



# **Global Products**

## **Work at Height Standard**

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**Version 2.0**

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## Work at Height Standard

### 1.0 Introduction

Work at Height procedures are designed to help prevent personnel from potential injury or death resulting from falls from height **and falling objects** in excess of 6 feet or **1.8 meters** (4.0 ft/**1.2m** for US locations). Work at Height is defined as work performed where there is a potential for a person to sustain injury by falling from one surface to another surface that is not at the same level, including below ground level or in the course of gaining access or egress (excluding staircases and fixed ladders). **This standard is also intended to reduce the potential for dropped and falling objects when personnel are working at height.**

This standard defines the Global Products requirements for Work at Height.

### 2.0 Requirements

1. Fall prevention shall be used in place of personal fall arrest equipment when feasible.
2. All work-at-grade alternatives shall be exhausted before undertaking Work at Height.
3. Work at Height shall include, but is not limited to:
  - a. Work over excavations (e.g., pits, trenches). The requirements for fall prevention and/or protection are required by this standard when working at the edge of or over an excavation or pit where the base of the excavation or pit is deeper than 6 ft/**1.8m (4.0 ft/1.2m for US locations)**.
  - b. Work over water.
  - c. Work at elevations with unprotected sides or edges. The requirements of this standard apply to working at height within 6 ft/**1.8m (4.0 ft/1.2m for US locations)** of an unprotected edge with a fall hazard such as on building roofs and storage tanks that do not have standard guardrails.
  - d. Work on top of Tanker Trucks and Rail Cars.
  - e. Work over or near surfaces containing holes or openings (e.g. skylights).
  - f. Elevated work over dangerous or sensitive equipment (moving parts, electrical equipment) **regardless of height unless the equipment is covered or guarded to eliminate the hazard.**
4. A Permit to Work shall be required following when conducting the following:
  - a. Erecting, modifying and/or dismantling scaffolding, higher than 6 ft/**1.8m (4.0 ft/1.2m for US locations)**.
  - b. Work requiring the use of personal fall arrest systems (e.g., harnesses, lifelines, **self retracting lanyards, etc.) when work require movements between multiple anchorage points.**
    - i. **Permit to Work exception is for identified and approved** routine facility operational tasks conducted at height using personal fall arrest systems where mandatory operator training includes that task and the use of the personal fall arrest system.

- ii. All other work at height tasks listed in the Task Consequence Catalogue (TCC) will require the issuance of Permit to Work as described by the TCC requirements.
- c. Other Work at Height associated with potential risk as identified.
- 5. Permitted Work at Height shall be performed in accordance with the Global Products Work Authorization Standard.
- 6. A Hazard Analysis shall be performed in accordance with the Global Products Hazard Analysis Standard when planning work involving Work at Height to:
  - a. Identify significant, potential hazards.
  - b. Identify the need for safeguards such as gas testing.
  - c. Identify if work will require permits / forms (e.g., Permit to Work, Isolation of Hazardous Energy, Confined Space and Excavation) or certificates.
  - d. Assess the need for Simultaneous Operations (SimOps), and if so, to evaluate potential hazards associated with SimOps.
  - e. Identify and evaluate precautions to ensure that work may be conducted safely.
- 7. As part of the hazard assessment process for working at height:
  - a. Any equipment and tools being taken aloft must be considered as a potential falling object. Suitable mitigation must be identified and put into place e.g. netting or barriers to prevent falling tools or equipment, barriers to exclude personnel from entering under the worksite, or secondary securing devices such as lanyards, etc.
  - b. Housekeeping requirements for work at heights must address the hazard of falling objects.
  - c. A warning line system, fall protection/prevention or similar control shall be used when working within 6 feet or 1.8 meters from an unprotected edge (i.e., without a standard guardrail.)
- 8. When considering actions to reduce risk from falling objects, control measures shall be considered in the following order:
  - a. Elimination – the potential falling object is completely removed.
  - b. Substitution – The potential falling object is replaced with a less hazardous one.
  - c. Engineering controls – Installing or using additional engineering solutions: physical barriers/bump guards, etc.
  - d. Administrative controls – Instructions to reduce the risk from a potential falling object, such as barriers and appropriate signs, to limit access or exposure.
  - e. Refer to Appendix B for more guidance falling objects
- 9. A Job Safety Analysis (JSA) or equivalent shall be conducted at the worksite in accordance with the Global Products Hazard Analysis Standard before commencing with work involving Work at Height.
  - 1. Use Stop Work Authority and address the following conditions when observed:

- a. Manholes or floor openings missing appropriate covers, hard barricades, and/or signage
  - b. Removed, missing or damaged guardrails. Refer to Appendix A for more guidance on barricade management on open holes & unprotected edge work
  - c. Unprotected hazards identified with potential to fall from heights
  - d. High risk SIMOPS, (e.g. crane lift, line opening, overhead work)
  - e. Inadequate or faulty harness
  - f. Persons working at height not following tie-off requirement
  - g. Person is improperly tied off at secure, adequately rated anchor point
  - h. Inadequate lighting while working at height
10. Personnel performing Work at Height shall employ either fall prevention (e.g., standard guardrail systems, complete and approved scaffolding, fall restraint systems and work platforms,) or fall protection systems (e.g., personal fall-arrest systems).
11. Personnel performing work at heights over water, where there is danger of drowning shall wear an approved life jacket, a buoyant work vests or other similar protective equipment in conformance with facility requirements and local regulations.
12. The clearance between equipment (e.g., scaffolds, ladders, mobile elevated work platforms) and power lines (electrical conductors) shall be in accordance with the Global Products Electrical Safe Work Practice Standard.
- a. Overhead power lines pose a risk of electrocution to personnel who inadvertently touch the conductors or who simply work too close to them.
  - b. Unqualified personnel shall maintain a minimum safe distance of 20 feet or 6.4 meters from exposed energized electrical conductor or circuit parts.
13. The following requirements shall apply to the construction, inspection, maintenance and use of scaffolding:
- a. Scaffolding shall be properly erected in accordance with applicable legal requirements, as well as Chevron standards, manufacturer specifications and/or accepted best practices.
    - i. An engineering review is required prior to use of medium and heavy duty scaffolding. Scaffolding within the Global Products sites are light duty (general duty) designated unless specifically designated for special circumstances.
    - ii. An engineering review is required before the use of light duty scaffolding greater than 120 feet in height as measured from the base plate.
    - iii. Process equipment used as a scaffold base must be able to support the scaffolding during use.
  - b. Scaffolding shall be designed, erected, inspected, labeled/tagged, modified and dismantled by Competent Persons or under the supervision of a designated Competent Person in accordance with applicable legal

- requirements, Chevron Standards including Safety in Design (SID), manufacturer specifications and/or accepted best practices.
- c. Scaffold shall provide additional protection from falling objects by the installation of toe boards, screens or guardrail systems, or through the erection of debris nets, catch platforms, or canopy structures that contain or deflect the falling objects.
  - d. Ladders extending over 20 feet shall have landing platforms provided every 30 feet of height.
    - i. Where no ladder cage or ladder safety device is provided, landing platforms shall be provided every 20 feet of height.
  - e. Personal fall arrest systems shall be worn by personnel working at heights in excess of 6 feet (or 1.8 meters), (4-ft or 1.2m for US locations) and includes but is not limited to:
    - i. Erecting, modifying, or dismantling scaffold, higher than 6 feet or 1.8 meters (4-ft. or 1.2m for US locations).
    - ii. Working outside scaffold guardrails where there is a potential for a person to sustain injury by falling.
    - iii. Working on scaffolds that are not completely enclosed by a standard guardrail system.
    - iv. Working on scaffolding in a manner that is not approved or as stipulated on the scaffold tag.
  - f. Warning signs and barricades are required for:
    - i. Incomplete scaffolds (e.g., Red Tags).
    - ii. Erecting, modifying or dismantling scaffold.
    - iii. Scaffolding exposed to traffic.
    - iv. Areas below scaffold where objects can fall (if not protected by a toe board or edge protection such as a barricade or netting).
  - g. Scaffolding does not restrict access to or egress from work areas, escape routes or safety/emergency routes.
  - h. A highly visible multi-color tagging system shall be used to tag each scaffolding access point and indicate if the scaffold is safe for use. The system shall include the following:
    - i. Scaffolding shall be inspected by a Competent Person.
    - ii. Green tag – scaffold is 100% complete and safe for access
    - iii. Yellow tag – scaffold is in modified status but can be used safely with additional controls as stated on the tag.
    - iv. Red tag – scaffold is incomplete and is not safe to use except by scaffolders.
  - i. Scaffolds and scaffold components are securely supported and not loaded in excess of their maximum intended loads or rated capacities. Refer to the manufacturer's instructions / specifications with regards to the load bearing capacity of the scaffold and its components.

- j. Scaffolding is used only as temporary work platforms **as according to the Chevron Safety in Design (SID).**
- k. The scaffold and scaffold components shall be inspected by a competent person for visible defects at the following frequency:
  - i. Upon erection, prior to use and/or at other specified frequencies in accordance with applicable regulatory requirements.
  - ii. When mobile scaffolding is relocated to a different gradient,
  - iii. After a Near Loss or Incident involving the scaffolding,
  - iv. After any occurrence that could affect a scaffold's structural integrity (e.g., modification, overloading, damage, extreme weather conditions).
  - v. At other specified frequencies per BU/facility requirement.

NOTE: Inspections required prior to each shift being worked for US facilities

- l. Documentation shall be maintained for:
  - i. Records of inspection and maintenance (e.g. inspection tags) or checklist.

14. The reporting unit/business unit/facility shall describe the use, maintenance and inspection of Mobile Elevated Work Platforms (MEWPs), and include but not limited to:

- a. Use within manufacturer guidelines (including boom and basket load limits).
- b. **Operated by trained and authorized persons in accordance with applicable regulatory requirements and manufacturer specifications.**
- c. Use of a personal fall restraint system in conjunction with MEWP when required by the manufacturer or local regulations.
  - i. Employees shall follow local tie off procedures and manufacturer recommendations for tie off on scissor lifts.
  - ii. A fall restraint system (fall-arrest harness and **fixed lanyard or SRL(Class A SRL-LE)**) shall be used in conjunction with MEWP use.
- d. **Personnel working on Mobile Elevated Work Platforms (MEWPs) shall not work alone, a standby person is required.**
  - i. **The standby person shall be trained to operate the lower controls.**
- e. Prohibited movement when the boom is elevated in a working position with personnel in the basket **unless the MEWP was specifically designed for movement with personnel in the basket.**
- f. Exiting the basket at height is permissible only if the basket is designed for access/egress.
  - i. When exiting the basket at an elevated height above 6 feet or **1.8** meters (4-ft. or **1.2m** for US locations), the worker must be tied off 100% of the time with appropriate full body harness and dual lanyards.

15. It is not permitted to stand on the forks of a forklift or on a pallet to work at heights. Only engineered platforms designed by a qualified person can be used, and shall be constructed and loaded in accordance with that design
  - a. The platform cannot extend beyond 10 inches (250 mm) distance, greater than the overall width of the truck.
  - b. Operating instructions, the safe working load of the platform and the weight of the empty platform must be attached in a prominent position
  - c. It is critical that the total weight (platform weight + weight of personnel + weight of tools or objects) is well below the capacity of the forklift
  - d. The platform must be secured to the forks so that it can not slide
  - e. There must be an agreed signaling system used to denote movement of the hoist
  - f. The forklift operator must be competent and remain at the forklift controls at all times
  - g. Personnel working inside forklift platform must be tied off with a harness and lanyard 100% of the time
  - h. Only vertical (up and down) movement of the forklift is allowed and the parking brake must be set when the person is in the platform
16. Personal fall arrest or fall restraint equipment shall be worn when making an opening in a surface (e.g., wall, deck or floor opening) **and/or when working near open holes where barricades are not in place or guardrails have been removed** while performing Work at Height.
17. Surfaces containing openings (e.g., holes in grating) shall be barricaded, covered, guarded, or otherwise made inaccessible to protect personnel from falling, tripping in or stepping into or through the holes or openings.
  - a. **Open holes in floors or platforms shall have covers that are secured, can hold twice the expected load, and are visibly and legibly labeled and/or tagged to prevent inadvertent removal of the cover.**
  - b. **Where a hole cannot be completely covered, a barricade and warning signs shall be in place around the hole.**
  - c. Refer to Appendix A for more guidance on barricade management
18. Personal fall protection shall be worn by personnel who are potentially exposed to falls (including below grade) and not protected by any means of fall prevention.
19. Persons wearing personal fall-arrest systems shall not be permitted to work alone and shall use 100% tie off while performing work at height activities. **Any exceptions to this requirement shall be approved by Facility Management and personnel shall have the ability to self-rescue.** A safety standby shall be used while an employee is wearing a personal fall arrest system.
  - a. The safety standby may be a coworker working on the same job, supervisor, laborer, or any other worker as long as they are able and knowledgeable to summon rescue assistance in the event of a fall.
  - b. Stand-by person is not required when routine work in the form of tank truck or rail car loading/unloading is being performed if the following conditions are in place:

- i. Top surface of railcar/tank truck has designated walkway area
  - ii. Worker must wear full body harness and self retracting life-line that is permanently attached at the work area
  - iii. Worker has been trained and qualified for task to be performed
  - iv. Worker has been trained in the use of the fall arrest system in-place
  - v. Work task has been assessed, current procedure is in-place, and active JLA is available for task being performed.
- 20. The use of body belts for personal fall arrest purposes is prohibited. A full-body harness shall be used in all instances in which personal fall arrest is required.
- 21. Work on portable ladders shall only be considered when there are no other practical means of performing the work for short-duration jobs.
- 22. The use of portable ladders shall meet **manufacturer guidelines**, applicable legal requirements, as well as Chevron standards and/or accepted best practices and be **appropriate for intended use**. These include:
  - a. 4:1 climbing angle
  - b. Climbing facing the ladder,
  - c. Ladder (other than step ladder) tied off to prevent sideward slippage,
  - d. Firm footing for the ladder,
  - e. Employee is able to maintain 3 points of contact while climbing and descending, and
  - f. The employee's center of gravity is inside of the side rails,
  - g. If you cannot meet items a-f above you must be tied off.
  - h. All ladders must be inspected prior to each use.
- 23. Fall protection may not be needed for work from an A frame ladder provided that:
  - a. It is used as designed above
  - b. There is no suitable anchor point
  - c. The ladder is being used as intended for light duty work (such as changing a ceiling light bulb)
  - d. The standing step is no higher than 15' feet above adjacent grade and
  - e. The worker is not standing on or above the top rung or beyond manufacturer recommendations.
- 24. Defective or damaged ladders deemed unsafe shall be tagged and removed from service.
- 25. Anchor Point Selection and Testing - A system shall be in place for ensuring that anchorage points are selected, tested and inspected in accordance with a recognized standards **and local regulations**. **Anchorage points shall be reviewed** and approved by a Competent Person, including, but not limited to the following criterias:



- a. Selection of the type and location of anchorage points will depend on the nature and location of the task and the type of construction of the building or supporting structure.
  - b. Anchorage points for fall protection devices shall, where practical, be above the head of the worker, and must ensure that in the event of a fall the path will be free of obstacles or other hazards and the worker will neither swing nor touch the ground.
  - c. Anchorage points shall be **certified by the manufacturer to support the required load** or tested in accordance with a recognized standard and/or approved by a qualified or Competent Person to verify that the points are secure and can support the required load.
  - d. Dedicated anchor points and lifelines must be tested and/or approved prior to first use and at least every two years.
  - e. Anchorages used for attachment of personal fall-arrest equipment shall be independent of any anchorage being used to support or suspend platforms and shall be capable of supporting:
    - i. at least 5,000 pounds or 22.2 kN (kilo-newtons) static force per attached employee, or
    - ii. designed, installed and used as part of a complete personal fall-arrest system that maintains a safety factor of at least two
26. Skylight Barricading and Guarding - Where feasible, skylights flush with the roof surface shall be guarded by either:
- a. Installing permanent skylight metal screens over or under the skylight. The screen must be capable of withstanding a 90 kg (200 pounds) perpendicular load that is applied at any point. The metal screen shall be of such construction and mounting that under ordinary loads or impacts, it will not deflect downward sufficiently to break the glass below.
  - b. Installing fixed guardrails - Otherwise, when work is to be performed on a roof where personnel would be exposed to the risk of falling through the openings, the openings shall be covered with temporary wooden planking or metal plates before the work proceeds. The installation of the covering must be performed in a manner that protects the personnel installing the temporary planking from falling through or off of the roof.
27. Building Roofs - Roofs must be strong enough to support the weight of the workers and any equipment.
- a. There is a perception that working on a roof is not hazardous if the worker does not get close to the edge of the roof, and that lifelines are impractical when roofs are so large in some of our facilities. Distance alone is ineffective to protect workers from unprotected sides or edges. However, a combination of safeguards can be safe when there isn't a conforming guardrail system in place.
  - b. Guard rails or walls are the preferred method to protect workers.
  - c. Fall protection is generally the second best option.
  - d. A warning line system can be used under specific circumstances if neither of the above is feasible. This should be carefully evaluated in the hazard analysis phase of the project.

- e. The following must be in place to use a warning line system instead of fall protection (harness and lanyard)
  - i. You must place a warning line at least 15 feet (5 meters) from the edge
  - ii. The warning line must have a minimum tensile strength of 500 pounds (227 kg). They must also be marked or flagged at not more than 15-foot intervals with high-visibility material. Lines must be between 34 (86 cm) inches and 39 inches (100 cm), above the surface.
  - iii. No personnel may pass into the area between the warning line and the edge;
  - iv. You must have as part of the permit that no personnel shall pass the warning line.
  - v. There must be no pitch to the roof.
- 28. A written emergency rescue plan shall be in place for every location where an active personal fall-arrest system is used to control a potential fall hazard before commencing Work at Height and includes but is not limited to the following:
  - a. A Safety Standby or co-worker is present to notify rescue personnel in the event of a fall.
  - b. **Trained and competent** rescue personnel are equipped with the appropriate rescue equipment.
  - c. Third-party rescue services designated for rescue shall meet availability requirements and are trained and competent to respond to specific emergencies.
- 29. Fall arrest equipment shall be **inspected for visible defects prior to each use** and inspected by a competent person with the following requirements:
  - a. Equipment testing and certification for use shall be documented at a frequency required by local regulations, at a minimum annual, Or per manufacturer recommendations.
  - b. Equipment is **immediately removed from service** after a fall has occurred and inspected, tested and recertified for use by a competent person based on manufacturers recommendations.
  - c. Equipment is repaired or permanently removed from service where inspection has shown evidence of excessive wear or mechanical malfunction
- 30. Equipment shall be visually inspected by the user before use.
- 31. The reporting BU/Facility shall maintain documentation of employees and contractors authorized to perform Permitted Work at Height.
- 32. Personnel assigned responsibilities in Work at Height shall be trained and competent.
- 33. Training requirements and competency assessments for personnel conducting Work at Height shall be documented and include but not be limited to:
  - a. Person conducting Work at Height.
  - b. Anchorage point identification.
  - c. Scaffolding design, erecting, modifying and dismantling.

- d. Rescue personnel.
  - e. Inspection personnel.
34. Documentation associated with Work at Height shall adhere to the record retention requirements detailed in the Global Products Control of Work OE Process. The Work at Height Standard shall define the policy for record retention that meets applicable legal, corporate, and operating company requirements (or at least six months, whichever is more).

### 3.0 Roles and responsibilities

**Table 1: Roles, Responsibilities & Competencies**

Role	Responsibilities	Minimum Performance-Based Skills Required
<b>Competent Person</b>	<p>An individual who is capable of identifying potential hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate these conditions.</p> <ul style="list-style-type: none"> <li>• Mitigates hazards associated with specialized work.</li> <li>• Understands when to stop work.</li> <li>• Provides technical support and regulatory advice for specific work related topics</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of applicable standards within area of expertise.</li> <li>• Subject Matter Expert for specialized work (e.g., excavation inspector, lifting and rigging specialist, work at heights, etc.).</li> </ul>
<b>Person Working at Height</b>	<p>An individual with knowledge of the requirements of the Work at Height Standard who is capable of identifying potential hazards, can identify the scope for their work (e.g., scaffolds, portable ladders, MEWPs, barricading, guarding), and can identify the minimum anchor points for equipment.</p> <ul style="list-style-type: none"> <li>• Knows the scope of work and procedures to be followed</li> <li>• Inspects the specific work-at-heights equipment being used (for example, ladders, scaffolds, mobile elevated work platforms, fall-arrest systems, etc.) before use</li> <li>• Uses and operates the specific work-at-heights equipment being used in accordance with the manufacturer's instructions and the Work at Heights Standard</li> <li>• Maintains 100% tie-off</li> <li>• Understands when to stop work.</li> </ul>	<ul style="list-style-type: none"> <li>• Global Products Work Authorization/ Hazard Analysis Std. elements pertaining to their work.</li> <li>• Global Products Work at Height Std.</li> </ul>
<b>Rescue Personnel</b>	<p>Personnel who meet specified competency requirements and who are on call to rescue workers who have fallen from height. May include Chevron</p>	<ul style="list-style-type: none"> <li>• Understands the requirements for the rescue plan relevant to</li> </ul>

Role	Responsibilities	Minimum Performance-Based Skills Required
	<p>personnel, contract personnel, third-party rescue services and local emergency personnel.</p> <ul style="list-style-type: none"> <li>Ensures response time for work is appropriate for the hazards of the work.</li> <li>Provides input to Rescue Planning and during rescue response.</li> <li>Trained and qualified to perform Work at Height Rescue.</li> <li>Participates in rescue drills as required by standards.</li> <li>Understands when to stop work related to rescue operations.</li> </ul>	<p>the location prior to commencing work.</p> <ul style="list-style-type: none"> <li>Reviews the pertinent information to determine hazards and appropriate mitigation measures prior to any entry.</li> </ul>
<b>Safety Standby</b>	<ul style="list-style-type: none"> <li>Understands the planned work and emergency notification procedures</li> <li>Knowledgeable about fall protection systems</li> <li>Ensure person working at height is wearing appropriate fall protection</li> <li>Ensures person working at height is 100% tied off</li> <li>Must remain at the worksite as long as work is being conducted at height</li> <li>In case an emergency develops, use a radio or other means to call for help before attempting rescue</li> <li>Understands when to stop work.</li> </ul>	<ul style="list-style-type: none"> <li>Global Products Permit to Work/Hazard Analysis Std.</li> <li>Global Products Work at Height Std.</li> </ul>
<b>Scaffold Supervisor</b>	<ul style="list-style-type: none"> <li>Understands the planned work and emergency notification procedures.</li> <li>Knowledgeable about fall protection systems.</li> <li>Ensure person working at height is wearing appropriate fall protection and maintain 100% tie-off, when required.</li> <li>Supervises all scaffold erection, alterations and dismantling activities.</li> <li>Inspects scaffolding prior to use, on a daily basis, after inclement weather and after incidents, and records results of findings.</li> <li>Affixes green / red tag to scaffold after inspection.</li> <li>Understands when to stop work.</li> </ul>	<ul style="list-style-type: none"> <li>Global Products Work Authorization / Hazard Analysis Std.</li> <li>Global Products Work at Height Std.</li> </ul>
<b>Scaffold Erector</b>	<ul style="list-style-type: none"> <li>Understands the planned work and emergency notification procedures.</li> <li>Ensures assistants wear appropriate fall protection equipment and maintain 100% tie-off, when required, during scaffold erecting job.</li> </ul>	<ul style="list-style-type: none"> <li>Global Products Permit to Work/Hazard Analysis Std.</li> <li>Global Products Work at Height Std.</li> <li>External specific training related to the task activity.</li> </ul>

Role	Responsibilities	Minimum Performance-Based Skills Required
	<ul style="list-style-type: none"><li>• Inspects all scaffold components before use.</li><li>• Conducts scaffold erection, alterations and dismantling activities.</li><li>• Understands when to stop work.</li></ul>	

## 4.0 Training Requirements

### Initial Training

Personnel must meet the competency requirements and be trained on the requirements of this standard, prior to starting work. Refer to the Global Products Training Requirements Tool.

### Refresher Training

Refresher training session shall be provided as follows:

- As required by local regulations or site policy.
- Whenever a person demonstrates insufficient knowledge of the Global Products Work at Height Standard.
- When a serious incident related to Work at Height occurred and the root cause identified the need to be retrained.
- Trained on the requirements of this standard, at least every three years

## 5.0 Records

### Records requirements

- Copies of all Permit to Work, Work at Height Form and other associated documentation (including records of inspection, maintenance and competencies) shall be maintained in accordance with Global Products Control of Work OE Process.

### Retention requirements

Records shall be retained for the periods as specified below:

- All records mentioned above shall be retained by the facility for at least 1 year after the job has been completed.
- Training Records shall be maintained for 3 years or until re-training occurs.

## Document Control Information

### Documents Reference List

Required Documents - Title	Attachment
Work at Height Rescue Plan Template	<a href="#">WAH Rescue Plan Template</a>

Required Documents - Title	Attachment
WAH – Start Work Check (SWC)	<a href="#">WAH – Start Work Check (SWC)</a>
Reference Documents - Title	Attachment
Scaffold Inspection Checklist Template (as applicable)	<a href="#">Scaffold Inspection Checklist</a>
Safety Harness Inspection Template	<a href="#">Safety Harness Inspection Template</a>
Ladder Safety Checklist	<a href="#">Ladder Safety Checklist</a>
Personal Fall Protection System Guidance	<a href="#">Personal Fall Protection System Guidance</a>
Work at Heights Review Checklist	<a href="#">Work at Heights Review Checklist</a>
Temp. Suspended Work Platform - Gondola	<a href="#">Suspended Work Platform - Gondola</a>
Work at Heights Form Template (As applicable)	<a href="#">Work at Heights Form Template</a>

## Document Control

Description	Corporate	Global Products
<b>Approval Date</b>	Aug 2023	June 2024
<b>Next Process Document Review</b>	Aug 2028	June 2029
<b>Control Number</b>	Version 1.0	Version 1.1

## Document Change History

Changes to this document are listed in the table below by change date.

Date (DD/MMM/YR)	Version Number	Description of Change
<i>08 Nov 2021</i>	<i>1.0</i>	<i>New document for F&amp;L</i>
<i>01 April 2022</i>	<i>1.1</i>	<i>Included links to revised supporting documents, revised personal fall protection inspection frequency &amp; included fall protection guidance in MEWP.</i>
<i>01 June 2024</i>	<i>2.0</i>	<i>Included additional languages to provide clarity and align with the Enterprise Working at Height OE Standard Version 1.0 August 2023.</i>

## Appendix A Barricade Management for Open Holes & Unprotected-Edge Work

The barricade management provide the minimum requirement for the selection and use of barricade as part of managing safe work to protect persons from fall hazards.

### 1.0 Conditions Requiring Barricades

Manholes or floor openings large enough to fall through; missing, removed or damaged guardrails, leading edges exposing a fall greater than 6' (4-ft. for US locations) or into another hazard shall be guarded by hard barricading.

### 1.2. Notifications

Responsibility for ensuring a hard barricade is placed around open holes or leading edges rests with the person or group creating the hazard.

Sites shall define who must be notified by the person or group prior to any grating or guardrail removal to discuss barricade placement and installation.

### 1.3. Barricade Placement

Hard barricades shall be erected prior to the creation of an open hole or leading edge to avoid leaving an unprotected fall hazard.

Barricades shall be complete and surround the fall hazard. Permanent structures that prevent entry may be used as part of the barricade.

Danger tape shall be wrapped around the hard barricades to communicate the fall hazard.

### 1.4 Signage

Signs are required on hard barricades protecting fall hazards. The signs must contain information on the fall hazard. Signs should be placed at entry points. Use more than one sign on large boundaries.



## 1.5 Entering a Barricaded Area

Personnel entering a barricaded area shall verify that the appropriate safeguards are in place and wear the required fall protection for that job.

## 1.6 Barricade Removal

- 1.1.1 Barricades shall be removed only after the open hole or leading-edge hazard has been removed or eliminated.

## 2.0 References

- Enterprise – Work at Height Standard
- 29 CFR 1910, 1926 Fall Protection Critical Elements
- Title 8, California Code of Regulations, Sections, 3273, 5157, 1671.2

## 3.0 Definitions

**Barricading.** Typically, a structure comprised of scaffold material or lumber to restrict or redirect foot traffic around an area or hazard.

**Cover.** A cover must be substantial enough to support twice the anticipated weight it may encounter, secured to prevent accidental displacement and properly labeled. While the cover is not in place, the opening shall be protected by hard barricading. Temporary floor openings shall have hard barricades

**Hole.** Any opening in a walking surface large enough for someone to bodily pass through.



## Appendix B Falling Objects Management

Falling object is any object subject to gravity with the potential to cause death, injury or equipment & environmental damage, that falls from its previous static position under its own weight.

### 1.0 Considerations

Falling objects are considered as:

- Lifting operations
- Hand tools being used at height
- Hand tools/equipment left behind after working at height
- Operations conducted at height
- Assembly/Disassembly of equipment at height
- Equipment mounted at a height that could fall following contact, vibration or environmental conditions - such as piping, lights, cameras, rigging gear, etc.
- Temporary equipment at height
- Where personnel are working on a level directly below the work site

### 2.0 Roles and Responsibilities

**Job Manager** (Any person in charge of work that has the authority to implement inspections and control measures to prevent falling objects.) Examples include IMPACT Team Leaders, Capital Project Managers and Maintenance Supervisors

Responsibilities of the Job Manager include:

- Development of a Prevention of Falling Objects strategy and action plan to identify and assess individual work areas and activities where the potential for a falling object exists. This could include identification of areas of opportunity for:
  - the removal of redundant equipment
  - the improvement of maintenance routines
  - developing and setting key performance indicators
  - providing suitable instruction & awareness to personnel
- Development of a Falling Object Prevention Inspection Plan and ensuring regular inspections are undertaken.
- Raising awareness of falling objects and their control measures within the worksite.
- Reviewing action plans on a regular basis.

**Assigned Person/Area Owner** (Any person in charge of work area that ensures work is being conducted in accordance with the standard and work plans as discussed during pre-job review activities) Examples include Operations Representative, Maintenance Supervisor, Contract Supervisor.

Responsibilities of the Assigned Person/Area Owner include:

- Identifying and inspecting work areas and activities where the potential for an object to fall from height exists.

### **3.0 Overall Approach**

#### **3.1 Management of potential falling objects**

The management of potential falling objects is based on the identification and inspection of all areas of the worksite that have items with the potential to fall from height. This is best accomplished by splitting up the worksite into manageable defined areas. Assigned persons and area owners are then given the responsibility for that specific area.

Prior to starting work in an area, the supervisor for the work crew will assess the area for elevated work activities. Priority shall be given to eliminating the hazard by avoiding all over/under work activities when possible. When elimination is not practical, protection must be provided to protect workers from falling objects. The assessment shall include the existence and condition of protective systems such as netting and other physical barriers. Crews moving into areas below elevated work will notify personnel working above prior to beginning work.

Prior to beginning work in elevated positions, the crew supervisor shall ensure that netting is installed and maintained, housekeeping is in order, and secure methods of handing tools and requirements are in place. Crews moving into elevated areas shall notify any personnel below prior to beginning work.

Regular inspections of the area should be undertaken to ensure items are secure, and that any necessary safety devices (such as nets) are in place. Appropriate mitigation actions are to be implemented for any items that are identified as not being suitably secure or where there are potential fall paths (e.g. gaps between access platforms and fixed equipment).

#### **3.2 Inspections**

Inspection schedules are determined by the types of ongoing activities and the need to identify the potential for items to become dislodged or damaged during operations.

These inspections should look at the methods of securing items and potential fall paths. If the protective measures are found to be defective, Stop Work Authority must be used, and the finding communicated to the Job Manager.

Inspections should be communicated to the responsible Supervisor(s). If a corrective action (removal of the potential falling object) can be achieved at the time of the inspection, this should be done.

Individuals undertaking the inspection of areas for potential falling objects shall be given suitable information and guidance on how to identify and mitigate items with the potential to become a falling object.

#### **3.3 Classification of Identified Items with the potential to drop**

Even a small object falling from a height can cause incidents leading to serious or fatal injuries. The potential harm to the individual may be determined using the Dropped Objects Calculator. A tool is available on the DROPS website

<https://www.dropsonline.org/resources-and-guidance/drops-calculator/> to aid in the classification of incidents.

### 3.4 Mitigation Actions

Mitigation actions identified following the inspection should be controlled and managed using a suitable method of action item closeout. The mitigation actions identified should follow the hierarchy of control.

### 3.5 Hierarchy of Control

When considering actions to reduce risk from falling objects, control measures should be considered in the following order:

1. Elimination:
  - The potential falling object is completely removed.
2. Substitution:
  - The potential falling object is replaced with a less hazardous one.
3. Engineering controls:
  - Installing or using additional engineering solutions: physical barriers I bump guards, reinforcing fasteners, fitting secondary securing devices, etc.
4. Administrative controls:
  - Instructions created to reduce the risk from a potential falling object, such as barriers and appropriate signs, to limit access or exposure.

### 3.6 Management of Change

New equipment and I or processes should be assessed for the introduction of falling object risk, and the risks reduced to as low as reasonably practicable. Anytime the work site undergoes changes in process and I or equipment the Management of Change process should be followed.

## 4.0 Requirements (Turnarounds I Capital Projects I Applicable Overhead Work)

Elevated work during Turnarounds and Capital Projects involves greater risk (e.g. increased amount of work and number of workers in an area) than during normal operations. These situations call for more stringent controls than during normal operations to ensure the safety of all personnel.

### 4.1 Specific Protective Measures

#### 1. Barricades and Employee Protection:

Barricades with hazard and ownership signage shall be properly erected and maintained when a significant overhead hazard exists. When overhead protection is not adequate, personnel shall be prohibited from entering the affected area.

#### 2. Perimeter Protection on Platforms:

Netting will be placed on scaffold and permanent railing systems to prevent objects from falling off platforms. The netting will be secured with cable ties between the guardrail and toe plate. On scaffolds that have guardrails designed to be used as anchor points, the netting will be secured between the mid-rail and toe-board.

The netting shall be maintained in order to prevent dropped or falling objects. Daily routine inspections of the netting shall be made by all personnel accessing elevated platforms and scaffold decks.

Scaffolds shall be constructed in a manner to eliminate any gaps or holes where tools or materials could fall through. Every effort shall be made to construct scaffolds as close to a vertical structure as possible. If this not feasible, hole-covers shall be secured to the deck to close the gaps.

### **3. Debris netting:**

Debris nets will be installed in strategic locations as a secondary protective system around structures (e.g. when working on overhead structures, pipe bridges, etc.) to protect personnel from falling tools or equipment. The nets will be inspected daily. Objects that fall into the nets will be removed from the nets by the end of each shift.

### **4. Housekeeping:**

Non-essential tools and materials shall not be staged or stored on elevated platforms of scaffold decks. Housekeeping shall be maintained to the highest degree to prevent dropped or falling objects.

Personnel working in elevated areas shall control items and be aware of potential improperly stored or loose item that has been covered and hidden underneath other materials on a scaffold deck such as welding blankets.

All unnecessary tools and materials shall be removed from work areas as soon as feasible to support good housekeeping.

### **5. Tools & Material Handling/Storage:**

When work activities involve the use of materials that can fall through grating, the grating shall be covered by plywood or other materials to prevent objects and materials from falling. Materials used to cover grating shall be secure and shall not cause slipping or tripping hazards.

All hand tools shall have tool lanyards attached to the user when working in elevated positions. Where tool lanyards are not feasible, appropriate precautions (debris netting, overhead protection, barricades to prevent entry, etc.) must be implemented to protect areas below from falling objects.

Workers shall use the "grab-and-twist method" when handing materials to other workers in elevated positions. This method involves the worker releasing material getting a good grip on it and passing it to the worker receiving the material while maintaining a good grip. The worker receiving the material will take the material and give it a twist to ensure a firm grip. The worker releasing the material notes the twist and lets go of the material. Example: A carpenter is passing a scaffold pole to a coworker. The carpenter gets a good grip on the scaffold pole and passes it to their coworker while maintaining a secure grip. The receiving worker twists the pole to ensure they have a good grip; the carpenter does not release the scaffold pole until they feel the twist and know their coworker has control of it.

Tools and material shall not be carried while ascending or descending ladders. Materials and tools will be raised to work locations using other methods, such as rope, wheel wells, and canvas buckets. Larger items and heavy items shall not be lifted using rope. Metal or plastic buckets shall not be used for raising or lowering items

All loose tools and materials necessary for the task at hand shall be placed and stored in canvas bags in the work area. Where applicable the bag shall be secured to a fixed object to prevent the bag from tipping and spilling its contents.

Tools and materials shall not be stored on ledges, in beams webs, etc. Loose items stored in this manner are easily inadvertently dislodged by personnel passing through the area.

Material shall not be stored or stacked next to the edge of a platform. Materials that is stored or staged in elevated areas must be secured from falling to lower elevation.

## **5.0 Activities with the Potential for Falling Objects**

### **5.1 Lifting Operations**

As part of the risk assessment process for lifting operations, the integrity of the load and lifting equipment should be considered. This will include inspections to identify and mitigate any potential hazards from all or part of the load falling or the failure of lifting equipment.

### **5.2 Working at Height**

As part of the risk assessment process for working at height, any equipment and tools being taken aloft should be considered as a potential falling object. Suitable mitigation should be put into place e.g., netting or barriers to prevent falling tools or equipment, barriers to exclude personnel from entering under the worksite, secondary securing devices (lanyards, etc.).

Consider the following:

- Minimizing over/under work using work planning and permitting processes
- Removing personnel from areas underneath activities such as line breaking, equipment assembly or disassembly
- All hand tools or other portable equipment that will be used at height (e.g. wrenches, hammers, drills, etc.)
- Hand tools or other portable equipment that is left at height (e.g. valve persuaders on a column deck)
- Loose parts or parts that are being removed (e.g. blinds, studs, bolts, etc.)
- Use of bags to lift tools or other small items from the ground to the worksite

It is not always possible to barricade off the area below the worksite, e.g. during times of high activity such as Turnarounds. Consider the use of netting or similar systems to protect personnel who may be at risk when work is being performed on overhead structures pipe bridges, etc.

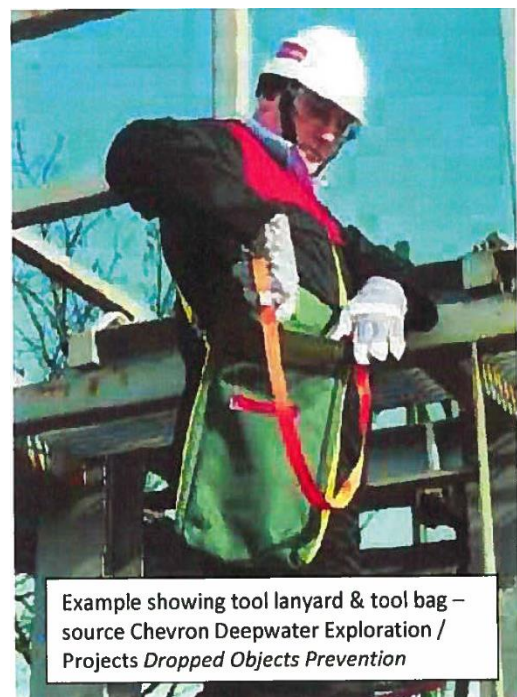
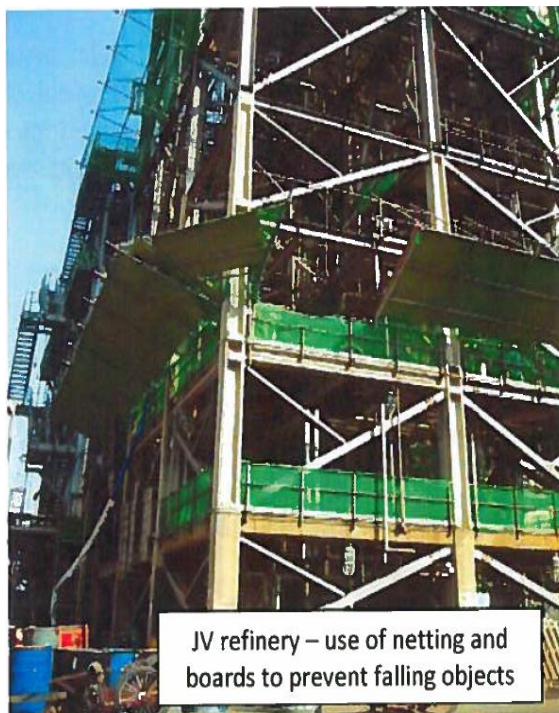


### 5.3 Scaffolding Operations

Scaffolding operations historically are high-risk activities regarding falling objects. Satisfactory planning, risk assessment, and mitigation measures for potential falling objects are necessary.

Consider the following:

- Falling boards, clamps, or pieces of scaffolding during scaffolding erection or removal.



## **5.4 Control of Temporary Equipment**

The introduction of temporary equipment into worksites can create a falling object hazard. Temporary equipment must be subjected to the same degree of scrutiny as the fixed equipment. Local procedures or policies should address falling object management.

## **6.0 Reporting Falling Objects**

Once a falling object incident has occurred, the event shall be immediately reported to supervisors. There is a requirement to investigate and categorize the incident for reporting purposes in alignment with the Corporate LI/NLI Investigation procedure.

### **6.1 Categorizing Falling Objects**

A significant near miss is one that has the potential to cause death or major injury.

The tool on the DROPS website (<https://www.dropsonline.org/resources-and-guidance/drops-calculator/>) is an aid in the classification of incidents.



## Appendix C Fall Distance Calculation Tool

**Required Ground Clearance Calculation** (from where your lanyard snap hook attaches to the anchor point) \* **You must be familiar with your equipment!**

### Example:

Lanyard Length	(6 ft or 1.8 m)
+ Shock Absorber deployment	(4 ft or 1.2 m)
+ D-Ring movement	(1 ft or 0.3 m)
+ Average body height (heels to D-Ring)	(5 ft or 1.5 m)
+ Safety distance	(1 ft or 0.3 m)
<b>= Total Fall Distance =</b>	<b>17 feet or 5.1 meters</b>

### Your Calculation:

Lanyard Length	
Shock Absorber deployment	+ (4 ft or 1.2 m)
D-Ring movement	+ (1 ft or 0.3 m)
Body height (heels to D-Ring)	+ _____
Safety Distance	+ (1 ft or 0.3 m)
<b>Total Fall Distance</b>	<b>= _____</b>

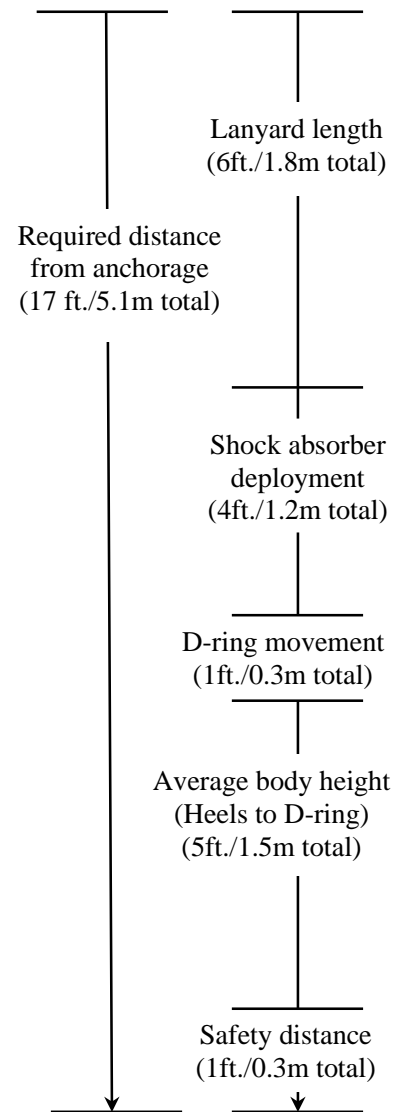
Height of Anchor Point \_\_\_\_\_  
 Minus - \_\_\_\_\_  
**Fall Distance Calculation** \_\_\_\_\_  
 Equals = \_\_\_\_\_  
**Ground Clearance** \_\_\_\_\_



**Anchor Point will hold 5000 lbs (22.2 kilonewtons)?**

**Identify Anchor Point**

\_\_\_\_\_





### Appendix D Terms and Definition

Term	Definition
100% tie off	A control method whereby a person working at height is always connected to an anchor so that they are protected by their fall-arrest system or work-positioning system while ascending, descending, moving point to point, or conducting work activity
Anchorage	A component cast or fixed into a building or structure for the purpose of attaching a scaffold or safety line. Anchorages used to attach personal fall arrest systems shall be independent of any anchorage being used to support or suspend platforms and must be capable of supporting at least 5,000 pounds (22.2 kilonewtons [kN]) per person attached.
Body Belt (Safety Belt)	A strap with means both for securing it about the waist and for attaching it to a lanyard, lifeline, or deceleration device
Body Harness	A component of a personal fall-arrest system, which includes straps, which may be secured about the worker in a manner that will distribute the fall-arrest forces over at least the thighs, pelvis, waist, chest, and shoulders with means for attaching it to the components of a personal fall-arrest system
Guardrails	A protective barrier that prevents falling or movement into an unsafe area (e.g., around stairways and edges of platforms to prevent falling from a height or falling into hazardous machinery). See SID-SU-5106 Section 2 for more information
Personal Fall Arrest System	A system used to arrest a worker in a fall from a working level. It consists of anchorage, connectors, a body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these.
Personal Fall Restraint System	A system that prevents the user from falling any distance. It consists of a full body harness, along with an anchorage, connectors, and other necessary equipment.
Fall Protection	Any equipment, device, or system that prevents personnel from falling from an elevation or mitigates the effect of such a fall
Mobile Elevating Work Platform (MEWP)	A machine used to hoist people within a safety cage to an elevated worksite. The complete machine includes the platform, lifting mechanism, and chassis or vehicle, as applicable. Also known as power-operated elevating work platform, aerial lift, manlift, scissor lift, cherry picker, or crane lift platform
Work at Height (Elevated Work)	Work performed where there is a potential for a person to sustain injury by falling from one surface to another surface that is not at the same level, including below ground level or in the course of gaining access or egress (excluding staircases).

## Appendix E Hierarchy of Fall Protection

### Work at Height Safe Work Practice (SWP)

#### know the hierarchy of fall protection

As the hierarchy progresses, so does the risk.



#### 1. hazard elimination

The best and preferred solution is to eliminate the gravity hazard.



#### 2. Use passive fall protection for working at Height

Cover open holes and use barriers, such as guardrails, around unprotected edges. Use passive protection rather than personal protective equipment (PPE) because it is generally considered to provide a higher level of safety.



#### 3. fall-restraint systems

Use PPE to limit your range of movement and prevent falls and secondary injuries, and aid in rescue efforts.



#### 4. Use fall-arrest systems

Wear PPE to arrest a fall and prevent you from making contact with the ground or surrounding structure.



#### 5. Use other administrative controls

Reduce the possibility of a fall and increase awareness of fall hazards by using processes and equipment such as safety monitors and barriers.

## **Appendix F References**

### **Internal References**

Chevron Control of Work OE Process  
Chevron Hazard Analysis OE Standard  
Chevron Work Authorization OE Standard  
Chevron Electrical OE Standard  
Chevron Training and Competency OE Standard  
SID-SU-5106-5.0 Chevron Safety in Designs

### **External References**

American National Standards Institute

- ANSI A92.2-1969 Vehicle Mounted Elevating and Rotating Work Platforms
- ANSI Z359.1-20202 The Fall Protection Code

International Association of Oil and Gas Producers (IOGP)

- Report No. 459 Life-Saving Rules
- Report No. 577 Fabrication site construction safety recommended practices

Occupational Safety and Health Administration (OSHA)

- 29 CFR 1910.140 Personal fall protection systems
- 29 CFR 1910.23 Ladders
- 29 CFR 1910.28 Duty to have fall protection
- 29 CFR 1910.29 Fall protection systems and falling object protection
- 29 CFR 1910.450 Scaffolding
- 29 CFR 1910.501 Duty to have fall protection