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1. OBJECTIVE

This procedure outlines Pilbara Ports Authority's minimum requirements and responsibilities for the safe operation of cranes, hoists and lifting and rigging equipment. As it relates to registered plant, this procedure is limited to site entry requirements for mobile classified plant.

2. SCOPE

A person conducting a business or undertaking (PCBU) for or on behalf of PPA on a PPA site or in Gazetted PPA Port Waters, or transiting through PPA operational sites, and all licensees must comply with this procedure,

Cranes on a vessel are not covered by this procedure, however Licensees using those cranes must have a process in place to ensure that the crane is safe to use, and it is used safely.

3. DEFINITIONS

Table 1: Table of Definitions

TERM	DEFINITION
Authorised Person	A PPA Terminal Operations team or a PPA Task Supervisor or Licensee who has been granted custody of a specific operating area where a crane is to be used,
Competent Person	In relation to the doing of anything, means a person who has acquired, through training, qualification or experience a combination of those things, the knowledge and skills required to do that thing competently.
Crane	An appliance intended for raising or lowering a load and moving it horizontally; and a) includes the supporting structure of the crane and its foundations; but b) does not include any of the following i. an industrial lift truck; ii. earthmoving machinery; iii. an amusement device; iv. a tractor; v. an industrial robot; vi. building maintenance equipment; vii. a suspended scaffold; viii. a lift.
Gantry Crane	Means a crane that a) consists of a bridge beams or beams supported at 1 or both ends by legs mounted to end carriages; and b) is capable of travelling on supporting surfaces or deck levels, whether fixed or not; and c) has a crab with 1 or more hoisting units arranged to travel across the bridge.
Hoist	An appliance intended for raising or lowering a load or persons and: a) includes a mast-climbing work platform, a people and materials hoist, a scaffold hoist, and a serial hoist; and b) does not include a lift or building maintenance equipment.
Mobile Crane	A crane capable of travelling over a supporting surface without the need for fixed runways or railway tracks and which relies on gravity for stability.

TERM	DEFINITION
Non Slewing Mobile Crane	A mobile crane incorporating a boom or jib that cannot be slewed; and a) includes – i. an articulated mobile crane; or ii. a locomotive crane.
Plant	A general name for any machinery, equipment, appliance, implement or tool and any component, fitting or accessory. Plant can be either fixed (e.g., conveyor) or mobile (e.g., truck). WHS Act 2020 definition: plant includes — (a) any machinery, equipment, appliance, container, implement and tool; and (b) any component of any of those things; and (c) anything fitted or connected to any of those things;
PPA Site	Port land or waters as defined in the Port Authorities Act 1999.
Registered Plant	Schedule 5 Division 2 of the Work Health and Safety (General) Regulations 2022 require the following items of plant to be registered: 1) Boilers categorised as hazard level A, B or C according to criteria in Section 2.1 of AS 4343:2014 (Pressure equipment – Hazard Levels). 2) Pressure vessels categorised as hazard level A, B or C according to the criteria in Section 2.1 of AS 4343:2014 (Pressure equipment – Hazard Levels), except – o Gas cylinders; and o LP Gas fuel vessels for automotive use; and o Serially produced vessels. 3) Tower cranes including self-erecting 4) Lifts and escalators and moving walkways. 5) Building maintenance units. 6) Amusement devices classified by Section 2.1 of AS 3533.1:2009 (Amusement rides and devices – Design and construction), except devices specified in clause 4(2) 7) Concrete placing booms. 8) Mobile cranes with a rated capacity of greater than 10 tonnes.
Task Supervisor	A worker assigned to supervise other workers perform a specific task with the intention to provide an increased level of hazard management and risk control.
Suspended Load	Any item attached to the lifting equipment of a crane which has been lifted, being that the weight of the item is borne - either partially or fully - by the crane. Lifting accessories which are fixed to the crane and require a tool to remove them are a part of the crane, and not a suspended load.
Vehicle Loading Crane	A crane mounted on a vehicle for the purpose of loading and unloading the vehicle.

4. RESPONSIBILITIES

Table 2: Responsibilities

ROLE	RESPONSIBILITIES
Managers, Superintendents and Supervisors	Personnel under their control are aware of, understand and comply with the requirements of this procedure.
Employees, licensees, and contractors	Comply with the requirements of this procedure.

5. INSPECTION, OPERATION, MAINTENANCE AND REPAIRS – GENERAL REQUIREMENTS

Cranes and hoists must be inspected, operated, maintained, and repaired in accordance with the Work Health and Safety (General) Regulations 2022 as applicable, and the original equipment manufacturers' instructions and relevant standards.

6. SUSPENDED LOADS

At no time will any part of any person be under a suspended load. The route of a suspended load must be planned so that it does not pass over persons, vehicles or buildings inhabited by people, under any circumstances.

7. CRANE SPECIFICATIONS

All PPA sites require crane operators to be equipped with UHF radios (portable radios are accepted) for the duration of the activity.

The relevant VTSC emergency contact numbers must be displayed in the cabin.

Evidence of all compliance paperwork (registration and inspection records) must be held within the crane cabin and current and produced on request.

Port Hedland: PPA requires that, at Port Hedland sites, as a minimum, all slewing cranes be fitted with an all-round red flashing light, fitted at the tip of the boom and visible in all directions over an arc of 360°. The requirements for lighting will be reviewed on a case-by-case basis to ensure the visibility of the obstruction light or lights against the extensive background light present in the port area at night. The lights at a minimum should comply with the requirements of Chapter 9, Section 9.4.2 of the Manual of Standard Part 139 Aerodromes and the US Department of Transport Federal Aviation Advisory Circular AC70/746-IK. These lights must be operational at any time the boom is raised from sunset to sunrise, and during periods of reduced visibility or adverse weather.

8. OPERATION BY COMPETENT PERSONNEL

Operators of cranes and hoists must hold a valid high-risk work license (HRWL) appropriate for the class of crane or hoist where required. Where a HRWL is not required the operator must be deemed competent to operate the plant.

Operators of overhead bridge or gantry crane which have a permanent cabin/control station on the crane, or if the crane has four or more powered motions of operation required a HRWL Licence Class CB. All other overhead bridge or gantry cranes require the operator to be deemed competent and authorised by the relevant Task Supervisor.

Personnel required to rig up loads for overhead bridge or gantry cranes or direct a crane operator during lifting activities must hold a valid HRWL.

The Task Supervisor is responsible for ensuring crane operators, riggers and doggers under the control of PPA are appropriately licensed and competent.

9. SPOTTERS

Where spotters are used during crane lifts or crane movements, they must establish and maintain control of the work area. Cranes/hoist movements, suspended loads, and personnel must be managed to reduce the risk of interaction.

10. REPAIRS AND MAINTENANCE

All repairs must be carried out by competent persons under competent direction and supervision, and appropriately tested in accordance with AS 2550.1-2011 Cranes, hoists and winches—Safe use Part 1: General requirements.

Repairs will only be permitted where the structural integrity of the crane or hoist can positively be maintained. Refer to AS 1418-2002, Cranes, hoists and winches.

A Landside Operations Coordinator or Landside Operations Superintendent must be notified of any repairs to a crane that will occur on a PPA common use area, such as a laydown yard or wharf.

11. RISK ASSESSMENT OF THE INTENDED TASK

Prior to the execution of any work, a risk assessment must be carried out in accordance with the Hazard Management Procedure.

No person may be positioned on the deck of a crane except for the purpose of accessing/alighting the crane cabin or attaching a load to the crane. All personnel must be clear of the crane deck prior to the crane slewing.

12. LIFT PLAN

A documented lift plan must be developed in the following situations:

- large or complex tilt-up and precast concrete lifts;
- multiple crane lifts, where more than one crane is used to lift a load at any one time including de-rating;

- single lifts of multiple loads at different heights, also known as staggered lifting;
- working near live overhead electric lines;
- lifting over live plant;
- when using cranes for demolition work;
- lifting large pressure vessels or tanks;
- the use of mobile cranes on barges;
- for rotating loads;
- lifting a load within 20% of the maximum capacity on the relevant load chart or the cranes maximum rated capacity; and
- Upon request by a PPA Authorised Person.

Note: Bulk mineral load out activities carried out with a rotating container system are permitted to proceed without a lift plan, provided a risk assessment is in place and is approved by the PPA Registered Manager.

The documented lift plan must:

- specify the loads to be lifted, including the mass of the lifting equipment, e.g., slings and spreader beams;
- specify the load working radius range to be used for the cranes and confirm that at this radius the loads are within the crane's capacity;
- specify the slinging and lifting sequence;
- where a spotter is needed, e.g., to prevent a collision or contact with electric lines; and the tasks, e.g., specify who is responsible for performing them and what communication system is to be used;
- specify the position of the crane, load to be lifted and the final position to which it is to be lifted, where practicable, e.g., a diagram that shows a plan view of the site may assist;
- state the maximum wind speed for the crane and any lower wind speeds for specified loads, e.g., where the load has a large surface area;
- verify that the crane standing (the ground surface, temporary support structure, grillage, track, parking, or similar support, on or from which the crane is supported during operation) will support the maximum ground bearing pressure to be imposed by the crane during operations;
- state the allowance for any factors that may require de-rating of the crane, e.g., for multiple crane lifts, extra radius caused by tilting of tilt-up panels; and
- specify the rigging requirements of the job.

The PPA Task Supervisor is responsible for ensuring the crane operator develops and approves a lift plan prior to a lift commencing, for all relevant lifts that are under the control of PPA.

The lift plan must be available at the work front.

13. DEMARCATION AND BARRICADING

Any crane/lifting operation will establish the working area, factoring in the potential for dropped items to deflect off infrastructure. Loads must not be lifted over personnel or where there is a potential for dropped items; the lift areas should be delineated or barricaded with appropriate information tag/signage. Refer to Demarcation and Barricading Procedure.

14. PRE-START SAFETY INSPECTION

Operators will carry out a pre-start inspection each shift a crane or hoist is used. A record of each inspection should be maintained in the relevant logbook.

Port Hedland: *Where the crane is operating in the vicinity of the helicopter flight paths the aerial obstruction, light will be checked as part of the prestart checks. Where the light is unserviceable, the crane will not be operated.*

Faults and damage must be reported immediately, and the crane tagged 'out of service' until a suitably qualified and competent person deems the crane fit for use.

15. TRAFFIC MANAGEMENT

For traffic management requirements, refer to the site-specific traffic management procedure:

- Port of Port Hedland – Traffic Management Procedure (Eastern Harbour Operations)
- Port of Port Hedland – Traffic Management Procedure (Western Harbour Operations)
- Port of Ashburton – Traffic Management Procedure; or
- Port of Dampier – Traffic Management Procedure.
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16. PORT ACCESS

16.1 Crane Registration

Cranes must undergo an inspection and be registered (annually) by the PPA Security Superintendent or their delegate, to confirm it meets the minimum specifications as per section 8 of this procedure.

A crane inspection can be requested by completing a Crane Registration Form (which is available on PPA's website) and forwarding to the relevant email address not less than 24 hours before the intended arrival at the security gate:

- Ashburton - dampier.craneoperations@pilbaraports.com.au
- Dampier - dampier.craneoperations@pilbaraports.com.au
- Port Hedland - porthedland.craneoperations@pilbaraports.com.au

If on inspection a crane is found to be non-compliant, the crane will be refused access until the PPA Security Superintendent, or their delegate is satisfied the non-conformance has been rectified.

The Crane Register must be maintained by the PPA Security Superintendent or their delegate.

If the PPA Security Superintendent or their delegate is unavailable to inspect a crane for site entry, the crane may still enter site if it has the appropriate documentation and written approval is given by a PPA Supervisor or higher. Written approval from an Authorised Person is required prior to a crane being operated on site where it has not been inspected or entered in the Crane Register. Site inspection and site registration process by the Security Superintendent or their delegate should occur as soon as practicable.

Except in the event of unplanned works that must be attended to urgently, the site inspection and site registration of a crane should occur on a weekday between 8am and 4pm.

16.2 Application for Crane Operations

Prior to any crane operations commencing at a PPA Port, a Crane Operations Notification Form for the relevant Port must be completed and submitted by the Applicant to the relevant email address. The form should be submitted at least 24 hours prior to the intended mobilisation time.

- Ashburton - dampier.craneoperations@pilbaraports.com.au
- Dampier - dampier.craneoperations@pilbaraports.com.au
- Port Hedland - porthedland.craneoperations@pilbaraports.com.au

An Authorised Person will either approve or deny the application and notify the Applicant as soon as practicable.

Port Hedland: *If a crane is required to operate within the designated Helicopter Flight Path on the Port Hedland site (refer to section 16.3), a range of conditions will be met as outlined in the Port of Port Hedland - Crane Operations Notification Form and this procedure. On approval, the Authorised Person will provide a copy of the approved form with operating particulars to the Marine Operations team and other stakeholders as identified by that team, as soon as practicable and prior to commencing operations.*

16.3 Helicopter Flight Path (Port of Port Hedland Eastern Harbour)

The Port of Port Hedland Crane Exclusion Area and Helicopter Flight Paths Map shows the designated helicopter path on departure and approach and is available to all applicable operators via the Pilbara Ports Authority website.

Cranes operating at Port Hedland Eastern Harbour require a Port of Port Hedland - Crane Operations Notification Form approved by an Authorised Person. If a crane needs to operate in the flight path, priority is given to the helicopter. Work may be conducted outside of helicopter flight times with the following:

- an approved Port of Port Hedland - Crane Operations Notification Form

- constant communications between the VTSC and the crane operator
- the crane must not enter the flight path without VTSC approval
- agreed process to demobilise the crane and/ or move clear from the flight path; and
- agreement from the contracted marine pilot helicopter operator.

The crane must always be clear of flight path when the helicopter is flying.

On completion of crane operations, cranes in helicopter flight paths will immediately relocate to a safe location.

Cranes will not unload or store any cargo within a flight path that would require a crane to move it out of the flight path.

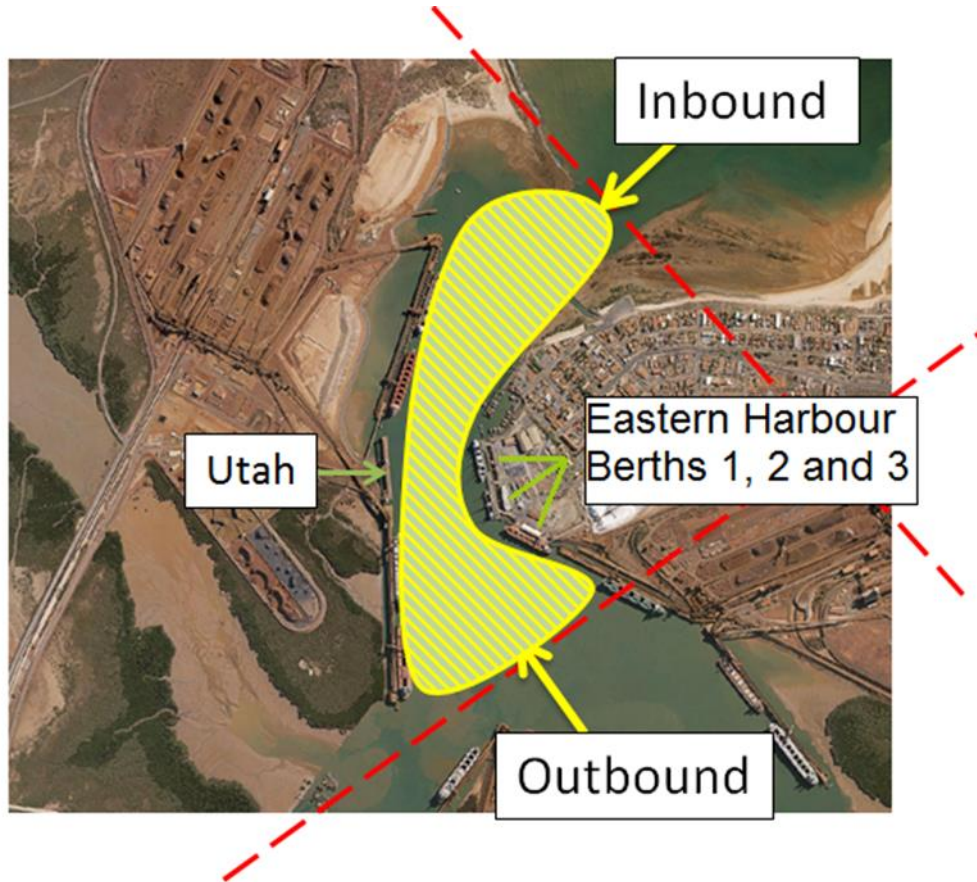
16.4 Wharf Access

Crane lifting operations at a wharf must not occur over or near vessel mooring lines without authorisation of the Harbour Master and /or Landside Operations Manager.

Port Hedland: *Crane operators must obtain verbal approval from the PPA Vessel Traffic Services Centre (VTSC) prior to crane operations commencing on any wharf at the Port Hedland Eastern Harbour site.*

Any person working over the side of a Port Hedland wharf in either an under-bridge checker, in a man cage or conducting works using rope access must have a spotter boat and monitors channel VHF 12 and monitors passing vessels approaching their work area between Hunt Point and the Turning Basin (see Figure 1).

Figure 1: Hunt Point and the Turning Basin



17. WHARF AND JETTY LOAD LIFTING LIMITS

The load lifting maps are available on the PPA SharePoint under Safety – Reference Documents and the Pilbara Ports Authority website.

17.1 Port Hedland

Load lifting limits as shown in the following maps apply to the common user berths and jetty on the Eastern Harbour and at Utah Point:

- Port of Port Hedland - Crane Load Map Berth No.1
- Port of Port Hedland - Crane Load Map Berth No.2
- Port of Port Hedland - Crane Load Map Berth No.3
- Port of Port Hedland - Crane Load Map Utah Point Berth; and
- Port of Port Hedland - Crane Load Map John Holland Load Out Jetty.

17.2 Dampier

Load lifting limits as shown in the following maps apply to the Dampier Cargo Wharf (DCW) and Bulk Liquids Berth (BLB):

- Port of Dampier – Crane Load Map Dampier Cargo Wharf; and
- Port of Dampier – Crane Load Map Bulk Liquids Berth.

The DCW requirements are ground pressure specific. A lift study or Liccon study may be required.

The DCW requires a lift plan/study as per Section 13 or if any of the following applies:

- a single load/lift exceeds 20t; or
- an outrigger load is equal to or will exceed 70t; or
- at the request of Landside Operations Dampier.

17.3 Ashburton

Load lifting limits as shown in the following documents apply to the Ashburton Cargo Wharf (ACW):

- Port of Ashburton Crane Loading Map General layout ACW; and
- Port of Ashburton Crane Loading Map Live Loads ACW.

18. RIGGING AND LIFTING EQUIPMENT

Equipment must be managed in accordance with the relevant Australian Standard.

Rigging and lifting equipment, including slings, chains, chain blocks, come-alongs, wire ropes, shackles and harnesses must be inspected and tagged on a three-monthly basis, in accordance with the following colour coding schedule:

RED DEC - FEB	GREEN MAR - MAY	BLUE JUN - AUG	YELLOW SEP - NOV
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Figure 1: Rigging and lifting equipment colour coding schedule

Contractors and licensees can follow their own colour coding schedule, but they must be on a 3 monthly basis.

Testing of rigging and lifting equipment must be conducted annually, or at any time the integrity of the item comes into question.

Inspection and testing of rigging and lifting equipment must be carried out within two weeks of the due date, and a corresponding certificate obtained. Records should be stored by the equipment owner in accordance with Section 20 of this procedure.

Equipment which has not been appropriately tagged, and equipment which shows evidence of damage or wear will be tagged 'out of service' and be inspected and tested as required before being returned to service. Equipment which is deemed on inspection to be damaged beyond repair will be destroyed or disposed.

19. HIRED AND LEASED PLANT EQUIPMENT

Plant and equipment may be leased or hired from various hire companies from time to time. The maintenance and inspection of hired and plant is the responsibility of the applicable hire company. If hired or leased by the PPA, the PPA Task Supervisor must

ensure that inspection certificates are kept current. If hired or leased by a contractor or licensee, they are responsible must ensure that inspection certificates are kept current.

Leased plant and equipment must meet the requirements of section 16 of this procedure (as relevant).

20. RECORD KEEPING

All records must be managed in accordance with Recordkeeping Plan and Recordkeeping Policy.

21. REFERENCES

AS 1418-2002, Cranes, hoists and winches

AS 2550.1-2011 Cranes, hoists and winches—Safe use Part 1: General requirements

Crane Register

Crane Registration Form

Demarcation and Barricading Procedure

Fall Prevention Procedure

Hazard Management Procedure

Port of Dampier – Crane Load Map Bulk Liquids Berth

Port of Dampier – Crane Load Map Dampier Cargo Wharf

Port of Dampier – Traffic Management Procedure

Port of Port Hedland – Crane Exclusion Area and Helicopter Flight Paths Map

Port of Port Hedland - Crane Load Map Berth No.1

Port of Port Hedland - Crane Load Map Berth No.2

Port of Port Hedland - Crane Load Map Berth No.3

Port of Port Hedland - Crane Load Map John Holland Load Out Jetty

Port of Port Hedland - Crane Load Map Utah Point Berth

Port of Port Hedland - Crane Operations Notification Form

Port of Port Hedland – Traffic Management Procedure (Eastern Harbour Operations)

Port of Port Hedland – Traffic Management Procedure (Western Harbour Operations)

Ports of Dampier and Ashburton - Crane Operations Notification Form

Work Health and Safety (General) Regulations 2022

Recordkeeping Plan

Recordkeeping Policy

22. PROCESS OWNER

The Director Health and Safety is responsible for this process.