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1. **OBJECTIVE**

This procedure outlines Pilbara Ports Authority’s minimum requirements and responsibilities for the operation of cranes and hoists.

2. **SCOPE**

All personnel accessing PPA controlled areas or undertaking PPA controlled works are required to comply with this procedure, including employees, contractors and licensees.

3. **DEFINITIONS**

<table>
<thead>
<tr>
<th>TERM</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorised Person</td>
<td>A person appointed by the PPA Landside Operations Manager to authorise the use of cranes and hoists and issue associated permits.</td>
</tr>
<tr>
<td>Competent Person</td>
<td>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.</td>
</tr>
</tbody>
</table>
| Crane     | Plant that is used for the raising or lowering of a freely suspended load and moving a load horizontally and—  
  a) includes the supporting structure of the crane and its foundations;  
  b) does not include any industrial lift truck, industrial robot, building maintenance equipment, suspended scaffold or lift. |
| 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;  
  b) does not include a lift or building maintenance equipment. |
| Note: For information on elevated work platforms refer to Fall Prevention Procedure (A376898). |
| Mine Site | Within the bounds of PPA Port Hedland there are four permanent mine sites and three areas that are intermittent mine sites. Specifically:  
  • Utah Point – Permanent;  
  • Newcrest Mining Leased area – Permanent;  
  • Metals X Limited Leased area – Permanent;  
  • Sandfire Mining Leased area – Permanent; and  
  • PPA Wharf 1, 2 & 3 – Intermittent when activated. |
| 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 and accordingly, has neither a vertical |
4. RESPONSIBILITIES

<table>
<thead>
<tr>
<th>ROLE</th>
<th>RESPONSIBILITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managers, Superintendents and Supervisors</td>
<td>Personnel under their control are aware of, understand and comply with the requirements of this procedure.</td>
</tr>
<tr>
<td>Employees and contractors</td>
<td>Comply with the requirements of this procedure.</td>
</tr>
<tr>
<td>Licensees</td>
<td>Managers and those in supervisory positions must understand and comply with the requirements of this procedure, and seek advice from PPA’s Health and Safety Department should they not understand any of the requirements. They also must ensure their personnel comply with the requirements of this procedure.</td>
</tr>
</tbody>
</table>

5. MINIMUM REQUIREMENTS

Cranes and Hoists shall be inspected, operated, maintained, and repaired in accordance with the *Occupational Safety and Health Regulations 1996* (OSH Regulations) or the *Mines Safety and Inspection Regulations 1995* (MSI Regulations) as applicable. The following requirements shall be adhered to as a minimum.

5.1 Suspended Loads

At no time shall any part of any person be under a suspended load. The route of a suspended load shall be planned so that it does not pass over persons, vehicles or buildings inhabited by people, under any circumstances.
5.2 Crane Contact with Vessel Traffic Services Centre (Port of Port Hedland Eastern Harbour)

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.

5.3 Crane Specifications

PPA Port Hedland sites requires that, 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 shall be reviewed on a case by case basis to ensure the conspicuity of the obstruction light or lights against the extensive background light present in the port area at night. The lights at a minimum shall comply with the requirements or 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.

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.

5.4 Registration of Plant

PPA Port Hedland sites cranes or hoists that are permanently on site must be registered in the applicable PPA Registered Plant Book.

5.5 Inspection by Competent Personnel

The PPA Landside Operations Manager must ensure that registered classified plant is inspected in accordance with Schedule 3 of the MSI Regulations or section 4.37 of the OSH Regulations as applicable.

Records of all inspections shall be maintained. The Classified Plant Record Book (for plant installed at a mine) must be updated by the Registered Mine Manager or their authorised delegate. Refer to section 10.

PPA owned hoists shall be inspected and tested on a quarterly basis as a minimum.

Hired or leased hoists shall be inspected and tested by the supplier in accordance with the associated hire agreement. Hoists which have not been inspected or tested within the last quarter shall not be used.
Cranes and hoists (including HIABS) and associated accessories shall be inspected and tested in accordance with manufacturers recommendations as a minimum, and evidence of same maintained in accordance with section 10.

5.6 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 Maintenance Superintendent.

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

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

5.7 Spotters

Where spotters are used during crane lifts or crane movements they must establish and maintain control of the work area.

5.8 Repairs and Maintenance

All repairs shall 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 shall 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 shall be notified of any repairs to a crane that will occur on a PPA common use area, such as a laydown yard or wharf.

5.9 Hazard and Risk Assessment

Prior to the execution of any work a risk assessment shall be carried out in accordance with the Hazard Management Procedure (A351414). The principles of the Hierarchy of Controls shall be used, that is, PPE is used as a last priority control measure.
No person shall 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 shall be clear of the crane deck prior to the crane slewing.

5.10 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;
- lifting work boxes with people in the work box;
- 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; and
- lifting a load within 20% of the maximum capacity on the relevant load chart or the cranes maximum rated capacity.

Note: Bulk mineral load out activities carried out with a rotating container system shall be permitted to proceed without a lift plan, provided a risk assessment is in place and is approved by the PPA Registered Mine 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 Supervisor or PPA Team Representative 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.

5.11 Demarcation and Barricading

Any crane/lifting operation shall establish their working area, factoring in the potential for dropped items to deflect off infrastructure. Refer to Demarcation and Barricading Procedure (A309126).

5.12 Pre-start Safety Inspection

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

Where the crane is operating in the vicinity of the helicopter flight paths the aerial obstruction light shall be checked as part of the pre start checks. Where the light is unserviceable the crane shall 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.

5.13 Traffic Management

For traffic management requirements, refer to the site specific traffic management plan

• Port of Port Hedland – Traffic Management Plan Eastern Harbour Operations (A311870);

• Port of Port Hedland – Traffic Management Plan Western Harbour Operations (A311870); or

6. PORT ACCESS

6.1 Registration

Cranes must undergo an inspection and be registered by the PPA Security Superintendent or their delegate, to confirm it meets the minimum specifications as per section 5.3.

A crane inspection can be requested by completing a Crane Registration Form (A312046) and forwarding to the relevant email address not less than 24 hours before the intended arrival at the security gate:

- 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.

Registration is effective from the date of the satisfactory inspection and valid for a maximum of 1 year. Refer to the Crane Registration Form (A312046).

The Crane Register (A266012) shall 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 (A266012). Site inspection and site registration process by the Security Superintendent or their delegate shall 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.

6.2 PPA Inspection Prior to Entry

PPA Contract security personnel shall confirm current PPA registration of cranes by reviewing the Crane Register (A266012) prior to permitting site entry.
6.3 Application for Crane Operations

Prior to any crane operations commencing at a PPA Port, either Port of Dampier - Crane Operations Notification Form (A560610) or the Port of Port Hedland - Crane Operations Notification Form (A561090) shall 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.

- 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.

If a crane is required to operate within the Helicopter Flight Path on the Port Hedland site (refer to section 6.4), a range of conditions shall be met as outlined in the Port of Port Hedland - Crane Operations Notification Form (A561090) and this procedure. On approval, the Authorised Person shall 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.

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

The Port of Port Hedland Crane Exclusion Area and Helicopter Flight Paths Map (A541456) 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 (A561090) 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 (A561090);
- 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 shall at all times be clear of flight path when the helicopter is flying.

On completion of crane operations, cranes in helicopter flight paths shall immediately relocate to a safe location.
Cranes shall not unload or store any cargo within a flight path that would require a crane to move it out of the flight path.

6.5 Wharf Access

Port Hedland Wharves 1, 2, 3, and 4 (Utah Point), and the Tug Pen, and Port of Dampier site are gazetted as Land-side Restricted Zones (LRZs) under the Maritime Transport and Offshore Facilities Security Regulations 2003 and the Pilbara Ports Authority Port Security Plan. Personnel who require access to a LRZ must be the holder of a valid Maritime Security Identification Card (MSIC), or be continually escorted and monitored by the holder of a valid MSIC.

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

Any person working over the side of a Port Hedland wharf in either an under-bridge checker or in a man cage must be raised back up and be positioned over the wharf deck for any large vessel movements approaching their work area between Hunt Point and the Turning Basin (see below picture).
7. 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.

7.1 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 (A541482);
- Port of Port Hedland - Crane Load Map Berth No.2 (A541383);
- Port of Port Hedland - Crane Load Map Berth No.3 (A541382);
- Port of Port Hedland - Crane Load Map Utah Point Berth (A541481); and
- Port of Port Hedland - Crane Load Map John Holland Load Out Jetty (A549698).

7.2 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 (A541455); and
- Port of Dampier – Crane Load Map Bulk Liquids Berth (A541483).

8. RIGGING AND LIFTING EQUIPMENT

Equipment shall 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:

<table>
<thead>
<tr>
<th>Color</th>
<th>Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Dec - Feb</td>
</tr>
<tr>
<td>Green</td>
<td>Mar - May</td>
</tr>
<tr>
<td>Blue</td>
<td>Jun - Aug</td>
</tr>
<tr>
<td>Yellow</td>
<td>Sep - Nov</td>
</tr>
</tbody>
</table>

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

Testing of rigging and lifting equipment shall 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 shall be stored by the equipment owner in accordance with section 10.

Equipment which has not been appropriately tagged, and equipment which shows evidence of damage or wear shall 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 shall be destroyed or disposed.

9. HIRED AND LEASED PLANT EQUIPMENT

Plant and equipment may be leased or hired from various hire companies from time to time.

Leased plant and equipment shall be inspected in accordance with section 5.5.

The maintenance and inspection of hired units is the responsibility of the applicable hire company. If hired or leased by the PPA, the PPA Supervisor or PPA Team Representative must ensure that inspection certificates are kept current.

Classified and Itinerant Classified Plant required for operations within a mining lease shall be inspected and records maintained in accordance with Division 3 of the Mines Safety and Inspection Regulations 1995.

10. RECORD KEEPING

All records shall be managed in accordance with Recordkeeping Plan (A187268) and Recordkeeping Policy (A202318).

Records relating to classified plant on mine sites shall be maintained in the Classified Plant Mines Record Book by the Registered Mine Manager or their authorised delegate.

11. REFERENCES

AS 1418-2002, Cranes, hoists and winches

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

Port of Dampier – Crane Load Map Bulk Liquids Berth (A541483)

Port of Port Hedland - Crane Load Map Berth No.1 (A541482)

Port of Port Hedland - Crane Load Map Berth No.2 (A541383)

Port of Port Hedland - Crane Load Map Berth No.3 (A541382)

Port of Port Hedland - Crane Load Map John Holland Load Out Jetty (A549698)

Port of Port Hedland - Crane Load Map Utah Point Berth (A541481)
12. PROCESS OWNER

The Health & Safety Manager has overall responsibility for this procedure.

Date approved: 13 December 2017   Review date: 13 December 2019
Version: 4   Approved by: General Manager Risk and Governance