

Lifting Operations

Document Number – OHS-PROC-08

This document applies to the following sites:

All Sites	<input type="checkbox"/>		
OR			
Brisbane Office	<input type="checkbox"/>	Mackay Gas Turbine	<input checked="" type="checkbox"/>
		Meandu Mine	<input type="checkbox"/>
Mica Creek PS	<input checked="" type="checkbox"/>	Stanwell PS	<input checked="" type="checkbox"/>
		Tarong Site	<input checked="" type="checkbox"/>
Wivenhoe Pipeline	<input type="checkbox"/>		

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1.0 Purpose

This 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, forklifts and other relevant mobile plant.

2.0 Scope

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

This Business Procedure does not apply to:

- Operational and maintenance requirements for plant, refer to Powered Mobile Plant Business Procedure OHS-PROC-132; or
- Manual lifting, refer to Hazardous Manual Tasks Business Procedure OHS-PROC-222.

This procedure applies to forklifts used for lifting operations that are outside of using just the forklift tynes and that require rigging to be performed (i.e. using a jib attachment etc.).

3.0 Actions

3.1 Design

The layout, constructability, operability, maintainability and accessibility of facilities shall be optimised to eliminate or minimise the need for lifting operations. As a minimum the following shall occur:

- Identification of foreseeable lifts during the design of facilities;
- Identification of opportunities for installing fixed lifting devices for routine lifts;
- Ensuring access for mobile lifting equipment;
- Planning lifting activities to minimise risks associated with lifting operations; and
- Planning of laydown areas to minimise the need for lifting over hazardous process plant / equipment.

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;
- Lifting plant / equipment is certified fit for use;
- Lifting operations are performed only by trained and familiarised personnel who hold a valid High Risk Work (HRW) licence in accordance with the requirements of this procedure; and
- Lifting operations are assessed to identify potential hazards and make sure that 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 appropriate lift planning documentation is in place. 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:

- Lifts shall be evaluated, planned and appropriately approved in the planning stage of the job or prior to execution of the lift;
- Regard to the hierarchy of controls has been provided for the lifting operation (as per Business Procedure: Hazard Management OHS-PROC-33), e.g. eliminating a lift over hazardous process plant / equipment;
- All personnel involved with lifting operations are trained and familiarised, and their HRW licences sighted as required;
- The lift travel path is clarified, and any obstacles are removed before lifting commences;
- Barricading, signage and/or spotters are in place to prevent personnel from walking or standing within the lift travel path or under the load;
- The lifting operation can be executed safely in relation to simultaneous operations, e.g. different work fronts during an outage;
- Lifting equipment is suitable and will be used in accordance with the manufacturer's instructions;
- The lay down area is appropriately positioned and can accommodate the load in terms of size and weight; and
- The requirements of 3.2.1.1 and 3.2.1.2 have been executed as required.

3.2.1.1 Lift Travel Path / Hazardous Process Plant / Equipment

For all lifting operations (standard and complex), lift planning shall include consideration of the lift travel path to be utilised, with specific regard to lifting over hazardous process plant / equipment (see 6.0 Definitions for definition of 'hazardous process plant / equipment').

The hierarchy of controls (refer to Business Procedure: Hazard Management OHS-PROC-33) shall be considered with regard to lifting over hazardous process plant / equipment. Specifically, lift planning must apply the hierarchy of controls to select the control/s that most effectively mitigate the risks of performing the lifting operation, so far as is reasonably practical. A record of this risk management process is to be documented via the risk management tool utilised (e.g. SafeStart, SWA, Complex Lift Plan [T-1624]).

3.2.1.2 Major Overhaul / Construction Work Projects – Project Lifting Operations Register

For all major overhauls / designated construction work projects, a Project Lifting Operations Register shall be documented and approved prior to the commencement of the major overhaul / designated construction work project.

The Project Lifting Operations Register shall document / list, as a minimum:

- Item to be lifted (not required to be a fully itemised list; appropriate grouping acceptable [e.g. turbine valves]);
- Responsible party of the lift (organisation);
- Indication if lifting operation is classified as standard or complex;
- Indication if lifting operation includes lifting over hazardous process plant / equipment;
- If yes, a comment shall be recorded regarding why lifting over hazardous process plant / equipment cannot be reasonably avoided; and
- Whether the lifting operation is 'one-off' or 'repetitive' (for repeated lifts of same type, only one entry is required).

The completed Project Lifting Operations Register shall be reviewed and approved by the relevant Site Manager or delegate. Approval can be recorded via e-mail appropriately saved within the electronic document management system.

3.3 Work Environment Requirements

3.3.1 Exclusion Zone

Control measures shall be implemented which restrict access to the lifting and potential fall zone during a lifting operation; including consideration of potential deflection should an incident occur. Control measures shall reflect restricted access and / or total exclusion zones.

Where personnel are required to enter an exclusion zone, authorisation / permission must be provided by the person managing the lifting operation.

3.3.2 Overhead Electrical Conductors

Workers shall observe safe approach distances and exclusion zones for overhead powerlines and implement controls in accordance with Electrical Safety Standard ASM-STD-ENG-03.

An Electrical Safety Observer will be required when parts of the crane or load could enter a designated electrical exclusion zone.

Note: The Dogger or Rigger cannot be used to perform the role of Electrical Safety Observer when lifting equipment is operating close to overhead powerlines.

3.3.3 Weather Conditions

Various weather conditions could affect the integrity of lifting equipment or expose people to hazards which necessitate the cessation of a planned lifting operation (e.g. excessive wind speeds affecting a load which features a large surface area, poor visibility due to mist or fog, lightning, heavy rain).

Lift planning for all lifting operations must include the consideration of forecast and current weather conditions.

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 D - Technical Standards).

3.4.1 Register

Each site shall appoint a person / role responsible for maintaining a lifting equipment register. As a minimum the register shall record certification and inspection details for each piece of equipment.

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;
- An identifier with the correct inspection date; and
- The working load limit (WLL).

3.4.3 Certification

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

- Before initial use; and
- Following major repairs 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 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 manufacturer's instructions and the relevant Australian Standard (refer to Appendix D - Technical 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 take place 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 dedicated storage areas.

3.4.5 Removal from Service

Lifting equipment shall be removed from service if it is not safe for use, including the following:

- 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 Work at Height Business Procedure OHS-PROC-100).

Personnel shall only be lifted in workboxes designed according to AS 1418.17 and are used in accordance with AS 2550.1 and where applicable, Workplace Health and Safety Queensland Mobile Crane - Code of Practice.

A least one person in the workbox shall hold a Dogger's or Rigger's licence to ensure that correct directions are communicated to and from the crane operator. 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.

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

Workboxes and sully boxes shall not be suspended over people.

Workboxes, sully boxes, lifting attachments and records shall be checked by a competent person before use to make sure it 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 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 Work at Height OHS-PROC-100 applies.

3.5 Safe Work Practice Requirements

The following shall be ensured:

- All lifting operations that include lifting over hazardous process plant / equipment shall be planned in advance of the lift;
- Lift planning documentation shall be appropriately approved (i.e. in line with the level of control required by the type of lift and the risk assessment - see Appendix B - Lift Classification) in the planning stage of the job or prior to execution of the lift.
- A pre-lift briefing shall be undertaken for all lifts. The pre-lift briefing should include all work party members and review the relevant risk assessment, and the lift plan where applicable. For routine repetitive lifts, there may be a single briefing at the start of shift.
- All lifting operations are undertaken by a competent person;
- Operators of lifting plant conduct pre-start checks of all plant and equipment to be used;
- Persons actively in control of a lift are not to use distracting devices i.e. mobile phones;
- All personnel shall comply with designated exclusion zone requirements (no person enters the zone where a suspended load may fall);
- Tag lines are used to control the movement of the load, unless their attachment presents additional risk;
- Loads are carried as near to the support surface as practicable;
- Loads do not exceed the defined working load limits of plant and equipment;
- Lifting operations are stopped if operations become unsafe; 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 be left unattended unless the following controls are in place:

- All loads (not including rigging equipment [e.g. slings]) have been removed from the hook; and
- the hook has been raised to a position where it is safely clear of other operations, hooked back or otherwise appropriately secured.

or

- All powered motions have been disabled; and
- access to the cabin / controls has been securely restricted.

3.5.1 Positioning

Lifting plant and attachments 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 impacting 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 has been 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, refer to Powered Mobile Plant OHS-PROC-132.

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 following criteria:

- 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 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 various HRW licences for lifting equipment operation, including cranes, hoists and forklift trucks, are detailed in Appendix D.

Note: Holders of a Bridge and Gantry Crane HRW Licence can exercise judgement on the load and slinging method and select and inspect lifting equipment when operating a bridge or gantry crane. However, they cannot exercise judgement or inspect lifting gear for any other class of crane unless they hold the relevant HRW licence.

The following shall be ensured:

- For **a load less than one tonne**, where complex lifting techniques **are not** required, the worker performing the lifting operation must be familiar with and have acquired through training, qualification or experience the knowledge and skills to carry out the task using the specific lifting equipment / plant.
- For **a load less than one tonne**, where complex lifting techniques **are** required, the worker performing the lifting operation must hold a HRW licence as a Dogger or Rigger and have also completed the required familiarisation.
- For **a load equal to or over one tonne**, the worker performing the lifting operation must hold a HRW licence as a Dogger or Rigger and have also completed the required familiarisation.
- Where possible, avoid hoisting a load with more than one crane. However, where it is necessary to lift a load using more than one crane a person licensed to work as an Intermediate Rigger should be in overall control of the lift.

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

A competent person can 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 items have been predetermined by a licensed Dogger or Rigger or an appropriately qualified engineer:

- The weight of the load (or within a weight range) to be lifted has been predetermined and communicated (e.g. may be marked on the load);
- Selection of the sling and slinging techniques for the load has been predetermined;

- The condition of lifting gear has been predetermined to be in a safe and serviceable condition;
- The lifting points have been predetermined and incorporated as part of the load (e.g. lifting lugs) or are 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 the Dogger, Rigger or competent person.

SCL's position is that this exemption only applies to lifts up to one tonne. Sites will be required to evaluate and apply the criteria of the exemption via various methods, including familiarisations and risk assessment tools (e.g. SafeStart, SWA).

4.0 Review, Consultation and Communication

Review:

This Document is required to be reviewed as a minimum every 5 years.

Consultation:

Consultation will occur in accordance with the Health and Safety Consultation Business Procedure OHS-PROC-21.

Communication/Requirements after Update:

This Business Procedure will be communicated to sites by an e-mail from the Health and Safety Manager and on GenNet.

5.0 References

Source	Reference
Legislation	<ul style="list-style-type: none"> • Work Health and Safety Regulation (Queensland) 2011 • Managing Risk of Plant in the Workplace - Code of Practice 2013. Workplace Health and Safety Queensland • Electrical safety Code of Practice 2013 – Managing Electrical Risks in the Workplace, Workplace Health and Safety Queensland • Electrical safety Code of Practice 2020 - Working near overhead and underground electric lines, Workplace Health and Safety Queensland • Mobile Crane - Code of Practice 2006, Workplace Health and Safety Queensland
Australian Standards	<ul style="list-style-type: none"> • AS 1418.17:1996 (R2016) 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"> • Electrical Safety Standard ASM-STD-ENG-03
Business Procedures	<ul style="list-style-type: none"> • Hazard Management OHS-PROC-33 • Safe Work System - Safe Work Authorisation OHS-PROC-142 • Barricading and Signage OHS-PROC-134 • Hazardous Manual Tasks OHS-PROC-222 • Powered Mobile Plant OHS-PROC-132 • Work at Height OHS-PROC-100 • Truck Loading & Unloading Procedure ASM-PROC-SUP-MAN-01 • Health and Safety Consultation Business Procedure OHS-PROC-21
Stay Safe, H&S Advice	<ul style="list-style-type: none"> • Lifting Operations OHS-PROC-08A

Source	Reference
	<ul style="list-style-type: none"> Safety Observer Zones (201722A) 17/93788 Authorisation for Bridge and Gantry Crane High Risk Work (CB Class) Licence Holders Performing Dogging Activities (201705A) 19/21915
Tools	<ul style="list-style-type: none"> Lifting Equipment Awareness Critical Control Verification – Lifting Operations T-3131 Crane Operation - Complex Lift Plan T-1624

6.0 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 goods or passenger 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 (HRW) Licence	Any of the licences listed in Schedule 3 of Work Health and Safety Regulation 2011 (Queensland)
Hazardous process plant / equipment	Is process equipment (including exposed live pipework) that if damaged has the potential to release hazardous materials or energy that can cause toxic effects, fire, pressure release or explosion and could ultimately result in serious injuries, fatalities, property damage, lost production, or environmental impact.
Hoist	An appliance intended for raising or lowering a load or people, vertically, 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 jib, in a vertical plane.
Metre tonne	Metre tonnage lifting capacity in relation to Vehicle Loading Cranes is a figure that is derived by multiplying the lifting capacity by the working radius of the boom or jib for that lifting capacity.
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 - Trained Electrical Safety Observer	Is a person who has undergone specific training and is competent to perform the role in observing, warning and communicating effectively with the operator of the plant if it is likely that the operating plant will come within an exclusion zone for the operating plant for an overhead electric line. Electrical Safety Code of Practice 2020 – Working near overhead and underground electric lines (ESOPDF029).
Spotter	A competent person who watches for obstructions that are out of sight of

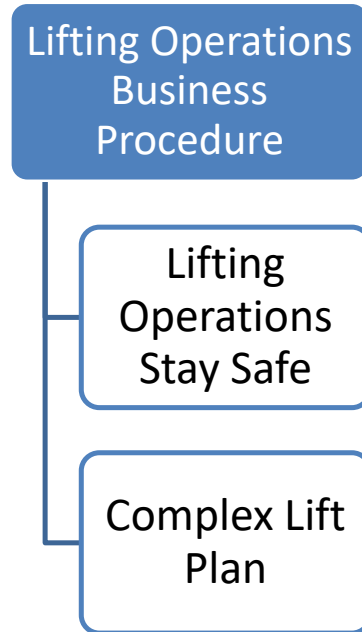
Term	Meaning
	the crane operator, or crane chaser, or Dogger and who relays information to the Dogger or crane operator in charge of the lifting operation.
Sully box	A work stage designed for the purpose of carrying personnel to perform work at a remote location, being connected to the crane boom or 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.

7.0 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
1	18/05/2020	Complete review of document.	J. Paull	K. Ussher	M. Joy

8.0 Appendices

8.1 Appendix A - Lifting Operations Controlled Documents



8.2 Appendix B - Lift Classification

Type	Description	Minimum Controls
Standard	All lifting operations that are not classified as complex (includes the basic use of chain blocks, winches, come-a-longs etc.).	<ol style="list-style-type: none"> 1 Risk Assessment (documented via a SafeStart or as part of a Safe Work Method Statement [SWMS] / JSEA e.g. as part of SWA) <p style="text-align: center;"><u>and</u></p> <ol style="list-style-type: none"> 2 Pre-lift briefing
Complex	<p>A lifting operation which meets one or more of the following criteria:</p> <ul style="list-style-type: none"> • Lifting of persons in workbox. • There is a risk that any part of the crane or the crane's load could enter the exclusion zone of an overhead powerline as per the <i>Electrical Safety Code of Practice 2020 – Working Near Overhead and Underground Electric Lines</i>. • Lifting large pressure vessels or tanks. • Heavy lifts where the load is 50 tonnes or more. • A lift over hazardous process plant / equipment <u>outside of</u> a major overhaul / construction work project (or within one, but not originally planned). ^{1; 2} • Tilt-up panel lifting tasks. • Multiple crane lift. • A lift >80% of the crane's rated capacity (if using a mobile crane). ³ • The load will be lowered into, or lifted from, or over an occupied confined space or building. 	<p><i>Lift Planning, including:</i></p> <ol style="list-style-type: none"> 1 Safe Work Authorisation (SWA) <p style="text-align: center;"><u>and</u></p> <ol style="list-style-type: none"> 2 Complex Lift Plan (documented via T-1624 – <i>Complex Lift Plan</i> or an external contractor equivalent document that is reviewed and deemed appropriate by Stanwell person in control of lifting operation [e.g. Safe Work Coordinator]) <p style="text-align: center;"><u>and</u></p> <ol style="list-style-type: none"> 3 Pre-lift briefing

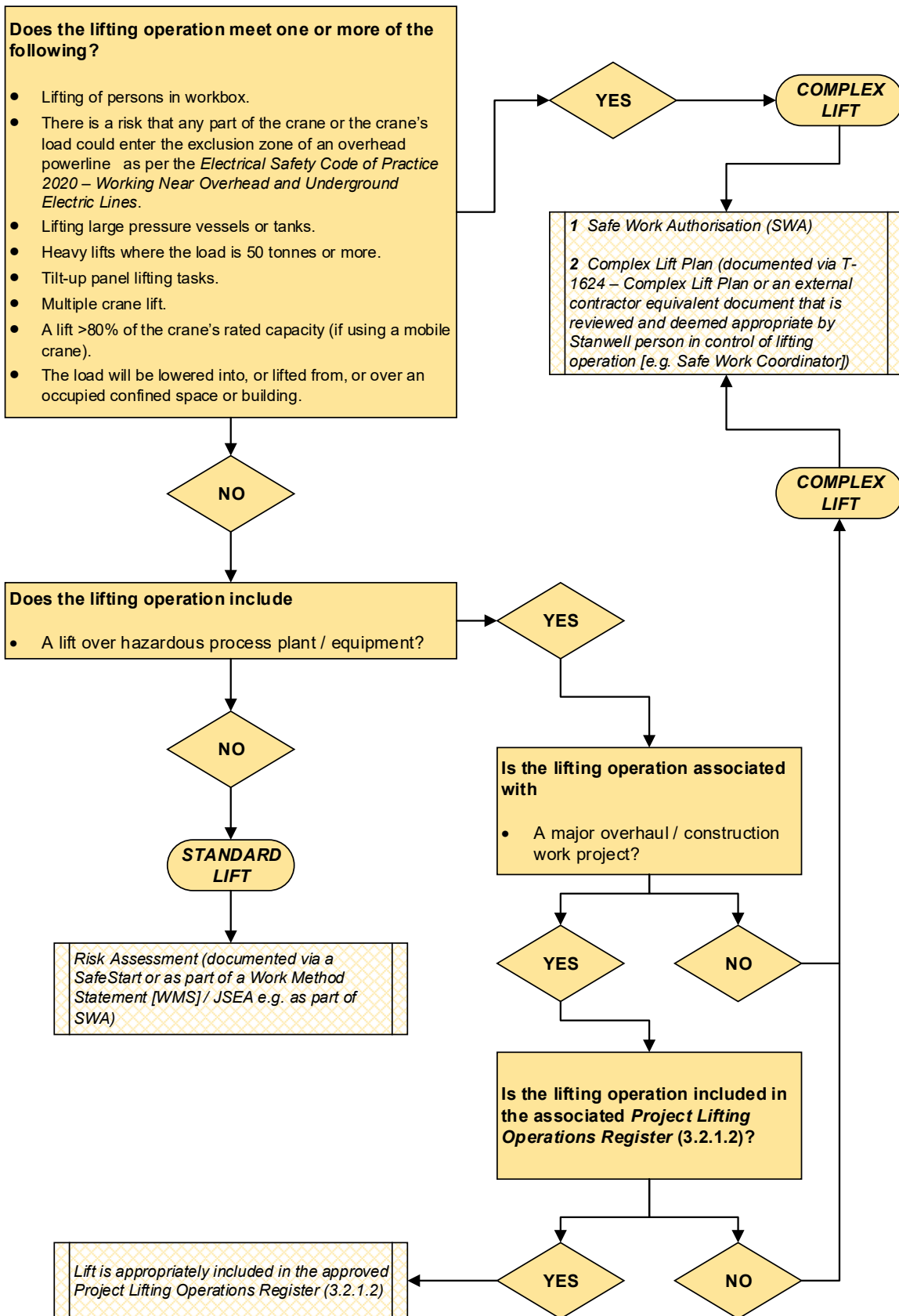
¹ Lifts over hazardous process plant / equipment within a major overhaul / construction work project are subject to the planning provisions of section 3.2.1.2 Major Overhaul / Construction Work Projects – Project Lifting Operations Register.

² If a lift over hazardous process plant / equipment within a major overhaul / construction work project was not originally planned as part of the scope, it is to be considered a complex lift (Refer to Lift Classification / Planning Documentation Requirements Flowchart).

³ Rated capacity: Load that the crane is designed to lift for a given operating condition (e.g. configuration, position of the load). Note for mobile cranes the mass (weight) of the hook block is part of the load.

➤ For guidance, please refer to **Appendix C - Lift Classification / Planning Documentation Requirements Flowchart**.

8.3 Appendix C - Lift Classification / Planning Documentation Requirements Flowchart



8.4 Appendix D - 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

8.5 Appendix E - 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.
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;

Code	Licence	Description
		- 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.