

 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>				<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>				Page 1 of 22
<b>RESPONSIBLE DEPT.</b>	<b>CONTENT STEWARD</b>		<b>APPROVED BY</b>		
Environment, Safety & Security (ESS)	Safety		ESS Manager		
<b>ORIGINAL ISSUE:</b>	4/1/2013	<b>LATEST REVISION:</b>	<b>4/5/2021</b>	<b>NEXT REVIEW:</b>	4/5/2024

## CONTENTS

<b>1.0 Introduction .....</b>	<b>2</b>	9.1 General .....	10
1.1 Purpose .....	2	9.2 Fixed Ladders .....	10
1.2 Scope .....	2	9.3 Portable Ladders .....	11
1.3 Compliance .....	2	9.4 Extension Ladders .....	11
1.4 Corporate References .....	2	9.5 Inspection .....	12
<b>2.0 Roles and Responsibilities .....</b>	<b>2</b>	<b>10.0 Scaffolding .....</b>	<b>13</b>
2.1 All Site Personnel .....	2	10.1 General Requirements .....	13
2.2 Supervision .....	2	10.2 Scaffold Tagging .....	14
2.3 Safety Department .....	3	10.3 Inspection .....	14
2.4 Contractors .....	3	<b>11.0 Aerial Platform Lifts .....</b>	<b>15</b>
<b>3.0 Definitions .....</b>	<b>3</b>	11.1 General .....	15
<b>4.0 Eliminating and Controlling Fall Hazards</b>	<b>5</b>	11.2 Operating Near Electrical Equipment ...	16
4.1 Fall Protection Hierarchy .....	5	11.3 Inspections .....	16
<b>5.0 Procedure .....</b>	<b>6</b>	11.4 Aerial Platform Lift Training	
5.1 Fall Hazards .....	6	Requirements .....	17
5.2 Floor Openings & Holes .....	6	11.5 Spotters .....	18
<b>6.0 Fall Prevention .....</b>	<b>7</b>	<b>12.0 Dropped Objects .....</b>	<b>18</b>
6.1 Guardrail System .....	7	12.1 General .....	18
<b>7.0 Fall Protection .....</b>	<b>7</b>	12.2 Tool/ Equipment Tethering .....	18
7.1 Personal Fall Arrest System (PFAS) .....	7	12.3 Hand Lifting/ Hoisting Materials .....	19
7.2 Anchorage .....	8	<b>13.0 Training .....</b>	<b>19</b>
7.3 Personal Fall Arrest Equipment Care & Storage .....	8	13.1 Employee Training .....	19
7.4 Fall Arrest Equipment Inspection .....	8	13.2 Retraining .....	20
7.5 Work Over or Near Water .....	9	13.3 Scaffold Builder .....	20
<b>8.0 Roofing Work .....</b>	<b>9</b>	<b>14.0 Program Review .....</b>	<b>20</b>
8.1 Low Pitched Roof .....	9	14.1 Procedure Review .....	20
8.2 Warning Line System .....	9	<b>15.0 Review and Revision History .....</b>	<b>20</b>
8.3 Safety Monitoring System .....	10	15.1 History of Revisions .....	20
<b>9.0 Ladders .....</b>	<b>10</b>	<b>Appendix A – SLC Scaffold Tagging .....</b>	<b>21</b>
		<b>Appendix B – Guidelines for Suitable Anchor Points .....</b>	<b>22</b>

 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 2 of 22

---

## 1.0 INTRODUCTION

### 1.1 Purpose

This Safe Work Instruction exists to ensure that Elevated Work is executed safely to prevent injury to employees, contractors, and visitors.

### 1.2 Scope

This Safe Work Instruction applies to all SLC personnel, contractors, visitors, and vendors that may be exposed to a fall at the SLC Refinery. This policy does not include the use of a personnel basket attached to a crane, see HS-SWI-039

### 1.3 Compliance

Scaffold tags must be updated and in compliance by 5/3/2021.

### 1.4 Corporate References

The following sections describe references used to generate this Safe Work Instruction.

#### 1.4.1 Marathon Standards, Policies & Procedures

- RSP-1700-000 Life Critical Safety Rules & Accountability
- SP-00-16 Auxiliary Structures for Operation & Maintenance
- RSP-1162-000 Electrical Safe Work Practices

#### 1.4.2 Government Regulations

- OSHA 29 CFR 1910
- OSHA 29 CFR 1926

---

## 2.0 ROLES AND RESPONSIBILITIES

### 2.1 All Site Personnel

- Recognize elevated work exposures when existing safeguards will not prevent a fall (e.g. the need to access a location outside of a platform protected with railings).
- Use and wear personal fall arrest equipment properly.
- Know and understand the approved applications and limitations of the equipment used.
- Complete a pre-use inspection of all fall protection equipment.
- Remove equipment from service that has been subjected to a free fall or a full body load.
- Report any fall immediately.

### 2.2 Supervision

- Ensure that potential fall hazards within their area of responsibility are identified and properly addressed prior to job initiation.
  - Provide clearly defined and adequate safeguards (fall prevention or fall protection systems) to employees involved in elevated work tasks.
  - Monitor personnel compliance with this policy.
-

 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 3 of 22

### **2.3 Safety Department**

- Evaluate new fall protection technologies and equipment for possible use.
- Approve all fall protection equipment for MPC employees prior to purchase.
- Provide technical support and guidance for methods to achieve compliance with this policy
- Monitor compliance with this policy.

### **2.4 Contractors**

- Provide at the request of MPC, the names of personnel deemed competent in the area of fall protection as well as the means to certify competency.
- Designate an onsite resource for fall protection related questions when elevated work is being planned or underway.
- Monitor compliance with this policy.

## **3.0 DEFINITIONS**

### **100% Tie Off**

Workers must be secured to at least one approved anchor point 100% of the time when working at heights using personal fall protection equipment.

### **Aerial Platform Lifts**

Any vehicle mounted device, telescoping or articulating or both, which is used to position personnel. This includes extendable boom platforms, articulating boom platforms, vertical towers, electrical bucket trucks and other mechanized personnel lifts (i.e. JLG's or scissor lifts).

### **Anchorage/Anchor Point**

A secure point of attachment for equipment such as lifelines, lanyards, deceleration devices, and rope descent systems that is rated for a 5,000-pound static load.

### **Body Harness**

Straps which may be secured about the employee 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 other components of a personal fall arrest system.

### **Competent Person**

Someone who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

### **Deceleration Device**

Any mechanism, such as a rope grab, rip-stitch lanyard, specially-woven lanyard, tearing or deforming lanyards, automatically self-retracting lifelines/lanyards, etc., which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.

### **Dropped Object**

An object dropped from heights that could impact personnel and/or equipment at grade or lower levels.

### **Exposed Power Lines**

Means electrical power lines which are accessible to employees and which are not shielded from contact. Such lines do not include extension cords or power tool cords.

### **Extension Ladder**

A non-self-supporting portable ladder that is adjustable in length.

### **Fall Hazard**

Any condition on a walking-working surface that exposes an employee to a risk of harm from a fall to a lower level.

 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 4 of 22

<b>Fall Prevention</b>	A means used to prevent a fall to a lower level. Examples include handrail and mid-rail systems, scaffold railing systems and hole covers. Fall restraint systems are also included.
<b>Fall Protection</b>	Any equipment, device, or system that prevents an employee from falling from an elevation or mitigates the effect of such a fall. For example, a full body harness and lanyard or safety net system.
<b>Fixed Ladder</b>	A ladder with rails or individual rungs that is permanently attached to a structure, building, or equipment.
<b>Free Fall</b>	The act of falling before a personal fall arrest system begins to apply force to arrest the fall.
<b>Guardrail System</b>	A vertical barrier, consisting of, but not limited to top-rails, mid-rails, and posts, erected to prevent employees from falling off a scaffold platform or walkway to lower levels.
<b>Hard Barricade</b>	A physical barrier placed to restrict the access of personnel to a fall/trip hazard. This barricade shall meet OSHA guardrail system requirements for top-rail and mid-rails. The top-rail must be capable of withstanding, without failure, a force of at least 200 pounds applied in a downward or outward direction within 2 inches of the top edge, at any point along the top rail.
<b>Hole</b>	A gap or void 2 inches or more in at least dimension, in a floor, roof, or other walking/working surface.
<b>Ladder Safety System</b>	A system designed to eliminate or reduce the possibility of falling from a ladder. A ladder safety system usually consists of a carrier, safety sleeve, lanyard, connectors, and body harness. Cages and wells are not ladder safety systems.
<b>Lanyard</b>	A flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting the body harness to a deceleration device, lifeline, or anchorage.
<b>Leading Edge</b>	The edge of a floor, roof, or formwork for a floor or other walking/working surface (such as the deck) which changes location as additional floor, roof, decking, or formwork sections are placed, formed, or constructed.
<b>Low-Slope Roof</b>	A roof having a slope less than or equal to 4 in 12 (vertical to horizontal).
<b>Maximum Intended Load</b>	The total load of all persons, equipment, tools, materials, transmitted loads, and other loads reasonably anticipated to be applied to a scaffold or scaffold component at any one time.
<b>Mobile Scaffold</b>	A powered or unpowered, portable, caster or wheel-mounted support scaffold.
<b>Opening</b>	A gap or open space in a wall, partition, vertical walking-working surface, or similar surface that is at least 30 inches high and at least 18 inches wide, through which an employee can fall to a lower level.
<b>Personal Fall Arrest System</b>	A system used to arrest an employee's fall. It consists of an anchorage, connectors, body harness and may include a lanyard, deceleration device, lifeline, or combinations of these.
<b>Portable Ladder</b>	A Ladder than can readily be moved or carried, and usually consists of side rails joined at intervals by steps, rungs, or cleats.

 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 5 of 22

<b>Qualified Person</b>	A person who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience has successfully demonstrated his/her ability to solve or resolve problems related to the subject matter, the work, or the project.
<b>Roof</b>	The exterior surface on the top of a building. This does not include floors or formwork which, because a building has not been completed, temporarily become the top surface of a building.
<b>Safety Monitoring System</b>	A safety system in which a competent person is responsible for recognizing and warning employees of fall hazards.
<b>Scaffold</b>	Any temporary elevated or suspended platform and its supporting structure, including anchorage points, used to support employees, equipment, materials, and other items.
<b>Self-Retracting Lifeline/Lanyard</b>	A deceleration device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under slight tension during normal employee movement, and which, after onset of a fall, automatically locks the drum and arrests the fall.
<b>Steep-Roof</b>	A roof having a slope greater than 4 in 12 (vertical to horizontal).
<b>Toeboard</b>	A low protective barrier that will prevent the fall of materials and equipment to lower levels.
<b>Unprotected Sides and Edges</b>	Any side or edge (except at entrances to points of access) of a walking/working surface, e.g., floor, roof, ramp, or runway where there is no wall or guardrail system at least 39 inches high.
<b>Warning Line System</b>	A barrier erected on a roof to warn employees that they are approaching an unprotected roof side or edge, and which designates an area in which roofing work may take place without the use of guardrail, body belt, or safety net systems to protect employees in the area.

---

## 4.0 ELIMINATING AND CONTROLLING FALL HAZARDS

### 4.1 Fall Protection Hierarchy

The hierarchy or preferred order to control fall hazards is to first eliminate or control the hazard. The methods listed below are in decreasing order of preference.

- 4.1.1 **Elimination:** Every reasonable attempt should be made to eliminate fall hazards during the design phase of all new construction, major modifications, reconfigurations, or upgrades.
  - 4.1.2 **Engineering Controls:** When fall hazards cannot entirely be eliminated from design of the equipment, prevention of falls involves making changes to the workplace in order to eliminate the need to rely on personal protective equipment (PPE). Examples of engineering controls include platforms, guardrails, fixed ladders, and stairs.
  - 4.1.3 **Temporary Controls:** Examples of temporary controls include scaffolds, Aerial Platform Lifts, restriction devices, portable ladders, etc.
  - 4.1.4 **PPE:** Personal Fall Arrest System (PFAS) includes a full body harness, connecting device, and an anchor point.
-

 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 6 of 22

## 5.0 PROCEDURE

### 5.1 Fall Hazards

- 5.1.1 Employees must be protected from a fall at 4-foot or 6-foot depending on the area or the activity taking place. At their respective height, the Fall Protection Hierarchy must be evaluated.
- 5.1.2 Examples of areas or activities that require protection from a fall at 4-foot include:
- Unprotected fixed floors or platforms (missing top rail or mid rail)
  - Floor Openings and Holes (i.e. flooring/decking/grating, handrail removal/modification)
  - Work above handrails
  - Work over water
- 5.1.3 Examples of areas or activities that require protection from a fall at 6-foot include:
- Tanker Trucks or Rail Cars
  - Leading Edges/Roofing Work
  - Excavations
  - Confined Spaces
  - Pipe Rack Access & Traversing
  - Ladders

### 5.2 Floor Openings & Holes

- 5.2.1 Employees must be protected from falling through holes greater than 4-foot utilizing the Fall Protection Hierarchy.
- 5.2.2 Created hole openings within walking-working surfaces consisting of a hole greater than 2-inches and less than 12-inches in dimension or Openings 12-inches or greater in diameter regardless of the depth shall be protected from fall/trip hazards using hole coverings or hard barricading.
- 5.2.3 During the planning stages, the need to create a hole or opening must be identified and planned for accordingly using the Guardrail/Grating/Decking/Floor Removal/Modification Form (HS-FRM-003).
- 5.2.4 Employees at the edge of an excavation, well, pit and shaft that are exposed to a fall of 6ft or greater must be protected from falls by guardrails, equipment guards, covers or hard barricading.
- 5.2.5 When working near a leading edge or unprotected edge, a leading edge (LE) lanyard must be used.

 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 7 of 22

---

## 6.0 FALL PREVENTION

### 6.1 Guardrail System

- 6.1.1 Standard guardrails consist of a top rail, mid-rail and toe board. The top rail must have a vertical height of approximately 42-inches from the walking/working surface. The mid-rail must be positioned approximately halfway between the top rail and the walking/working surface.
  - 6.1.2 Guardrails must be capable of withstanding at least 200-pounds of force in any direction on any point of the top rail.
  - 6.1.3 Guardrail systems need to be constructed in accordance with 1910.29(b) and SP-00-16.
- 

---

## 7.0 FALL PROTECTION

### 7.1 Personal Fall Arrest System (PFAS)

- 7.1.1 A Personal Fall Arrest System is comprised of an Anchorage, Body Harness and Connection Device. All pieces of the system must comply with applicable OSHA and ANSI Standards.
  - 7.1.2 A Personal Fall Arrest System must be rigged in a way that an employee can neither free fall more than 6-foot nor contact any lower level.
  - 7.1.3 Arc rated harnesses must be used when working in a lift or bucket truck on 480kV or greater electrical equipment.
  - 7.1.4 When completing hot work that causes a spark or welding slag, it's essential to protect the integrity of the personal fall arrest system (body harness, anchorage, and connection device).
  - 7.1.5 Lanyards must be fitted with at least a double locking snap hook attachment.
  - 7.1.6 Tying two lanyards together to increase the length is not permitted. Additionally, DO NOT tie knots in the lanyard to reduce the length as this can reduce the strength of the lanyard.
-

 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 8 of 22

## 7.2 Anchorage

- 7.2.1 Anchorage for personal fall arrest equipment must be independent and capable of supporting at least 5,000-pounds per employee attached.
- 7.2.2 Personal fall arrest systems must be anchored such that the strength of the fall arrest system is not reduced.
- 7.2.3 Personal fall arrest systems must be anchored waist high or higher and in such a way to minimize a free fall unless the connection device is designed to be tied-off below the waist. Refer to the manufacturer's recommendations.
- 7.2.4 Examples of Approved Anchor Points:
- Structural steel & stanchions
  - Scaffold components identified by manufacturer as a suitable anchor point
  - Engineered Anchor Point
  - Piping (See Appendix B for further Guidance)

## 7.3 Personal Fall Arrest Equipment Care & Storage

- 7.3.1 Equipment should be stored in dry areas protected from sunlight and contaminants.
- 7.3.2 Wet harnesses, lanyards and lifelines must be allowed to dry thoroughly before storing to prevent growth of mold or mildew.
- 7.3.3 Equipment exposed to oils, chemicals and other contaminants must be decontaminated to prevent degradation.
- 7.3.4 To clean, use mild soap and warm water. Do not use solvents or harsh chemicals.
- 7.3.5 Fall arrest equipment should be hung or stored flat to maintain proper shape.

## 7.4 Fall Arrest Equipment Inspection

- 7.4.1 Personal Fall Arrest Equipment must be inspected pre-use and have an annual inspection performed by a competent person.
- 7.4.2 When completing pre-use inspections items to look for include:
- Cuts, tears, abrasions, mold, or discoloration
  - Intact stitching
  - Buckles are functional without rust or corrosion
  - D-Ring isn't misshaped
  - Stopping mechanism on Self-retracting lanyards is functional
  - Lanyard hooks are free of rust or corrosion and double locking feature is functional
  - Deceleration device is still intact and hasn't been deployed
- 7.4.3 If the equipment has been found defective, tag and remove equipment from service.
- 7.4.4 Some types of fall protection equipment, such as self-retracting lifelines require periodic recertification by the manufacturer at scheduled intervals. The competent person must be familiar with these requirements and have a documented recertification performed as required.



 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 9 of 22

## **7.5 Work Over or Near Water**

- 7.5.1 Personal Flotation Devices (PFD) referenced must be U.S. Coast Guard approved unless otherwise stated in this policy. Prior to use, PFDs shall be inspected for defects. Defective vests shall be removed from service.
- 7.5.2 If utilizing a PFD with a full body harness, the full body harness must be worn under the PFD. The PFD used must not interfere with proper use of a full body harness and lanyard.
- 7.5.3 When 100% tie-off is maintained to a secure anchorage point and prevents workers from contacting the water, the employee has effectively removed the drowning hazard and a PFD is not required.
- 7.5.4 When working over or near water where the distance from the walking/working surface to the water's surface is greater than 25-feet, fall protection shall be required and a PFD is not required.
- 7.5.5 When working over water, PFD, lifesaving equipment and safety skiffs shall be used as required.
- 7.5.6 When working from/in machinery, aerial lift equipment or other movable work platforms over water, fall protection is not required however, a PFD is required.

## **8.0 ROOFING WORK**

### **8.1 Low Pitched Roof**

- 8.1.1 Whenever working less than 6-feet from the roof edge, employees must be protected from falling by a guardrail system, safety net system, travel restraint system, or personal fall arrest system.

### **8.2 Warning Line System**

- 8.2.1 The warning line must be erected around all sides of the roof work area no less than 6-foot from the roof edge.
- 8.2.2 Warning lines must be rope, wires, or chains and supporting stanchions.
- 8.2.3 Warning lines must be flagged with high-visibility materials.
- 8.2.4 Warning lines must be erected with the following specifications:
- Must be capable of resisting, without tipping over, a force of at least 16-pounds.
  - No less than 34-inches from the walking/working surface and no more than 30-inches.
- 8.2.5 Rope, wire, or chain must have a minimum tensile strength of 500-pounds.

 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 10 of 22

### **8.3 Safety Monitoring System**

- 8.3.1 Safety Monitor must be competent to recognize fall hazards.
- 8.3.2 The Safety Monitor has the following responsibilities:
- Warn employee(s) when it appears the employee(s) are unaware of a fall hazard or are acting in an unsafe manner;
  - Must be on the same walking/working surface and within visual sighting distance of employee(s) being monitored;
  - Must be close enough to communicate orally with the employee; and
  - Have no other responsibilities which could take the monitor's attention from the monitoring function.

---

## **9.0 LADDERS**

### **9.1 General**

- 9.1.1 Ladders are only to be used for the purposes in which they were designed.
- 9.1.2 Each employee must face the ladder when ascending or descending.
- 9.1.3 Three points of contact must be maintained at all times when ascending or descending ladders.

### **9.2 Fixed Ladders**

- 9.2.1 Fixed ladders must be constructed in accordance with SP-00-16 and 29 CFR 1910.23 (d).
- 9.2.2 Fixed ladders installed after November 19, 2018 must not exceed a run of 24-feet unless equipped with a personal fall arrest system, or a ladder safety system.
-

 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 11 of 22

**9.3 Portable  
Ladders**

- 9.3.1 The use of wooden ladders is prohibited.
- 9.3.2 Portable ladder rungs, steps, and cleats are parallel, level, and uniformly spaced when the portable ladder is in position for use.
- 9.3.3 Ladder rungs and steps must be corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize the possibility of slipping.
- 9.3.4 Do not load ladders beyond their maximum intended load.
- 9.3.5 Ensure ladders are placed on stable and level surfaces unless they are secured or stabilized.
- 9.3.6 Ladders must not be moved while an employee is on it.
- 9.3.7 If a ladder is placed in a high traffic location, appropriate precautions must be taken to ensure that the ladder isn't inadvertently disturbed.
- 9.3.8 Manufacturer's tags must be legible and visible at all times.
- 9.3.9 Never use the top step of any portable ladder.
- 9.3.10 If the ladder doesn't have a built-in platform or safety rail, fall protection is required when working 6-feet above grade.
- 9.3.11 When working around electrical hazard, the use of metallic ladders are prohibited. Users must utilize fiberglass or other composite type ladders that do not conduct electricity.

**9.4 Extension  
Ladders**

- 9.4.1 Ensure that the safety feet are in good condition.
- 9.4.2 Ensure rung locks are fully engaged. The sections of an extension ladder must be bound together by 9 wire or equivalent when extended.
- 9.4.3 Ensure ladders are positioned at a 4:1 ratio.

 Marathon Petroleum Company LP	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 12 of 22

## **9.5 Inspection**

- 9.5.1 Ladders must be inspected prior to each use to identify any visible defects.
- 9.5.2 Portable ladders are required to be inspected for visible defects annually and after any occurrence that could affect their safe use.
- 9.5.3 Any ladder with structural or other defects must be immediately removed from service and tagged "Dangerous: Do Not Use".
- 9.5.4 Inspection criteria includes:
- Inspecting all rung-toe side connections. The joints between the steps and side rails shall be tight.
  - The rungs/steps/cleats shall not be work, bent or missing.
  - Side rails shall be free of cracks and splits.
  - Side rails shall not be bent, broken, or deformed.
  - Inspect all rivets for shearing.
  - All hardware and fittings shall be free of corrosion and securely attached.
  - All moveable parts shall operate freely without binding or undue play.
  - Hinges shall be tight and non-binding.
  - Ropes shall not be frayed or worn.
  - Safety feet, wheels, and casters shall operate properly and be in good working condition.
  - Rung locks shall operate properly and be free of damage.
  - The ladder shall be stable and completely balanced.
  - The manufacturers specified weight limit/load rating shall be identified on all portable ladders.
-

 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 13 of 22

---

## 10.0 SCAFFOLDING

### 10.1 General Requirements

- 
- |         |   |
|---------|---|
| 10.1.1  | Scaffold users are prohibited from modifying scaffolds. Only qualified scaffold erectors will modify scaffolds.   |
| 10.1.2  | Scaffolds must meet OSHA minimum requirements and be designed by a qualified person.  |
| 10.1.3  | Every scaffold must be capable of supporting its own weight and four times the maximum intended load applied to it without failure.   |
| 10.1.4  | Planking can be wood (must be secured) or metal scaffold pans are acceptable.   |
| 10.1.5  | If there is a question regarding tie-off points, contact the Scaffold Qualified person.   |
| 10.1.6  | Items penetrating a scaffold deck, the distance between the edge of the deck and the obstacle will be no more than 4-inches. If a larger opening is required, they must be protected to prevent users from stepping into/through the opening.   |
| 10.1.7  | Scaffold footings must be level, sound, and capable of supporting the loaded scaffold without settling or displacement.   |
| 10.1.8  | To prevent fires, do not use wood planking near hot process lines, where it presents a fire hazard as determined by the competent person and/or the JJSV.   |
| 10.1.9  | A professional engineer must design scaffolds with a height of 125-foot from the base. Refer to OSHA standard.  |
| 10.1.10 | Completed ladders that have a run of 20-foot or greater without a forced break must: <ul style="list-style-type: none"> <li>• Utilize a self-retracting lanyard anchored at the top of the ladder for personnel to utilize with a body harness while climbing; or</li> <li>• Have a ladder cage, or;</li> <li>• Other acceptable means of fall protection.</li> </ul> |
-

 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 14 of 22

## **10.2 Scaffold Tagging**

- 10.2.1 Scaffolds will be tagged upon completion by a competent person using the MPC Salt Lake City Scaffold Tagging System. Examples of the tags can be found in Appendix (A) and are stocked in the warehouse.
- 10.2.2 During erection and dismantling a Red or “Danger” tag shall be affixed to the scaffold on or directly adjacent to all access points in plain view at approximately eye level (5-foot). The red or “Danger” tag shall be used when the scaffold is unattended by erection personnel who can directly prevent use of the scaffold. A red or “Danger” tag indicates that the scaffold is NOT a properly completed platform and not to be used.
- 10.2.3 When a scaffold is complete but there is a condition of particular note or concern, a YELLOW (Caution) tag shall be affixed to the scaffold on or directly adjacent to the access ladder(s) in plain view at approximately eye level (5-foot). The condition will be identified on the tag. Any additional equipment or precautions (i.e., fall protection devices, etc.) necessitated by the condition shall be used. Those conditions can be, but are not limited to missing guard or mid-rail, low head clearance, hole in deck, hot surfaces, obstacles, etc. Personal fall arrest system is required only when indicated on the yellow tag.
- 10.2.4 When a scaffold is complete and no special precautions are required, a GREEN tag shall be affixed to the scaffold on or directly adjacent to the access ladder(s) in plain view at approximately eye level (5-foot). Green tagged scaffolding may be used without restriction.
- 10.2.5 Scaffolding that appears to be incorrectly tagged must be reported to your supervisor and the competent person. Prevent use of the scaffold by removing the green or yellow tag until the scaffold is evaluated by the competent person.

## **10.3 Inspection**

- 10.3.1 Scaffold users will visually inspect the scaffold prior to each use. Any deficiencies noted must be reported to a competent person and corrected before using the scaffold.
- 10.3.2 Scaffolds must be inspected each shift before use. Dates and shift must be recorded on the scaffold inspection tag.

 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 15 of 22

## 11.0 AERIAL PLATFORM LIFTS

### 11.1 General

- 11.1.1 A copy of the manufacturer's manual must be kept with the aerial platform lift.
- 11.1.2 Aerial platform lifts must have both platform (upper) controls and lower controls. Lower controls must provide for overriding the upper controls.
- 11.1.3 Controls must be plainly marked as to their function and labels legible.
- 11.1.4 All aerial platform lifts shall be fit for purpose and must be maintained in safe working order as defined by the manufacturer.
- 11.1.5 The manufacturer boom and basket load weight limit must be labeled in view of personnel in the basket.
- 11.1.6 Electrocution warnings must be visible to basket operators.
- 11.1.7 If an electrical outlet is installed on the basket, it must be free of damaged and be equipped with a cover.
- 11.1.8 All aerial platform lifts shall be equipped with a working tilt alarm to notify the operator if the aerial platform lift is exceeding its safe operating limit on an incline.
- 11.1.9 All aerial platform lifts should be equipped with a working alarm that sounds when the platform is lowering.
- 11.1.10 Aerial lifts must be equipped with either a gravity or swing gate. The latch on the swing gate must be in proper working condition.
- 11.1.11 Tires must be in good condition. If tires do not meet the criteria for "good condition" listed below, the aerial platform lift may not be used to perform work:
- Foam filled tires are considered in good condition when neither the foam nor rubber cords are visible.
  - Air filled tires are considered in good condition when the rubber is free of cracks and/or gouges.
- 11.1.12 Aerial lifts may be field modified for uses other than those intended by the manufacturer provided the modification has been certified in writing by the manufacturer or by any other equivalent

 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 16 of 22

entity such as a nationally recognized testing laboratory in conformance with ANSI A92.2-1969.

- 11.1.13 Lift controls must be tested each day prior to use.
- 11.1.14 Body harness and lanyard must be worn and attached to the approved anchor points within the basket at all times.
- 11.1.15 Only authorized employees can operate an aerial lift.
- 11.1.16 Employees must always stand firmly on the floor of the basket, standing on the mid or top rail is prohibited except when exiting or entering the lift.
- 11.1.17 Lifts must be operated within manufacturers guidelines at all times.
- 11.1.18 When outriggers are used, ensure brakes are set and outriggers are placed on pads or a solid surface.
- 11.1.19 Wheel chocks must be used before using aerial lift on an incline.
- 11.1.20 When there is a risk of pinch/crushing an employee against another part of equipment or another object, barricades must be erected to mark the boundaries of the hazard area. If a barricade is not feasible, signs and high visibility markings can be placed on equipment to identify the hazard areas.
- 11.1.21 Aerial platform lifts shall not be used in sustained wind or gusts that exceed the safe operating limits set by the manufacturer.
- 11.1.22 Employees and contractors must not exit an elevated boom or scissor lift, except where elevated work areas are otherwise inaccessible or hazardous to reach. Exiting the platform must only be executed with the knowledge and consent of the Safe Work Permit Writer. When personnel exit to unguarded areas, 100% tie-off must be maintained.

**NOTE:** It is not permitted to use the engineered anchor point within the lift while working outside of the lift.

## **11.2 Operating Near Electrical Equipment**

- 11.2.1 See RSP-1162-000 Overhead Work.

## **11.3 Inspections**

- 11.3.1 Aerial lifts must be inspected before each use, utilizing the form found in HS-FRM-021.
- 11.3.2 A copy of the daily inspection sheet must be kept with the aerial platform lift for the duration of the shift.
- 11.3.3 Contractors must retain records of their daily pre-use inspections within their company.
- 11.3.4 The Maintenance Supervisor will retain pre-use inspections for MPC used Lifts.



 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 17 of 22

## 11.4 Aerial Platform Lift Training Requirements

11.4.1 MPC employees and onsite contractors will meet the following aerial platform lift training requirements. Each training program can be designed by the specific company to meet their individual needs as long as it meets the minimum requirements found in this section and complies with all OSHA regulations.

11.4.2 Aerial platform lift training will have the following components:

Classroom training that covers the following subject area as a minimum:

- Types of aerial platform lifts
- Labels and markings required in lifts
- Pre-use inspections and provide a copy of the company specific form to be used
- Responsibilities of the lift operator
- Safe work considerations such as fall protection, tip-overs (ground conditions), working near electrical lines, use of spotters and dropped objects
- Use of stabilizing devices such as outriggers and extending axels
- When base controls can be used in place of platform controls
- What conditions will activate the lifts "safe mode" due to an over extension of operation conditions (ex. Tilt alarm)
- Any other topics recommended by the manufacturer, OSHA, or are deemed necessary to ensure a complete understanding of the safe operation of aerial platform lifts

Competency Verification will be necessary for the following categories of lifts:

- Less than or equal to 80-foot boom
- Greater than 80-foot boom

11.4.3 The Competency Verification will require a demonstration of competency in a minimum of the following subject areas:

- Perform a Pre-use inspection
- Proper access and use of fall protection
- Ability to maneuver the lift smoothly and properly
- Safely operates the lift:
  - Checks for pedestrians and other obstacles
  - Uses horn, when appropriate
  - Uses outriggers or extending axels, when appropriate
  - Travels with the platform at a safe level
  - Avoids bumps and uneven surfaces
  - Identifies and maintains proper distances from energized power lines
- Other skills recommended by the manufacturer, OSHA or are otherwise deemed necessary for the safe operation of the lift.

11.4.4 Each company onsite must retain records of classroom and competency verifications and be able to produce these records on request.

11.4.5 Aerial platform lift training must be refreshed every 3-years. Classroom and competency verifications may be refreshed on

 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 18 of 22

cycles separate from each other as long as they are, respectively, within the 3-year cycle.

- 11.4.6 Retraining is mandatory if an employee performs in a manner that brings into question their ability to safely operate the lift.
- 11.4.7 Ensure that training is sufficient for the particular piece of equipment being used. If equipment changes, hands-on review is required on the new equipment (i.e. controls, features, etc.).

## 11.5 Spotters

- 11.5.1 A dedicated spotter will be utilized whenever the aerial platform lift is in motion, except while traveling on roadways.
- 11.5.2 A dedicated spotter must have a verbal or signal based communication with the operator of the aerial platform lift.
- 11.5.3 The dedicated spotter may be in the basket of the aerial platform lift provided that all the provisions below are met:
  - Only the basket and boom are in motion
  - The dedicated spotter is not operating the lift
  - The dedicated spotter has a clear view of all possible hazards from the basket
  - The device is designated to allow more than one person in the basket

---

## 12.0 DROPPED OBJECTS

### 12.1 General

- 12.1.1 Whenever working on a platform greater than 6-foot, toeboards must be erected and capable of withstanding 50-pounds of force without failure.
- 12.1.2 Toeboards must be a minimum of 3.5-inches in vertical height from their top edge to the level of the walking/working surface and no more than ¼-inch clearance between toeboard and walking/working surface.
- 12.1.3 If it's required to stack tools, equipment, or materials higher than the toeboard, additional controls such as paneling or screening need to be put in place to prevent objects from falling.

### 12.2 Tool/ Equipment Tethering

- 12.2.1 All tool lanyards must be inspected prior to use.
  - 12.2.2 Where tool lanyards/tethers are to be used, they must be rated for the equipment. The weight limit of the tool tether must not be exceeded.
  - 12.2.3 When a power tool is tethered, it must be attached to an anchorage point other than an employee to prevent inadvertent contact in the event control of the tool is lost.
  - 12.2.4 The use of hardhat tethers or chin straps should be considered for use when accessing areas or performing work that present higher risks of hard hat loss (high winds, awkward body positioning, etc.).
-

 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 19 of 22

### **12.3 Hand Lifting/ Hoisting Materials**

- 12.3.1 During lifting or lowering of small tools and materials, buckets designed for lifting/hoisting tools must be used. The use of 5-gallon buckets is not permitted.
- 12.3.2 Prior to lifting or hoisting materials ensure that the rope is rated for the weight of the load.
- 12.3.3 Contents should fit within the bucket whereas the top can be fully closed during lifting/lowering.
- 12.3.4 Rig items to be hoisted in a manner that prevents the potential for a shock load (i.e., Do not rig items in a manner that could introduce slack to the load line).
- 12.3.5 Prior to each lifting/hoisting activity, the rope should be inspected for damage. If the rope has excessive wear, abrasions, UV degradation or chemical damage, it must be replaced.
- 12.3.6 The use of synthetic fiber rope is preferred over natural fiber due to its durability and ability to hold up to natural weather conditions.
- 12.3.7 Whenever lifting/hoisting operations are taking place ensure that the area barricaded.
- 12.3.8 When performing work that involves hand hoisting, the JSA should identify hoisting in a separate line item to ensure proper hoisting practices and mitigations are in place. This includes identifying weight of the items and distance they will be hoisted.

---

## **13.0 TRAINING**

### **13.1 Employee Training**

- 13.1.1 Before an employee is exposed to a fall hazard, they must be trained in the following topics:
    - Fall hazards in the work area and how to recognize them
    - Procedures to be followed to minimize those hazards
    - How to install, inspect, operating, maintaining, and disassembling fall protection systems
    - Correct use of personal fall protection systems including proper hook-up, anchoring, and tie off techniques, and methods of equipment inspection and storage
    - Role of each employee in a safety monitoring system
    - Equipment limitations when working on low-sloped roofs
  - 13.1.2 Employee's performing work while on a scaffold must be trained on the following topics:
    - Nature of electrical hazards, fall hazards and falling object hazards
    - Proper Use of Scaffold
    - Maximum intended load and load carrying capacities
-

 <b>Marathon Petroleum Company LP</b>	<b>SAFE WORK INSTRUCTION</b>	<b>HS-SWI-033</b>
<b>SALT LAKE REFINERY</b>	<b>Elevated Work</b>	Page 20 of 22

### 13.2 Retraining

13.2.1 Employee retraining is required when:

- When changes to the workplace occur making previous training inadequate.
- When changes in the types of fall protection systems or equipment.
- Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee no longer has the understanding or skill necessary to use equipment or perform job safely.

### 13.3 Scaffold Builder

13.3.1 Scaffold builders must have qualified persons training prior to erecting, maintaining, and disassembling the fall protection system and falling object protection system.

---

## 14.0 PROGRAM REVIEW

### 14.1 Procedure Review

The Work Practice will be reviewed every 3-years.

---

## 15.0 REVIEW AND REVISION HISTORY

### 15.1 History of Revisions

The Table 1 provides the revision history for this Work Practice.

**Table 1 Revision History**

Revision	Date	Change Author	Reason for Change
1.0	04/01/2013	---	Original Issue
1.1	03/22/2016	---	Updated to the New SWI Format
2.0	3/1/2021	E. Stewart	Updated to MPC Format. Combined Fall Protection, Ladders, Scaffolding, and Aerial Lifts into this 1 policy.

---



## APPENDIX B – GUIDELINES FOR SUITABLE ANCHOR POINTS

The proper selection of anchor points is used in conjunction with a body harness and connection device is critical to ensuring that workers will be adequately protected in the event of a fall. Good judgement should always be exercised when attaching fall arrest systems to an anchor point. If there is any doubt whatsoever that an anchor point will adequately support a worker in a fall, then a more suitable anchor point should be selected. The following guidelines should assist workers with their choice of anchor points:

- Handrails, guardrails, conduit, and cable trays are **NOT** proper anchorage points and must not be used as such.

**Exception:** It is acceptable to tie-off to approved scaffold components approved by the manufacturer.

- Facility support beams (e.g., I-beams, H-beams, and angle irons) are generally fit for use as anchorage. However, consideration must be given to the use of ANSI-approved softeners to ensure that fall protection equipment will not be damaged by the anchorage point.
- Sound facility piping with appropriate wall thickness and adequate support is generally acceptable for use as an anchorage point. First consideration should be given to un-insulated lines and second consideration given to non-asbestos insulated lines. Any piping showing visual signs of corrosion must be evaluated by the Inspection Department prior to use.
- The following table shows the maximum length between supports allowed for the corresponding size to support 5,000-pounds. The information in the table below is to be used only as a guide to help determine the strength and stability of piping used as an anchor point. Always tie-off to the strongest anchor point possible. The maximum length between supports, as stated in the chart below, should never be exceeded. For stability, always tie-off as close as possible to the pipe support bracket.

**NOTE: The lengths between supports listed in this table were calculated for one person and must not be used to support more than one person at a time.**

Nominal Pipe Size (Inches)	Outside Diameter (Inches)	SCH40 Wall Thickness (Inches)	Maximum Length Between Supports (Feet)
4	4.5	0.237	6
6	6.625	0.28	15
8	8.625	0.322	31

This table assumes the pipe is simply supported, made of low carbon steel, and operating at its rated pressure, and that the allowable stress in the pipe is 26ksi based on an allowable 1/3 increase for temporary loading per ANSI B31.3. Table values are based upon information provided by Jeff Heath, Facilities Engineering-Houston.