



## **Guidelines for Working in Loading Docks**

### **1.0 INTRODUCTION**

Loading docks are busy areas, where trucks, trailers, pedestrians, lifting devices, and other equipment typically move throughout the area on a frequent basis. Serious or even fatal injuries can potentially be sustained from loading dock hazards such as: unsecured vehicles on moving on the dock, lift trucks tip-over or fall, and pedestrian collision with lift trucks, falling loads, or tractor-trailers. Therefore, it is important to identify common causes of loading dock injuries and how to prevent typical hazards that may be present in the dock area.

Loading dock hazards can include, but are not limited to:

- Improper loading and unloading procedures (e.g. load run-away, driver pull-away, trailer creep, etc.)
- Slips, trips and falls
- Pedestrian Awareness and Vehicle Traffic
- Materials Handling and Lifting Devices (e.g. forklifts)
- Stacking loads
- Housekeeping

#### **Scope**

This guideline applies to all University of Toronto staff who are required to be in and around loading docks during the course of their work. It also applies to external workers or visitors (e.g. contractors, drivers, etc.) who may be required work in or access the University loading docks.

### **2.0 RESPONSIBILITIES**

The roles and responsibilities for management, supervisors and workers are documented below. Workers should report concerns to their supervisors and at any time, the Office of Environmental Health and Safety (EHS) can be contacted for assistance or consultation.

#### **Supervisors/management/principle investigators**

- Identify workers or work activities where workers may be required to be in loading dock areas.
- Identify and anticipate the loading dock hazards that may be present.
- Develop, document, implement and maintain appropriate work procedures, measures, inspections, and precautions to control the loading dock hazards that may be present by using these guidelines.
- Ensure that a Job Safety Analysis (JSA) or written work procedure is completed where necessary and that they are readily available to workers.
- Ensure controls identified in the JSA or other work procedures are followed for safe work in loading docks.
- Ensure that workers who are working in loading docks are provided with the equipment, personal protective equipment (PPE), appropriate training or other resources as identified by the JSA or other work procedures.
- Where work is contracted to external parties, equivalent procedures should be followed.

#### **Workers**

- Report health and safety hazards or concerns, including any unsafe loading dock practices or damaged equipment, to supervisors.
- Participate in appropriate training to work safely in loading docks.
- Review and be familiar with applicable JSA or other work procedures before start of work.
- Follow safety procedures and use equipment and/or PPE as defined in the JSA or work procedure.
- Where requested, assist supervisors in identifying situations with potential of loading dock hazards and participate in the development of the JSA or work procedure.

## **Office of Environmental Health & Safety**

- Provide consultation and assist in loading dock matters as needed.
- Update and maintain online training module on Loading Dock Safety (EHS549 Loading Dock Safety). Supervisors and workers may register via the EHS Training Registration website (<http://www.ehs.utoronto.ca/Training/EHSARegistration2.htm>)
- Update and maintain these Guidelines on a regular basis and/or when new information becomes available.

### **3.0 GENERAL CONTROLS FOR LOADING DOCK HAZARDS**

Controls for working safely in loading docks and minimize loading dock hazards fall into 4 categories:

**A. Engineering controls**

**B. Administrative controls and work practices**

**C. Personal Protective Equipment (PPE)**

**D. Training**

Generally, the hierarchy of controls starts with engineering controls since they have the ability to reduce or eliminate many loading dock hazards. The other controls do not eliminate or reduce the hazard but try to reduce its impact on the worker and provide workers with information to work safely in loading docks.

#### **A: Engineering Controls**

- [Vehicle Restraints](#)
- [Dock Plates \(Dock Levelers\)](#)
- [Dock Barriers and Bumpers](#)
- [Dock Doors and Seals](#)

#### **Vehicle Restraints**

Vehicle Restraints are required to be used to secure trailers and vehicles while loading or unloading at dock.

- Wheel chocks are wedge-shaped blocks that are placed in front of the rear wheels of a trailer to prevent the trailer from moving away from the dock while it is being loaded or unloaded. Attaching the chocks to the outside of the dock or building will help keep them nearby when needed. The length of the attachment should be long enough so the chocks can be used for different sized vehicles.
- Even with wheel chocks in place, the repeated up and down movement caused by loading or unloading activities, the surface conditions or the type of chock being used, can loosen them and cause the trailer to move.
- Some loading docks can have a restraint system that hooks onto the rear impact guard of a trailer (e.g. ICC bar type, or other similar models) which prevents trailer creep and also prevents individuals from driving away before loading or unloading is complete.
- Another kind of restraint latches onto the rear wheels of the trailer (e.g. automatic wheel type). These are useful when the trailer is not equipped with a rear impact guard or if it is bent or missing.
- For spotted or dropped trailers, the forward landing gear is sometimes reinforced by using a portable jack stand to keep the trailer from tipping forward.
- There are numerous variations on vehicle restraint devices. As a minimum, wheel chocks should be used during the loading/unloading of a trailer. If the dock has other vehicle restraint devices present, they should be used.



Vehicle Restraint:  
Wheel Chocks



Vehicle Restraint:  
ICC Bar Type

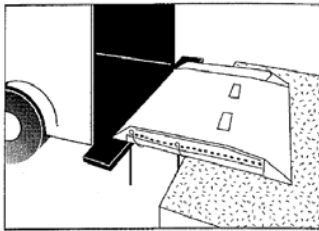


Vehicle Restraint:  
Automatic Wheel Type

## **Dock Plates (also known as Dock Levelers)**

Dock plates, ramps or levelers are devices used to bridge the gap between the dock and the trailer during loading and unloading. Many trailers are either above or below the height of the dock. Dock plates can be metal plates that are manually placed, hydraulic plates, or elevating docks built into the loading dock that move up and down to meet the trailer bed so workers and material handling equipment can safely move into and out of the trailer.

- If you are using a dock plate, check the load capacity to ensure it will support the combined weight of the load, the lifting device, and the person moving the load.
- Check the dock plate prior to use; inspect it for signs of wear, corrosion or failure of the materials or welds.
- Position the dock plate so there is at least 8 inches of overlap on each end; make sure it is secured in position before driving or walking over it. Do not assume a plate is anchored; always check it before using it to ensure it will not slip while in use. Some dock plates have a vertical divider to prevent slipping.
- Dock plates should not be dropped into position. It should be placed so that it is flush with the surface to minimize movement and wear at the edges.
- Inspect hydraulic dock plates regularly. A certified person must inspect them at least once a year.
- Hydraulic dock plates should be lowered to ground level when not in use.
- The edges of the plate should be painted and have a lip to prevent mobile equipment and workers from falling from the plate.
- Clean spills, oils, grease and moisture from the plate immediately.



Dock Plate



Elevating Dock



Dock Leveler and Barrier

## **Dock Barriers and Bumpers**

Stand-alone barriers and barriers built into dock levelers can prevent driving or backing off the edge of the dock when the dock is empty and into the dock door when it is closed. Damaged or missing loading dock bumpers may lead to backing trailers making contact with the building and causing structural damage. Various different versions and models of dock barriers and bumpers are available, and should be inspected regularly to ensure they are functioning as designed.



Dock Barrier



Dock Bumper



Dock Seal

## **Dock Doors and Seals**

- Dock doors (rolling shutter doors, sectional doors, sliding doors, etc.) should be wide enough to handle all loads and minimize damage.
- Doors should be regularly maintained
- Dock seals are designed to be contacted by the trailer as it backs in to the loading dock. Dock seals can be used to minimize employee discomfort, energy loss, theft or security concerns, product damage or contamination (dust, insects, etc.), slippery or dangerous conditions (rain, wind, snow, etc.) and loss of temperature control.

- Dock seals should be effective in preventing moisture and debris from entering the dock area.
- Seals should provide an effective seal against all types of trailers and not obstruct/interfere with loading and unloading.

## **B: Administrative Controls and Work Practices**

- [General Loading and Unloading Procedures](#)
- [Slips, Trips and Falls](#)
- [Housekeeping](#)
- [Pedestrian Awareness and Vehicle Traffic](#)
- [Manual Material Handling and lifting devices](#)
- [Shrink Wrapping and Strapping](#)
- [Stacking Loads](#)
- [Signage](#)
- [Inspection and Maintenance](#)
- [Emergency Equipment and Response](#)

### **General Loading and Unloading Procedures**

The following are general loading and unloading procedures. Specific loading and unloading procedures for a particular dock should be developed based on JSA assessment to address equipment, PPE and other hazards present.

- 1) Shut off the engine and engage the brake to make sure the vehicle does not move while loading and unloading. This also minimizes the exposure to vehicle emissions and noise.
- 2) Before you start unloading the trailer, wheel chocks or some other vehicle restraint device and dock plates/levelers must be in place. Refer to Category A: Engineering Controls for additional information.
- 3) When opening the doors of the trailer, be careful of loads that may have shifted during transport. Falling freight can be a hazard when the doors are opened, so it is important to stand out of the way when opening the trailer.
- 4) Be wary of trailer creep (also known as trailer walk or dock walk). Trailer creep occurs when the repeated forces exerted by loading and unloading activities (e.g. when a lift truck enters and exits the trailer) causes the trailer to slowly creep or walk away from the dock. Periodically check vehicle restraints and plates are still aligned in place.
- 5) Individuals should wear proper personal protective equipment (PPE) for the job being performed. PPE should be in good condition and fit correctly. PPE used in or around a loading dock can include but is not limited to safety shoes, gloves, eye protection, etc. Refer to Category C: Personal Protective Equipment for additional information.
- 6) After unloading, ensure all employees or material lifting devices are cleared, and all vehicle restraints or other engineering controls are placed back in their original location before re-starting the vehicle engine and disengaging the brake.

### **Slips, Trips and Falls**

- Slips, trips and falls are one of the most common causes of injuries at loading docks.
- Floors and dock plates should always be kept dry (from rain, snow, ice, equipment fluid/oils). Clean up any spills immediately. Damage to flooring must be repaired.
- Work, loading/unloading and trailer areas should be properly lit and free of obstructions.
- Walk; do not run while in the loading dock area.
- Be aware of and keep a safe distance from the loading dock edges.
- Do not jump onto or off the loading dock. Separate or specific access to the loading dock area should be present and maintained at all times.
- Protective footwear should be worn.
- Slips, trips and falls can be prevented by practicing good housekeeping in the loading dock area.

### **Loading Dock Housekeeping**

- Loading docks should be clean and free of obstructions, debris and stored items.
- Clean up all spills **immediately**. Oils and grease are particularly hazardous. Cover all grease and oils spills with absorbent then clean it up.
- Containers, tools and other materials should be placed out of walking and driving areas.

- Do not block fire exits, extinguishers or sprinklers, eye wash stations or showers and first aid kits.
- Do not use the loading dock as a storage area.
- Do not eat or smoke in the loading dock area.
- Designated areas should be used to store or dispose of pallets, containers and garbage. Chemicals, combustible or flammable materials should be stored only in appropriate locations. Store first aid kits and spill kits in easy to access locations.
- Tools and equipment should be secured to prevent them from falling.
- Waste should be disposed of in the proper containers immediately.
- Any electrical outlets near openings in the loading dock should be protected from the weather (rain, snow, ice), effectively grounded, and/or contain ground fault circuit interrupter (GFCI)
- Cracked, broken or uneven floor surfaces and other tripping hazards should be reported.
- In the winter months, the loading dock area should be kept free of snow and ice.

### **Pedestrian Awareness and Vehicle Traffic**

- Vehicle operators must always look out for pedestrians entering the work area and drive carefully at all times.
- Operators of mobile equipment and vehicles should make eye contact with pedestrians when they are walking through the loading dock area.
- Corner mirrors, curved ceiling mirrors, signals or trained signal person should be used in areas with poor visibility such as corners, doorways, and angles or curves in the traffic path.
- Walkways should be adequately marked (e.g. painted lines) and properly lit.
- Pedestrians and drivers are not to walk directly in front of the loading dock without ensuring the area is clear of moving vehicles. Generally, walk along the side of the aisle, or marked walkways.
- Wherever possible, vehicles that are backing up should have a trained spotter or signal person to direct the driver. Individuals should always stand to the side of the vehicle when directing the driver, not directly behind it.
- Effective communication, planning, training and understanding of any signals used (hand signals, verbal signals, etc.) must be in place prior to the use of a signal person. The vehicle/equipment operator must at all times have visual contact with the signal person (i.e. visual contact in side view mirror).
- Pedestrians and unauthorized persons (e.g. students, visitors, etc.) should not be permitted at the loading zone.
- Individuals should stop or slow down at blind intersections and check both directions for moving vehicles or mobile equipment before entering any aisle way or intersection.
- Individuals should not be allowed to walk or stand under a lifting mechanism or ride on a forklift.



Curved ceiling mirror

### **Manual Material Handling and Lifting Devices**

A common cause of injury in the loading dock area is lifting loads or performing other manual handling tasks. Individuals can reduce the number and severity of manual handling-related injuries by using the following safe work practices:

- Minimize the amount of lifting, twisting, bending and reaching done above shoulder height.
- Use material handling equipment for heavy loads (e.g. lift trucks, dollies, etc.); operators should be properly trained on the equipment, read operating and maintenance procedures before using a vehicle/equipment, inspect vehicles/lifts before and after every shift, report any problems, and perform a circle check (walk-around) equipment prior to use.
- For materials storage, commonly used and heavier items should be stored between knee and shoulder height.

- Split large loads into smaller lighter loads. If a large load needs to be handled, use two people whenever possible.
- Before you carry something, check that your path is clear of hazards such as obstructions, uneven floor surfaces or liquids.
- Use proper lifting techniques (See Appendix I). Be advised that if the load is too heavy, awkward to hold or if it can't be held close to the body, there is still a risk of injury even if proper lifting techniques are being used.

### **Shrink Wrapping and Strapping**

Wrapping loads by hand requires you to use circle the load many times, and can lead to dizziness and cause workers to stray into oncoming equipment and traffic. Poorly constructed loads on pallets can collapse, creating lifting hazards or falling on delivery staff or pedestrians.

- Whenever possible, use automated wrapping equipment.
- If you wrap by hand, use ergonomically correct tools, and rotate to other jobs so that you do not have to wrap too many loads.
- Order shrink-wrap on spools that have a wide diameter and are light
- Alternate the wrapping direction and techniques.
- Fill in hollow inside of loads with air pillows or use shrink-wrap

Shippers often bundle or crate items with strapping. The strapping may break and cause injury, especially to the eye. Loose strapping that has been cut off bundles could potentially be a tripping hazard.

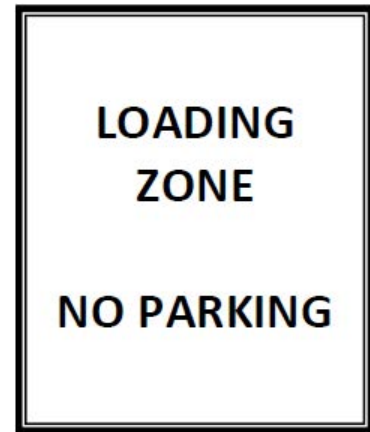
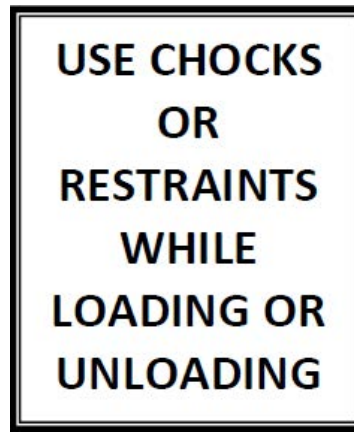
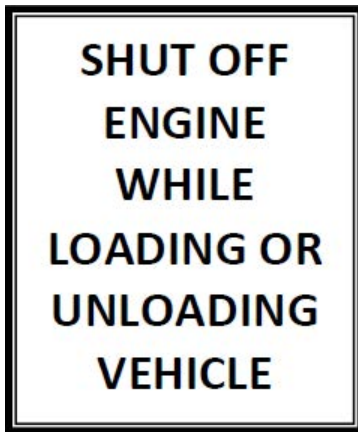
- When adding strapping, use safety goggles and leather gloves. With heavy strapping, use steel-reinforced gloves. Cut off excess strapping and sharp or pointed ends and remove any broken or damaged bands with metal snips (cutters).
- When working with strapped items, face in the direction of the pull. Stay out of the direct line when the strap is under tension. Do not lift a packaged by the strapping.
- Before you cut the strapping, anchor the closest end with a holding device. Warn other workers, pick up your snips, turn your back to the strapping and stand out of the line of recoil. Do not remove strapping by breaking it with a hammer, bar, chisel, or other tool.
- After you cut the strapping, if the strapping is not made of metal, tie a knot in it. If the strapping is metal, fold and flatten it. Throw out waste strapping immediately so that it does not create a tripping hazard.

### **Stacking Loads**

- In general, do not stack heavy loads on top of light loads; stack light loads on top of heavy loads. This will keep the centre of gravity low and prevent the stack from falling over.
- If you are stacking loads on a pallet, they should not stick out over the sides of the pallet, but be stacked straight centered on each other.
- Keep aisles and emergency exits clear. Do not stack objects near exit signs or safety equipment such as fire extinguishers or alarms.
- Limit the stacked height of materials especially if workers will be working around the material. Never climb a rack or stacked materials.
- If stacking materials near the ceiling make sure they are at least 18 inches away from sprinkler heads.
- Do not stack incompatible chemicals together, read the Material Safety Data Sheet (MSDS) for any material that you move or stack.
- If drums need to be stacked, they should not be directly centered on each other but positioned like a pyramid no more than three drums in height.

### **Signage**

- The following signs or similar should be posted in the loading dock area:



- It is also recommended to have posters in the area regarding loading dock safety issues such as:
  - Slips, Trips and Falls
  - Housekeeping
  - Manual Material Handling
  - Pedestrian Awareness and Vehicle Traffic
  - Loading and Unloading Procedures

Please refer to Appendix III for example posters.

### **Inspection and Maintenance**

- All loading dock equipment, electrical fittings and areas should be maintained and inspected in accordance with manufacture's recommendations and equipment specific requirements. This includes all vehicles, powered and non-powered lifting devices, dock levelers, dock bumpers, etc.
- Any damaged equipment should be reported and removed from service immediately.
- Utilize the Loading Dock Safety Checklist (Appendix II) on a regular basis to ensure that proper safety precautions are being followed in the loading dock area.
- All inspection and maintenance documents need to be maintained by the respective department and accessible.

### **Emergency Equipment and Response**

Users of the loading dock should know the location of and how to use any emergency equipment that may be in the area such as first extinguishers, spill kits, first aid kits, eye wash stations or showers and alarms. All staging areas or loading/unloading areas should not interfere with emergency egress routes. Carbon monoxide (CO) monitoring for trucks can also be considered. Monitoring of CO may depend on the JSA assessment and determining the risk of exposure. All monitoring or emergency equipment requires inspection and maintenance.

- A list of emergency numbers should be posted in the loading dock area.
- Emergency: 9-911 from campus phone
- Campus Police:
  - 416-978-2222 (St. George)
  - 905-569-4333 (UTM)
  - 416-287-7333 (UTSC)
- All accidents must be reported. Follow the procedures outlined at:  
<http://www.ehs.utoronto.ca/resources/wcbproc.htm>

### **C: Personal Protective Equipment (PPE)**

- Protective clothing may be needed for depending on the type of work and work activities in the loading dock.
- As a minimum, safety shoes are required while in loading dock areas.
- Where determined by the JSA or work instruction, additional PPE may be required, and can include (but not limited to):
  - Gloves (manual material handling)

- High visibility vests (high vehicle traffic)
- Hearing protection (noise)
- Eye protection (e.g. safety glasses)
- Hard hat (overhead hazards)

#### **D: Training**

- Workers who are required to work in loading docks and their supervisors should take the online training course EHS549 Working in Loading Docks. Supervisors and workers may register via the EHS Training Registration website (<http://www.ehs.utoronto.ca/Training/EHSARegistration2.htm>).
- Supervisors and managers should also take the course on Job Safety Analysis. This tool assists supervisors and managers in planning out a job safely from beginning to end. Visit the above EHS Training Registration Website if interested (EHS303 Job Safety Analysis).
- In addition to formal training such as the online course, supervisors can also take the opportunity to review department- or work-specific procedures for working in loading docks (or other health and safety requirements) in other forums such as toolbox talks, operations meetings, etc.
- Where determined by the JSA, additional training and associated documentation development may be required for work in loading docks, and may include (but not limited to):
  - Transportation of Dangerous Goods (TDG)
  - Workplace Hazardous Materials Information System (WHMIS)
  - Equipment specific training (motorized vehicles, forklift, hand-trucks, etc.)
  - Driver safety
  - Manual Materials Handling
  - Ladder safety
  - Working in Hot Environments
  - Working in Cold environments
  - First Aid
  - Load Securement

Some of these courses are available online through EHS, or are alternative instructor-lead courses. Contact the EHS office for further information if required, or browse available courses online at the EHS website (<http://www.ehs.utoronto.ca/Training/training.htm>).