

LUEZ

*Loading, Unloading
Exclusion Zones*

Guidelines

Version 1.0

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1. Introduction

The issue of truck driver and other personnel safety around mobile plant equipment during loading and unloading operations – referred to as ‘loading, unloading exclusion zones’ (**LUEZ**) is one of the significant safety issues confronting all levels of Industries within the supply chain.

Workplace safety incidents within the supply chain involving the injury of truck drivers and other persons by mobile plant equipment during loading and unloading are a recurring theme in all jurisdictions in Australia. In many cases injuries sustained by truck drivers and other persons in **LUEZ** incidents are severe, and in all cases where **LUEZ** incidents or near misses occur, there is a high potential for severe injury.

Of all mobile plant equipment forklifts represent the most significant materials handling equipment in the workplace. While fatalities resulting from the interaction of forklifts and pedestrians have reduced over the last decade, there continues to be an unacceptably high incident of injury.

The safety of drivers and other people in the vicinity of powered mobile plant and equipment during loading and unloading activities is a major concern across the supply chain.

The aim of this guide is to share “best practice” material in order to reduce / eliminate the potential for injuries where equipment and people interaction occurs.

This guidance material has been developed by the Industry **LUEZ** Committee to assist employers, drivers, forklift / materials handling operators, supervisors, managers, health and safety representatives, and others to implement effective controls to prevent drivers and other people being injured during the loading and unloading of vehicles across a range of circumstances. It reflects the outcomes of engagement within workplaces across the supply chain in identifying the ‘do’s’ and ‘do not’s’ of effective separation of people and equipment in respect to loading/unloading activities.

2. Legal Obligations

Under existing Occupational Health and Safety laws in all Australian jurisdictions there is a general duty on employers to provide a workplace and systems of work that are safe and healthy. These laws require employers to:

1. Implement a process of hazard identification, risk assessment, risk control and review in all systems of work,
2. Monitor the health of employees,
3. Provide training (induction and ongoing) to all persons,
4. Consult with employees and OH&S representatives, whose work is directly affected by decisions or changes in the workplace,
5. Implement and review control measures, and
6. Keep adequate records in relation to OH&S.

Risks must be eliminated so far as reasonably practicable, or, where it is not possible to eliminate the risk entirely, the risk must be reduced so far as reasonably practicable.

Maintaining a safe workplace is a shared responsibility of employers and employees.

3. Risk Assessment Approach

The process in separating equipment and people includes the following steps:

1) Risk Identification

The first is to identify all factors that may contribute to a *LUEZ* incident. Employers and all other parties in the supply chain should develop a list and keep records of all factors in the workplace/business that have a potential to cause a *LUEZ* incident.

2) Risk Assessment

The second step involves assessing each of the risks identified – assessing the likelihood of an event occurring and the expected consequences.

3) Risk Control

The third step is deciding on control measures to manage the exposure to an identified *LUEZ* risk and implementing the controls in a timely manner.

Under the hierarchy of control, the aim is to eliminate factors which may contribute to a *LUEZ* incident. If it is not reasonably possible there are a number of control options that may be used alone or in combination, to reduce the risk/s so far as is reasonably practicable.

4) Monitor and Review

The fourth step is to monitor and review the effectiveness of control measures and revise if necessary.

4. LUEZ Guidelines

A recent Monash University Accident Research Centre - ** Loading/Unloading Safety – Review of Best Practice* review of aggregated data on current practices identified three fundamental principles, recommending that it was necessary to incorporate all three principles into any system of best practice control for the management of loading/unloading safety. These **principles** included:

1. That the **forklifts, or other equipment, used for loading/unloading and the drivers, and other pedestrians, should be segregated;** and,
2. That **authority** for the area in which the loading/unloading activity is occurring should **reside with the forklift operator;** and,
3. That if the **driver ceases to be in the direct line of sight of the operator** at any stage during the loading/unloading activity, the loading/unloading **activity should immediately stop and not resume again until a direct line of sight is reestablished** between the operator and the driver.

* Monash University Accident Research Centre – *Loading/Unloading Safety-Review of Best Practice*, David Taranto & Dr. Peter Hillard - June 2010.

4.1. Key Considerations

Separation of People and Equipment

- To avoid any injury, separation of people and equipment must be at the forefront on any effective LUEZ system.
- The greater the strength of separation the greater the control and the less likelihood of an incident occurring.
- The quality of the separation is a vital factor in determining strength of separation.
- A full risk assessment that identifies the hazards within the loading and /or unloading area.
- Establish controls to mitigate (using hierarchy of control) the hazards identified.

Authority – Loading / Unloading

- Who should be in control?
- Who is best positioned to have control?
- How is the authority delegated/given?
- Is the person able to assume responsibility of authority?
- Ability to resolve loading/unloading issues.

Line of Sight

- To know how many persons may be in the area of loading / unloading.
- To be aware to the location of the people at all times.
- Inquisitive nature of driver to be able to view and/or monitor loading / unloading process.

4.2. System Control

The manner in which the above principles can be most appropriately applied will be dependent on a number of factors including:

- the industry;
- the specific nature of the product/s;
- the types of vehicles used;
- the nature of the loading environment; and
- the size of the facility.

It is not therefore possible to specify best practice which will be applicable to all scenarios. However, any best practice system of control must consider the following **elements**:

1. Designated **pedestrian exclusion zones** for the sole use of the forklift, or other loading equipment, demarcated in a manner which is fit for purpose for the nature of the loading environment;
2. Designated **driver safety zones located** so that the driver is kept away from the line of fire and can be kept under surveillance by the forklift operator at all times. To enhance compliance with these zones, i.e. that the driver remains in them at all times during loading/unloading, it is recommended that they also allow the driver to clearly observe the loading operation. Again these zones should be demarcated in a manner which is fit for purpose for the nature of the loading environment;
3. Clear and **effective systems of communication** between the operator and the driver which are fit for purpose for the nature of the loading environment and the equipment/vehicles involved, i.e. a system of hand signals might be adequate for some environments but two-way radio might be more appropriate in others;
4. Effective methods of providing **loading in progress warnings** to other operators, drivers, and pedestrians.

SYSTEM CONTROL

Element	Factors	Recommendations / Actions
Exclusion Zone	1. Pre task - Risk Assessment	1. Conduct a pre task / work inspection of the operational area to ensure appropriate controls are in place. If adequate controls are not in place loading / unloading operations are not to proceed.
	2. Area / Size	2. Ensure size of zone can accommodate all activities associated with the loading / unloading operations, including: product characteristics and equipment in use. A LUEZ zone must be free of debris and clutter at all times.
	3. Definition / Determination	3. All activities associated with the loading / unloading must be contained within the delineated / identified area including all movements of equipment and/or product or combined i.e. turning circle, height, reversing etc.
	4. Colours	4. The colour " Red " is to be adopted as the standard colour representing the " no go zone " for personnel during loading / unloading equipment operation. Also, referred to as LUEZ (Loading, Unloading Exclusion Zone)
	5. Permanent / Temporary	5. <ul style="list-style-type: none"> i. If permanent, LUEZ should have pre-defined controls established which cannot easily be altered / amended. ii. If temporary, LUEZ must retain all controls as per permanent LUEZ requirements and upon completion of loading / unloading activity can be removed.
	6. Access / Exit	6. The control / authority of the Exclusion zone rests with the loading / unloading operator at all times. Entry / exit from this area is only upon prior approval from the operator. Clear exclusion zone operating rules must be in place.
	7. Delineation	7. The most effective method to establish an exclusion zone is the use of physical barriers. These can include: fences, cages, armco barriers, jersey barriers, truck gates, barricades, bollards, tape, chains etc.
	8. <i>LUEZ</i> Rules	8. Clear rules need to be in place to govern the operation of the LUEZ area. The rules should include (but not limited to): <ul style="list-style-type: none"> i. All personnel other than the loading / unloading operator must not be within the LUEZ area during the process of loading / unloading. ii. Personnel must remain in the safety zone or removed to another area by prior agreement with the loading / unloading operator from the LUEZ area i.e. lunch room, office etc. iii. Personnel must not enter the LUEZ area without the prior authorization of the loading / unloading operator. iv. Upon approval and prior to entry / exit of personnel to the LUEZ zone, product / loads must be situated at a level / spacing/distance that cannot make contact with person/s. v. Upon approval but prior to entry / exiting of the LUEZ zone, product / load and machinery must be stationary. vi. No movement of machinery and people at the same time within the LUEZ zone.

Safety Zone

Element	Factors	Recommendations / Actions
	1. Definition	1. A "Safety Zone" is an area free of interaction between equipment / machinery and people / personnel.
	2. Colours	2. The colour " Green " is to be adopted as the standard colour representing the " SAFE ZONE " for personnel during loading / unloading equipment operation.
	3. Definition / Determination	3. The most effective method to establish a SAFE ZONE is the use of physical barriers. These can include: fences, cages, armco barriers, jersey barriers, truck gates, barricades, bollards, tape, chains etc.
	4. Area / Size	4. The size of a SAFE ZONE must be sufficient to accommodate maximum number of personnel which may be required to be in the operational area at any one time. A SAFE ZONE must be free of debris and clutter at all times.
	5. Location	5. The location of the SAFE ZONE must be positioned to enable the loading / unloading operator to maintain visual contact whilst operating loading / unloading equipment.
	6. Weather	6. An effective SAFE ZONE will address all prevailing weather conditions i.e. rain, wind, sun etc.
	7. Fit for purpose	7. To encourage greater compliance the SAFE ZONE needs to cater for the needs of the personnel using this zone. This may include: seating, cover, wind protection, accessible, easily identifiable etc.
	8. Eye contact	8. Visual eye contact between persons in a SAFE ZONE and the loading / unloading operator must be maintained at all times. Prior approval must be obtained from the loading / unloading operator by any person/s intending to leave the SAFE ZONE . Should a person remove themselves from the SAFE ZONE without the permission of the loading / unloading operator, <u>then the operation of loading / unloading is to cease immediately.</u> Operation is not to resume until the person has returned to the SAFE ZONE (with the prior approval of the loading / unloading operator) or the location of the person is determined by loading / unloading operator.
	9. Permanent / Temporary	9. <ul style="list-style-type: none"> ▪ A permanent SAFE ZONE should have pre-defined controls established which cannot easily be altered / amended. These will generally be established at a regular loading / unloading facility / locations. ▪ A temporary SAFE ZONE must retain all controls as per permanent SAFE ZONE requirements. In these cases drivers are to establish with agreement of the loading / unloading operator this SAFE ZONE. This must be established prior to the commencement of any loading / unloading activity, and upon completion of loading / unloading activity is to be removed. This type of zone will generally be at irregular / adhoc loading / unloading locations.

Communication

Element	Factors	Recommendations / Actions
Communication	1. Control / Authority	1. Control and authority of the loading / unloading operation must always reside with the loading / unloading operator. This authority must be clearly communicated to all personnel. This communication can be in the form of: signage, training material, safe operating procedures, site rules, inductions etc.
	2. Operational Scope	2. Prior to loading / unloading activities taking place, agreement in relation to how the load/product is to be loaded / unloaded must be established between operator and driver.
	3. Literacy	3. When establishing equipment / people separation any materials developed must take into consideration the literacy levels of the targeted audience. Pictures, photos, sketches are preferred in lieu word description. Combination of word and/or pictures may be appropriate.
	4. Standard/s	4. Simple, effective communication rules are to be established prior to commencement of all loading / unloading activities i.e. hand signals which determine: <ul style="list-style-type: none"> ▪ Clear / OK, ▪ Proceed (Forward or Reverse), ▪ Stop, ▪ Slow down, ▪ Move toward a direction. These rules can also be communicated verbally; however will depend on the operating conditions / environment.
	5. Training	5. All personnel who may be exposed to LUEZ operations / activities must be trained and deemed competent prior to being exposed to the activity. Training material must ensure all aspects of LUEZ is incorporated / included.
	6. Leadership	6. Leadership must not rely on management staff alone. The loading / unloading operator must demonstrate through their actions complete leadership of the loading / unloading process at all times. Leadership incorporates safety observations and the promotion / encouragement of safety for all.
	7. Monitoring	7. For the system to be effective ongoing / regular and consistent monitoring standards must be in place to ensure process, procedures and standards are adhered to. Monitoring tools include: audits, safety walks & talks, hazard inspections etc.
	8. Non-compliance	8. Any non-compliance that arises during the loading / unloading activities must be reported and addressed. No loading / unloading activities are to continue whilst a breach / non-compliance is in place.
	9. Feedback / Effectiveness.	9. For any system to be effective continuous improvement principles must be applied. Only through true and proper feedback can identified issues be addressed. Solutions can include: incident reporting, feedback form, hazard ID form, Take 3, Take 5 assessments, toolbox sessions etc.
	10. Emergency Situation	10. Should an emergency situation arise. All loading / unloading activities must cease immediately upon making safe the equipment and product / load. Emergency site procedures are to be followed.

Warning Devices

Element	Factors	Recommendations / Actions
Warning Devices	1. Definition	1. A warning device is an indicator of an activity with an associated risk .
	2. Type	2. Warning devices can include: signage, cones, strobe lights, extendable gates / poles, alarms, horns, tape etc.
	3. Size / Number	3. Subject to the size of the LUEZ area in operation, warning devices need to be appropriate to the operational area and the activities being undertaken.
	4. Weather / Hours of Operation	4. Weather factors and time of day should be considered when determining effective warning devices. Some devices may be more or less effective subject to these factors.
	5. Clarity / Effectiveness	5. Devices need to be clear in their message and should inform of the potential risk.
	6. Colours	6. Warning devices marking areas of risk should be identified by the colour RED .

5. Examples



Awning area – No controls.



Awning area:

- Traffic controls in place.
- Designated safety zone.
- Exclusion zone with barriers & signage.



Container yard – No controls.



Container yard:

- Exclusion zone with barriers & signage.
- Designated safety zone.



Vehicle Loading Bay – No controls.



Vehicle Loading Bay – With traffic / exclusion zone controls / flashing hazard lights for night work.



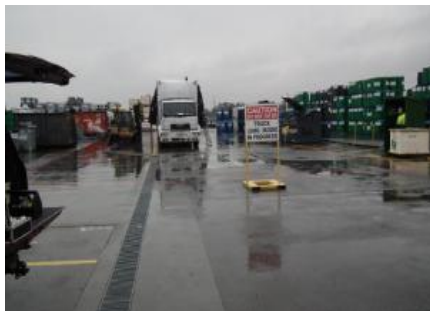
Vehicle Loading Area – No controls.



Vehicle Loading Bay – With traffic / exclusion zone separation controls.



Vehicle Loading Area – Marked exclusion control not clear.



Vehicle Loading Area:
- Exclusion zone signage marked in red.
- Designated safety zone.



Vehicle Unloading Area

– Exclusion zone identified and separation controls in place.



Temporary Exclusion Zone

– Exclusion zone identified and driver safety zone in place.



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