



Australian Government

Department of Education, Employment and Workplace Relations

CPCCLBM3001A Licence to operate a concrete placing boom

Release: 1

CPCCLBM3001A Licence to operate a concrete placing boom

Modification History

Not Applicable

Unit Descriptor

Unit descriptor This unit specifies the outcomes required to operate a concrete placing boom which is a mobile truck mounted plant incorporating a knuckle boom, capable of power operated slewing and luffing to place concrete by way of pumping through a pipeline attached to, or forming part of, the boom of the plant for licensing purposes.

Application of the Unit

Application of the unit This unit requires the operator to plan the work, conduct routine checks, check controls, set up and prepare for operation, deliver concrete, and shut down and secure concrete placing boom.

This unit is based on the requirements of the National Standard for Licensing Persons Performing High Risk Work.

This unit in its current form meets state and territory licensing requirements. Any alteration will result in a unit which is not acceptable to regulators for the purpose of licensing.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units Nil

Prerequisite units Nil

Employability Skills Information

Employability skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Set up and prepare for operation.	1.1. Ground suitability is inspected and checked. 1.2. Concrete placing boom is driven to or located at work area according to procedures. 1.3. Concrete placing boom is positioned for work application and stability according to procedures. 1.4. Concrete placing boom is started according to procedures and checked for any abnormal noise. 1.5. All safety devices are tested according to procedures. 1.6. Post start operational checks are carried out according to procedures. 1.7. Delivery system components, including booms, lines and adaptors, are positioned securely and safely according to procedures. 1.8. Appropriate hazard prevention/control measures are applied to the work area according to procedures. 1.9. Pumping systems are tested and prepared for use according to procedures.
2. Deliver concrete.	2.1. Supply of bulk concrete to the hopper is coordinated safely with the supply vehicle operator/s. 2.2. Concrete placing boom is operated safely using relevant boom movements to deliver the concrete as required. 2.3. Safe operating techniques are applied for all operations. 2.4. Communication signals are correctly interpreted according to the appropriate standard . 2.5. Monitor boom movement constantly ensuring safety of personnel, delivery hose and stability. 2.6. Unplanned and/or unsafe situations are responded to in line with procedures. 2.7. Concrete placing boom is safely withdrawn from the work area at the completion of the delivery task.
3. Shut down and secure concrete placing boom.	3.1. Delivery lines and hopper are cleaned out according to procedures. 3.2. Boom is correctly stowed and secured for travel according to procedures. 3.3. Outriggers/stabilisers are stowed and secured according to procedures. 3.4. Plates or packing are stowed and secured for travel. 3.5. Concrete placing boom is shut down according to

ELEMENT**PERFORMANCE CRITERIA**

procedures.

3.6. Routine post-operational equipment checks are carried out according to procedures.

3.7. All defects and damage are reported and recorded according to procedures and appropriate action is taken.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills for this unit are:

- accurately record and maintain information relating to concrete placing boom operations
- communication techniques in the workplace including hand signals and use of fixed channel two-way radios
- complete the positioning, stabilising, set up and pack up of concrete placing booms, including the use of outriggers/stabilisers and packing
- communication skills at a level sufficient to communicate with other site personnel
- operation and control of a concrete placing boom including all functions to within their maximum capability
- risk assessment and hazard prevention strategies, including hierarchy of control as applied to the positioning and safe operation of the concrete placing boom (particular awareness of the risks associated with overhead powerlines/electrical cables, ground conditions, wind, pedestrians and tipping)
- verify problems and equipment faults and demonstrate appropriate response procedures.

Required knowledge

Required knowledge for this unit is:

- assessment of ground conditions to confirm that the site is suitable (eg. firm, level and safe) to set up the concrete placing boom
- Commonwealth, state or territory OHS legislation, standards and codes of practice relevant to the full range of processes for conducting concrete placing boom operations
- level of literacy to be able to read and comprehend manufacturer's instructions, procedures and safety signs

REQUIRED SKILLS AND KNOWLEDGE

- concrete placing boom delivery operations and operating techniques
- organisational and site standards, requirements, policies and procedures for conducting concrete placing boom operations
- procedures for the recording, reporting and maintenance of workplace records and information, including the use of the service logbook.
- understanding of the hierarchy of hazard identification and control
- read and interpret the data plate for the concrete placing boom.
- typical routine problems encountered in the process and with equipment and adjustments required for correction.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Successful assessment of this unit meets the competency requirement of the National Standard for licensing Persons Performing High Risk Work.

State/Territory OHS regulators have mandated the use of Assessment Instruments and Instructions for Assessment for this unit which have been endorsed by the national body responsible for OHS matters.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- comply with OHS licensing legislation
- assess ground conditions to confirm that the site is suitable (e.g. firm, level and safe) to erect the concrete placing boom.
- assess risk and hazard control strategies, including hierarchy of control as applied to the positioning and safe operation of the concrete placing boom (particular awareness of the risks associated with overhead powerlines/electrical cables, ground conditions, wind, pedestrians and tipping)
- complete the pre operational check, positioning, stabilising, set up, operation, post operational checks of a concrete placing boom including all functions to their maximum extension in the moving of the boom and placement of concrete to the safe working rated capacity of the concrete placing boom
- operate the concrete placing boom in conjunction with other appropriate personnel (where applicable).

Context of and specific resources for assessment

- Assessment of the safe and effective application of knowledge and skill to workplace tasks (performance) must be undertaken using the endorsed Assessment Instrument
- Assessment of performance must be undertaken either in the workplace or in a

EVIDENCE GUIDE

realistically simulated workplace setting

- Assessors must ensure that the assessment in the workplace is organised to ensure that all the required equipment and materials and a suitable working area is made available to suit the assessment and the workplace
- Assessment must occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment is to comply with relevant appropriate standard requirements
- Applicants must have access to:
 - personal protective equipment (PPE) for the purpose of the Performance Assessment
 - appropriate concrete placing boom and associated equipment in safe condition
 - communication equipment (e.g. two way radios, etc) where appropriate
 - other appropriate personnel to direct the placement of concrete (where applicable).

Method of assessment

Assessment must be conducted using the endorsed Assessment Instruments. These Instruments provide advice on their application.

The use of '**simulators**' in the assessment of this unit of competency is **not acceptable**.

Assessment may be in conjunction with the assessment of other units of competency.

Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge.

Assessment must confirm a reasonable inference that competency is not only able to be satisfied under the particular circumstance, but is able to be transferred to other circumstances.

Guidance information for assessment

Further information about endorsed Assessment Instruments may be obtained from state/territory OHS regulators.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Hazards may include but not limited to:

- ground stability (eg. ground condition, recently filled trenches, slopes)
- overhead hazards (eg. power lines, service pipes)
- insufficient lighting
- traffic (eg. pedestrians, vehicles, other plant)
- environmental conditions (eg. wind, lightning, storms)
- other specific hazards (eg. dangerous materials).

Hazard control measures:

Refers to the systematic process of eliminating or reducing the risk to personnel and property through the application of controls.

It includes the application of the hierarchy of control, the six-step preference of control measures to manage and control risk:

- elimination
- substitution
- isolation
- engineering control measures
- using safe work practices
- personal protective equipment.

Appropriate standards may include:

- codes of practice
- legislation
- Australian Standards,
- manufacturer's specifications
- industry standards (where applicable).

Concrete placing boom may include:

- a mobile truck mounted plant incorporating a knuckle boom, capable of power operated slewing and luffing to place concrete by way of pumping through a pipeline attached to, or forming part of, the boom of the plant.

Communication methods may

- verbal and non-verbal language

RANGE STATEMENT

include but not limited to:

- written instructions
- signage
- hand signals
- listening
- questioning to confirm understanding
- appropriate worksite protocol.

Appropriate personnel may include but are not limited to:

- those associated with the operations of the concrete placing boom
- supervisors
- suppliers
- clients
- colleagues
- managers.

Procedures may include but are not limited to:

- manufacturer's guidelines (range chart, instructions, specifications or checklists)
- industry operating procedures
- workplace procedures (work instructions, operating procedures, checklists).

Service logbook may include but is not limited to:

- any logbook
- service book
- history record system where the service and maintenance history is kept.

Hoppers may include but not limited to:

- large receptacles mounted on the concrete placing boom which receive the concrete from supply vehicles and dispense the concrete to the pumping system.

Communication equipment may include but not limited to:

- fixed channel two way radios
- mobile phones.

NB: where radio communication equipment is used the transmitting frequencies of the equipment must be selected to prevent interference to or from other radio equipment being used in the vicinity of the crane.

Ground suitability may include but not limited to:

- rough uneven ground
- backfilled ground
- soft soils
- hard compacted soil
- rock
- bitumen
- concrete.

RANGE STATEMENT

Stability may include but not limited to:

- deploying outriggers
- establish correct size plates or packing
- correctly position plates or packing.

Safety devices may include but not limited to:

- horns/sirens
- audible and visual reversing devices
- operator restraint devices (where applicable)
- lights
- safety interlocks.

Hazard prevention/control measures may include but not limited to:

- safety tags on electrical switches/isolators
- powerlines are insulated
- safety observer used inside exclusion zone
- power disconnected
- traffic barricades and control
- pedestrian barricades
- trench covers
- movement of obstructions
- personal protective equipment
- adequate lighting
- earth chain.

Supply vehicle may include but not limited to:

- cement mixer trucks
- agitator trucks
- other concrete transport vehicles.

Relevant boom movements may include but not limited to:

- raising boom
- lowering boom
- slewing
- knuckling.

Safe operating techniques may include but not limited to:

- achieving a safe optimum output from the concrete delivery system within the manufacturers design specifications
- ensuring hopper levels are maintained at safe and recommended levels
- safe operation of the boom to ensure safety of operator and other personnel
- managing engine power to ensure efficiency of concrete pump truck platform movements and to minimise damage to the engine and gears
- coordinating engine power with gear selection ensuring smooth transition and operation within torque range.

RANGE STATEMENT

Communication signals may include but not limited to:

- boom up - hand
- boom down - hand
- boom left - hand
- boom right - hand
- open or extend boom -hand
- close or retract boom - hand
- stop boom - hand
- start pump speed up - hand
- slow pump down - hand
- little bit - hand
- add water - hand
- all done clean-up - hand.

Unplanned and/or unsafe situations may include but not limited to:

- failure/lose of control e.g. blown hose or concrete line
- failure of equipment e.g. hydraulic system
- environmental conditions (e.g. wind, lightning, storms, etc).

Shut down may include but is not limited to:

- retracting boom
- positioning/securing boom
- retracting outriggers/stabilisers
- idle engine to stabilise temperature
- disengage PTO (where applicable)
- turning off engine (where applicable)
- remove key from ignition (where applicable)
- lock and secure cabin (where applicable).

Unit Sector(s)

Unit sector Construction

Co-requisite units

Co-requisite units Nil

Co-requisite units Nil

Functional area

Functional area