Lifting Procedure

Purpose

The purpose of this Procedure is to outline Queensland Hydro's Health and Safety (HS) requirements for the control of hazards and management of risks while performing operations to lift or suspend loads or persons.

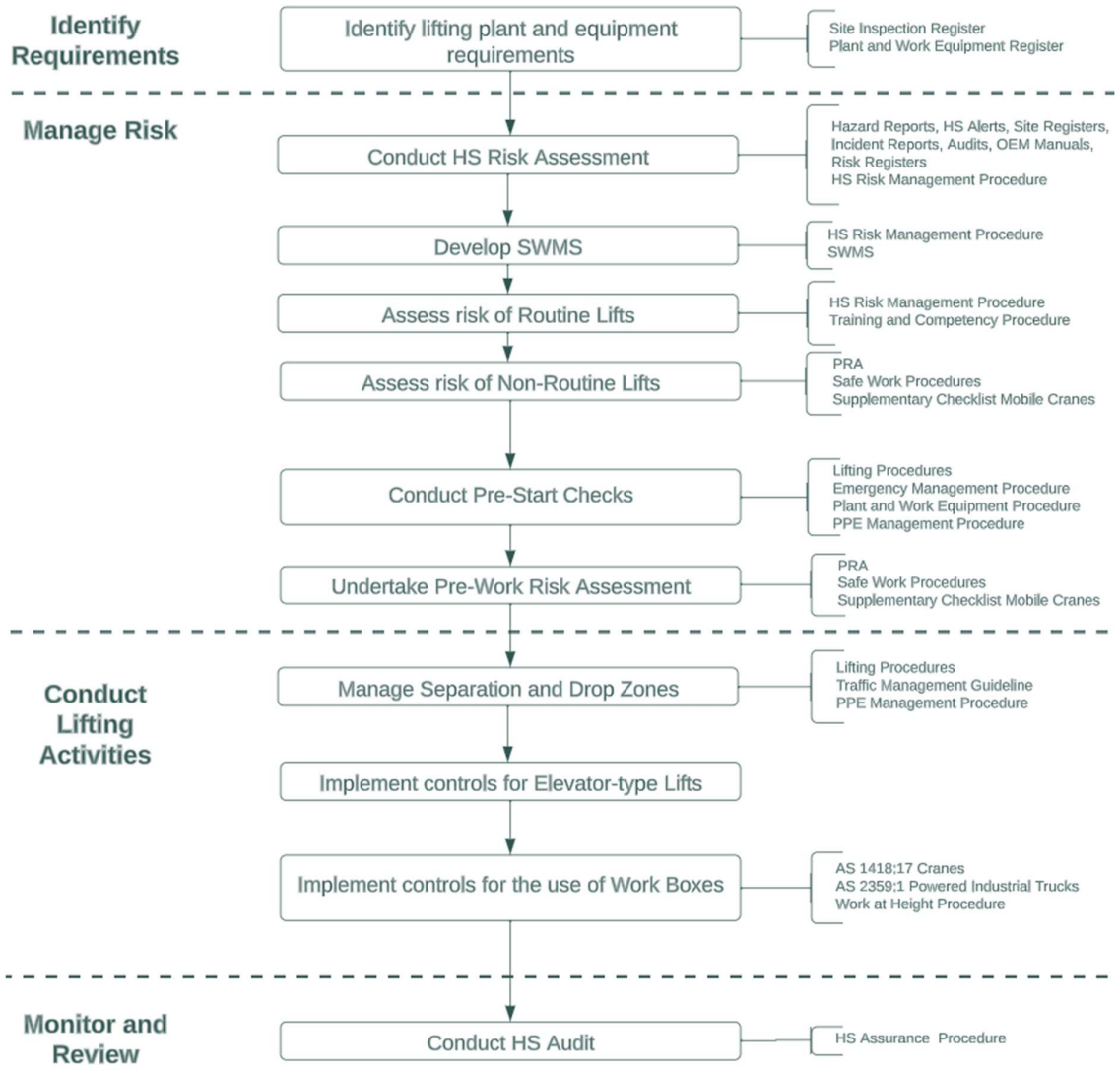
The Queensland *Work Health and Safety Regulation 2011* (s 219 – 220, s 315L) requires the implementation of specific control measures for managing certain risks associated with lifts and suspended loads and these have been summarised in this Procedure.

Scope

This Procedure applies to lifting activities conducted by Queensland Hydro and Contractors where specified by Contract and includes:

- Lifting of objects using cranes;
- Lifting of objects using other plant and equipment (including attachments) which is purpose built and rated for lifting (e.g. forklifts, civil plant);
- Lifting of people in workboxes; and
- Elevator-type lifts for moving people and objects between different levels in structures.

Process Map


Identify Requirements
Identify lifting plant and equipment requirements
Site Inspection Register
Plant and Work Equipment Register
Manage Risk
Conduct HS Risk Assessment
Hazard Reports, HS Alerts, Site Registers, Incident Reports, Audits, OEM Manuals, Risk Registers
HS Risk Management Procedure
Develop SWMS
HS Risk Management Procedure
SWMS
Assess risk of Routine Lifts
HS Risk Management Procedure
Training and Competency Procedure
Assess risk of Non-Routine Lifts
PRA
Safe Work Procedures
Supplementary Checklist Mobile Cranes
Conduct Pre-Start Checks
Lifting Procedures
Emergency Management Procedure
Plant and Work Equipment Procedure
PPE Management Procedure
Undertake Pre-Work Risk Assessment
PRA
Safe Work Procedures
Supplementary Checklist Mobile Cranes
Conduct Lifting Activities
Manage Separation and Drop Zones
Lifting Procedures
Traffic Management Guideline
PPE Management Procedure
Implement controls for Elevator-type Lifts
Implement controls for the use of Work Boxes
AS 1418:17 Cranes
AS 2359:1 Powered Industrial Trucks
Work at Height Procedure
Monitor and Review
Conduct HS Audit
HS Assurance Procedure
Lifting Procedure

Procedure

1 Lifting Process

Lifting follows a step by step process:

1. Identify requirements;
2. Manage Risk;
3. Conduct lifting activities; and
4. Monitor and Review.

2 Identify Requirements

2.1 Identify Lifting Plant and Equipment Requirements

The type of lifting plant along with any attachments and auxiliary equipment such as chains, slings, and shackles must be determined with reference to the particular object to be moved. Plant used to lift or suspend loads or persons must be:

- Specifically designed to do so;
- Used with lifting attachments that are suitable for the load being lifted or suspended;
- Operated within the safe working limits of the plant; and
- Used, maintained and inspected in accordance with any applicable Work Health and Safety (WHS) Regulation, Code of Practice, Australian Standard or Original Equipment Manual.

All lifting plant (e.g. cranes, forklifts, civil plant etc.) shall be:

- Managed in accordance with Queensland Hydro's **Plant and Work Equipment Procedure (HS-PRO-0019);**
- Uniquely identified and registered on a Site Equipment Register (during construction works only);
- Labelled with its Rated Capacity;
- Only be used within its design and the Manufacturer's Specifications (additionally, no load may be lifted simultaneously by more than one piece of plant unless each piece of plant used to lift the load is specifically designed to lift a load);
- Removed from service if found faulty and managed in accordance with Queensland Hydro's **Lock Out and Tag Out Procedure (HS-PRO-0035);**
- Inspected and maintained in accordance with legal requirements and Manufacturer's recommendations, including the following requirements for major inspection of mobile cranes:
  - For mobile cranes a major inspection must be carried out every 10 years from the date that the crane was first commissioned or first registered, (whichever occurred first), or otherwise:
  - At the end of the design life recommended by the Manufacturer for the crane; or
  - If there are no Manufacturer's recommendations, in accordance with the recommendations of a competent person;
  - A competent person for mobile crane major inspections means a person who has acquired through training, qualification or experience the knowledge and skills to carry out a major inspection of the crane; and is registered under a law that provides for the registration of professional engineers (or is otherwise determined by the regulator to be a competent person); and

- A major inspection of a mobile crane must include an examination of all critical components of the crane, if necessary, by stripping down the crane and removing paint, grease, and corrosion to allow a thorough examination of each critical component, and a check of the effective and safe operation of the crane.

All lifting equipment (e.g. chains, slings, shackles etc.) shall be:

- Managed in accordance with Queensland Hydro's **Plant and Work Equipment Procedure**;
- Physically examined prior to every lift, by a competent person that holds a current dogging or rigging competency;
- Labelled with its Working Load Limit (WLL);
- Only be used within its design and the Manufacturer's Specifications;
- Uniquely identified and registered on a Site Equipment Register (during construction projects only) and not be used unless the item of equipment can be traced back to the site by a unique identifier or serial number;
- Be fitted with a tags or other form of identification that is clearly visible and notes as a minimum inspection / test due date;
- Inspected and tested by a competent person in accordance with legislative and Australian Standards requirements (refer Appendix B for a list of commonly used lifting equipment, showing testing intervals and relevant Australian Standards);
- Stored in a clean and dry environment. A chart showing sling, chain and shackle sizes, load capacities and colour coding should be displayed at storage areas; and
- Removed from service if found faulty or reinspected where missing a current test tag.

Queensland Hydro's **Plant and Work Equipment Procedure** provides further guidance about the management of plant and equipment, including all aspects of acquisition, use and maintenance.

Where Queensland Hydro does not possess suitable lifting plant and equipment for the job, considerations should be given to the appointment of a Contractor to undertake the work in accordance with Queensland Hydro's **Contractor and Supplier HS Management Procedure (HS-PRO-0028)** or to hiring equipment. The Plant and Work Equipment Procedure provides specific guidance on requirements for hiring equipment including the need to complete a **Plant and Work Equipment Pre- Acceptance Checklist (HS-FRM-0030).**

3 Manage Risk

3.1 Undertake Risk Assessment Activities

Most lifting activities constitute high-risk construction activities, which are regulated by the *Work Health and Safety Regulation 2011*. Compliance with the law requires that the following specific risk management actions are undertaken before lifting activities commence:

- Workers shall be trained and competent;
- A Safe Work Method Statement (SWMS) shall be developed; and
- Where applicable, a documented lift procedure (e.g. using template **Complex Lift Plan [HS-FRM-00327)** shall be developed.

3.2 Develop Safe Work Method Statement (SWMS)

Where the activity being undertaken involves any high-risk construction work, a SWMS must be developed.

Where Queensland Hydro is undertaking the lifting activity, Queensland Hydro must develop the SWMS. Where a Contractor is undertaking the lifting activity in isolation (without input or assistance from Queensland Hydro), the

Contractor must develop their own SWMS. Where Queensland Hydro and a Contractor are working collaboratively on a lifting activity, a joint SWMS must be developed to the satisfaction of all parties. Queensland Hydro's **HS Risk Management Procedure (HS-PRO-0007)** provides further guidance in respect to developing SWMS.

If further support is required for the development and/or review of the SWMS, arrange a risk review with a lifting subject matter expert. Once this has occurred and the SWMS is sufficiently job-specific, ensure that all workers involved in the job are inducted into it. All workers must sign onto the SWMS to acknowledge their understanding of work hazards and risk controls.

3.2.1 Assess Risk of Routine Lifts

Routine lifts are performed on a regular basis as part of normal everyday operations. They are undertaken according to standard Safe Work Procedures, using dedicated, task-specific lifting equipment. The task is performed the same way each time, with no variations in the equipment used, nature of the load or work environment and location. All routine lifts must:

- Have a supporting Risk Assessment in accordance with the **HS Risk Management Procedure**;
- Have documented task-specific Safe Work Procedures detailing how to perform the lifting task (e.g. work instructions); and
- Be performed by Workers who have received training and instruction in the Safe Work Procedures and hold the appropriate competencies in accordance with the **Training and Competency Procedure (HS-PRO-0008).**

3.2.2 Assess Risk of Non-Routine Lifts

To comply with the *Mobile Crane Code of Practice 2006*, the following types of lifts must have comprehensive, documented procedures for:

- Tilt-up panel jobs;
- Multiple crane lifts where more than one crane is used to lift a load at any one time;
- Lifting of persons in workboxes;
- Installation of bridge beams during bridge installation work;
- Working near live overhead power lines;
- Lifting large pressure vessels or tanks;
- The use of mobile cranes on barges;
- Erection of tower cranes;
- Heavy lifts where the load is 50 tonnes or more; and
- Any lift where the crane operator cannot see the load or landing area, or where the crane operator assesses the lift as being a complex lift.

Queensland Hydro refers to these activities as ***non-routine lifts***. Non-routine lifts ***involve factors that change with each lift*****,** even if they are tasks that are commonly performed. This may involve variations in equipment used, nature of the load or work environment and location. Because of these varying factors, non-routine lifts are not always able to be supported by generic risk assessments and Safe Work Procedures and require specific documentation to demonstrate compliance.

Queensland Hydro may rely on specifically developed Safe Work Procedures for common tasks such as those involving lifting around live overhead power lines. Where this option is taken, it must be supplemented by a risk assessment contained in the SWMS, a Pre-Work Risk Assessment (PRA) **(HS-FRM-0003)** and detailed in the **Supplementary Checklist Mobile Cranes (HS-FRM-0029).**

The format of the risk assessment and documented procedures may vary. Whatever format the documented procedure takes, they must address the following matters as a minimum:

- Maximum load radius to be used for the cranes;

- Where Electrical Safety Observer or Dogger are required (e.g. for maintaining separation with power lines), what the duty is and who is responsible for performing the duty;
- Position of the load to be lifted and the final position to which it is to be lifted, where practicable (a diagram that shows a plan view of the site may assist);
- Maximum wind speed where the load has a large surface area;
- Verification of the maximum allowable ground bearing pressure;
- Allowance for any factors that may require de-rating of the crane (e.g. for multiple crane lifts, additional radius caused by tilting of tilt-up panels); and
- Rigging requirements of the job.

Where a non-routine lift is solely undertaken by an external Crane Contractor, the documented procedure must be prepared by the Contractor. The Contractor's own format of documentation will normally be acceptable provided it meets the requirements of the Queensland Hydro **Lifting Standard (HS-STD-0025)** and the *Mobile Crane Code of Practice 2006*.

Queensland Hydro has a **Complex Lift Plan template (HS-FRM-0027)** that should be used when an additional level of detail is required in relation to the lifting activity. The Complex Lift Plan can be used by Queensland Hydro, or a Contractor when directed under contract to use Queensland Hydro's HS systems. It should be noted that Contractors remain responsible for developing and approving their own safe systems of work, even where Queensland Hydro documentation has been used.

Where Queensland Hydro Workers are assisting an external Crane Contractor with a non-routine lift (e.g. dogging, rigging, or otherwise directing the load), all parties must be satisfied and agree on the system of work to be used.

Documented lifting procedures must be prepared and documented to the satisfaction of both parties and signed off by all Workers involved in the activities.

The preparation of documented lift procedures for non-routine lifts does not remove the need for a SWMS and PRA to be completed prior to works commencing, although the SWMS may be used to incorporate the required information. Any additional procedures and Lift Plans should be referred to as a control within the SWMS and PRA.

3.3 Conduct Pre-Start Checks

A pre-start check must be made of the plant, equipment and work environment involved with the lifting activities.

All lifts shall include a pre-work assessment of risks associated with environmental conditions in conjunction with any plant Manufacturer's recommendations.

3.3.1 Inspect Work Environment

- The environmental conditions under which the crane and lifting equipment can be safely used, in conjunction with Manufacturer's recommendations (no hoisting or rigging operations shall place when ambient conditions (e.g. wind, rain, lighting/visibility) create hazards for Workers, the general public or property;
- An inspection of the load and the location, including ground conditions, where the lift is to take place to ensure it is safe to do so;
- Provision of a sufficient lay-down area for loads being moved; and
- Inspection of proposed travel paths and load destinations prior to the lift commencing to ensure a clear path free of obstructions.

3.4 Crane Set Up

- Establishment of a suitable working pad or area for the crane set up (e.g. size, orientation, relative position to nearby structures, ground stability, slope, general access conditions);

- An assessment of access, overhead power lines or other obstructions when raising the boom or travelling crane to the required work area;
- Confirmation that all approvals, notifications, permits, and checklists are in place, including detailed lifting procedures, where required and stakeholder notifications (e.g. authorities, landholder) where relevant;
- Completion of a Pre-start Inspection including crane functionality tests in accordance with the Manufacturer's Instructions, recommendations, and statutory requirements prior to use on a daily basis;
- Verification of the crane's current 10-year inspection certificate issued by a recognised / authorised Crane Inspector;
- Development of Emergency Response Procedures in line with the **Crisis and Emergency Management Procedure (HS-PRO-0029);**
- Erection of barricading and establishment of separation zones accordance with the **Plant and Work Equipment Procedure** considering:
  - Where the lifting is taking place;
  - Swing radius of the rotating superstructure / counterweight of the crane;
  - The potential for vehicular traffic / pedestrian interaction;
  - Crane slew zones and exclusion zones;
  - Work area specific Personal Protective Equipment as per **PPE Management Procedure (HS-PRO-0001);** and
  - Appointment of a single person as having overall responsibility for supervising and directing the crane;
- Verifying that the crane is fitted with a free-fall lock-out device; and
- Establishment of communication protocols between the Dogger/Rigger, Crane Operator, Electrical Safety Observer (as required) by radio contact, standard hand signals or other agreed methods (e.g. whistles, horns);
- Load characteristics including:
  - Identification of all rigging and crane requirements by determining the weight of the load and distance the load is to be moved; and
  - Selection of appropriately rated rigging and lifting gear for the task;
- Inspection of the rigging and lifting gear for damage or wear (including that a current inspection tag is attached);
- Where specialised tools (e.g. spreader bars, lifting jigs etc.) are required to lift items, establishing these can be used in accordance with Original Equipment Manufacturer (OEM) Manuals and Safe Work Procedures;
- Establishing that rigging can be attached to the crane and loaded at the correct lifting points as per the load chart; and
- Determining whether a tag line is required to assist with control where there is a potential for uncontrolled movement of loads.

3.5 Undertake a Pre-Work Risk Assessment

A documented assessment must be undertaken of the work to ensure that HS hazards are adequately controlled before any work commences, in order to prevent injury, illness or dangerous events. Refer to **Pre-Work Risk Assessment Template (HS-FRM-0003).**

Where mobile cranes are brought to site and operated by Contractors, the **Supplementary Checklist - Mobile Cranes** must also be completed and attached to the PRA.

4 Conduct Lifting Activities

All work must be performed in accordance with controls nominated on the PRA, SWMS, and detailed procedure (if applicable). Requirements for managing particular lifting activities, including exclusion, separation and drop zones, elevator-type lifts, and workboxes for lifting people are included in this section.

4.1 Manage Exclusion, Separation and Drop Zones

- Loads must not be suspended or travel over a person unless the plant is specifically designed for that purpose (e.g. a conveyor system);
- Where a load is lifted on an adjoining area, the area must be closed under approval from relevant parties (e.g. local government) to the extent necessary to prevent objects falling on or otherwise hitting persons in the adjoining area. If the area cannot be closed, a gantry must be erected to provide an equivalent level of protection;
- Loads must be lifted or suspended in a way that ensures that the load remains under control during the activity; and
- Exclusion and separation zones (size / position) shall be determined using a risk assessment and maintained in all situations, with consideration to:
  - Where the lifting is taking place;
  - Swing radius of the rotating parts of the crane;
  - The potential for vehicular traffic / pedestrian interaction;
  - Crane slew zones / other crane movements;
  - Other work area exclusion/ separation zones;
  - Work area specific PPE, including mandatory hard hat for all personnel directly involved in lifting operations; and
  - Any physical barriers preventing entry or signs, cones, line marking etc. to indicate entry restrictions.

4.2 Implement Controls for Elevator-Type Lifts

If there is a risk of a person falling down a lift well:

- Secure barriers must be provided to prevent access to openings into the lift well by someone other than a person who is performing work in the lift well; and
- Secure working platforms or equivalent arrangements must be provided for a person who is working in the lift well to prevent a fall from height.

If there is a risk to a person working in a lift well from falling objects, a secure barrier must be provided to prevent falling objects from striking the person (or otherwise causing a risk).

There must be a safe means of entry to and exit from the base of the lift well.

There must be signage fixed in a prominent place in the lift that states the safe working load specified in the design of the lift.

4.3 Implement Controls for Use with Workboxes

Where persons are being lifted, plant specifically designed to lift a person must be used as far as reasonably practicable. If it is not reasonably practicable, the plant must not cause a greater risk to health and safety than if specifically designed plant were used.

In all cases persons must:

- Be lifted or suspended in a workbox that is securely attached to the plant;
- Remain substantially within the workbox while they are being lifted or suspended;
- Wear a harness if there is a risk of a falling from a height or as otherwise required by the SWMS for the work; and
- Be provided with a safe means of exit and/or rescue in the event of a failure in plant's normal operation.

All workboxes used for lifting persons must be fitted with a compliance plate showing compliance with *AS 1418.17 Cranes (including hoists and winches) Part 17: Design and construction of workboxes*.

When workboxes are attached to a forklift, the forklift must be fitted with a compliance plate showing compliance with *AS2359.1 Powered industrial trucks Part 1: General requirements.*

Queensland Hydro's **Work at Height Procedure (HS-PRO-0020)** provides further guidance about work activities performed from workboxes.

5 Monitor and Review

5.1 Conduct HS Audit

Queensland Hydro's HS Audit Program shall be used to monitor implementation of and compliance with these lifting systems and processes, and to review them for effectiveness and continual improvement in accordance with HS **Assurance Procedure (HS-PRO-0004).**

6 Training, Competency and Licensing Requirements

Training and competency requirements for persons involved in lifting activities will depend on the nature of the work and the equipment being used. In many cases, High Risk Work Licences (HRWL) will be required.

Common high risk work licence classes associated with lifting activities are listed below (refer also Appendix A for licence class information):

- Bridge and gantry crane;
- Slewing mobile cranes;
- Non-slewing mobile cranes;
- Vehicle loading cranes (10tonn/m or greater);
- Derrick cranes;
- Tower cranes;
- Personnel and materials hoist;
- Doggers and riggers;
- Elevating work platform (boom >11m); and
- Forklift trucks.

While a high risk work licence is not required to operate civil plant (e.g. backhoe, front end loader, excavator), including operating it in crane mode, operators must still be competent to use the equipment. Queensland Hydro will generally accept a previously valid machine ticket or successful completion of a nationally recognised unit of competency issued by a Registered Training Organisation (RTO) and/or a Verification of Competency (VOC) issued by an employer or RTO

as proof of competency, however the process for establishing proof of competency outlined in the **Training and Competency Procedure (HS-PRO-0008)** must be followed.

Queensland Hydro requires any person (whether Employee or Contractor) involved with directing, securing or un-securing loads to hold the appropriate class of high risk work licence in Dogging or Rigging.

Prior to the commencement of any dogging, rigging, or lifting, the supervisor of the works shall confirm all personnel involved in lifting activities are competent and licenced as required (refer Training and Competency Procedure). All other personnel involved in the lifting operation shall be advised of their responsibilities via the task **Pre-Work Risk Assessment (PRA)** and associated Safe Work Method Statement (SWMS).

Where lifting is being conducted in an area where electrical hazards are present, a person must be present who is an approved Electrical Safety Observer.

To establish proof of competency in the above training and licencing requirements, workers should hold a card, certificate, or other form of verification from a Registered Training Organisation (RTO). For Queensland Hydro Employees, it is acceptable for this information to be held in electronic format, on file within the Employee's personnel file in lieu of the certification being held on the person. Contractors must have a physical or electronic copy of training / licencing records available on site.

Responsibilities

Who	What
Manager / Supervisor	• Ensure that Safe Work Procedures and work practices are implemented; • Ensure Workers are provided with suitable training; • Ensure Workers are fit for work; • Provide and maintain a safe work environment; • Provide workers with adequate information and training; and • Provide adequate supervision of work.
Workers	• Follow requirements as outlined within this Procedure; • Participate in risk assessment when asked and required; • Only operate mobile plant they are trained, competent and authorised; and • Undertake a pre-work risk assessment, considering the risks for the lifting work.

References

Document code	Document title
HS-PRO-0008	Training and Competency Procedure
HS-PRO-0020	Work at Height Procedure
HS-PRO-0004	Assurance and Improvement Procedure
HS-FRM-0007	Verification of Competency Form
HS-PRO-00007	HS Risk Management Procedure
HS-PRO-0019	Plant and Work Equipment Procedure
HS-FRM-0003	Pre-Work Risk Assessment Template
HS-PRO-0001	PPE Management Procedure

HS-PRO-0029	Crisis and Emergency Management Procedure
HS-PRO-0028	Contractor and Supplier HS Management Procedure
HS-FRM-0030	Plant and Work Equipment Pre- Acceptance Checklist
HS-PRO-0035	Isolation, Lock Out and Tag Out Procedure
HS-GUI-0008	Scaffold Guideline
HS-PRO-0020	Work at Height Procedure
WHSQ	Work Health and Safety Act 2011
WHSQ	Work Health and Safety Regulation 2011
AS/NZS ISO 45001:2018	Occupational health and safety management systems

Defined Terms

Terms	Definition
Competent person	A person who has acquired, through training, qualification or experience, the knowledge and skills to carry out the task specified or relevant to the subject matter and can provide assessment, advice and analysis of the task using the relevant codes of practice, standards, methods or literature
Dogger	Dogging work is: • The application of slinging techniques including the selection and inspection of lifting gear to safely sling a load; and • The directing of a plant operator in the movement of a load when the load is out of the operator's view. Slinging techniques means using judgement in relation to the suitability of lifting gear and the method of slinging, by considering the nature of the load, its mass and its centre of gravity.
High Risk Work Licence	A National Recognised work licence issued by an RTO. Required under WHS laws for certain classes of high risk work, including crane and forklift operations. See the Workplace Health and Safety Queensland website for a complete list.
High Risk Construction Work	Has the meaning given to that term in the *Work Health and Safety Regulations* (Qld).
Safe Work Method Statement (SWMS)	A document that provides information regarding specific hazards associated with specified work and risks associated with those hazards. The document also describes the measures to be implemented to control the risks and how the risk control measures are to be implemented, monitored and reviewed.
Registered Training Organisation (RTO)	A training provider registered by the Australia Skills Quality Authority (or a state regulator) to deliver vocational education and training services. RTOs provide quality training and qualifications that are nationally recognised
Verification of Competency (VOC)	A method of documented evaluation of the skill level of a person against a defined unit of competency

Appendix A – High Risk Work Licence Classes

Plant Type	HRWL Code	Description Class
Lifting And Other Associated Plant		
Boom-type elevating work platform	WP	Cherry-picker type EWP, boom length >11m.
Bridge and gantry crane	CB	This licence class includes bridge and gantry cranes that are controlled from a permanent cabin, control station or remotely controlled with more than three powered operations. Powered operations include: • North/South; • East/West; • Up/down; and • Rotating attachment—this also includes the application of load estimation and slinging techniques to move a load. A bridge crane comprises a bridge beam mounted at each end, to an end carriage, capable of travelling along elevated runways and having one or more hoisting mechanisms arranged to traverse across the bridge. A gantry crane comprises a bridge beam, supported at each end by legs mounted on end carriages, capable of travelling on supporting surfaces or deck levels, whether fixed or not, including a crab with one or more hoisting units arranged to travel across the bridge.
Concrete placing boom	PB	Static and truck mounted concrete placing booms are covered by this licence.
Materials hoist with cantilever platform	HM	A materials hoist is used to hoist goods or materials only, not personnel. The car, bucket or platform is cantilevered from, and travels up and down externally, to a face of the support structure.
Personnel and materials hoist	HP	A materials or personnel hoist is used to hoist personnel, goods and/or materials. It comprises a car, structure, machinery or other equipment associated with the hoist, and may be either a cantilever hoist, tower hoist or a multiple winch operation. Included in this definition are situations where winches may be configured to operate as hoists for the transportation of personnel.
Reach stacker	RS	The reach stacker licence covers powered reach stackers (with a capacity of three tonnes or more) that have an attachment for lifting, lowering, moving and travelling with a shipping container. Note: this Licence cannot be used to operate a container crane.

The class of work is operator of a slewing mobile crane with a capacity exceeding 100 tonnes. This licence also includes authority for the slewing mobile crane with a capacity of: • **100 tonnes or less (C1);** • **60 tonnes or less (C6);** • **20 tonnes or less (C2);** • **non-slewing mobile crane (CN);** • **Vehicle loading crane (CV) excluding the application of load estimation and slinging techniques (Dogger or Rigger's qualification required in addition); and** • **Reach stacker (RS).**	C2 Up to 20T	The class of work is operator of a slewing mobile crane with a capacity of up to 20 tonnes. This licence also includes authority for the operation of: • Non-slewing mobile crane (CN); • Vehicle loading crane (CV) excluding the application of load estimation and slinging techniques (Dogger or Rigger's qualification required in addition); and • Reach stacker (RS).
	C6 Up to 60T	The class of work is operation of a slewing mobile crane with a capacity of up to 60 tonnes. This licence also includes authority for the slewing mobile crane with a capacity of: • 20 tonnes or less (C2); • Non-slewing mobile crane (CN); • Vehicle loading crane (CV) excluding the application of load estimation and slinging techniques (Dogger or Rigger's qualification required in addition); and • Reach stacker (RS).
	C1 Up to 100T	The class of work is operation of a slewing mobile crane with a capacity of up to 100 tonnes. This licence also includes authority for the operation of slewing mobile cranes with a capacity of: • 60 tonnes or less (C6); • 20 tonnes or less (C2); • Non-slewing mobile crane (CN); • Vehicle loading crane (CV) excluding the application of load estimation and slinging techniques (Dogger or Rigger's qualification required in addition); and • Reach stacker (RS).
	C0 Over 100T	All classes.
Derrick cranes	CD	A derrick crane is a slewing strut-boom crane with the boom pivoted at the base of a mast which is either guyed (guy-derrick) or held by backstays (stiff-leg derrick) and which is capable of luffing under load.

Vehicle loading cranes	CV	A person must hold a high risk work (HRW) licence to operate a vehicle loading crane that has a capacity of 10 metre tonnes or more. This can be a Vehicle Loading Crane HRW Licence (CV) or one of the four slewing mobile crane HRW licences: • Slewing Mobile Crane - with a capacity up to 20 tonnes (C2); • Slewing Mobile Crane - capacity up to 60 tonnes (C6); • Slewing Mobile Crane - capacity up to 100 tonnes (C1); and • Slewing Mobile Crane - capacity over 100 tonnes (C0). A crane has a capacity of 10 metre tonnes if at any position on the crane's load chart, the radius (in metres) multiplied by the load (in tonnes) is equal to or greater than 10. A licensed dogger (or rigger) is required if: • The VLC is being used to position loads in elevated or remote positions, or • The operator is operating the crane under a slewing mobile crane licence.
Portal boom cranes	CP	A portal boom crane is a boom crane or jib crane mounted on a portal frame, which is supported on runways along which the crane may travel.
Non-slewing mobile cranes	CN	This licence is for the operation of a non-slewing mobile crane with a capacity greater than 3 tonnes. A non-slewing mobile crane is a powered mobile crane that incorporates a boom or jib which does not slew and includes an articulated mobile crane or a locomotive crane but does not include vehicle tow trucks.
Self-erecting tower cranes	CS	A self-erecting tower crane is a type of crane with tower and boom/jib elements that do not dismantle into component sections. Self-erecting tower cranes can be transported between sites as a complete unit. The erection and dismantling process is a fundamental part of the cranes function. Self-erecting tower cranes lift themselves from the ground or lift an upper, telescoping section using jacks, allowing the next section of the tower to be inserted at ground level or lifted into place by the partially erected crane. Therefore they can be assembled without outside help and can grow together with the building or structure they are erecting.
Tower crane	CT	A tower crane is a jib or boom crane mounted on a tower structure, demountable or permanent, including both horizontal and luffing jib types. Tower cranes are fixed to the ground on a concrete slab (and sometimes attached to the sides of structures). Tower cranes often give the best combination of height and lifting capacity and are used in the construction of tall buildings. The base is then attached to the mast which gives the crane its height. The mast is attached to the slewing unit (gear and motor) that allows the crane to rotate. On top of the slewing unit there are three main parts which are: the long horizontal jib (working arm), shorter counter- jib, and the operators cab. The long horizontal jib is the part of the crane that carries the load. The counter-jib carries a counterweight, usually of concrete blocks, while the jib suspends the load to and from the centre of the crane. The crane operator either sits in a cab at the top of the tower or controls the crane by radio remote control from the ground.

Dogger	DG	Dogging work is: • The application of slinging techniques including the selection and inspection of lifting gear to safely sling a load, and • The directing of a plant operator in the movement of a load when the load is out of the operator's view. Slinging techniques means using judgement in relation to the suitability of lifting gear and the method of slinging, by considering the nature of the load, its mass and its centre of gravity.
Rigger	RB Basic Rigging	A basic rigging licence encompass the requirements for a dogging licence. The scope of work for basic rigging includes: • Dogging work; • Structural steel erection; • Particular hoists; • Placement of pre-cast concrete members of a structure; • Safety nets and static lines; • Mast climbers; • Perimeter safety screens and shutters; and • Cantilevered crane loading platforms.
	RI Intermediate Rigging	Previous licences in dogging licence and basic rigging are perquisites for an intermediate rigging licence. The scope of work for intermediate rigging includes: • Rigging work in the class Basic Rigging; • All hoists; • Rigging of cranes, conveyors, dredges and excavators; • Tilt-slabs; • Demolition of structures or plant; and • Dual lifts.
	RA Advanced Rigging	Previous licences in dogging licence, basic rigging and intermediate rigging are perquisites for an intermediate rigging licence. The scope of work for advanced rigging includes: • Rigging work in the class Intermediate Rigging; • Rigging of gin poles and shear legs; • Flying foxes and cableways; • Guyed derricks and structures; and • Suspended scaffolds and fabricated hung scaffolds.
Civil Plant (Including Plant Capable of Use In Crane Mode)		
A licence is no longer required for the following types of plant, however operators must: • **Receive adequate information, training, instruction, and supervision;** • **Be competent; and** • **Use all equipment appropriately to minimise any risks to health and safety.** **The units of competency listed below (including units that are superseded and previous licences) are accepted by WHS Qld as evidence of operator competency.**		

Scissor lift (elevated work platforms up to 11m)	CPCCCM3001	CPCCCM3001B	CPCCCM3001C	n/a
Course in operating load shifting equipment	30496QLD			n/a
Bridge or Gantry Crane (remote operation only)	OHSCER210A			LBG
Front end loader	OHSCER203A RIIMPO321D RIIMPO322D	RIIMPO321A RIIMPO321E	RIIMPO321B RIIMPO322A	LL
Backhoe	OHSCER202A	RIIMPO319A	RIIMPO319D	LB
Grader	OHSCER217A RIIMPO324E	RIIMPO324A	RIIMPO324D	LG
Roller	OHSCER215A RIIMPO317E	RIIMPO317A	RIIMPO317D	LR
Skid steer	OHSCER204A RIIMPO318D	RIIMPO318A RIIMPO318E	RIIMPO318B	LS
Scraper	OHSCER216A			n/a
Excavator	RIIMPO320A RIIMPO320E	RIIMPO320B	RIIMPO320D	LE
Dozer	RIIMPO323A	RIIMPO323D		LZ
Tractor	RIIMPO315A	RIIMPO315D		n/a

Appendix B - Lifting Equipment Inspection and Test Intervals

- All equipment must have a pre-use inspection conducted by the operator before each use;
- Equipment subjected to heavy usage may require more regular inspection; and
- For equipment not shown, refer to the appropriate Australian Standard and/or Manufacturer's Specifications.

Equipment Category	Annual Test	Annual Inspection	3 Month Inspection	6 Month Inspection	Australian Standard
Concrete lifting eyes/clutches	☐				AS 3850.1
Permanently installed friction or glued in anchorages	☐				AS 1891.4
Fall arrestor devices and inertia reels	☐			☐	AS 1891.4
Air hoists		☐			AS 1418.2
Wire coil flat slings		☐			AS 1438.2
Chain slings		☐	☐	☐	AS 3775.2
Shackles		☐			AS 2317
Chain and level hoists (including trolleys)		☐			AS 2741
VPC, HPC and girder clamps		☐			AS1418.2
Sheave and snatch blocks		☐			AS 4991
Hydraulic hoists		☐			AS 2089
Fabricated lifting spreader bars		☐			AS 1418.2
Fabricated lifting clamps		☐			AS 4991
Fabricated lifting cages and gear		☐			AS 4991
Fabricated lifting "C" hooks		☐			AS 4991
Fabricated crane man cages/workboxes		☐			AS 1418.17
Fabricated forklift workboxes		☐			AS 2359.1
Fabricated forklift jibs and lifting attachments		☐			AS 2359.1
Permanently installed anchorages		☐			AS 1891.4
Permanently installed horizontal lifelines		☐			AS 1891.4

Vehicle support stands		☐			AS/NZS 2538
Steel storage racking		☐			AS 4084
Motor vehicle transport chain tie downs		☐			AS 4344
Motor vehicle transport webbing tie downs		☐			AS 4380
Wire rope slings				☐	AS1666.2
Winches				☐	AS1418.2
Safety harnesses and height safety gear				☐	AS 1891.4
Portable ladders				☐	AS/NZS 1892.5
Synthetic flat webbing slings			☐		AS 1353.2
Synthetic soft round slings			☐		AS 4497.2
Electric hoists (based on usage)		☐	☐	☐	AS 1418.2
Cranes (based on usage)		☐	☐	☐	AS 2550
Vehicle hoists (based on usage)		☐	☐	☐	AS 1418.9
Vehicle loading cranes		☐	☐	☐	AS 1488.11