Crane or Hoist is not required to be licensed as a Crane operator if:
 - (A) the work is limited to setting up or dismantling the Crane or Hoist; and
 - (B) the person carrying out the work holds a licence in relation to rigging, which qualifies the person to carry out the work.

4 Roles and responsibilities

| Role | Responsibilities |
|--|--|
| Executive Leadership Team | <p>To ensure that GPC complies with its obligations by:</p> <ul style="list-style-type: none"> • Ensuring systems and adequate resources are in place to control lifting activities and supply appropriate training. • Providing adequate resources to ensure the effective monitoring and management of the requirements of this Procedure. • Ensuring compliance to this Procedure throughout GPC. |
| Managers | <p>To ensure that GPC complies with its obligations by:</p> <ul style="list-style-type: none"> • Ensuring that established systems are promoted, understood and complied with. • Managing non-conformances with this Procedure. |
| Superintendents | <p>To ensure that GPC complies with its obligations by:</p> <ul style="list-style-type: none"> • Implementing, monitoring and ensuring compliance with the requirements of this Procedure. • Ensuring that appropriate investigations are conducted into the non-conformance with this Procedure. • Conducting inspections to ensure Lifting Equipment is being used effectively and this Procedure is being met. • Managing non-conformances with this Procedure. |
| Supervisors, Contract Supervisors, GPC Representatives | <p>To ensure that GPC complies with its obligations by:</p> <ul style="list-style-type: none"> • Implementing, monitoring and ensuring compliance with the requirements of this Procedure. • Conducting inspections to ensure Lifting Equipment is being used effectively and this Procedure is being met. • Ensuring that Lifting Equipment is readily accessible to all Workers. • Ensuring that Workers conducting lifting activities have the appropriate licences, competencies and training. |

| Role | Responsibilities |
|---|--|
| | <ul style="list-style-type: none"> • Ensuring Workers are conducting risk assessments and appropriate lift planning to determine adequate controls required for tasks. • Managing non-conformances with this Procedure. |
| Safety and Learning & Development Teams | <p>To ensure that GPC complies with its obligations by:</p> <ul style="list-style-type: none"> • Supporting Workers in the interpretation of legislation and the application of this Procedure. • Maintaining High Risk Work Licence exemption processes. • Ensuring licence, training and competency assessments are available and records are maintained. |
| Technical Services Team | <p>To ensure that GPC complies with its obligations by:</p> <ul style="list-style-type: none"> • Approving Permits to Lift on Wharf. |
| Workers, Contractors and port users | <p>To ensure that GPC complies with its obligations by:</p> <ul style="list-style-type: none"> • Maintaining High Risk Work Licences as required by legislation. • Attaining and maintaining training and competencies required for lifting tasks and Lifting Equipment. • Only performing lifting tasks if licenced, trained and competent in accordance with this Procedure. • Reporting any defective or damaged Lifting Equipment supplied by GPC to their Supervisor / Superintendent / GPC Representative. • Using all Lifting Equipment in a safe manner and operating within the rated load capacity. • Complying with this Procedure. • Taking reasonable care for their own safety. |

5 Appendices

5.1 Appendix 1 – Related documents

(a) **Legislation and regulation**

Key relevant legislation and regulation, as amended from time to time, includes but is not limited to:

| Type | Legislation/regulation |
|------------|---|
| State Acts | <p><i>Work Health and Safety Act 2011 (Qld)</i></p> <p><i>Work Health and Safety Regulation 2011 (Qld)</i></p> <p><i>Electrical Safety Act 2002 (Qld)</i></p> <p><i>Electrical Safety Regulation 2013 (Qld)</i></p> |
| Other | <p>Managing risks of plant in the Workplace Code of Practice 2021</p> <p>Mobile Crane Code of Practice 2006</p> <p>Electrical safety Code of Practice 2020 – Working near overhead and underground electric lines</p> <p>AS 1418.17:1996 Cranes (including Hoists and winches) – Design and construction of Workboxes</p> <p>AS/NZS 1891.4:2009 Industrial fall-arrest systems and devices – Selection, use and maintenance</p> |

(b) **Gladstone Ports Corporation documents**

The following documents relate to this Procedure:

| Type | Document number and title |
|--|---|
| Tier 1: Policy | #365624 Safety Policy |
| Tier 2: Standard/Strategy | <p>#854303 Safety Management Framework Standard</p> <p>#1331115 Fit for Work Standard</p> |
| Tier 3: Specification/ Procedure/Plan | <p>#123526 Barricades Procedure</p> <p>#1516450 Safe Operation of Mobile Equipment Procedure</p> <p>#123483 Work at Height Procedure</p> <p>#163222 Testing for Alcohol and Other Drugs Procedure</p> <p>#1331120 Fatigue Risk Management Procedure</p> |

| Type | Document number and title |
|--|--|
| Tier 4: Instruction/Form/Template/Checklist | #1536224 Complex Lift Plan |
| | #1637292 Permit to Lift on Wharf |
| | #538929 Lifting Equipment Register |
| | #1535157 Lifting and Rigging Equipment Inspection Schedule |
| | #1596713 Standard Slings / Lifting Task Form |
| | #1847988 Execution Guide Inspection Tagging of Slings, Height Safety and Lifting Equipment |
| | Drawing # 103-01050 – Load limit restrictions for RGT wharf |
| | Drawing # 513-0120 - Load limit restrictions for BPT wharf |
| | Drawing # 001-0012 - Load limit restrictions for APT wharf berth 1 & 2 |
| | Drawing # 001-0012 - Load limit restrictions for APT wharf berth 3 & 4 |
| #1621179 GPC Corporate Glossary Instruction | |
| Other | N/A |

5.2 Appendix 2 – Maximum Allowable Load when working on RGCT Wharf – Terex AT20 Franna

| | |
|--|--|
| | Maximum Load (T) less than 10 deg articulation |
| | Maximum (T) more than 10 deg articulation |
| | Boom Angle or (Radius at 0 deg Boom Angle) |

| Crane Details | |
|-----------------------|--------|
| Front Axle Tare (FAT) | 8 t |
| Rear Axle Tare (RAT) | 11.5 t |
| Wheel Base (WB) | 4.45 m |

| Load Details | | |
|-----------------------|----|--------|
| Front Axle Load Limit | 20 | tonnes |

1/04/2022 Approved M.Frost RPEQ 9017

| Radius (m) | Boom Length (m) | | | | | | | | | | | | | | | | | | |
|------------|-----------------|--------|---------|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|--|
| | 5.67 | 6 | 6.5 | 7 | 7.5 | 8 | 8.5 | 9 | 9.5 | 10 | 10.5 | 11 | 11.5 | 12 | 12.5 | 13 | 13.5 | 13.85 | |
| 1.6 | 7.07 | 6.85 | 6.53 | 6.31 | | | | | | | | | | | | | | | |
| | 5.82 | 5.82 | 5.82 | 5.82 | | | | | | | | | | | | | | | |
| | 48° | 51° | 54° | 57° | | | | | | | | | | | | | | | |
| 2.0 | 8.20 | 8.20 | 8.06 | 7.68 | 7.40 | 7.22 | 7.05 | | | | | | | | | | | | |
| | 6.71 | 6.71 | 6.71 | 6.71 | 6.71 | 6.71 | 6.71 | | | | | | | | | | | | |
| | 42° | 46° | 50° | 53° | 56° | 58° | 60° | | | | | | | | | | | | |
| 2.5 | 7.86 | 7.86 | 7.86 | 7.83 | 7.83 | 7.83 | 7.83 | 7.48 | 7.37 | | | | | | | | | | |
| | 7.39 | 7.39 | 7.36 | 7.36 | 7.36 | 7.36 | 7.36 | 7.33 | 7.33 | | | | | | | | | | |
| | 34° | 39° | 44° | 48° | 51° | 54° | 56° | 58° | 60° | | | | | | | | | | |
| 3.0 | 7.25 | 7.25 | 7.25 | 7.22 | 7.22 | 7.22 | 7.22 | 7.22 | 7.22 | 7.06 | 6.52 | | | | | | | | |
| | 6.75 | 6.75 | 6.75 | 6.75 | 6.75 | 6.75 | 6.71 | 6.71 | 6.71 | 6.71 | 6.71 | | | | | | | | |
| | 25° | 31° | 37° | 42° | 46° | 49° | 52° | 55° | 57° | 59° | 60° | | | | | | | | |
| 3.5 | 6.68 | 6.68 | 6.68 | 6.68 | 6.68 | 6.68 | 6.68 | 6.68 | 6.68 | 6.68 | 6.58 | 5.68 | 5.25 | | | | | | |
| | 6.20 | 6.20 | 6.20 | 6.20 | 6.20 | 6.20 | 6.20 | 6.20 | 6.16 | 6.16 | 6.16 | 6.02 | 5.56 | | | | | | |
| | 8° | 20° | 29° | 36° | 41° | 45° | 48° | 51° | 53° | 55° | 57° | 59° | 60° | | | | | | |
| 4.0 | 7.00 | 6.36 | 6.22 | 6.22 | 6.22 | 6.22 | 6.22 | 6.22 | 6.18 | 6.18 | 6.18 | 5.68 | 5.25 | 5.04 | 4.86 | | | | |
| | 6.45 | 5.88 | 5.73 | 5.73 | 5.73 | 5.73 | 5.73 | 5.73 | 5.70 | 5.70 | 5.70 | 5.70 | 5.54 | 5.32 | 5.13 | | | | |
| | (3.57) | (3.90) | 19° | 28° | 35° | 39° | 43° | 47° | 49° | 52° | 54° | 56° | 57° | 59° | 60° | | | | |
| 4.5 | | | 5.93 | 5.77 | 5.77 | 5.77 | 5.77 | 5.77 | 5.77 | 5.77 | 5.77 | 5.66 | 5.21 | 4.98 | 4.83 | 4.64 | 4.52 | | |
| | | | 5.44 | 5.32 | 5.32 | 5.32 | 5.32 | 5.32 | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 | 5.24 | 5.08 | 4.88 | 4.76 | | |
| | | | (4.40) | 19° | 27° | 34° | 38° | 42° | 45° | 48° | 50° | 52° | 54° | 56° | 58° | 59° | 60° | | |
| 5.0 | | | 5.53 | 5.41 | 5.41 | 5.41 | 5.41 | 5.41 | 5.41 | 5.41 | 5.41 | 5.41 | 5.13 | 4.93 | 4.73 | 4.58 | 4.46 | 4.34 | |
| | | | 5.05 | 4.92 | 4.92 | 4.92 | 4.92 | 4.92 | 4.92 | 4.92 | 4.92 | 4.92 | 4.92 | 4.92 | 4.92 | 4.80 | 4.67 | 4.55 | |
| | | | (4.90) | 18° | 27° | 33° | 37° | 41° | 44° | 47° | 49° | 51° | 53° | 55° | 56° | 58° | 59° | | |
| 6.0 | | | 5.35 | 4.83 | 4.75 | 4.75 | 4.75 | 4.75 | 4.75 | 4.75 | 4.75 | 4.75 | 4.75 | 4.75 | 4.58 | 4.40 | 4.27 | 4.19 | |
| | | | 4.82 | 4.37 | 4.32 | 4.32 | 4.32 | 4.32 | 4.28 | 4.28 | 4.28 | 4.28 | 4.28 | 4.28 | 4.28 | 4.28 | 4.28 | 4.28 | |
| | | | (5.40) | (5.90) | 17° | 25° | 31° | 35° | 39° | 42° | 45° | 47° | 49° | 51° | 53° | 54° | | | |
| 7.0 | | | 4.65 | 4.29 | 4.24 | 4.24 | 4.24 | 4.24 | 4.24 | 4.24 | 4.24 | 4.24 | 4.19 | 4.19 | 4.19 | 4.06 | 3.83 | | |
| | | | 4.20 | 3.80 | 3.75 | 3.75 | 3.75 | 3.75 | 3.75 | 3.75 | 3.75 | 3.75 | 3.75 | 3.75 | 3.75 | 3.75 | 3.75 | 3.75 | |
| | | | (6.40) | (6.90) | 16° | 24° | 29° | 34° | 37° | 40° | 43° | 45° | 47° | 48° | | | | | |
| 8.0 | | | 4.10 | 3.75 | 3.70 | 3.70 | 3.70 | 3.70 | 3.70 | 3.70 | 3.70 | 3.70 | 3.70 | 3.70 | 3.70 | 3.70 | 3.70 | 3.60 | |
| | | | 3.50 | 3.20 | 3.15 | 3.15 | 3.15 | 3.15 | 3.15 | 3.15 | 3.15 | 3.15 | 3.15 | 3.15 | 3.15 | 3.15 | 3.15 | 3.15 | |
| | | | (7.40) | (7.90) | 15° | 23° | 28° | 32° | 36° | 38° | 41° | 43° | | | | | | | |
| 9.0 | | | 3.50 | 3.25 | 3.20 | 3.20 | 3.20 | 3.20 | 3.20 | 3.20 | 3.20 | 3.20 | 3.20 | 3.20 | 3.20 | 3.20 | 3.20 | 3.20 | |
| | | | 2.95 | 2.75 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | 2.70 | |
| | | | (8.40) | (8.90) | 15° | 22° | 27° | 31° | 34° | 36° | | | | | | | | | |
| 10.0 | | | 3.00 | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 | |
| | | | 2.55 | 2.40 | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 | |
| | | | (9.40) | (9.90) | 14° | 21° | 26° | 29° | | | | | | | | | | | |
| 11.0 | | | 2.65 | 2.50 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | |
| | | | 2.20 | 2.10 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 | |
| | | | (10.40) | (10.90) | 13° | 18° | | | | | | | | | | | | | |
| 11.75 | | | 2.35 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | |
| | | | 1.95 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | |
| | | | (11.40) | (11.75) | | | | | | | | | | | | | | | |

5.3 Appendix 3 – Inspection Schedule – Lifting & Rigging Equipment

LIFTING EQUIPMENT AND RIGGING INSPECTION SCHEDULE

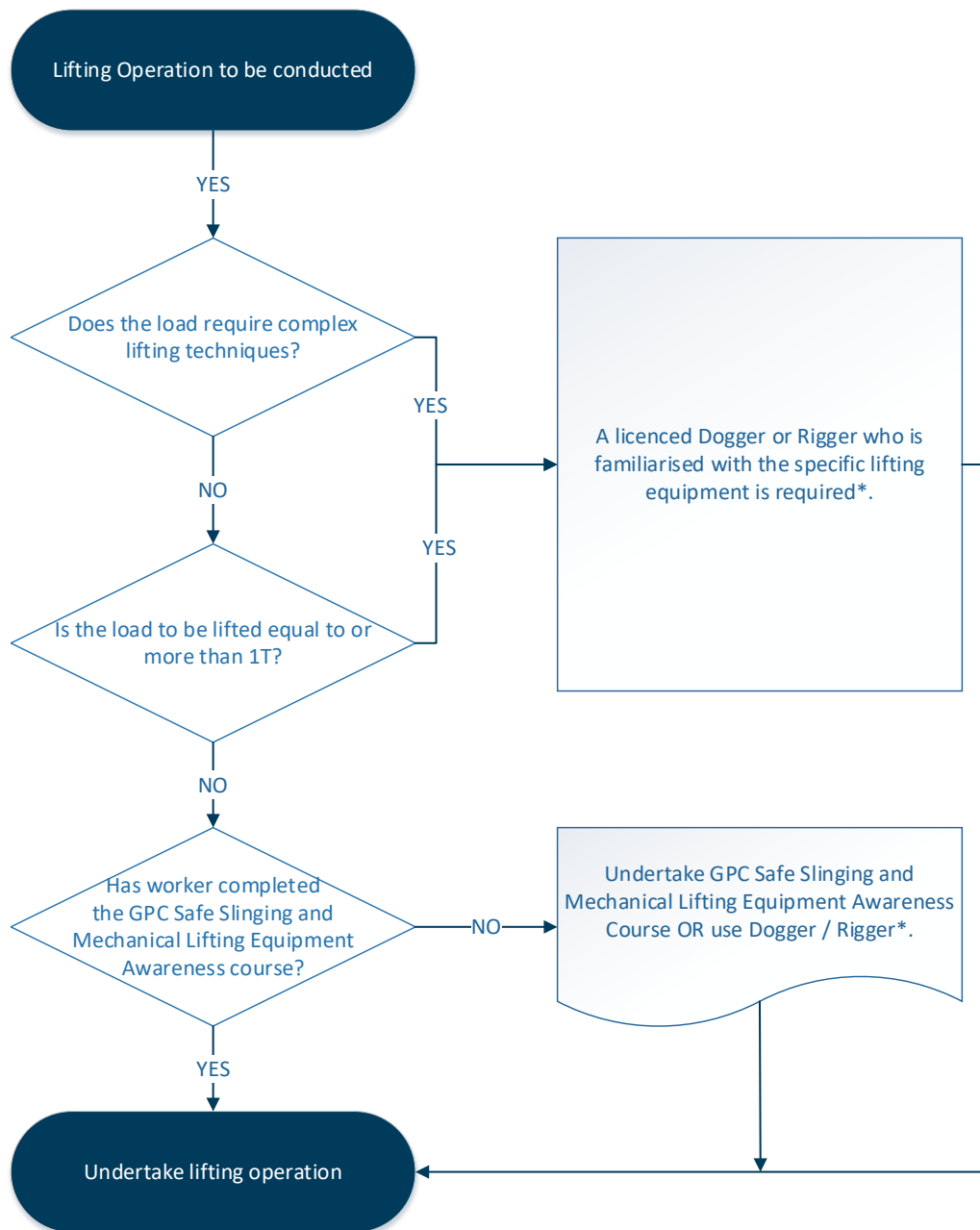
| EQUIPMENT CATEGORY | 3 MONTH INSPECTION | 6 MONTH INSPECTION | ANNUAL INSPECTION | ANNUAL TEST | RELEVANT STANDARD |
|---|--------------------|--------------------|-------------------|-------------------------|-------------------|
| Concrete lifting eyes/clutches | | | | • | AS3850.1-2015 |
| Permanently inst. Friction or glued-in anchorages | | | | • | AS1891.4-2009 |
| Wire coil flat sling | | | • | | AS1438.2-1998 |
| Chain sling | | | • | | AS3775.2-2014 |
| Eye bolts | | | • | | AS2317-1998 |
| Shackles | | | • | | AS2741-2002 |
| Chain & lever hoist (jgc, Trolleys) | | | • | | AS1418.2-1997 |
| V.P.C , H.P.C & girder clamps | | | • | | AS4991-2004 |
| Sheave & snatch blocks | | | • | | AS2089-2008 |
| Hydraulic hoists | | | • | | AS1418.2-1997 |
| Lifting spreader beams | | | • | | AS4991-2004 |
| Lifting clamps | | | • | | AS4991-2004 |
| Lifting cages & gear | | | • | | AS4991-2004 |
| Lifting 'C' Hooks | | | • | | AS4991-2004 |
| Crane man cages/workboxes | | | • | | AS1418.17-1996 |
| Forklift work boxes | | | • | | AS2359.1-1995 |
| Forklift jibs & lifting attachments | | | • | | AS2359.1-1995 |
| Permanently installed anchorages | | | • | | AS1891.4-2009 |
| Permanently installed horizontal lifelines | | | • | | AS1891.4-2009 |
| Vehicle support stands | | | • | | ASNZS2538-2004 |
| Steel storage racking | | | • | | AS4084-2012 |
| Motor vehicle, transport webbing tie downs | | | • | | AS4380-2001 |
| Wire rope sling | | | • | | AS1666.2-2009 |
| Winches | | | • | | AS1418.2-1997 |
| Portable ladders | | • | | | ASNZS1892.5-2000 |
| Synthetic flat webbing sling | • | | | | AS1353.2-1997 |
| Synthetic soft round sling | • | | | | AS4497.2-1997 |
| Electric hoists (based on usage) | • | • | • | | AS1418.2-1997 |
| Cranes | • | • | • | (10 year Certification) | AS2550 |
| Vehicle hoists | • | • | • | | AS1418.9-1996 |
| Vehicle loading cranes | • | • | • | | AS1488.11-2007 |

Please note:

- All equipment must be inspected by the operator before use.
- Equipment subject to heavy usage may require more regular documented inspection.
- For equipment not shown, refer to appropriate Australian Standards &/or manufacturers specifications.
- Any item requiring repair must be repaired & proof load tested upon completion to appropriate Procedure.
- Ensure the tag attached confirms currency of inspections.

#1535157

5.4 Appendix 4 – Training and Competency Decision Flow Chart for mechanical load shifting equipment



NOTE:
 *Doggers and Riggers are not required to undertake a familiarisation on chain blocks or lever winch/come-a-longs. Familiarisation on all other lifting equipment is required.

5.5 Appendix 5 – High Risk Licence Requirements

| Code | Licence | Description |
|------|---|---|
| C0 | Slewing Mobile Crane – with capacity over 100 tonnes | <p>Use of a slewing Mobile Crane with a capacity exceeding 100t.</p> <p>Use of a vehicle loading Crane with a capacity of 10 metre tonnes or more, excluding the application of load estimation and Slinging Techniques to move a load.</p> <p>Use of a non-slewing Mobile Crane with a capacity exceeding 3t.</p> <p>Use of a reach stacker.</p> |
| C1 | Slewing Mobile Crane – with a capacity up to 100 tonnes | <p>Use of a slewing Mobile Crane with a capacity of 100t or less</p> <p>Use of a vehicle loading Crane with a capacity of 10 metre tonnes or more, excluding the application of load estimation and Slinging Techniques to move a load.</p> <p>Use of a non-slewing Mobile Crane with a capacity exceeding 3t.</p> <p>Use of a reach stacker.</p> |
| C6 | Slewing Mobile Crane – with a capacity up to 60 tonnes | <p>Use of a slewing Mobile Crane with a capacity of 60t or less.</p> <p>Use of a vehicle loading Crane with a capacity of 10 metre tonnes or more, excluding the application of load estimation and Slinging Techniques to move a load.</p> <p>Use of a non-slewing Mobile Crane with a capacity exceeding 3t.</p> <p>Use of a reach stacker.</p> |
| C2 | Slewing Mobile Crane – with a capacity up to 20 tonnes | <p>Use of a slewing Mobile Crane with a capacity of 20t or less.</p> <p>Use of a vehicle loading Crane with a capacity of 10 metre tonnes or more, excluding the application of load estimation and Slinging Techniques to move a load.</p> <p>Use of a non-slewing Mobile Crane with a capacity exceeding 3t.</p> <p>Use of a reach stacker.</p> |
| CB | Bridge and gantry Crane | Use of a bridge Crane or gantry Crane that is: |

| Code | Licence | Description |
|------|-------------------------------|---|
| | | <ul style="list-style-type: none"> Controlled from a permanent cabin or control station on the Crane; or Remotely controlled and having more than 3 powered operations; <p>including the application of load estimation and Slings Techniques to move a load.</p> |
| CD | Derrick Crane | Use of a derrick Crane |
| CN | Non-slewing Mobile Crane | Use of a non-slewing mobile Crane with a capacity exceeding 3t |
| CP | Portable boom Crane | Use of a portable boom Crane |
| CS | Self-erecting tower Crane | Use of a self-erecting tower Crane |
| CT | Tower Crane | Use of a tower Crane |
| CV | Vehicle loading Crane | Use of a vehicle loading Crane with a capacity of 10 metre tonnes or more, including the application of load estimation and Slings Techniques to move a load |
| HM | Materials Hoist | Use of a materials Hoist |
| HP | Personnel and materials Hoist | Use of a personnel and materials Hoist. Use of a materials Hoist. |
| RS | Reach stacker | Operation of a reach stacker of greater than 3t capacity that incorporates an attachment for lifting, moving and travelling with a shipping container, but does not include a portainer Crane |
| LF | Forklift truck | Use of a forklift truck other than an order-picking forklift truck |
| LO | Order-picking forklift truck | Use of an order-picking forklift truck |
| DG | Dogger | Dogging work |
| RB | Basic rigging | <ul style="list-style-type: none"> Dogging work Rigging Work involving any of the following: <ul style="list-style-type: none"> Structural steel erection Hoists |

| Code | Licence | Description |
|------|----------------------|--|
| | | <ul style="list-style-type: none"> - Pre-cast concrete members of a structure - Safety nets and static lines - Mast climbing work platforms - Perimeter safety screens and shutters - Cantilevered Crane loading platforms • But excluding Rigging Work involving: <ul style="list-style-type: none"> - Hoists with jibs and self-climbing Hoists - Cranes, conveyors, dredges and excavators - Tilt slabs - Demolition of structures or plant - Dual lifts - Gin poles and shear legs - Flying foxes and cable ways - Gayed derricks and structures - Suspended scaffolds and fabricated hung scaffolds |
| RI | Intermediate rigging | <ul style="list-style-type: none"> • Rigging Work involving any of the following: <ul style="list-style-type: none"> - Rigging Work in the class Basic Rigging - Hoists with jibs and self-climbing Hoists - Cranes, conveyors, dredges and excavators - Tilt slabs - Demolition of structures or plan - Dual lifts • But excluding Rigging Work involving: <ul style="list-style-type: none"> - Gin poles and shear legs - Flying foxes and cable ways - Gayed derricks and structures |

| Code | Licence | Description |
|------|------------------|---|
| | | <ul style="list-style-type: none"> – Suspended scaffolds and fabricated hung scaffolds |
| RA | Advanced rigging | <ul style="list-style-type: none"> • Rigging Work involving any of the following: <ul style="list-style-type: none"> – Gin poles and shear legs – Flying foxes and cable ways – Guyed derricks and structures – Suspended scaffolds and fabricated hung scaffolds |

5.6 Appendix 6 – Electrical Exclusion Zones for Overhead Electric Lines

Part 2 Overhead uninsulated (exposed) electric lines

Division 1 Exclusion zones for untrained persons

| Nominal phase to phase voltage of overhead uninsulated electric line | Untrained person for the electric line (mm) | Operating plant operated by untrained person for the electric line (mm) | Vehicle operated by untrained person for the electric line (mm) |
|--|---|---|---|
| low voltage (with consultation with person in control of exposed electric line) | 1000 | 3000 | 600 |
| low voltage (without consultation with person in control of exposed electric line) | 3000 | 3000 | 600 |
| above low voltage, up to 33kV (with consultation with person in control of exposed electric line) | 2000 | 3000 | 900 |
| above low voltage, up to 33kV (without consultation with person in control of exposed electric line) | 3000 | 3000 | 900 |

| Nominal phase to phase voltage of overhead uninsulated electric line | Untrained person for the electric line (mm) | Operating plant operated by untrained person for the electric line (mm) | Vehicle operated by untrained person for the electric line (mm) |
|--|---|---|---|
| above 33kV up to 132kV | 3000 | 3000 | 2100 |
| above 132kV up to 220kV | 4500 | 6000 | 2900 |
| above 220kV up to 275kV | 5000 | 6000 | 2900 |
| above 275kV up to 330kV | 6000 | 6000 | 3400 |
| above 330kV up to 500kV | 6000 | 8000 | 4400 |

| Nominal pole to earth dc voltage of exposed electric line | Untrained person for the electric line (mm) | Operating plant operated by untrained person for the electric line (mm) | Vehicle operated by untrained person for the electric line (mm) |
|---|---|---|---|
| +/- 25kV | 3000 | 3000 | 900 |
| +/- 85kV | 3000 | 3000 | 2100 |
| +/- 150kV | 3000 | 3000 | 2100 |
| +/- 270kV | 4500 | 6000 | 2900 |
| +/- 350kV | 5000 | 6000 | 2900 |
| +/- 400kV | 6000 | 6000 | 3400 |

Part 2 Overhead uninsulated (exposed) electric lines

Division 2 Exclusion zones for authorised or instructed persons

| Nominal phase to phase voltage of overhead uninsulated electric line | Authorised person or instructed person for the electric line (mm) | Operating plant operated by authorised person or instructed person for the electric line, with safety observer or another safe system (mm) | Vehicle operated by authorised person or instructed person for the electric line (mm) |
|--|---|--|---|
| low voltage | (No exclusion zone prescribed) | 1000 | 600 |
| above low voltage, up to 33kV | 700 | 1200 | 700 |
| above 33kV up to 50kV | 750 | 1300 | 750 |
| above 50kV up to 66kV | 1000 | 1400 | 1000 |
| above 66kV up to 110kV | 1000 | 1800 | 1000 |
| above 110kV up to 132kV | 1200 | 1800 | 1200 |
| above 132kV up to 220kV | 1800 | 2400 | 1800 |
| above 220kV up to 275kV | 2300 | 3000 | 2300 |
| above 275kV up to 330kV | 3000 | 3700 | 3000 |
| above 330kV up to 400kV | 3300 | 4000 | 3300 |
| above 400kV up to 500kV | 3900 | 4600 | 3900 |

| Nominal pole to earth dc voltage of exposed electric line | Authorised person or instructed person for the electric line (mm) | Operating plant operated by authorised person or instructed person for the electric line, with safety observer or another safe system (mm) | Vehicle operated by authorised person or instructed person for the electric line (mm) |
|---|---|--|---|
| +/- 25kV | 700 | 1200 | 700 |

| Nominal pole to earth dc voltage of exposed electric line | Authorised person or instructed person for the electric line (mm) | Operating plant operated by authorised person or instructed person for the electric line, with safety observer or another safe system (mm) | Vehicle operated by authorised person or instructed person for the electric line (mm) |
|---|---|--|---|
| +/- 85kV | 1000 | 1800 | 1000 |
| +/- 150kV | 1200 | 1800 | 1200 |
| +/- 270kV | 1800 | 2400 | 1800 |
| +/- 350kV | 2500 | 3200 | 2500 |
| +/- 400kV | 2900 | 3600 | 2900 |

Part 3 Overhead insulated electric lines

Division 1 Exclusion zones for untrained persons

| Nominal phase to phase voltage of overhead insulated electric line | Untrained person for the electric line (mm) | Operating plant operated by untrained person for the electric line (mm) | Vehicle operated by untrained person for the electric line (mm) |
|--|---|---|---|
| low voltage (with consultation with, and with insulation verified by, an authorised person for the electric line) | (No exclusion zone prescribed) | 1000 | 300 |
| low voltage (with consultation with, and without insulation verified by, an authorised person for the electric line) | 3000 | 3000 | 600 |
| above low voltage, up to 33kV (with consultation with person in control of electric line) | 2000 | 3000 | 900 |
| above low voltage, up to 33kV (without consultation with | 3000 | 3000 | 900 |

| Nominal phase to phase voltage of overhead insulated electric line | Untrained person for the electric line (mm) | Operating plant operated by untrained person for the electric line (mm) | Vehicle operated by untrained person for the electric line (mm) |
|--|---|---|---|
| person in control of electric line) | | | |
| above 33kV up to 66kV | 3000 | 3000 | 2100 |

| Nominal pole to earth dc voltage of electric line | Untrained person for the electric line (mm) | Operating plant operated by untrained person for the electric line (mm) | Vehicle operated by untrained person for the electric line (mm) |
|---|---|---|---|
| +/- 25kV | 3000 | 3000 | 900 |
| +/- 85kV | 3000 | 3000 | 2100 |

Part 3 Overhead insulated electric lines

Division 2 Exclusion zones for authorised or instructed persons

| Nominal phase to phase voltage of overhead insulated electric line | Authorised person or instructed person for the electric line (mm) | Operating plant operated by authorised person or instructed person for the electric line, with safety observer or another safe system (mm) | Vehicle operated by authorised person or instructed person for the electric line (mm) |
|--|---|--|---|
| low voltage (with consultation with, and with insulation verified by, an authorised person for the electric line) | (No exclusion zone prescribed) | (No exclusion zone prescribed) | (No exclusion zone prescribed) |
| low voltage (with consultation with, and without insulation verified by, an authorised person for the electric line) | (No exclusion zone prescribed) | (No exclusion zone prescribed) | 600 |
| above low voltage, up to 33kV (with or without consultation with person in | 700 | 700 | 700 |

| Nominal phase to phase voltage of overhead insulated electric line | Authorised person or instructed person for the electric line (mm) | Operating plant operated by authorised person or instructed person for the electric line, with safety observer or another safe system (mm) | Vehicle operated by authorised person or instructed person for the electric line (mm) |
|--|---|--|---|
| control of electric line) | | | |
| above 33kV up to 50kV | 750 | 750 | 750 |
| above 50kV up to 66kV | 1000 | 1000 | 1000 |

| Nominal pole to earth dc voltage of electric line | Authorised person or instructed person for the electric line (mm) | Operating plant operated by authorised person or instructed person for the electric line, with safety observer or another safe system (mm) | Vehicle operated by authorised person or instructed person for the electric line (mm) |
|---|---|--|---|
| +/- 25kV | 700 | 700 | 700 |
| +/- 85kV | 1000 | 1000 | 1000 |

5.7 Appendix 7 – Revision history

| Revision date | Revision description | Author | Endorsed by | Approved by |
|---------------|---|--|--|--|
| 11/11/2021 | Initial document creation (supersedes OH&S Procedures Manual – Hoists, Cranes, Jacks and Associated Lifting Equipment #100239) | Dean O’Dowd, Unloading Maintenance Superintendent Kirsty Iszlaub, Safety and Training Specialist – Systems | Tony Young, Safety and Training Manager | Ged Melrose, Acting AMPS / Operations General Manager |
| 28/04/2022 | v5 Updates to Mobile Crane operation requirements including work on wharves. | Kirsty Iszlaub, Safety and Training Specialist – Systems | Tony Young, Safety and Training Manager | Ged Melrose, Acting AMPS / Operations General Manager |

| Revision date | Revision description | Author | Endorsed by | Approved by |
|---------------|---|--|---|----------------------------------|
| 14/01/2023 | v6 Minor update to remove Dogger from complex lifts and addition of use of Execution Guide for Inspection Tagging of Slings, Height Safety and Lifting Equipment. | Kirsty Iszlaub, Safety and Training Specialist – Systems | Tony Young, Safety and Training Manager | Richard Haward, EGM Safety & ESG |
| 18/09/2023 | Alignment between Barricade Procedure and Work at Height Procedure | Kirsty Iszlaub, Safety and Environment Systems Lead | Tony Young, Safety Manager | Richard Haward, EGM Safety & ESG |