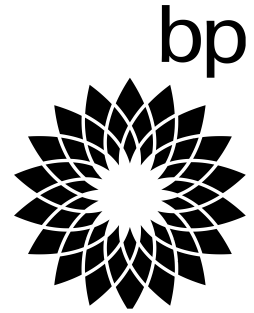




## M&C-M Procedure



PRO-4.5-0001-1-06

# Lifting Operations

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To review changes, refer to the [‘Version Summary’](#) at the end of this document.

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## 1. Purpose

Whenever bp conducts construction, maintenance, demolition, remediation and other similar work that are typical of our industry, there is the potential for harm to people and the environment and for damage to equipment. This document provides requirements for Lifting Operations in support of *PRO 4.5-0001-0-01 Control of Work*, *PRO 4.5-0001-1-01 Permit to Work*, and *WPCG-PRO-01 Work Authorisation*.

This procedure sets out a required approach to lifting operations in accordance with IOGP's Life Saving Rules, the requirements of GDP 4.5-0003 Lifting, D-P 3.2-0100 Lifting Operations, GDP 4.5-0001 Control of Work, and OMS Group Essentials 3.2.1 and 4.5.1.

The document defines the requirements that apply to lifting operations to protect personnel from injury and property from damage.

## 2. Scope

The requirement specified in this procedure applies equally to bp employees, contractors and visitors engaged in the ANZ M&C-M business.

Specific sites, areas and activities may have more detailed OMS requirements and where these exist the requirements will be specified in local procedures, safe work instructions, manuals, handbooks or specific standards.

## 3. Terms, Definitions and Abbreviations

**Table 1: Terms, Definitions and Abbreviations**

<b>Competent Person</b>	An individual, who, by way of some combination of education, training and experience, has been assessed and has demonstrated against defined criteria they are knowledgeable of applicable standards, can identify workplace hazards relating to the specific operation, is designated by the employer, and has authority to take appropriate actions.
<b>Higher Risk Critical Lift</b>	As prescribed in the bp NZ Task Risk Assessment Table (TRAT); or <i>WPCG-PRO-01 Work Authorisation</i> . Referred to as <i>Category 3 Non-routine complex</i> in GDP 4.5-0003 Lifting, and as <i>Category 3 critical lift</i> in D-P 3.2-0100 Lifting Operations
<b>Critical Lift</b>	As prescribed in the bp NZ Task Risk Assessment Table (TRAT); or <i>WPCG-PRO-01 Work Authorisation</i> . Referred to as <i>Category 2 Non-routine simple</i> in GDP 4.5-0003 Lifting, and as <i>Category 2 complex lifting operations</i> in D-P 3.2-0100 Lifting Operations
<b>Lifting accessories</b>	Equipment that is used or designed to be used directly or indirectly to connect a load to a lifting appliance and does not form part of the load (e.g. slings, hooks and fittings, swivels, hoist rings, turnbuckles, sheave blocks, wedge sockets, lifting harnesses, shackles, eyebolts, rigging screws, plate clamps, spreader beams, drill pipe and casing elevators).

<b>Lifting appliance</b>	Any mechanical device capable of raising or lowering a load (e.g. cranes, Self-Propelled Modular Transporters [SPMTs], powered hoists, manual hoists, lever hoists, beam trolleys, beam clamps, sheave blocks, winches, runway beams, mono-rail hoists).
<b>Lifting equipment</b>	Includes lifting appliances and lifting accessories.
<b>Lift and/or lifting operation</b>	An operation using any type of lifting equipment where a connected load is present. The lift begins when the load is connected to the lifting equipment and ends only when the load is disconnected. Using lifting equipment to test fit rigging on a load qualifies as a lift.
<b>Lift Plan /or Study</b>	A study by a competent person(s) of the factors affecting the safety of a proposed lift and the controls necessary to manage it. The required level of competency of the person(s) depends on the complexity and hazards of the lift.
<b>Simple Lift</b>	As prescribed in the bp NZ Task Risk Assessment Table (TRAT); or <i>WPCG-PRO-01 Work Authorisation</i> . Referred to as <i>Category 1 Routine</i> in GDP 4.5-0003 Lifting, and as <i>Category 1 routine/simple lift operations</i> in D-P 3.2-0100 Lifting Operations

## 4. Roles and Responsibilities

The roles and responsibilities associated with this procedure are listed in the following table.

**Table 2: Roles and Responsibilities**

<b>Planner</b>	The person planning the Lifting Operations is responsible for ensuring that the Permit Receiver or Work Clearance Issuer (as applicable to the task) is communicated the requirements of this procedure as part of the planning process prior to work. This may be discharged through the Permit Officer if the work is conducted under a work permit. The planner role is often not a dedicated role and may be fulfilled by Project Manager, Project Engineer, Maintenance Coordinator, etc.
<b>Permit Officer / Senior Permit Officer</b>	<i>WPCG-PRO-01 Work Authorisation</i> and <i>PRO4.5-0001-01 Permit to Work</i> document the full responsibilities of the Permit Officer / Senior Permit Officer for Work Permits. For lifting operations, the Permit Officer / Senior Permit Officer is responsible for: <ul style="list-style-type: none"> <li>○ Verifying that a Lift Plan / Lift Study has been undertaken by a competent person(s) and in consideration of the complexity and hazards of the lift.</li> <li>○ Verifying that lifting appliances will be operated by competent persons.</li> <li>○ Verifying that the Permit Receiver will ensure that lifting equipment is certified per applicable standards and will be inspected before each use.</li> <li>○ Verifying that rigging of the load will be undertaken by competent persons.</li> </ul>
<b>Permit Receiver</b>	<i>WPCG-PRO-01 Work Authorisation</i> and <i>PRO4.5-0001-01 Permit to Work</i> document the full responsibilities of the Permit Receiver for Work Permits. For lifting operations, the Permit Receiver is responsible for: <ul style="list-style-type: none"> <li>○ Providing the Lift Plan / Lift Study which is to be undertaken by a competent person(s), the required level of competency depends on the complexity and hazards of the lift.</li> <li>○ Overall responsibility and control of the lifting operation.</li> <li>○ Ensuring the lift is undertaken in accordance with the lift plan.</li> <li>○ Ensuring that operators of lifting equipment are trained and certified for that equipment.</li> <li>○ Ensuring that the rigging of the load is undertaken by competent persons.</li> <li>○ Ensuring that lifting equipment are certified to applicable standards and inspected before each use.</li> <li>○ Ensuring that assembly and disassembly of cranes (if applicable) is risk assessed.</li> </ul>

<p><b>Work Clearance Issuer</b></p>	<p><i>WPCG-PRO-01 Work Authorisation</i> and <i>PRO4.5-0001-01 Permit to Work</i> documents the responsibilities of the Work Clearance Issuers.</p> <p>For lifting operations which do not require a Work Permit, the Work Clearance Issuer is responsible for ensuring that:</p> <ul style="list-style-type: none"> <li>○ If a Lift Plan / Lift Study is required in accordance with local regulations or <i>WPCG-PRO-01 Work Authorisation</i>, or the <i>bp NZ Task Risk Assessment Table</i>, then this is undertaken by a competent person(s) and in consideration of the complexity and hazards of the lift and shall approve the Lift Plan / Lift Study.</li> <li>○ If a Lift Plan / Lift Study is not required, then a risk assessment (JSA, SWMS, or equivalent) is undertaken in accordance with applicable WPCG, bp NZ, or regulatory requirements.</li> <li>○ Verifying that operators of lifting equipment are trained and certified for that equipment</li> <li>○ Verifying that lifting devices and equipment are certified and inspected before each use.</li> <li>○ Verifying that any rigging of the load will be undertaken by competent persons.</li> </ul>
<p><b>Site Representative</b></p>	<p>The Site Representative shall be the Site Manager or delegate, or if the site is unmanned it may be the Permit Officer. The Site Representative is responsible for the overall safety of the site.</p> <p>The Site Representative is responsible for communicating to the Permit Officer / Senior Permit Officer ( for work authorised by a Work Permit) or Work Clearance Issuer (for work authorised by a Work Clearance) the site operations that may affect the lifting operations. They shall ensure that other parties on site that may be affected by the lifting operations are informed.</p> <p>No works shall be undertaken before the Site Representative countersigns the Work Permit or Work Clearance Form, as applicable.</p>
<p><b>Entity Lifting Authority (ELA)</b></p>	<p>The ELA provides governance for all lifting operations for their Entity, establishing processes and controls to verify that all Lift Plans and operations have been assured and potential risks to equipment, personnel and plant have been addressed.</p> <p>The ELA is not required to be involved in all the lift executions (this is the responsibility of the Lifting Competent Person) except in the case of Complex lifts.</p> <p>The ELA should:</p> <ul style="list-style-type: none"> <li>○ Have a good understanding of operational hazards.</li> <li>○ Have knowledge and access to review all country/state regulatory requirements that pertain to lifting operations.</li> <li>○ Be independent of the lifting contractor or work group.</li> <li>○ Obtain additional expert advice from a subject matter expert to support the discharge of this role, as required.</li> </ul>
<p><b>Lift Engineering Specialist (LES)</b></p>	<p>The LES provides technical overview and guidance for lifts (typically only the most critical lifts requiring an Engineering Lift Study), if requested.</p> <p>The LES can provide the following:</p> <ul style="list-style-type: none"> <li>○ Provision of external expert assessment and advice on the capacity of the lifting equipment, special rigging requirements.</li> <li>○ Advice and acceptance of the design, inspection and testing for lifting points.</li> <li>○ Advice on the stability of the load during lifting and any subsequent orientation changes in the lifting activity (rotation, laydown etc.).</li> <li>○ Guidance on the acceptable ground bearing loads imparted by the lifting equipment during the lift and the suitability (potentially based on other specialist advice) of the ground upon which the lifting equipment is placed.</li> </ul>

<b>Lifting Competent Person (LCP)</b>	<p>The LCP is typically the Permit Receiver (for work authorised by a Work Permit) or Work Clearance Issuer. This role identifies and coordinates all lifting requirements, tasks and resources needed to execute a safe lift.</p> <p>The LCP should have training and competence to plan and perform the lifting operation.</p> <p>The LCP should have knowledge and experience to inspect lifting equipment to verify its continued fitness.</p> <p>Several personnel could be recognised as Competent to act as the LCP depending on the Category of the lift and the number of lifting crew required for the lift. As such, in some cases it may be the crane operator, forklift operator, rigger or their supervisor that fulfils this role for a particular lift rather than the Permit Receiver or Work Clearance Issuer, particularly in the event that the lift is performed by a sub-contractor as is often the case.</p>
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## 5. Methodology - Lifting Operations

### 5.1. Lift Planning

- a) A risk assessment shall be completed for a task that involves lifting operations, in addition to any requirements for a lift plan / lift study. A SWMS shall be completed if required by local regulations for the type of lift. A bp Task Risk Assessment, facilitated by a bp HITRA trained facilitator, may also be required for the lift, in accordance with *PRO-4.5-0001-1-01 Control of Work*.
- b) The requirement for a lift plan is defined within the Activity Matrix in *WPCG-PRO-01 Work Authorisation*, or the *bp NZ Task Risk Assessment Table*. It is dependent on the level of risk and complexity of the lift. There may be additional Endorsement required by a Lift Engineering Specialist, or additional Authorisation required by the Entity Lifting Authority, depending on the category of Lift in accordance with Table 3.

**Table 3: Minimum Requirements for Assessment and Authorisation of Lifts**

Lift Category	Minimum Requirements					
	Risk Assessment	Permit	Lift Plan	Approval	Endorsement	Additional Authorisation
Simple	JSA/ SWMS	Work Clearance or Work Permit <sup>1</sup>	JSA or SWMS	Lifting Appliance Operator via JSA/SWMS, Lift Plan or Work Clearance.	Not Required	Not Required
Critical	JSA/ SWMS	Work Permit	Lift Plan	LCP via the Lift Plan	Not Required	Not Required
Higher Risk Critical	JSA/ SWMS + TRA	Work Permit issued by Senior Permit Officer	Lift Plan / Engineering Lift Study <sup>2</sup>	LCP via the Lift Plan / Engineering Lift Study	LES <sup>2</sup> via the Engineering Lift Study	ELA via the TRA
<b>Notes:</b> 1. The requirement for a Work Permit may depend on aspects of the task such as whether the lift location is within a hazardous zone area or not, and if the Permit Receiver is WPCG trained. 2. Some more Complex lifts may require an Engineering Lift Study to determine how to lift the load. Not all Complex lifts require an Engineering Lift Study.						

Approval – signifies verification that the lift is safe to execute, with mitigations for all identified risks and hazards, and is in accordance with bp and legislative requirements for the lifting operation.

Endorsement – signifies verification by a Lift Engineering Specialist or competent delegate that the Engineering Lift Study is safe to execute, it mitigates all identified risks and hazards, provides a safe system of work, is in accordance with bp and legislative requirements for the lifting operation, and that all required technical support has been provided and incorporated.

Additional Authorisation – signifies verification that the lift has been correctly categorised, that the Lift Plan has been developed, that the correct management processes have been followed during the applicable approval and endorsement stages and has adequately considered and mitigated all identified personal safety and process safety risks.

c) The documented lift plan, when required, shall include the following:

- i. Assessment of the lifting task (e.g., load rigging and handling arrangements, load manoeuvring, load integrity and stability, pick up and set down arrangements, ground bearing capacity), including simultaneous operations.
- ii. Assessment of overall lifting conditions (e.g., the adjacent live equipment, worksite environment, ground and weather conditions, load rigging method and handling arrangements), including lift area barrier management and warning signage.
- iii. Clearly defined roles and responsibilities of personnel involved in the lifting operation.
- iv. Details of the lifting capacities specific to the crane and rigging configuration.

## 5.2. Equipment Readiness

- a) The crane operator shall carry out a visual inspection and functional tests before the start of each work shift, including inspecting and testing the following. The results shall be entered into a logbook and kept with the crane. The inspection should include:
  - i. All relevant items indicated in the operations manual
  - ii. Operating and emergency controls
  - iii. Brakes
  - iv. Safety switches and interlocks, including limiting and indicating devices
  - v. Visual inspection of the structure of the crane
  - vi. Wire ropes to ensure they are on the drum, correctly reeved on the sheave and are not damaged or excessively worn.
- b) Prior to commencing a lift, the following shall be performed:
  - i. Pre-use checks for all lifting equipment in accordance with regulatory requirements, national standards, and applicable best practices to confirm it is fit for purpose. All lifting equipment including slings and hooks shall be visually inspected prior to each use and periodically inspected for damage and wear by a competent person with inspection records kept. All auxiliary lifting equipment should be tagged or otherwise physically identified (e.g. plate on spreader beam) with the date of the lifting equipment's last inspection and shall be done so to certify equipment in accordance with regulatory requirements in jurisdictions where these exist. Documented maintenance records for the lifting equipment shall be available.
  - ii. A visual inspection of the associated environmental and operational conditions in which the crane is intended to be installed, erected and used.
- c) Equipment shall meet the mobile equipment specifications required by GDP 3.7-0002 Safe Movement of Mobile Equipment. Note that these requirements do not apply to spot hire arrangements for lifting operations, which is typically the case in ANZ M&C-M.

## 5.3. Competence of personnel

- a) Personnel involved in lifting operations shall be trained and certified in accordance with local regulations and Australian / NZ Standards as applicable to the lift and its location.
- b) Operators of lifting appliances shall be familiar with and competent in the operation of the type of appliance (e.g. crane, forklift, etc.) that they are required to operate including with the design, layout, operating functions and maintenance and inspection requirements.



- c) All persons either operating, rigging, or inspecting cranes and auxiliary equipment shall be trained and qualified for the particular discipline and meet all regulatory competency requirements for the jurisdiction that the task is undertaken.
- d) Operators shall be competent and authorized for the type of mobile equipment used in accordance with the requirements of GDP 3.7-0002 Safe Movement of Mobile Equipment. Note that these requirements do not apply to spot hire arrangements for lifting operations which is typically the case in ANZ M&C-M.

#### 5.4. Lift Execution

- a) The isolation of personnel from lifting operations shall be considered in the risk assessment for the task.
  - i. Workforce members who are not involved with the lift shall be restricted from the lift zone through effective barrier management.
  - ii. Personnel shall not place themselves under a suspended load
  - iii. Personnel should not place themselves in the line of fire of the load.
  - iv. Forklifts shall not be used without the operating area being segregated for pedestrians or warning signs are in place
- b) Radios shall be used for blind lifts as the primary means of communication and as an emergency means of communications.
- c) Tag lines shall be made of non-conductive material. Lifting gear shall not be used as tag lines.
- d) Lifting points on new structures that are certified by a competent engineer shall be supported by weld inspection and NDT (non-destructive testing). Lifting from uncertified steel structures (such as scaffolding, or pipe work) shall only be performed after approval from a competent person.
- e) If the crane being used for a higher risk critical lift does not have an anemometer then a Safety Observer / spotter, located at the highest viable elevation, shall monitor the wind speeds with a device to confirm compliance with the operating limits for the lift.
- f) The Safe Work Australia *National Code of Practice for Precast Tilt-Up and Concrete Elements in Building Construction*, or equivalent if there has been one issued by the local state regulator where the lift is being conducted, shall be complied with for all such lifts in Australia. For work in NZ, such work shall comply with *Good Practice Guidelines: Safe Work with precast concrete* issued by Worksafe NZ.
- g) Whilst in the tank bund of a Depot, or off a designated trafficable area/roadway of a Retail site or Depot (e.g. driving off a dedicated Depot internal road to get closer to the worksite for transporting a valve or piping to the worksite), a rigger shall walk the load staying in clear view of the crane operator and to

warn others of the operation taking place. If reversing a crane in these circumstances, a rigger shall walk beside the load to guide the crane operator, ensuring they can still be seen by the crane operator.

## 5.5. Lifting Management

- a) Lifting operations should be conducted by bp accredited contractors or sub-contractors engaged through contractors bp accredited to manage sub-contractors in accordance with PRO-2.5-0000-0-01ANZ Contractor Management Framework (CMF) Procedure.
- b) The organisation (contractors or subcontractor) responsible for performing the lift shall keep auditable records of lifting equipment certification and competencies of those involved in the lift (including appropriate licences for the task as required by local regulations).

## 6. Verification

The key process steps outlined in this procedure shall be included in a Self-Verification Programme.

Refer to [PRO-8.2-0001-0-01 MS&L Self Verification Procedure](#) for further details to developing self-verification protocols.

## 7. Associated Documents

The following associated documents:

- Have been referenced in this procedure.
- Should be considered in understanding and applying the instructions provided in this procedure.

**Table 3: Required References**

Document Name	Document No	Document Location
Lifting	GDP 4.5-0003	OMS Library
Safe Movement of Mobile Equipment	GDP 3.7-0002	OMS Library
bp Practice Lifting Operations	D-P 3.2-0100	OMS Library
Group Defined Practice - Control of Work	GDP 4.5-0001	OMS Library
WPCG Work Authorisation	WPCG-PRO-01	WPCG website
Control of Work	PRO4.5-0001-0-01	Controlled Document Register
Permit to Work	PRO-4.5-0001-1-01	Controlled Document Register
MS&L Self Verification Procedure	PRO-8.2-0001-0-01	Controlled Document Register

## 8. External References

This procedure was prepared with reference to relevant legislation/regulations including but not limited to, relevant Acts, Regulations, Australian Standards and industry codes and practices.

Details of current legislation/regulations can be provided by the HSSE Team on request.

## 9. Version Summary

The table below provides a summary of version history of this procedure.

**Table 4: Document Version Summary**

Version	Prepared by	Description of Change	Date	MoC
1	Adrian Connolly	Document created - Initial release	14 Nov 2014	
2	Adrian Connolly	Updated to improve formatting and readability. Incorporation of definitions of Critical, Complex and Simple lifts and details of what these levels subsequently require. Updates to responsibilities.	13 May 2016	
3	Adrian Connolly	Minor update to implement WPCG-PRO-01 Work Authorisation and moved to current template.	22 Aug 2018	11449
4	Adrian Connolly	Update to insert additional requirements in order to comply with bp Practice Lifting Operations D-P 3.2-0100.	17 Nov 2020	11723
5	Adrian Connolly	Update due to issue of GDP 4.5-0003 Lifting, and GDP 3.7-0002 Safe Movement of Mobile Equipment	15 Sept 2022	11821

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