

Lifting Operations Document Number – OHS-PROC-08

This document applies to the following sites:

All Sites	<input type="checkbox"/>			
Rockhampton Office	<input type="checkbox"/>	Brisbane Office	<input type="checkbox"/>	Tarong Site <input checked="" type="checkbox"/>
Barron Gorge Hydro PS	<input checked="" type="checkbox"/>	Kareeya Hydro PS	<input checked="" type="checkbox"/>	Mica Creek PS <input checked="" type="checkbox"/>
Koombooloomba Hydro PS	<input checked="" type="checkbox"/>	Swanbank PS	<input checked="" type="checkbox"/>	Mackay Gas Turbine <input checked="" type="checkbox"/>
Wivenhoe Small Hydro PS	<input type="checkbox"/>	Stanwell PS	<input checked="" type="checkbox"/>	Meandu Mine <input type="checkbox"/>

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NAME: NAME: NAME:

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1.0 Purpose

This Business Procedure defines Stanwell's minimum mandatory requirements for conducting lifting operations safely in Stanwell workplaces. It covers all lifting and hoisting operations using cranes, hoists and winches.

2.0 Scope

This Business Procedure applies throughout Stanwell, all its sites and all activities under Stanwell's control. It applies to all Stanwell employees and contractors, including visitors to Stanwell workplaces.

This Business Procedure does not apply to:

- operational and maintenance requirements for plant, refer to *Business Procedure: Powered Mobile Plant*; or
- manual lifting, refer *Business Procedure: Hazardous Manual Tasks*.

This Business Procedure applies to forklifts where they are used for lifting operations that are outside of using just the forklift tynes and require rigging to be performed (i.e. using a jib attachment etc.). It is expected that all lifting operations using forklifts will be classified as a 'standard' lift (refer to Appendix B Lift Classification).

3.0 Actions

3.1 Design

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

Where practicable, the requirement to perform lifting operations shall be eliminated. Where elimination is not possible the need to perform lifting operations shall be minimised as far as practicable.

The following shall occur:

- lifting operations are classified and planned;
- plant and equipment is certified fit for use;
- lifting operations are performed only by trained and familiarised personnel; and
- lifting operations are assessed to identify potential hazards and make sure suitable risk control measures are put in place.

3.2.1 Lift Planning

Lifting operations shall be risk assessed and planned in accordance with Appendix B Lift Classification.

For repeated or routine operations, such planning is only necessary once, provided that an operating procedure or standard work method statement (WMS) is in place or documented in another way. Periodic revisions shall be carried out to make sure that no factors have changed. The planning of all lifting operations shall as a minimum ensure that:

- all personnel involved with lifting operations are trained / familiarised;
- the travel path is clarified and any obstacles are removed before lifting commences;
- barricading, signage and or spotter/s are in place to prevent personnel from walking or standing within the lift path or under the load;
- the lifting operation can be executed safely in relation to simultaneous operations;
- lifting equipment is suitable and will be used in accordance with the manufacturers instructions; and
- the lay down area can accommodate the load in terms of size and weight.

3.3 Work Environment Requirements

3.3.1 Exclusion Zone

Control measures shall be implemented to keep unauthorised people away from any area where lifting operations are taking place, for example, providing a secure barrier around the work area and or spotter/s to prevent access.

Where personnel are required to enter a lifting operating area during operations, the operator shall be made aware of their presence, for example, by establishing two way voice or visual contact.

3.3.2 Overhead Electrical Conductors

Workers shall observe safe approach distances / exclusion zones for overhead powerlines and implement controls in accordance with Business Procedure: Electrical Safety.

3.4 Plant and Equipment Requirements

All lifting equipment shall be used, maintained, stored and inspected in accordance with the manufacturer's instructions and the relevant Australian Standards, refer to Appendix C Technical Standards for a list of relevant Australian Standards.

3.4.1 Register

Lifting equipment shall be recorded in a lifting equipment register that contains certification and inspection details.

3.4.2 Identification and compliance

Lifting equipment shall be marked with:

- a unique identifier that can be used to track the testing and inspection history of the item;
- identifier within correct inspection date; and
- working load limit (WLL).

3.4.3 Certification

Lifting equipment shall be certified fit for use by a competent person:

- before initial use; and
- following major repair or overhaul of load-bearing components.

Lifting equipment shall meet all applicable legislative and Australian Standard requirements.

3.4.4 Inspection and Maintenance

Lifting equipment used on site shall be regularly maintained and subjected to routine, documented inspections by a competent person. All lifting equipment, accessories and equipment shall be inspected, tested and certified by a competent person in accordance with the manufacturers instructions and the relevant Australian Standard, refer to Appendix C Technical Standards for a list of relevant Australian Standards.

The owner or supplier shall supply inspection and test sheets for all items of lifting equipment before they are used on site.

Additional inspection must be made if the equipment has been:

- involved in an incident; or
- modified or repaired.

Records of lifting equipment inspections shall be maintained in accordance with Business Standards: Document Control and Records Management.

Lifting equipment shall be stored in a dedicated storage area (preferably off the ground), and protected from damage at all times.

3.4.5 Removal from Service

Lifting equipment shall be removed from service if it is:

- damaged;
- incorrectly tagged or coded; or
- outside the defined inspection date.

3.4.6 Equipment for Lifting Personnel

Workboxes and sully boxes shall only be used where it is not reasonably practicable to use scaffold or other specifically designed temporary work platforms, refer to Business Procedure: Work at Height.

Personnel shall only be lifted in workboxes designed according to AS 1418.17:1996 Cranes (including hoists and winches) – Design and construction of workboxes and are used in accordance with AS 2550.1:2011 Cranes, hoists and winches – Safe use and where applicable, Queensland Mobile Crane Code of Practice 2006.

A least one person in the workbox shall hold a dogger's or riggers licence to make sure correct directions are communicated to and from the crane operators. Radios with dedicated channels shall be used where there is limited or no 'line of sight' between the dogger and the crane operator.

Workboxes are to be fitted with suitable anchorage capable of withstanding the fall forces specified in AS/NZS 1891.4:2009 Industrial fall-arrest systems and devices – Selection, use and maintenance.

Personnel working in workboxes shall use a fully compliant fall arrest / restraint harness system unless the workbox is fully enclosed.

Workboxes and sully boxes shall not be suspended over people.

3.4.6 Equipment for Lifting Personnel (cont'd)

Workboxes, sully boxes, lifting attachments and records shall be checked by a competent person before use to make sure the workbox or sully box is fit for purpose and securely attached to the crane.

Workers shall be prohibited from entering or leaving the workbox or sully box when it is suspended or lifted (except in an emergency).

A workbox shall not be used unless the crane it is proposed to be suspended from is fitted with the means to safely lower it in an emergency or a power supply failure.

The crane suspending a workbox shall:

- have and use 'drive up' and 'drive down' controls on both hoisting and luffing motions;
- NOT be de-clutched allowing free fall; and
- be fitted with an operational anti-two block (upper hoist limit).

Mobile cranes and forklifts shall not travel while people are in the workbox / sully box, unless in the immediate work area and movement is required to safely perform the required work.

The operator must remain at the controls of a crane and forklift suspending a workbox.

Where persons are lifted in a workbox, the requirements of Business Procedure: Work at Height applies.

3.5 Safe Work Practice Requirements

The following shall be ensured:

- no person enters the zone where a suspended load may fall;
- all lifting operations are undertaken by a competent person;
- where applicable, a pre-lift briefing is undertaken with all crane crew members to review the relevant risk assessment and where applicable, the lift plan, refer to *Appendix B Lift Classification*;
- tag lines are used to prevent the pendulum motion of a load, unless their attachment presents additional risk;
- loads are carried as near to the support surface as practicable;
- loads do not exceed defined working load limits of plant and equipment;
- lifting operations are stopped if operations are made unsafe;
- operators of lifting plant conduct a pre-start check of all plant and equipment to be used; and
- a reliable and tested communication method is in place between all personnel involved in lifting operations (operators, doggers etc).

A crane or hoist shall not to be left unattended unless the following actions, where applicable, have been taken:

- all loads have been removed from the hook;
- the hook has been raised to a position where it is safely clear of other operations, hooked back or otherwise appropriately secured;
- all powered motions have been disabled; and
- access to the cabin / controls has been securely restricted.

3.5.1 Positioning

Lifting plant shall be correctly positioned and installed in a clearly defined and protected operational area. Lifting plant shall be positioned to:

- minimise the risk of the equipment or load striking a person;
- minimise the risk of losing control of the load;
- minimise the risk of adversely affecting other plant, structures or underground services; and
- ensure all personnel have an unrestricted escape route throughout the entire lifting operation.

3.5.2 Using other Mobile Plant for Lifting Operations

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

- 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; and
- locking pins are used on quick-hitches.

For further information on mobile plant, refer Business Procedure: Powered Mobile Plant.

3.5.3 Use of Temporary Lifting Points

Temporary lifting points or devices (chain block, come along, air winch etc.) shall be assessed and approved prior to activities using the criteria below:

- For loads under one tonne, the point or device shall be assessed by a competent person to validate safe lifting practices and the integrity of the point or device.
- For loads of one tonne or greater, the lifting point or device shall be load rated (i.e. a certified lifting point or rated via engaging engineering advice).

All lifting points used as part of a scaffold structure shall be load rated **.

** **Note:** Configurations such as a scaffold tube on a grid mesh floor which is used as an anchor for a sling is not considered to be part of a scaffold structure.

3.6 Training and Competency Requirements

The following shall be ensured:

- For lifting **a load less than one tonne**, where complex lifting techniques **are not** required, the worker performing the lifting operation must be familiarised with and have acquired through training, qualification or experience the knowledge and skills to carry out the task to use the specific lifting equipment / plant.
- For lifting **a load less than one tonne**, where complex lifting techniques **are** required, the worker performing the lifting operation must hold a High Risk Work Licence as a Dogger or Rigger and have also completed the required familiarisation.
- For lifting **a load equal to or over one tonne** the worker performing the lifting operation must hold a High Risk Work Licence as a Dogger or Rigger and have also completed the required familiarisation.

Note: Workplace Health and Safety Queensland apply an exemption in limited circumstances where a person without a high risk work dogging (DG) licence can safely sling a load according to the following conditions.

3.6 Training and Competency Requirements (cont'd)

A competent person is able to sling a load, without holding a dogging HRW licence (or rigging) when there is no judgement required for slinging techniques or the suitability and the condition of lifting gear because the following factors are predetermined:

- 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);
- selection of the sling and slinging techniques for the load is predetermined by a competent person;
- the condition of lifting gear is predetermined by a competent person;
- the lifting points are predetermined by a competent person and marked on the load;
- the load is lifted within the view of the operator at all times; and
- standard lifting procedures have been documented and signed-off by a competent person.

Stanwell's position is that this exemption will only apply for lifts up to one tonne. Sites will be required to evaluate and apply the criteria of the exemption via various methods, including relevant familiarisations and risk assessment tools (such as the use of SafeStart tool, SWMS)..

Please refer to Appendix E *Training & Competency Decision Flow Chart*.

4.0 References (Including Information Services)

Source	Reference
Legislation	<ul style="list-style-type: none"> • Queensland Work Health and Safety Regulation 2011 • Managing the Risk of Plant in the Workplace Code of Practice 2013 • Queensland Electrical Code of Practice 2010 – Working Near Exposed Live Parts • Queensland Mobile Crane Code of Practice 2006
Australian Standards	<ul style="list-style-type: none"> • AS 1418.17:1996 Cranes (including hoists and winches) – Design and construction of workboxes. • AS/NZS 1891.4:2009 Industrial fall-arrest systems and devices – Selection, use and maintenance.
Business Standards	<ul style="list-style-type: none"> • Document Control and Records Management • Training and Competency
Business Procedures	<ul style="list-style-type: none"> • Barricading and Signage • Electrical Safety • Hazardous Manual Tasks • Powered Mobile Plant • Work at Height
Stay Safe	<ul style="list-style-type: none"> • Lifting Operations
Tools	<ul style="list-style-type: none"> • Lifting Equipment Awareness

5.0 Definitions

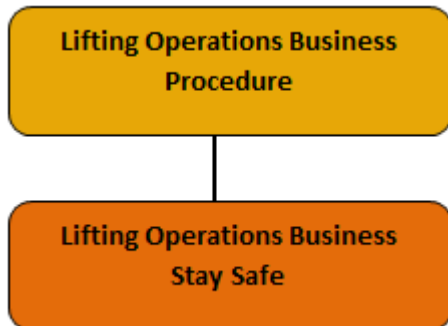
Term	Meaning
Competent person	A person who has through a combination of training, education and experience, acquired knowledge and skills enabling that person to perform correctly the specified task.
Crane	An appliance intended for raising or lowering a load and moving it horizontally, but does not include an industrial lift truck, earthmoving machinery, or an amusement structure, a tractor, an industrial robot, a conveyor, a suspended scaffold or a lift.
Dogging Work	<ul style="list-style-type: none"> The application of slinging techniques, including the selection and inspection of lifting gear, to safely sling a load; or the directing of a plant operator in the movement of a load when the load is out of the operator's view.
High Risk Work Licence	Any of the licences listed in schedule 3 of the Queensland Work Health and Safety Regulation 2011.
Hoist	An appliance intended for raising or lowering a load or people, vertically and without slewing which includes 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	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 screws, wedge sockets, plate clamps and lifting beams.
Luffing	Angular movement, of a crane boom or job, in a vertical plane.
Rigging Work	<ul style="list-style-type: none"> 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 the setting up or dismantling of cranes or hoists.
Spotter	A competent person who watches for obstructions that are out of sight of the crane operator or crane chaser or dogger and who relays information to the dogger or crane operator in charge of the lifting operation.
Sully box	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.
Workbox	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)	The maximum gross load that may be applied to the crane and lifting attachments while in a particular working configuration and under a particular condition of use.

6.0 Revision History

Rev. No.	Rev. Date	Revision Description	Author	Endorse/Check	Approved. By
0	09.04.2015	Document created to consolidate legacy documents	J.Paull	M.Joy /T.Hooper	I.Gilbar

7.0 Appendices

7.1 Appendix A Lifting Operations Document Flowchart



Appendix B Lift Classification

Type	Description	Minimum Controls
Standard	<ul style="list-style-type: none"> All lifting operations that are not classified as complex. (Includes the basic use of chain blocks, winches, come-alongs etc.) 	<ul style="list-style-type: none"> Risk Assessment (SafeStart or as part of the SWS (WMS / JSEA)).
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. Loss of the load would have a serious impact on production operations. Tilt-up panel lifting tasks. Multiple crane lift. A lift >80% of the cranes rated capacity [#] (if using a mobile crane). 	<p>Lift Planning, including:</p> <ul style="list-style-type: none"> Work Method Statement Relevant Safe System of Work document (Control Guide / Authorisation / Checklist). Pre-lift briefing

[#] The capacity in the particular working configuration of the crane, for the proposed application.

7.2 Appendix C Technical Standards

Technical Standard	Title
AS 1138	Thimbles for Wire Rope
AS 1380.2	Fibre-rope slings – Care and Use
AS 1353.2	Flat synthetic-webbing slings – Care and Use
AS 1418.1	Cranes, hoists and winches – General requirements
AS 1418.2	Cranes (including hoists and winches) – Serial hoists and winches
AS 1418.3	Cranes, hoists and winches – Bridge, gantry, portal (including container cranes) and jib cranes
AS 1418.4	Cranes, hoists and winches – Tower cranes
AS 1418.5	Cranes, hoists and winches – Mobile cranes
AS 1418.6	Cranes, hoists and winches – Guided storage and retrieving appliances
AS 1418.7	Cranes (including hoists and winches) – Builders hoists and associated equipment
AS 1418.8	Cranes, hoists and winches – Special purpose appliances
AS/NZS 1418.9	Cranes (including hoists and winches) – Vehicle hoists
AS 1418.10	Cranes, hoists and winches – Mobile Elevating work platforms
AS 1418.11	Cranes, hoists and winches – Vehicle-loading cranes
AS 1418.12	Cranes (including hoists and winches) – Crane collector systems
AS 1418.13	Cranes (including hoists and winches) – Building maintenance units
AS 1418.14	Cranes (including hoists and winches) – Requirements for cranes subject to arduous working conditions
AS 1418.15	Cranes (including hoists and winches) – Concrete placing equipment
AS 1418.16	Cranes (including hoists and winches) – Mast climbing work platforms
AS 1418.17	Cranes (including hoists and winches) – Design and construction of workboxes
AS 1418.18	Cranes, hoists and winches – Crane runways and monorails
AS 1418.19	Cranes, hoists and winches – Telescopic handlers
AS 1438.2	Wire coil Flat slings – care and use
AS 1666.2	Wire Rope Slings – Care and use
AS 2089	Sheave blocks for lifting purposes
AS 2317	Collared eyebolts
AS 2318	Swivels for lifting applications
AS 2319	Rigging screws and Turnbuckles
AS 2321	Short-link chains for lifting purposes
AS 2400.13	Packaging – Tensional Strapping
AS 2550	Cranes, Hoists and winches – Safe use
AS 2740	Wedge type sockets
AS 2741	Shackles
AS 2759	Steel wire rope – Use, Operations and Maintenance
AS 3569	Steel Wire Rope – Product specification
AS 3585	End fittings for synthetic flat webbing and round slings
AS 3775.1	Chain slings-Grade T – Production specification
AS 3775.2	Chain slings-Grade T – Care and use
AS 3776	Lifting components for Grade T chains
AS 3777	Shank hook and large eye hooks – Maximum 60 t
AS 4991	Lifting Devices

7.3 Appendix D High Risk Licence Requirements

Code	Licence	Description
C0	Slewing mobile crane – with capacity over 100 tonnes	Use of a slewing mobile crane with a capacity exceeding 100t
C1	Slewing mobile crane – with a capacity up to 100 tonnes	Use of a slewing mobile crane with a capacity of 100t or less
C6	Slewing mobile crane – with a capacity up to 60 tonnes	Use of a slewing mobile crane with a capacity of 60t or less
C2	Slewing mobile crane - with a capacity up to 20 tonnes	Use of a slewing mobile crane with a capacity of 20t or less
CB	Bridge and gantry crane	Use of a bridge crane or gantry crane that is: <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; including the application of load estimation and slinging techniques to move a load
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 portal 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 slinging 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
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

6.4 Appendix D High Risk Licence Requirements (cont'd)

Code	Licence	Description
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 ○ 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 ○ guyed 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 plant ○ dual lifts • but excluding rigging work involving: <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
RA	Advanced 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 Intermediate Rigging ○ gin poles and shear legs ○ flying foxes and cable ways ○ guyed derricks and structures ○ suspended scaffolds and fabricated hung scaffolds

7.4 Appendix E Training & Competency Decision Flow Chart

