



This document provides information about WorkSafe's focus on truck-mounted mobile concrete boom pump safety.

We're focusing on concrete boom pumps

WorkSafe inspectors are visiting construction sites to ensure the risks associated with the setup and operation of truck-mounted mobile concrete boom pumps (boom pump) are, so far as reasonably practicable, controlled.

Why the visits

There have been numerous incidents involving the use of boom pumps where workers and the public have suffered serious or fatal injuries. Incidents have included:

- overturning of a boom pump (eg due to a failure of a structural slab, ground conditions, pit)
- structural failure in the boom or slew ring
- full or partial collapse of the boom
- end hoses uncoupling and falling during a concrete pour or while being cleaned out
- end hoses whipping around
- being struck by concrete, or the pipe clean-out device ('sponge'), during the clean-out process
- bursting pipes, bends and end hoses
- pipe clamp failures
- persons being entangled in the pump's moving parts
- boom striking overhead powerlines.

Planning and preparation

Planning and preparation is the first step in ensuring concrete pumping operations are performed safely.

Planning should incorporate the project's total concrete pumping operational requirements.

This plan may need to be reviewed each time a concrete pumping operation is scheduled, to take into account any changes or unforeseen circumstances.

It is important to consult as early as possible when planning to introduce measures to control risks associated with construction work. For more information on consultation go to worksafe.vic.gov.au.

Inspector focus

Inspectors will be focusing on ensuring that employers and self-employed persons involved in concrete pumping operations are complying with their respective obligations, for example:

- to provide and maintain, so far as is reasonably practicable, plant or systems of work that are safe and without risks to health (eg ensuring that no-go-zones around powerlines are observed, ensuring adequate traffic management controls are in place)
- ensuring that operators of a boom pump hold an appropriate high risk work licence (ie 'Class PB – concrete-placing boom')

- ensuring that high risk construction work (HRCW) (including, operating a boom pump) is not performed, unless a safe work method statement (SWMS) is prepared before the work commences and work is performed in accordance with the SWMS (see *SWMS requirements*)
- ensuring, so far as is reasonably practicable, that risks associated with construction work (for example, concrete pumping operations) are controlled (see *Hierarchy of control*).

Inspectors will also be ensuring that the *Concrete pumping industry standard* is being followed, including requirements related to:

- the location of the boom pump set-up
 - > traffic and pedestrian management
 - > no-go-zones for overhead powerlines
- boom pump inspections and maintenance, including pipe componentry (for example, pipe clamps and safety pins)
- thickness testing of pipeline components
- boom pump setup, including outrigger placement
- control of trucks discharging into the hopper
- hopper guarding and emergency controls
- pump and pipeline clean out process.

Hierarchy of control

1. Eliminate the risk, such as:

- using a line pump instead of a boom pump where this is risk of contact with overhead powerlines.

2. Reduce remaining risk by using the following

Substituting a new activity, procedure, plant etc, such as, using engineered bog-mats instead of loose timbers for outrigger packing.

Isolating person from the hazard, such as:

establishing a safety zone around the pump hopper to restrict access when the concrete trucks are discharging into the pump.

Using engineering controls, such as:

- attaching a cage to the end of the pipeline during clean-out to catch the clean-out device
- fitting a failsafe interlock device to the hopper grill
- using impact barriers to prevent vehicles striking outriggers.

3. Reduce remaining risk by using administrative controls

- placing warning signs at personnel access points
- providing appropriate information, instruction, training or supervision (for example, as part of site induction)

4. Reduce remaining risk by using personal protective equipment such as high visibility clothing, helmets, safety glasses, safety boots and appropriate gloves.

Note: A combination of risk control measures from the various control levels will usually be required.

Mobile concrete boom pump safety

Review and, if necessary, revise risk controls

Risk controls must be revised:

- before making a change to the way the construction work is performed or to the system of work,
- if new or additional information about hazards becomes available,
- if the risks are not adequately controlled, or
- after receiving a request from a health and safety representative.

Note: If risk controls measures do not adequately control the risks and are revised, the SWMS must also be revised.

SWMS requirements

The SWMS must:

- identify work that is HRCW
- state the hazards and risks of that work
- sufficiently describe measures to control those risks
- describe how the risk control measures are to be implemented
- be set out and expressed in a way that is readily accessible and comprehensible to those who use it.

HRCW includes construction work on or near energised electrical installation or services; and, construction work adjacent to roadways or railways used by road or rail traffic.

If a SWMS is not being followed, the HRCW work must stop immediately or as soon as it is safe to do so and not resume the work until the SWMS is complied with or reviewed and, if necessary, revised.

Employee legal duties

Employees have duties, including taking reasonable care of their own health and safety and that of others who may be affected by their acts or omissions at work. This includes not interfering with or misusing items provided by their employer at a workplace including tools and safety equipment (for example, pumping at pressure greater than the pipeline capacity).

Further Information

Contact WorkSafe Advisory Service on 1800 136 089 or go to worksafe.vic.gov.au

- Industry Standard – Concrete pumping
- Information about – Safe work method statements
- Safety Alert – Concrete delivery pipeline failures
- Safety Alert – Cleaning of concrete pumping equipment
- Guidebook – Working safely in general construction
- Guidebook – Working safely in housing construction
- Guidebook – Using powered mobile plant near overhead assets
- Construction Safety Focus – The movement of powered mobile plant
- Construction Safety Focus – Construction site traffic management

Other Resources

Cement Concrete & Aggregates Australia - ccaa.com.au

- Concrete pump delivery industry guide

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