BEST PRACTICE GUIDELINES FOR THE SAFE WORKING AT HEIGHT IN THE CHEMICAL LOGISTICS SUPPLY CHAIN

November, 2024

DISCLAIMER

This document is intended for information only and sets out best practice guidelines for safe working at height within the chemical logistics supply chain. The information provided in these guidelines is provided in good faith and, while it is accurate as far as the authors are aware, no representations or warranties are made with regards to its completeness. It is not intended to be a comprehensive guide to the safe working at height within the chemical logistics supply chain. Cefic/ECTA/Fecc will assume no responsibility in relation to the information contained in these Guidelines.

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INTRODUCTION

The risks associated with working at height requires all parties involved in loading, unloading, storage, cleaning, repair/maintenance and shipping/rail terminal operations to introduce safe systems of work, based on risk assessment and management.

These guidelines, which have been developed by industry experts, aim to promote best practice guidance for safe working at height in the entire chemicals supply chain.

There is a legal requirement **for all participants in the supply chain** to conduct risk assessments of their operations to eliminate or minimise risks, to protect employees and other personnel, and to co-operate and coordinate their activities **See Directive 2001/45/EEC of the European Parliament and of the Council of 27 June 2001 amending Council Directive 89/655/EEC concerning the minimum safety and health requirements for the use of work equipment by workers at work (second individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC).**

As part of these overall obligations and measures taken to eliminate or minimise risk, a clear hierarchy of control should guide this process.

With regards to the number of serious incidents (see EU-OSHA statistics), personal injuries, and near-misses that are encountered in the logistics supply chain with various types of equipment and locations, the authors (ECTA/Cefic/Fecc) feel it is imperative to develop these working at height guidelines to assist in the overall reduction of falls from height that can cause death and injury.

Every working at height activity should be evaluated in detail. This will identify whether there are ways to avoid the working at height activity.

If working at height is unavoidable, the risk assessment will identify which infrastructure, equipment and/or procedure is the most suitable to carry out the work safely. In this regard, the hierarchy of control has been identified as the central guidance. In this context, the fact that the site management is legally responsible for providing a safe working environment for working at height should be taken into account.

The following website provides more background information on safe working conditions:
http://osha.europa.eu

1. SCOPE AND OBJECTIVES

OBJECTIVES

All supply chain participants must conduct thorough risk assessments and implement safe working systems accordingly, based on risk assessment, management and appropriate procedures.

The objective of these guidelines is to provide guidance on how to mitigate and manage the risks associated with working at height within the chemical supply chain.

SCOPE

The following activities are within the scope of these guidelines: Transport, Warehousing, Tank Cleaning and Repair stations, transfer terminals and depots at which the following activities are carried out:

Loading/Unloading of bulk or packaged goods, top loading/unloading, opening/closing of covers/valves, connections/disconnections, sealing, sampling etc.

2. RESPONSIBILITIES

Accident statistics show that most transport-related incidents occur during loading and unloading operations. Detailed analysis reveals that human error is the primary cause. Increasing safety is therefore essential in these operations, and requires clear responsibilities and influencing human behaviour (see Cefic/ECTA BBS Guidelines for the safe loading and unloading of freight vehicles).

2. 1 MANAGEMENT OF SITE

The management of the site should ensure that the site access requirements are communicated to the hauliers and that safety procedures are explained to the drivers upon arrival. It is important for site management to promote and maintain safety awareness, particularly during product handling. Ideally, site management should ensure that loading and unloading operations are carried out with sufficient checks and controls, and appropriate oversight. It is a legal duty for site management to guarantee the safety of all persons operating on their sites, including contractors, drivers, visitors, and others.

Drivers should have the possibility to access their vehicle safely at the (un)loading site to prepare it for loading and unloading. This can include opening the manlid prior to loading, checking seals, proper closure of manlid before leaving the site.

Therefore, the risks to the health and safety of these people should be assessed and eliminated or minimized. With working at height, the risk assessment should include all tasks of drivers and operators, and must seek to prevent them from falling.

For an un/loading site the working at height activity should be evaluated thoroughly. This evaluation shall determine if the working at height activity can be avoided. If it is unavoidable, appropriate steps must be taken to identify the infrastructure or equipment that is most suitable to ensure the work can be performed safely. (Annex 1, Annex 2).

Additional Risk Considerations for Packed Cargo

When handling packed cargo, there are specific risks associated with the use of ladders, platforms, and the securing of cargo. These risks must be thoroughly assessed and mitigated to ensure the safety of all personnel involved. Key risks include:

1. **Ladder Access**: Personnel climbing onto or off the trailer are at increased risk of falls, particularly when weather conditions, improper footwear, or damaged equipment create hazardous situations. Only ladders that meet safety regulations should be used, and personnel should be trained to maintain three points of contact at all times.
2. **Platform Safety**: Platforms used to access cargo should be secure, non-slip, and equipped with guardrails or fall protection. Without adequate platform safety, the risk of falls from height increases significantly. Any platform used should be inspected regularly to ensure its structural integrity and safety features.
3. **Cargo Securing**: Improperly secured cargo can shift during transport, leading to instability when personnel attempt to access the trailer. Personnel should be trained in the correct procedures for securing cargo to prevent accidents related to falling objects or shifting loads. Additionally, when working on trailers, personnel should avoid reaching over unsecured loads to prevent slips or falls.
4. **Trailer Access Risks**: Accessing trailers, especially those not designed with sufficient safety features, can increase the risk of falls and injuries. Ladders to access the trailer should have dual handrails, and a thorough inspection should be conducted to ensure their safety before use. Mobile gantries or other equipment designed to reduce the risk of work at height should be available at the (un)loading places.

2.2 MANAGEMENT OF TRANSPORT COMPANY

EQUIPMENT

The transport company should ensure that equipment is provided that is suitable for the intended operation and complies with all relevant legal requirements. The company is also responsible for providing and maintaining appropriate personal protective equipment and training employees in its use. This likely includes safety harnesses, particularly at sites where fall arrest system are implemented.

To facilitate loading and unloading operations, the transport company must verify that a SULID document (All transport and logistic guidance - cefic.org) has been provided by the site. This document should clearly state the safety requirements for the driver as well as the safety provisions at the loading area.

NEAR MISS & INCIDENT REPORTING

The management of the transport company must have a procedure for reporting all near misses, incidents, loading/discharge issues and unsafe situations or conditions, including follow-ups. There should also be a system to share important information on these events with the principal.

2.3 SITE PERSONNEL

It is crucial for the site loading operator and driver to continuously monitor the (un)loading process or other activities in close cooperation. To achieve this, both the site loading operator and driver must have a clear understanding of each other's responsibilities.

2.4 VEHICLE DRIVERS

The driver has to fulfil and respect safety/security guidelines at the loading/unloading point and follow the instructions from the staff at the plant.
Drivers shall not work at height unless it is safe to do so.
If there are no appropriate tools available and a safe working environment is not guaranteed, the driver must stop the activity and contact his management.

3. LEGAL REQUIREMENTS

- The EU legislation on safety and health at work (protection of the workers) is based on article 153 of the Treaty on the Functioning of the European Union.
- The Framework Directive 89/391/EEC (current consolidated version 11/12/2008) lays down the principles for improving safety and health at work and guarantees minimum safety and health requirements.
- Particularly the provisions of Annex 4 "Provisions concerning the use of work equipment provided for temporary work at a height" within Directive 2009/104/EC (which repealed Directive 89/655/EEC and its amendments) will apply. Furthermore Regulation 2016/425/EU on personal protective equipment is of relevance.

A non-binding guide to good practice which provides guidance how to choose the most appropriate work equipment for performing temporary work at a height has been published by the EU Commission and is available in different languages at the Publications Office of the European Union.

4. RISK ASSESSMENT AND MANAGEMENT

Site Management is legally required to undertake and document the Working at Height risk assessment. It is recommended that all risk assessments associated with working at height are performed by competent personnel who are trained in risk techniques and assessment (Annex 1, Annex 2).

These risk assessments should identify the critical activities in the supply chain and shall:

- Identify all risks and hazards for each activity
- Where possible, eliminate the risk through not working at height

- Where it is not possible to eliminate the risk, identify proportionate risk management measures
- Identify the severity of the risks for each activity by the use of a Risk Matrix
- Identify persons who may be involved in the work associated with identified risks

Any risk assessment should be documented, retained and periodically reviewed.

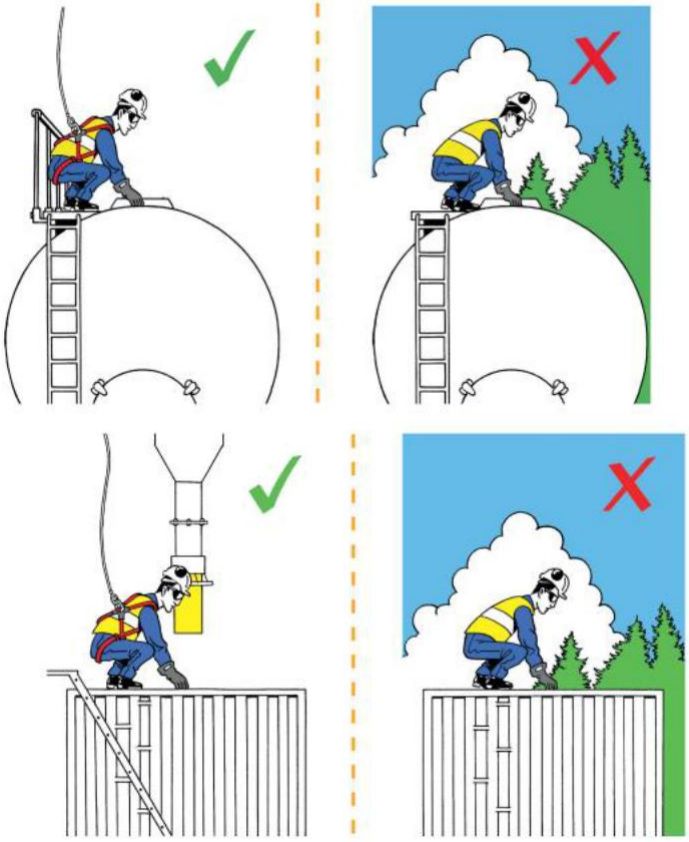
HIERARCHY OF CONTROL FOR ALL PRODUCT TYPES

The main way to ensure safety is to avoid the need to get on top of the vehicle in the first place. Measures should be undertaken to ensure this. The hierarchy of control should establish the action to be followed to determine the most safe and practical method to be used:

1. Where access to the top of vehicles cannot be eliminated, fixed gantries should be provided at loading and discharge facilities that incorporate secure fencing on all sides of the high level working position from which a person could fall.

2. Where a fixed gantry loading/unloading is not reasonably practicable – and vehicle top access cannot be eliminated – ensure that secure fencing is provided to all sides of the walkway or load platform of the vehicle. A possible way to achieve this is the use of mobile gantries to access working at height areas. These have the advantage of being less expensive than fixed gantries and can be manufactured to cater for both tanker and packed goods operations.

3. Use of personal fall restraint or fall arrest systems should be seen as a last resort or used temporarily until the implementation of other control measures, as explained before . If these systems are employed, strict controls and training measures must be enforced, and plans for rescuing a person suspended in a harness should be established.



The installation of a safety rail (handrail) should not be considered as a comprehensive safety measure for working at height, but rather as an indicator of the vehicle's edge. It is also provides support for the driver when moving forward on the **vehicle**. The handrail should not be relied upon as the sole safety measure for working at height. Using the handrail to affix a safety harness is considered **unacceptable** as the handrail has NOT the strength to support a person in the event of a fall.

Although, these are the most common situations that occur in the industry, consideration should also be given to other types of work at height such as vehicle maintenance tasks, that should also be assessed.

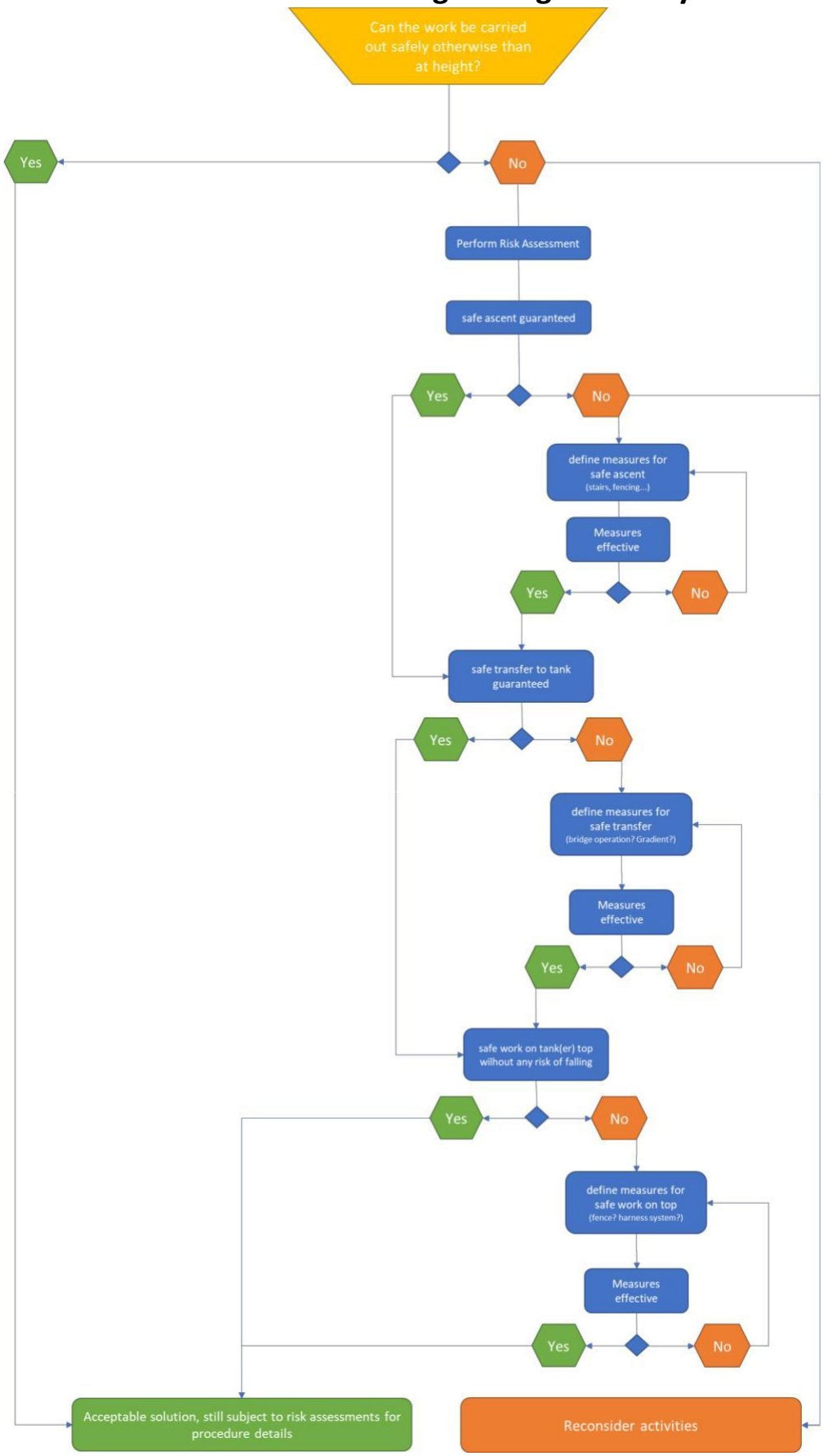
NEAR MISS AND ACCIDENT/INCIDENT REPORTING

Reporting near misses when they occur can lead to learnings and improvements for safety

A Near Miss is an undesirable, unplanned event or condition that could have led to injury, equipment damage, material release or security breach. Examples include defective safety equipment, unsafe acts, unsafe conditions or chemical exposure.

Vehicle operators should have a clear process in place describing how a Near Miss or an Accident/Incident is reported. In this respect, support from the site management is also necessary to ensure that drivers reporting potential unsafe situations do not face disadvantages. Additionally, it should be possible for the site staff to report internal Near Misses and Accidents/Incidents to their own management.

Annex 1
Evaluation scheme of a working at height activity



Annex 2
Hazards and controls matrix

The matrix below is intended to present various control measures to consider when conducting a risk assessment for working at height.
Attention, it does not replace the risk assessment

The objective is to utilize your standard template for conducting the risk assessment after evaluating which of the potential controls listed below are currently implemented.

Suggested Controls

	Falls whilst climbing to access the work area	Falls whilst transferring to the work area	Falls from the work area	Being hit by an object falling from the work area above
Ground operated vent valve	Y	Y	Y	Y
Ground operated vapour return line	Y	Y	Y	Y
Change loading method from top to bottom loading	Y	Y	Y	Y
Remote checking of man lids (using camera or drone)	Y	Y	Y	Y
Fixed, static gantry with full stair case	Y			
Fixed static gantry with vertical ladder	Y			
Mobile gantry with full stair case which can be locked in position	Y			
Mobile gantry with vertical ladder which can be locked in position	Y			
Tanker ladder with two handrails on the tank	Y			
Tanker ladder with a single handrail on the tank	Y			
Fall arrest block with safety line and certified harness	Y	Y	Y	
Training in correct use of safety line & harness	Y	Y	Y	
Personnel trained to maintain 3 points of contact	Y			
Personnel trained not to carry items when climbing/descending ladders	Y			
Safety footwear with good grip	Y	Y	Y	
Safety inspections to identify unsafe conditions	Y	Y	Y	Y
Safety observations to identify unsafe behaviours	Y	Y	Y	Y
Active near miss reporting system to identify any safety issues	Y	Y	Y	Y
Gantry with suitable drop down bridge/walkway and handrails to transfer to the work area		Y		
Gantry with 4 sided cage/handrails to prevent falls whilst in working area			Y	
Catwalk fitted to tanks with non slip surface		Y	Y	
Avoid working outside in windy or icy conditions	Y	Y	Y	Y
Set up an exclusion zone below the working area to keep other personnel away				Y
Use tethers to attach tools and equipment and prevent items falling				Y
Use tool belts to prevent tools from being knocked off the working area				Y
Adequate lighting	Y	Y	Y	Y

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