



Standard Operating Procedure

Procedure Name:	Handling of Precast Concrete Elements in Construction		
Author:	Steve Smallman		
Approved By:	Albie Wheeler		
Version	1.0	With Effect from	1/9/12
Review Date	1/1/13	Document Number	SOP 01
Risk Assessment	Name	RA SOP 01 Precast Concrete Elements	
	Date	6/8/12	

1. Aim of procedure

To identify and formalise the control processes for risks involved in the handling and placement of precast concrete elements during construction work.

The National Code of Practice (NCOP) identifies that lifting operation involving precast concrete elements must be conducted under the control of an intermediate or advanced rigger. This person is identified in this document as the Rigger in Charge. The Rigger in Charge has overall control of the lifting operations.

A lift plan will be prepared for all precast panel work to ensure that the lift sequence is understood and operating parameters are not exceeded.

2. Scope of application

This procedure applies to all Wheeler Cranes personnel involved in the erection of precast concrete elements involved in construction work. This will generally apply to pre-cast concrete panels or tilt wall construction.

3. References

AS 2550.5

National Code of Practice for Precast, Tilt-up and Concrete elements in Building Construction.

Code of Practice: Prevention of Falls in Construction industry

4. Pre-requisites

Crane Drivers undertaking this work must hold:

- A National Certificate of Competency/High Risk Work Licence for the size and type of crane used
- A vehicle drivers licence of a suitable class for the crane used.
- A Wheeler Cranes Verification of Competency as a crane driver
- Previous experience either as a crane driver or dogman working with precast concrete elements

Riggers controlling this work must hold:



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- A National Certificate of Competency/High Risk Work Licence as an intermediate or advanced rigger
- A Wheeler Cranes Verification of Competency as a rigger/dogman
- Previous experience either as a rigger or dogman working with precast concrete elements

Where riggers controlling this work are supplied by the client, i.e. Wheeler Cranes is working under the direction of the client's personnel, the rigger controlling the lift need not hold a Wheeler Cranes Verification of Competency but must demonstrate to the crane crew that the rigger holds a relevant license at the intermediate or advanced rigger level.

Dogmen undertaking this work must hold a National Certificate of Competency/High Risk Work Licence as a dogman, and where supplied by Wheeler Cranes a Wheeler Cranes Verification of Competency.

5. Procedure

Wheeler Cranes personnel will:

1. Allocate a crane with sufficient working radius to handle the planned concrete elements. In taking a booking, we will request the client to advise the maximum panel weights and where necessary will inspect the work site to ensure that the appropriate crane is allocated.
2. Allocate appropriate handling equipment including panel clutches and sheave blocks for rotation.
3. Allocate a crane crew consisting of at least a crane driver and dogman. The crane crew will hold drivers licence(s) sufficient for the crane/support vehicles used.
4. Allocate a crane driver with an NCOC/HRW license of a class suitable for the crane used.
5. Ensure that personnel allocated are sufficiently rested and in a proper condition for work.
6. Arrive on site and park in accordance with the Australian Road Rules and any site constraints/Traffic Management Plan in place.
7. Will wear hi-vis clothing, hard hat, safety glasses, steel toed footwear and maintain vigilance while walking on site.
8. Meet with client representatives and discuss the task to be performed. This discussion will include issues such as trenches, excavations, sub-surface services, placement of crane and outrigger pads, work order and panel weights and will confirm the operating radius of the crane.
9. Assess the loadings including outrigger pressures and ground bearing pressures.
10. Discuss placement of delivery vehicles and confirm the slew/travel path of the elements from pick up point to final placement.



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11. Assess the tail swing/reversing area of the crane to ensure that it is clear of any buildings or supports, either existing or planned. If necessary, limitation of movement and visual indicators to confirm hold points may be implemented to assist in avoiding impacts.
12. Establish a perimeter around the proposed operations including erection of barriers/provision of personnel specifically tasked to prevent unauthorised entry to the work area.
13. Crane operators must be able to see outriggers during extension to ensure that personnel are not crushed between outriggers and fixed structures.
14. Crane crews are to wear gloves and use appropriate manual handling techniques when handling timbers in establishing outrigger pads.
15. Prior to attaching a load, crane drivers are to test the full operations of the crane to ensure that the crane will function normally during the lifts to be undertaken.
16. Crane drivers and Riggers in Charge are to inspect equipment prior to use and periodically during the course of the day. Worn or damaged equipment must not be used in any lifts.
17. Riggers in Charge are to inspect each element prior to fitting the lifting equipment and ensure the panel is correctly configured for the lifting equipment used and sufficiently cured to withstand the lift. Lifting equipment is to be attached in accordance with any drawing supplied or method advised by the manufacturer.
18. Riggers in Charge are to ensure that they understand the final placement of each panel prior to lift and to plan slew movements to minimise direction changes and to ensure no person is under the load at any time.
19. Riggers in Charge/Site Supervisors are to inspect loads on arrival at site prior to attaching rigging. Inspections are to ensure that panels/elements are individually restrained. Loads without individually restrained elements are not to be unloaded on site.
20. Persons attaching rigging to precast elements are to use appropriate access techniques, this may include the use of EWP, scaffolding or platform ladders to provide access to attach rigging.
21. Riggers in Charge are to liaise with site supervisors to ensure only essential personnel are in the exclusion zone prior to lifting commencing.
22. Panels are to be test lifted prior to slew/transport operations. During the test lift the Rigger in Charge is to visually inspect the rigging equipment for security.
23. Rigger in Charge and/or dogman must retain a clear line of sight on the panel and its slew path at all times. Handover of responsibility for the direction of crane movement between Rigger and dogman is to occur at a time when both persons have positive communication.
24. Crane Drivers are to control the movement of the load throughout the course of its traverse and to dampen any swing or oscillation.
25. Crane Drivers are to take care to ensure that transfer of load between winches during rotation occurs smoothly and without undue shock loading of the receiving winch.



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26. Crane Drivers, Riggers in Charge and dogmen will work closely with installers to ensure the panel is aligned properly. Site supervisors should ensure that personnel use appropriate tools to prevent crush injuries to hands during alignment. Hand Tools are not to be used during any crane movements.
27. Riggers in Charge are to ensure that foot bracing of props are adequate and that props are adequate to the task. Where Wheeler Cranes supplies a Rigger in Charge, the Rigger in Charge is to obtain certification from the installer regarding prop suitability.
28. Crane Drivers are to ensure a smooth transition of load from rigging to props to avoid prop failure.
29. Persons detaching rigging from precast concrete elements are to use appropriate access techniques, this may include the use of EWP, scaffolding or platform ladders to provide access to attach rigging.
30. Crane crews are to wear gloves and use appropriate manual handling techniques when handling timbers in disassembling outrigger pads.
31. Crane Drivers are to take care when exiting sites not to strike braces/props. Dogmen are to provide guidance.
32. Crane crews exiting sites are to inspect the wheels and tyres to for debris or excess mud. Should debris be lodged between tyres, it is to be removed prior to departing the site. Similarly excess mud is to be removed from wheels. Where crew resources are insufficient to undertake this task, crews are to seek the assistance of the client.

6. Approval

Albie Wheeler

Managing Director

13/9/12

