

PTW Safety Checklist No. 29

LIFTING OPERATIONS INVOLVING CRANE OR HIAB

| | | |
|---|-------------------------------|--|
| Other Checklists that may be relevant: | | 24 , 56 , 57 |
| Permit Number: | | Date: |
| Rev 5.4 | Issue Date: 15/02/2022 | Authorised By: PSM |

Lift Planning:

Before permit issue the correct class of lift is to be identified. The persons designated to the following positions are to be identified for all classes of lift and made known to all involved with the lift. They shall also hold the appropriate competencies as listed in this checklist:

| | |
|--|-------|
| * May be same person. | |
| *PICOL (Person in Charge of the Lift) | Name: |
| *Competent Rigger / Slinger | Name: |
| *Competent Dogman | Name: |
| Crane Driver | Name: |
| Truck Mounted Crane (all variants) Operator / PICOL | Name: |
| Nominated Operations or Engineering Rep (At Permit Issuer's discretion) | Name: |

Lift Classifications - Complex Lift

Check the following to see if the lift is classified as a Complex Lift

| | Y | N | N/A |
|---|--------------------------|--------------------------|-----|
| 1 Any lifts over <u>live plant</u> designated by PI or ROS as <u>high risk</u> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2 Lifts exceeding 90% of the crane/Hiab working load limit (WLL) at the working radius | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3 Any lifts exceeding 20 tonnes in gross weight, <u>or</u> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4 Any lifts exceeding 15 tonnes in gross weight that requires rigging up on site and using non-dedicated rigging equipment. | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5 Any load lowered or lifted from within a confined space | <input type="checkbox"/> | <input type="checkbox"/> | |
| 6 Is the lifting of personnel or use of man riding winches involved? | <input type="checkbox"/> | <input type="checkbox"/> | |
| 7 Does the lift require two or more cranes to place/remove the object to be lifted | <input type="checkbox"/> | <input type="checkbox"/> | |
| 8 Loads where the centre of gravity or the weight is unknown or cannot be accurately estimated and requires specialist rigging and lifting arrangements | <input type="checkbox"/> | <input type="checkbox"/> | |

If the answer is yes to any of the above, proceed as a Complex Lift.

Confirm the following is prepared for all **Complex Lifts**

- A written lifting procedure is “prepared” by a competent person, then “checked and signed as approved” by another competent person and is appended to the Permit. This includes drawings of the crane location, lifting arcs and angles, and crane load charts. Specific lifting equipment shall also be listed, and certificates supplied.
- A competent Operation’s representative shall be in attendance during the complex lift.

Name: _____

Non-Routine Lift

Check the following to see if the lift is classified as a Non-Routine Lift

- | | | Y | N | N/A |
|---|--|--------------------------|--------------------------|-----|
| 1 | Are lifts over or within 5m of live plant and designated by PI or ROS as medium or low <u>risk</u> . | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2 | Is there limited headroom or restricted access? | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3 | Crane is on rough ground or uneven terrain, or load is transported by crane. | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4 | The load is a very long or awkward shape, or liable to be affected by wind. | <input type="checkbox"/> | <input type="checkbox"/> | |

If the answer is Yes to any of the above, proceed with a Non-Routine Lift.

Confirm the following is prepared for a Non-Routine Lift

- A written lifting procedure approved by the PICOL is appended to the Permit. This includes drawings of the crane location, the load, lifting arcs and angles, and the crane safe load charts. Specific lifting equipment shall also be listed, and certificates supplied.

- A hazard assessment has been conducted of the proposed route a crane is required to travel with a load suspended from its hook and within the manufacturer's specifications. The practice of travelling with suspended loads should be avoided if possible & the loads must be adequately secured.

Routine Lift

Check the following to see if the lift is classified as a Routine Lift:

- | | | | |
|---|---|--------------------------|--------------------------|
| 1 | Any lift in "non-process" areas or in a process area with perimeter of load more than 5 metres to adjacent plant and equipment. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 | Load has known weight, known centre of gravity (COG) and is less than 90% of crane or Hiab capacity. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 | Any lift not exceeding 20 tonnes in weight and having dedicated rigging or alternatively 15 tonnes in weight using certified rigging equipment subject to the above conditions. | <input type="checkbox"/> | <input type="checkbox"/> |

If the answer is yes to all of the above, proceed as a Routine Lift.

A Lift Plan is not required for Routine Lifts. Detail to be included in JHA.

Preparation for all classes of lifts prior to permit issue:

- | | | Y | N | N/A |
|--------------------------|---|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | PI or AT have confirmed requirements for plant isolation / protection. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Ground conditions and underground services have been considered in the placement of crane / Hiab. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | All obvious and potentially hazardous overhead obstructions have been identified. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | The crane / Hiab is certified and within inspection date. | <input type="checkbox"/> | | |

Prior to commencing task

Y N N/A

- Crane / Hiab operator has positioned and set up crane / Hiab as per manufacturer's operating procedures. Confirm lift plans are within working load limits as specified in the crane lifting charts and pre lift safety systems check completed.

Signed: _____ Date: _____

- List maximum wind speed as determined by the [Adverse Weather Guidelines](#) or crane specifications:** _____

- If the scope or conditions change, the lift shall be aborted, the PI / Competent Person shall be informed. Lift procedure and JHA is to be revised, and a new toolbox talk held prior to commencement of lift.

- Signalling methods and communications agreed using a sole designated radio channel when the load is unsighted by the crane driver.

- All rigging equipment i.e., slings, shackles, lever blocks, chain blocks, turfers etc. have been inspected, are fit for use and are within certification date and marked with WLL

- Tag lines are to be used wherever possible to ensure control over the load is maintained.

- The lift area has been roped off and/or signs and barriers erected to warn personnel in adjacent areas no access or work activity is permitted under any suspended load

- Loads are not left suspended when the crane is unattended.

- Prior to the use of any welded pad-eye lifting lugs on vessels or equipment, manway closure davit arms, hatches, or motors. Visual checks and NDT have been carried out to provide full assurance by a Facilities Inspector or Mechanical Engineer and approved for use.

Inspector Sign: _____ Date: _____

| Position / Role | Required Competencies and Qualifications (Unit Standards) | Competency held by (insert name) |
|---|--|----------------------------------|
| Person in Charge of Routine Lift or Non-Routine Lift (PICOL) | Must hold at least one of the following NZQA Unit Standards: | |
| | 26350 – Use common rigging equipment to lift and move loads | |
| | 3789 – Sling regular loads and communicate during crane operations | |
| | National Certificate – Intermediate Rigging Level-3. | |
| Approved Competent Person for Complex Lifts | In addition to the above competencies at least one of the following is required for a Complex Lift: | |
| | 3799 – Plan and direct complex lifting operations | |
| | 3801 – Prepare and sling complex loads for Crane operations | |
| | National Certificate – Intermediate Rigging Level-3. | |
| | Australian License to Perform High Risk Work with RA - Rigging Advanced endorsement | |
| Dogman / Rigger / Slinger | Must hold at least one of the following NZQA Unit Standards / Qualification: | |
| | 26350 – Use common rigging equipment to lift and move loads | |
| | 3789 - Sling regular loads and communicate during crane operations | |
| | National Certificate – Intermediate Rigging Level-3. | |
| Crane Operator Onshore | Must have passed an approved crane operator course, appropriate to the type and capacity of crane they are operating. And / Or hold the following Qualification: | |
| | National Certificate in Crane Operations (Mobile) which includes unit standards 3787, 3788 and 3789. | |
| Person in Charge of Lift (PICOL) & Operator of Truck Mounted Crane / Hiab / Side Loader for Routine Lift | Must have passed an approved crane operator course, appropriate to the type and capacity of crane they are operating. And hold at least one of the following two Unit Standards as appropriate to the unit they are operating. | |
| | 16617 – Use a truck loader crane to lift and place loads (which includes the prerequisite 30072 – Slings regular loads safely competency) | |
| | 3795 – Configure and position a mobile crane and lift and place regular and irregular loads. (Which includes the prerequisite 3789 - Sling regular loads and communicate during crane operations) | |
| Overhead Gantry Crane Operator (>10 tonne WLL) | Must have passed an overhead crane operator training course appropriate for the equipment being used or have been assessed in the use of the equipment by an independent party and hold the following Unit Standard: | |
| | 3800 – Operate a pendant controlled overhead crane and lift and place regular loads | |

MULTIPLE LIFT CHART

- The following chart is to be completed and signed by the PICOL and crane driver for each lift when multiple lifts are carried out on the one permit.

| | Value | | PICOL | Driver |
|---|-------|----|-------|--------|
| Lifting Radius (maximum) | | | | |
| Boom Length | | | | |
| Load Chart Using | | | | |
| Crane Capacity (at maximum radius & boom length) | | | | |
| Load Weight | | | | |
| Estimated weight if actual weight not known | | | | |
| Ground conditions checked and are suitable | | | | |
| Load is not more than 90% of crane capacity (at working radius) | Yes | No | | |

| | Value | | PICOL | Driver |
|---|-------|----|-------|--------|
| Lifting Radius (maximum) | | | | |
| Boom Length | | | | |
| Load Chart Using | | | | |
| Crane Capacity (at maximum radius & boom length) | | | | |
| Load Weight | | | | |
| Estimated weight if actual weight not known | | | | |
| Ground conditions checked and are suitable | | | | |
| Load is not more than 90% of crane capacity (at working radius) | Yes | No | | |

| | Value | | PICOL | Driver |
|---|-------|----|-------|--------|
| Lifting Radius (maximum) | | | | |
| Boom Length | | | | |
| Load Chart Using | | | | |
| Crane Capacity (at maximum radius & boom length) | | | | |
| Load Weight | | | | |
| Estimated weight if actual weight not known | | | | |
| Ground conditions checked and are suitable | | | | |
| Load is not more than 90% of crane capacity (at working radius) | Yes | No | | |

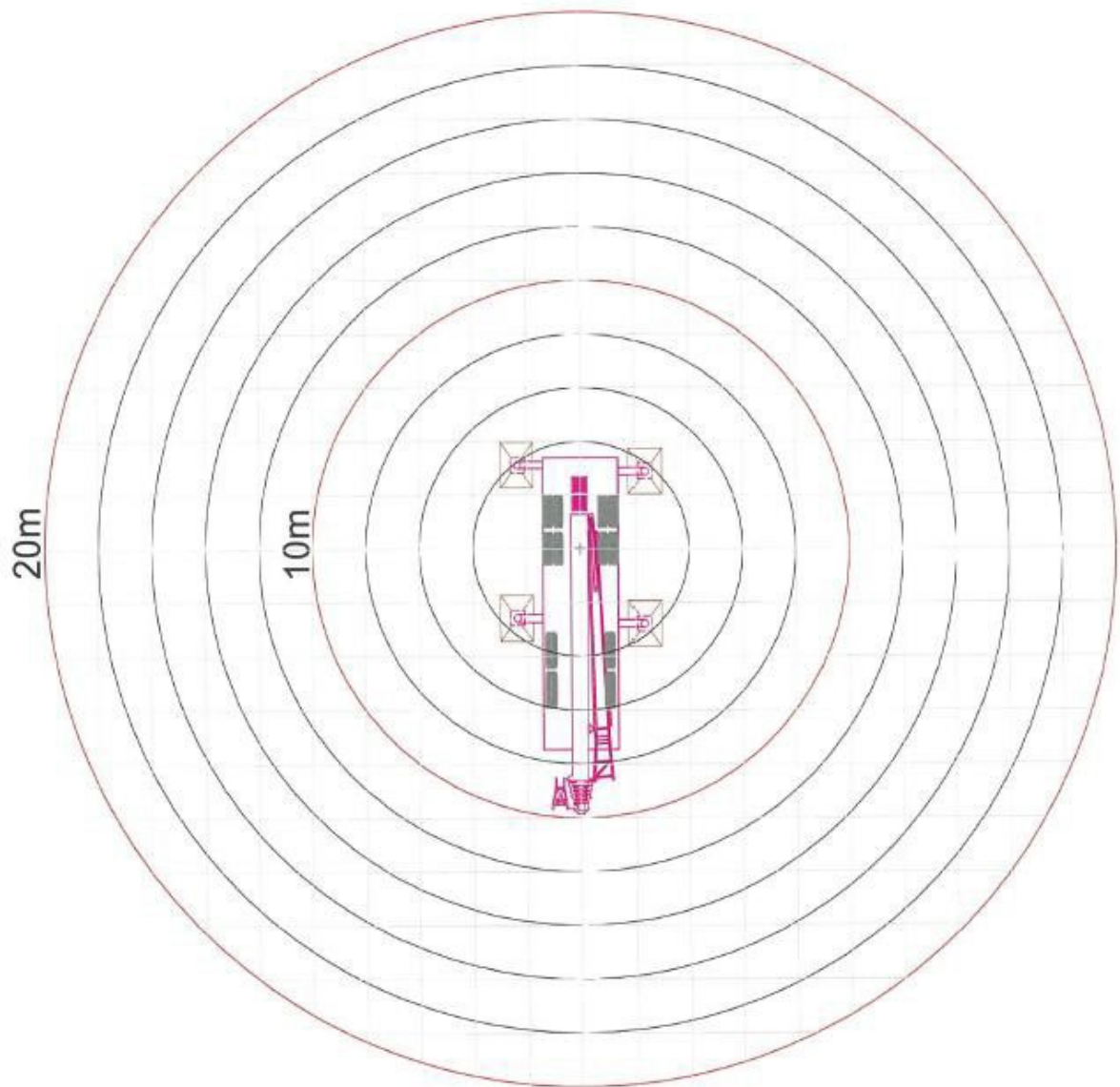
| | Value | | PICOL | Driver |
|---|-------|----|-------|--------|
| Lifting Radius (maximum) | | | | |
| Boom Length | | | | |
| Load Chart Using | | | | |
| Crane Capacity (at maximum radius & boom length) | | | | |
| Load Weight | | | | |
| Estimated weight if actual weight not known | | | | |
| Ground conditions checked and are suitable | | | | |
| Load is not more than 90% of crane capacity (at working radius) | Yes | No | | |

LIFTING PLAN

| | | | | |
|--|---|--|---|---|
| TITLE: | | | | |
| | | | | |
| DATE: | PERMIT NUMBER: | | | |
| | | | | |
| Crane type and capacity: | | | | |
| | | | | |
| Indicate the location(s) the load is expected to be moving from and to: Multiple locations should have multiple sketches. | | | | |
| From: | To: | | | |
| | | | | |
| From: | To: | | | |
| | | | | |
| DESCRIPTION OF LIFTING OPERATION (include list of attachments where additional information is contained): | | | | |
| | | | | |
| Lift Category | Routine <input type="checkbox"/> | Non-Routine <input type="checkbox"/> | | |
| | | Complex <input type="checkbox"/> | | |
| Sketch(s) of lifting operation enclosed: | | Yes / No | | |
| Weight of load(s): | | Actual / Assessed | | |
| Indicate number of lifts required to complete the task (complex only): | | | | |
| Lifting Equipment and Accessories supplied by | | Todd / Contractor | | |
| Lifting Equipment and Accessories to be used. Specify type and WLL (Working Load Limits) for Non-routine / Complex | | | | |
| Type | Capacity | Comment | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| <p>All lifting operations require the following to be considered, but this list is not exhaustive. Tick box & show controls in JHA.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Weight, size, shape & Centre of Gravity of load <input type="checkbox"/> Method of slinging/ attaching/detaching the load <input type="checkbox"/> Availability of approved lifting points on load <input type="checkbox"/> Pre-use equipment checks by operator <input type="checkbox"/> Proximity hazards, obstructions, path of load <input type="checkbox"/> Access and emergency escape routes <input type="checkbox"/> Number and duration of lifts <input type="checkbox"/> Visibility of the load <input type="checkbox"/> Lifting over live equipment <input type="checkbox"/> Conflicting tasks in area </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Working under suspended loads <input type="checkbox"/> Overturning /load integrity/need for tag lines <input type="checkbox"/> Environmental conditions including weather <input type="checkbox"/> Experience, competence & training of personnel <input type="checkbox"/> Number of personnel required for task <input type="checkbox"/> Communication requirements <input type="checkbox"/> Lighting in the pick-up and lay down area <input type="checkbox"/> Initial and final load positions & how it gets there <input type="checkbox"/> Suitability and condition of lifting equipment <input type="checkbox"/> Pre-use inspection of certified equipment only </td> </tr> </table> | | | <input type="checkbox"/> Weight, size, shape & Centre of Gravity of load <input type="checkbox"/> Method of slinging/ attaching/detaching the load <input type="checkbox"/> Availability of approved lifting points on load <input type="checkbox"/> Pre-use equipment checks by operator <input type="checkbox"/> Proximity hazards, obstructions, path of load <input type="checkbox"/> Access and emergency escape routes <input type="checkbox"/> Number and duration of lifts <input type="checkbox"/> Visibility of the load <input type="checkbox"/> Lifting over live equipment <input type="checkbox"/> Conflicting tasks in area | <input type="checkbox"/> Working under suspended loads <input type="checkbox"/> Overturning /load integrity/need for tag lines <input type="checkbox"/> Environmental conditions including weather <input type="checkbox"/> Experience, competence & training of personnel <input type="checkbox"/> Number of personnel required for task <input type="checkbox"/> Communication requirements <input type="checkbox"/> Lighting in the pick-up and lay down area <input type="checkbox"/> Initial and final load positions & how it gets there <input type="checkbox"/> Suitability and condition of lifting equipment <input type="checkbox"/> Pre-use inspection of certified equipment only |
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| Method(s) of communication to be used | | | | |
| | Radio <input type="checkbox"/> | Verbal <input type="checkbox"/> | | |
| | | Hand Signals <input type="checkbox"/> | | |
| PLANNED BY: | | | | |
| NAME: | SIGNATURE: | DATE: | | |
| | | | | |
| REVIEWED BY: | | | | |
| NAME: | SIGNATURE: | DATE: | | |
| | | | | |
| NON-ROUTINE LIFT APPROVED BY PICOL: | | | | |
| NAME: | SIGNATURE: | DATE: | | |
| | | | | |
| COMPLEX LIFT APPROVED BY: | | | | |
| NAME: | SIGNATURE: | DATE: | | |
| | | | | |

In the following chart establish safe working radius of lift to be undertaken:

- Establish Maximum Radius for the load you are lifting
- Establish safe working distance radius for the load you are lifting



“A Load Rating Chart inserted into the lift plan is required. Choose the appropriate chart for model of crane being used.”