7.5 Barricading of lifting area and Line-of-Fire / Drop Zones

Suitable controls must be implemented for the lift general area and the line of fire / drop zones to prevent unauthorised personnel and bystanders entering the area and the line of fire / drop zone.

When setting up a barricading, a danger barrier shall be placed around the entire drop zone and line of fire area at an appropriate distance determined with due consideration of the potential fall path of any object, this is additional to the work area barricading. See Figure 2 for guidance.

Potential line of fire hazards such as slewing/movement of mobile cranes and path of load also needs to be considered.

No person shall enter a lift area or drop zone unless authorised to do so by the person in control of the area.

When barricading is utilised, it must be in accordance with MAC-STE-STD-124 Barriers and Barricading Standard.

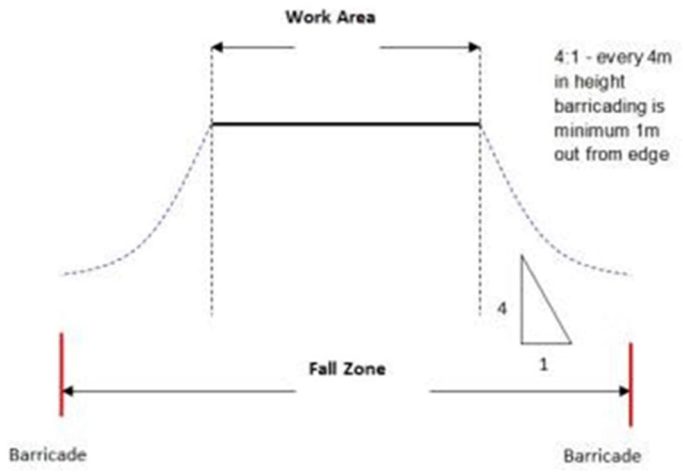


Figure 2: Drop zone guide

7.6 Barricading of lifting plant

Suitable controls must be implemented to prevent unauthorised personnel and bystanders from accessing lifting plant whilst underway. Figure 3 provides a guide of lifting plant barricading for a mobile slew crane.

When establishing a barricade for the lifting plant, consideration shall be given to the following items to prevent personal injury or damage to property;

- Counterweight swing radius
- Hook travel path
- Outrigger footprint area
- Rigging storage locations

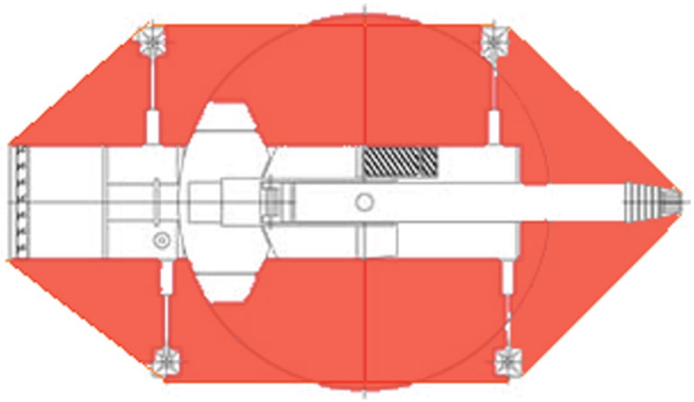


Figure 3: Lifting plant barricading guide

7.7 Use of spotter

Where determined from the outcomes of a risk assessment it is not practical to erect a barrier around the entire work area (e.g. transporting a load from one side of a build pad to the other) a spotter may be used to control the area to prevent personnel from entering.

The spotter shall remain on the job until the hazard has been removed or a barrier is put in place.

A spotter is required for all lifts where the load is out of view of the crane/hoist operator.

Note: The spotter cannot be the person in control of the lift.

7.8 Hands Free Lifting

All lifts, unless approved otherwise, shall be conducted without persons placing a hand, or any other body part, on the lift. The design and implementation of dedicated lifting jigs to remove the need to touch the load for known repetitive tasks are encouraged. Should a person be required to place a hand, or other body part, upon the load for any reason, the following criteria must be met:

- Not possible to perform task with hands free tooling only or alternative equipment;
- JHA approved by Supervisor specifying:
    - All potential crush points are identified and controlled
    - When the load will be touched (maximum of 200mm distance from home and not during initial lift)
    - Where the load will the touched
    - Use of impact resistant gloves
- All body parts are out of the drop zone / line of fire, considering the intended / unintended load path and surroundings;
- Have line of sight of load to final position or use a spotter;
- Minimal manual effort required to manipulate load, use of hands free tooling to assist where possible;
- Load is in a stable or controlled state, i.e. not effected by wind or other potential unplanned movement;
- Loads are unable to fall >200mm.

Where the above criteria cannot be met, a procedure is to be developed for the task, demonstrating appropriate controls are in place to minimise potential of crush or pinch injuries, which must be approved by the department manager, equivalent or above. Once approved, the documentation needs to be entered into the Hands On Lift Register (MAC-STE-REG-152).

7.8.1 Hands free tooling

Hands free tooling can comprise of the following;

- Tag lines;
- Push-pull sticks;
- Tooling designed for Hands free load manipulation.

All hands free tooling shall be made of non-conductive material. Tag lines are to be at least 16 mm in diameter.

All hands free tooling shall be maintained clean and dry and shall be assessed before use. Lifting gear should not be used as a hands free tool. Hands free tooling shall not be attached to the lifting gear.

Refer to AS 2550.1 Cranes, hoist and winches – Safe use Part 1: General requirements for information relating to taglines.

Document Reference - MAC-STE-STD-148

6 Barricading and Barriers

6.1 General Requirements

Where a risk assessment identifies barricading as a control, the following must be considered;

- Type of barricade required in relation to risk from task being performed
- Location of barricade (considering multiple levels where applicable)
- Length of time barricade is required
- Potential for objects to fall from one level to another and the number of floor levels requiring protection
- Location and proximity of other workers in the area and
- The need for flashing light during hours of darkness
-

Barrier tape or chains should not be left lying on the ground – ideally store them in a bucket or other container when not in use, or hang or pile them neatly where they do not pose a hazard.

Immediately after the hazard has been rectified and there is no further risk to personnel, the barricade or barrier must be removed by the owner.

Unless the barricade is used directly on the hazard to highlight it, both danger and caution barriers must have an information tag / pyramid on the entry points.

6.2 Construction of Barricades and Barriers

Barricade and barrier boundaries must be:

- Far enough away from hazards to ensure personnel outside the demarcated zone are not exposed to the hazard
- Constructed to prevent inadvertent entry and where possible have a clearly defined entry and exit point
- Maintained in good condition via regular inspections by the barricade/barrier owner
- Supported in a manner that prevents the barrier material from excessively sagging.
- Constructed with either danger and caution colour coding and not a combination of both.

6.3 Information Tag

A completed information tag must be attached to each span of the barricade and will detail:

- Nature of the hazard

- Name of person responsible, who shall be the single point of contact, for the barricaded area
- Mobile phone number for the person responsible for the area
- Date the barricading was erected.

6.4 Caution Barrier

Yellow and black plastic tape or chain must be used to barrier minor hazards only (e.g. water leaks, trip and slip areas). Prior to entry into a caution barrier you must read the information tag and seek authorisation from barricade owner to enter. If barricade owner cannot be located complete at a minimum 60 seconds for safety prior to entry and take the appropriate precautions.

You must notify others in the work area of your presence.

6.5 Danger Barrier

Danger barrier (red and white plastic tape, cones or chain with information tag) must be used to barrier hazards that could potentially cause serious injury or a fatality (e.g. lift exclusion zone, drop zones, high pressure water, hazardous chemical leaks or exclusive control activities).

An area demarcated by a danger tape is not to be left unattended for extended periods of time where a potential for a serious injury or fatality exists. In these cases, the hazard should be removed, or a solid barricade is to be installed.

Floor penetrations or open edges (where risk of fall present) created through the removal of flooring or structure must always be barricaded using a solid barricade as per the requirements of Work at Heights MAC-STE-STD-155.

Approval for entry into an area demarcated by a danger barrier must only be given by the person nominated on the information / exclusive control tag / information pyramid (or the second line of contact on the tag if that person is not available) for essential work.

6.6 Barricading of Drop Zone

When setting up a drop zone a danger barrier shall be placed around the entire drop zone area at an appropriate distance determined with due consideration of the potential fall path of any object, this is additional to the work area barricading. See figure 1 for guidance.

No person shall enter this area unless authorised to do so by the person in control of the area.

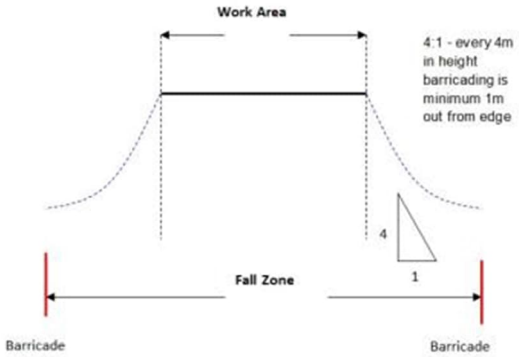


Figure 1: Drop zone guide

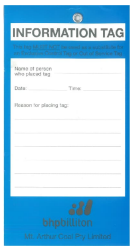
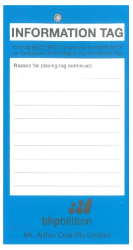
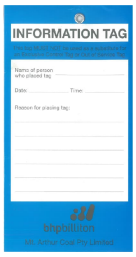
6.7 Use of Spotter

Where determined from the outcomes of a risk assessment it is not practical to erect a barrier around the entire work area (e.g. transporting a load from one side of a build pad to the other / preventing access down a roadway) a spotter may be used to control the area to prevent personnel from entering.

The spotter shall remain on the job until the hazard has been removed or a barrier is put in place.

Note: The spotter cannot be the person in control of the lift.

6.8 Barricading Table

Type	Danger	Exclusive Control	Caution
Use	To restrict entry to an area	Placed on or around plant or equipment where zero energy state cannot be obtained to restrict access	Warns of hazards in the immediate area.
Condition of entry	Authorisation required by barricade owner prior to entry	Authorisation required by the exclusive control officer	Risks must be understood before entering
Barricading as identified in risk assessment	Red and white danger control devices; tape, flags, signs, red/orange cones.	Red and white danger control devices; tape, flags, signs, red/orange cones.	Yellow and black caution control devices; tape, flags signs, yellow cones.
Tape			
Tag	Blue white information tag 	Blue white information tag 	Blue white information tag 
Witches hat / cones **Optional – Supervisor Identification Collar**			
Information pyramids (Examples). **Used in addition to witches hats / tape where appropriate.**			

Type	Danger	Exclusive Control	Caution
			
			
			
			
			
			
			

Type	Danger	Exclusive Control	Caution
			

Document Reference - MAC-STE-STD-124