

	Refinery Wide	Procedure No.: SAF 042
Effective Date: March 31, 2017	Working at Heights	Revision No.: 0
Owner: E. Stewart	Authorized By: Chris Conley (signature on file)	Page: 1 of 25
SCOPE	This policy contains the rules and guidelines for working at heights. This includes, Fall Protection, Dropped Object Prevention, Scaffolding, Safe Use of Ladders, Safe Use of Aerial Lifts and Safe Use of Scissor Lifts.	
HEALTH Special PPE & Special Hazards	N/A	
SAFETY	N/A	
REFERENCE DOCUMENTS	MAINT-E-025 MAINT-E-033 SAF-116 SAF-076 SAF-044 SAF-042 FM01 Daily Inspection Sheet SAF-042 FM02 Aerial Lift Exit Permit 29 CFR 1910 Subpart D 29 CFR 1910.30 29 CFR 1910.67 29 CFR 1910.66 29CFR 1926.453 29 CFR 1926.501 29 CFR 1926.502 29 CFR 1926.503 29 CFR 1926.1053 ANSI Z-359F-026 BP GDP_4_5_000001_2016 Control of Work	
SPECIAL MATERIALS & EQUIPMENT	Personal Fall Arrest System Full Body Harness and Lanyard(s) Tool/Equipment Tethers	
QUALITY	Inspect all personal fall arrest equipment before and after each use. Ensure annual inspections are completed and tagged with the appropriate color.	
ENVIRONMENTAL	N/A	

OVERVIEW

The purpose of this policy is to protect workers from the risks associated with working at heights and the potential for dropped objects. Working at Heights is a BP Golden Rule. Work at heights of 4 foot or higher above the ground without a fixed platform that has guardrails or handrails must not proceed unless:

- A properly anchored fall arrest system is used
- The fall arrest system ensures 100% tie-off is achieved at all times
- The risk of dropped objects on personnel and equipment below has been assumed and plans to manage the risks established

When evaluating or risk assessing work at heights it is important to first evaluate any and all alternatives prior to selecting personal fall protection systems. The order of consideration should follow the hierarchy below:

1. Eliminate the need for elevated work
2. Utilize fall prevention systems
3. Utilize fall protection systems

NOTE: If a fall occurs, immediately contact the Emergency Operations Center (EOC) using the emergency notification protocols.

Program Policy	All personnel shall be continuously protected from injury due to falls and dropped objects. Protection from falls includes movement to and from the actual work area, whenever exposed to an unprotected side, edge or hole with a fall hazard of 4 foot or greater measured from the working heights.
	<p>The methods used for managing fall hazards will be:</p> <ol style="list-style-type: none"> 1. Primary – Eliminate the need for elevated work 2. Secondary – Provide fall prevention mechanisms (e.g. positioning equipment) 3. Tertiary – Fall Protection systems (e.g. harness and lanyard, safety net systems) <p>The methods used for managing the potential for dropped objects will include:</p> <ol style="list-style-type: none"> 1. Evaluating all elevated work for dropped object potential. 2. Establish control measures where applicable to eliminate dropped object potential.
Recognition of Fall Hazards	<p>The following list provides examples (not all inclusive) of potential exposures to elevated work fall hazards where the fall exposure may exceed 4 feet.</p> <ul style="list-style-type: none"> - Aerial Lifts - Scissor Lifts - Building roof access - Pipe racks and structural steel - Accessing valves outside of protected areas (areas without platforms and/or guardrails) - Uncovered sewers and openings to underground vaults - Excavations - Truck and rail car loading/unloading
Fall Hazard Mitigation Methods	<ul style="list-style-type: none"> - Covers shall be provided where personnel can trip or step through floor openings in a walking/working surface

	<ul style="list-style-type: none"> - Excavations shall be protected by guardrails, fences, barricades or covers if they cannot be readily seen by personnel in the area - Where hoist areas extend through walking/working surfaces, personnel must be protected by guardrails or personal fall arrest systems - If guardrails are removed to facilitate hoisting, personnel reaching through or over the hoist area must wear personal fall arrest systems.
<p>1.0 Definitions</p>	<p>100% Tie Off – Workers shall be secured to at least one approved anchor point 100% of the time when working at heights above 4 foot when using personal fall protection equipment.</p> <p>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 (IE: JLG’s). Aerial Ladders and scissor lifts shall not be included in this definition.</p> <p>Anchorage/Anchor Point(s) - a secure point of attachment (structural steel, piping greater than 4 inches in diameter, etc.) for lifelines, lanyards, or deceleration device that is rated for a 5,000 pound static load.</p> <p>Anchorage Connector - A component which couples the fall arrest system to the anchorage when direct attachment to an anchorage is not possible (e.g. beam clamps, cross arm strap, etc.)</p> <p>Approved - Manufactured according to specifications provided by the American National Standards Institute (ANSI) and/or Occupational Safety and Health Administration (OSHA).</p> <p>Articulating Boom Platform - a vehicle mounted platform with hinged boom sections.</p> <p>Body Harness - a design of straps which may be secured about an employee in a manner to distribute the fall arrest forces over the pelvis, thighs, waist, chest and shoulders with means to attach to other components of a personal fall arrest system.</p> <p>Competent Person – a person who is capable of identifying existing and predictable hazards in the surroundings or working conditions that may be hazardous, or dangerous to employees, and who has the authority to take prompt corrective measures to eliminate them.</p> <p>Dangerous Equipment - equipment which, as a result of form or function, may be hazardous to employees who fall onto or into such equipment (such as electrical equipment, open chemical tanks, sharp object, etc.)</p> <p>Deceleration Device - any mechanism, such as a rope grab, rip-stitch lanyard, specially-woven lanyard, tearing or deforming lanyards, automatic 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.</p> <p>Dedicated Spotter – An individual whose work task is to serve as spotter to signal safe movement to the operator of the aerial platform lift. This spotter may perform other job tasks as long as it does not hamper their ability to perform the responsibilities of the dedicated spotter. The dedicated spotter should be trained on operation of the aerial platform lift.</p> <p>Designated Worker – A worker (contractor or employee) who is to maintain direct line of sight and/or verbal contact with lone workers utilizing personal fall arrest equipment at heights so that they can make emergency notifications as</p>

needed.

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

Double Legged Lanyard – A connection device between the body harness and anchor point that provides two means of connection so that the user can maintain 100 % tie off. This also includes “dual retractable” type lanyards.

Extensible Boom Platform - a vehicle mounted platform with a telescopic boom.

Fall Prevention – A means used to prevent initiation of a fall to a lower level. Examples include handrail and midrail systems, scaffold railing systems and hole covers. Fall restraint systems are also included.

Fall Protection System - personal or general equipment designed to prevent, minimize or safely break a fall from an elevated work area. For example, a full body harness and lanyard or safety net system.

Fall Restraint System – a fall protection system that prevents the user from falling any distance. The system is comprised of either a body harness, along with an anchorage, connectors and other necessary equipment.

Floor Opening – an opening in a walking or working surface measuring 12” or more in its least dimension through which a person may fall.

Guardrail system - a barrier erected to prevent employees from falling to lower levels.

Hazardous Classified Locations – A location where fire or explosion hazards may exist due to flammable gases or vapors, flammable liquids, combustible dusts or ignitable fibers or flyings (API 500, section 3.2 10.4), this includes Class I, Division II

Lanyard - a flexible line, 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.

Leading Edge – the unprotected side and edge of a floor, roof, or formwork for a floor or other walking/working surface which changes location as additional floor, roof, decking or formwork sections are placed, formed constructed.

Lifeline - a component consisting of a flexible line for connection to an anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.

Low Slope Roof - a roof having a slope less than or equal to 4 in 12 (vertical to horizontal).

Mobile Ladder Platform- a portable platform that has stairs and a deck that can be cranked up and down and can be rolled from site to site.

Movement – Any forward, backward or rotating movement of the base, movement of stabilizing devices or movement of the boom or basket

Permitted Roadway – A road where vehicles require a Vehicle Entry Permit or a Hot Work Spark Potential Permit to Work (PTW) to enter. Roadways are

	<p>permitted to help control traffic or because they are hazardous classified locations.</p> <p>Personal Fall Arrest - a system used to stop an employee 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 combination of these. Properly worn body harness with lanyard attached to the back D-ring of the body harness and attached to an anchorage point.</p> <p>Proper Working Platform - a powered device or working surface constructed according to the best available practice that does not require the use of fall protection systems when used properly.</p> <p>Safety Monitor System - a safety system in which a competent person is responsible for recognizing and warning employees of fall hazards.</p> <p>Stabilizing Device – Outriggers, extending axles or any other similar piece of equipment that is intended to stabilize the aerial platform lift while in use</p> <p>Steep Roof - a roof having a slope of greater than four in twelve (vertical to horizontal).</p> <p>Trained Persons – An individual who has completed an established training program and is able to safely operate the aerial platform lift. These individuals should be able to safely operate and perform daily inspections of the aerial platform lifts. <i>Also referred to as “operator”</i></p> <p>Unprotected Walking/Working Surface - a walking or working location where no fall protection systems are in place.</p> <p>Warning Line system - a rope, wire or chain with stanchions and flags at intervals to keep employees from an edge where a fall may occur.</p> <p>Working at Heights – work in any place, or means of obtaining access to or egress from such place, where a person could fall (4/6) feet or more to a lower level.</p>
<p>2.0 Roles and Responsibilities</p>	<p>2.1 All Site Personnel</p> <ul style="list-style-type: none"> - 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 and ensure equipment is tagged with the annual colored inspection tag. - Remove equipment from service that has been subjected to a free fall or a full body load. - Report any fall from elevation immediately by contacting the EOC. - Personnel using ramps, runways and walkways 4 foot or greater from a lower level must be protected by a guardrail system. - Where personnel can fall through floor openings in a walking/working surface 4 foot or greater above a lower level, covers or guardrail systems or personal fall arrest systems shall be provided. <p>2.2 Supervisor</p> <ul style="list-style-type: none"> - Ensure that potential fall hazards within their area of responsibility

	<p>are identified and properly addressed prior to job initiation.</p> <ul style="list-style-type: none"> - Provide clearly define and adequate safeguards (fall prevention, fall restraint or fall arrest systems) to employees involved in working at heights tasks. - Ensure that fall protection equipment is inspected annually and tagged with the annual colored inspection tag. - Monitor personnel compliance with this policy. <p>2.3 BP Safety Team</p> <ul style="list-style-type: none"> - Conduct training to employees on fall prevention and fall protection systems. - Evaluate new fall protection technologies and equipment for possible use and approve all fall protection equipment for BP employees prior to purchase. - Provide technical support and guidance for methods to achieve compliance with this policy. - Monitor compliance with this policy. <p>2.4 Contractors</p> <ul style="list-style-type: none"> - Conduct pre-use inspections of all fall protection equipment and ensure annual inspection compliance with this procedure. - Provide at the request of BP, 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.
<p>3.0 Proper Working Platforms</p>	<p>3.1 Permanent platforms with appropriate guardrails and toeboards are recommended where work is being performed on walking/working surfaces 4 feet or greater from a lower level on a routine basis.</p> <p>3.2 A proper work platform (e.g., scaffolding) must be provided when possible for personnel working at heights 4 foot or greater from a lower level.</p> <hr/> <p>NOTE: A proper work platform should be considered during the risk assessment even if working at heights less than 4 foot.</p> <hr/> <p>3.3 Proper working platforms may be any of the following and <u>do not normally require fall protection systems</u>:</p> <ul style="list-style-type: none"> - Permanent walkways and platforms with guardrails - Temporary scaffolding - Mobile ladder stands <p>3.4 Scaffolding must be erected per the Scaffold Practice SAF-076</p> <p>3.5 Personnel using aerial lift and self-propelled platforms must be trained in the proper operations, safe use and inspection of the equipment.</p> <p>3.6 Ladders must comply with the requirements in Appendix B.</p> <p>3.7 When proper working platforms are not possible or feasible, other working platforms may be used and <u>will require fall protection systems</u>. These include but are not limited to:</p> <ul style="list-style-type: none"> - Extensible and/or articulating boom platforms (such as JLG's and electrical bucket truck) - Suspended platforms ("painters" scaffold, etc.) - Scissor lift <p>3.8 Aerial Platform Lifts must be used in accordance with Appendix C of this procedure.</p> <p>3.9 Scissor Lifts must be used in accordance with Appendix D of this procedure</p> <p>3.10 All walking/working surfaces shall be kept free of unnecessary debris, moisture, and oil to prevent slips, trips and falls.</p>
<p>4.0 Fall Prevention</p>	<p>4.1 Guardrail System members must meet load and physical installation requirements:</p>

	<ul style="list-style-type: none"> - Existing guard railing shall consist of a top rail, intermediate rail, and posts, or equivalent - Shall have a minimum vertical height of 36-44 inches from the upper surface of the top rail to the floor, platform, and runway or ramp level. <p>4.2 Guardrailings with heights greater than 44 inches are allowed as long as they do not create a hazardous situation. The openings between railings shall not exceed 19 inches.</p> <p>4.3 The use of a fall restraint system must be reviewed and approved by the BP Safety Team.</p> <hr/> <p style="text-align: center;">NOTE: The use of body belts is prohibited at Toledo Refinery</p> <hr/>						
<p>5.0 Personal Fall Protection Guidelines</p>	<p>5.1 Employees working on unprotected walking/working surfaces 4 foot or greater from a lower level shall be protected from falling by the use of safety net systems or personal fall arrest systems.</p> <p>5.2 Fall protection systems are required at all times for personnel on unprotected walking/working surfaces above dangerous equipment.</p> <p>5.3 Employees engaging in transportation activities associated with loading and unloading flatbed trucks are required to be protected from falls when working over 6 foot.</p> <p>5.4 When working within near a leading edge, a leading edge (LE) lanyard with a shock pack must be used.</p> <p>5.5 Arc rated harnesses must be worn when working in a lift or bucket truck on 480kV or greater electrical equipment.</p> <p>5.6 When it is required to wear a harness while welding, a welding coat must be worn over top of the harness.</p> <p>5.7 The use of fall protection where falling into open water is a risk (e.g. over WWTU channels and boxes, Marine Dock open edge, etc.) shall be risk assessed. Fall protection equipment in these scenarios may be replaced with personal flotation device(s) as determined by the fall protection competent person and a BP Safety and documented in the work risk assessment.</p>						
<p>6.0 Lone Worker Guidelines</p>	<p>6.1 When the use of personal fall arrest equipment is required for a lone worker working at heights, one of the following must be in place. The worker shall:</p> <ol style="list-style-type: none"> 1. Be constantly monitored by a “designated worker” so that emergency notifications can be made in the event of an emergency; Or 2. Utilize lone worker technology (e.g. M6i or G7 device) that has the ability to detect a fall and make emergency notification; Or 3. In emergency circumstances, a detailed communication plan must be developed between the worker and supervisor and implemented when working alone in fall arrest equipment. The plan should include details such as check-in times, location(s) of work, or tasks to be completed. <p>6.2 Persons using fall arrest devices in isolated areas must inform their supervisor of the location and task to be completed and must carry a two-way radio.</p>						
<p>7.0 Safety Net Systems For Fall Protection</p>	<p>7.1 Safety net systems must be installed as close as practicable under the surface on which employees are working</p> <p>7.2 Safety Nets must extend outward from the outermost projection of the work surface as follows:</p> <table border="1" data-bbox="400 1906 1398 2040"> <thead> <tr> <th style="text-align: center;">Vertical distance from working level to horizontal plane of net</th> <th style="text-align: center;">Maximum required horizontal distance of outer edge of the edge of the working surface</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Up to 5 feet</td> <td style="text-align: center;">8 feet</td> </tr> <tr> <td style="text-align: center;">5-10 feet</td> <td style="text-align: center;">10 feet</td> </tr> </tbody> </table>	Vertical distance from working level to horizontal plane of net	Maximum required horizontal distance of outer edge of the edge of the working surface	Up to 5 feet	8 feet	5-10 feet	10 feet
Vertical distance from working level to horizontal plane of net	Maximum required horizontal distance of outer edge of the edge of the working surface						
Up to 5 feet	8 feet						
5-10 feet	10 feet						

	More than 10 feet	13 feet
	<p>7.3 Safety nets must be installed with sufficient clearance to prevent contact with the surface or structures under them when subjected to an impact force of a 400lb bag of sand 28-32 inches in diameter dropped into the net at the highest surface of which employees are exposed to fall hazards.</p> <ul style="list-style-type: none"> - Safety net systems must be drop-tested at the jobsite: After initial installation and before being used - Whenever relocated - After major repair - After 6-month intervals if left in one place <p>7.4 The installer of the safety net must provide drop test certification and it shall be maintained at all times at the jobsite for the duration of the task. Once the safety net has been removed, it can be discarded. The certification must include:</p> <ul style="list-style-type: none"> - Identification of the net and net installation - State that it was determined that the net and net installation were in compliance - Signature of the person making the determination and certification <p>7.5 The Safety net system must be inspected for wear, damage and other deterioration at least once a week and after any occurrence which could affect the systems integrity</p> <p>7.6 Defective nets shall not be used and should be removed from service immediately</p> <p>7.7 Objects that have fallen into the safety net system must be removed as soon as possible but no later than the end of shift</p> <p>7.8 Mesh size must not exceed 6 inches by 6 inches and may not exceed a center-to-center measurement of 6 inches</p> <p>7.9 Boarder rope for webbing must have a minimum breaking strength of 5,000lbs</p> <p>7.10 Connections between safety net panels must not be spaced more than 6 inches apart.</p> <p>7.11 The use of safety nets is an acceptable fall arrest system. If the need arises to use safety nets at the Toledo Refinery, HSSE must be contacted and will assist in the review and get approval for the alternate method prior to implementation.</p>	
8.0 Safe Work in Highlines	<p>Where Access Is Only Possible Through Highlines (without proper working platform):</p> <p>8.1 Body harness with lanyard(s) is required. Use an anchor connection device as needed.</p> <p>8.2 Ensure compliance with lone worker guidelines in section 6.0.</p> <div style="text-align: center; border: 1px solid black; padding: 5px;"> <p>WARNING</p> <p>If a transfer of anchor points is required, 100% tie off must be maintained. This may require the use of a “double legged” lanyard.</p> </div>	
9.0 Fall Protection for Working on Roofs	<p>9.1 For work on a low slope roof, personnel shall be protected from falls by use of:</p> <ul style="list-style-type: none"> - Guardrails - Safety net system - Personal fall arrest - Or a combination of warning lines and a safety monitoring system. <p>9.2 Warning lines must be 6 feet from the edge of the roof.</p> <p>9.3 A safety monitoring system alone may be used on roofs that are less</p>	

	<p>than 50 feet wide</p> <p>9.4 Work on a steep roof requires guardrails with toeboards, safety net systems, or personal fall arrest.</p> <p>9.5 When roof work must take place, the employer shall ensure the safety monitor complies with the following:</p> <ul style="list-style-type: none"> - The safety monitor shall be competent to recognize fall hazards; - The safety monitor shall be on the same walking/working surface and within visual sighting distanced of the employee being monitored; - The safety monitor shall be close enough to communicate orally with the employee; and - The safety monitor shall not have other responsibilities which could take the monitor's attention from the monitoring function.
<p>10.0 Proper Use of Personal Fall Arrest Devices</p>	<p>10.1 BP approved harnesses and lanyards will be maintained within the BP Safety Department. Any equipment requested that is not listed must be approved by this procedure owner.</p> <p>10.3 Harnesses must have upper, middle back "D" rings for proper body suspension during fall.</p> <p>10.4 The "D" ring should be positioned between the shoulder blades.</p> <p>10.5 Lanyards must be fitted with a double locking snap hook attachment.</p> <p>10.6 Webbing, straps and ropes must be a synthetic fiber or wire rope.</p> <p>10.7 Lanyards shall be rigged to minimize the free fall distance but in no case to exceed 6 foot. Lanyards can be either self-retracting lanyards/lifelines or a maximum of a 6 foot lanyard not including the shock pack.</p> <p>10.8 Inline harness buckles shall not be used as leg straps because the slots are inline and can be unhooked. The photo below is an example of what is NOT allowed at Toledo Refinery.</p> <div data-bbox="683 1048 1219 1386" data-label="Image"> </div> <hr/> <p>NOTE: All personal fall arrest equipment requires an annual inspection and color tag for the year.</p> <hr/> <p>10.9 It is important to wear the proper size harness.</p> <p>10.10 All buckles must be securely fastened.</p> <p>10.11 Never alter the body harness or lanyard.</p> <p>10.12 Tying two lanyards together to increase the length is not permitted.</p> <p>10.13 Do not tie knots in the lanyard to reduce the length. This can reduce the strength.</p> <p>10.14 Lanyards must support only one person. When vertical or horizontal life lines are used, see manufacturer's guidelines.</p> <p>10.15 Fall arrest systems are not to be used to suspend personnel at a work location.</p> <p>10.16 While moving or climbing, if the lanyard isn't being used for tie-off purposes, it must be wrapped around the body or carried in a manner that prevents snagging.</p> <hr/> <p style="text-align: center;">WARNING</p> <p>Personal fall arrest devices subjected to a free fall and full body load MUST</p>

	<p>be removed from service and returned to the BP Safety Team.</p>
<p>11.0 Anchorage For Fall Protection</p>	<p>11.1 The following are examples of approved anchor points:</p> <ul style="list-style-type: none"> - Pipe with a minimum diameter of 4" - I-beams - Structural steel - Stanchions - For fall protection, personnel may tie-off to scaffold members according to the manufacturer's recommendations. <p style="text-align: center;">WARNING</p> <p>Guardrails, handrails, midrails, on permanent platforms; electrical conduit; light fixtures; and pipe less than 4" in diameter are NOT approved anchor points and should not be used as tie off point.</p> <p>11.2 Personal fall arrest systems must be anchored such that the strength of the fall arrest system is not reduced.</p> <p>11.3 Personal fall arrest devices must be anchored waist high or higher and in such a way to minimize a free fall. If this is not feasible, additional controls may need to be put in place.</p> <p>11.4 Visually check the engagement of the lanyard snap hook. Do not rely on the feel or sound only.</p> <p>11.5 Tug on the lanyard to test the stability of the snap hook.</p> <p style="text-align: center;">WARNING</p> <p>Select anchor points carefully as they must withstand the force of a free fall. Do not anchor to a hot pipe which could compromise the lanyard fabric.</p>
<p>12.0 Tying off to a Crane/Derrick's Hook</p>	<p>12.1 A personal fall arrest system is permitted to be anchored to the crane/derrick's hook (or other part of the load line) when all of the following requirements are in place:</p> <ul style="list-style-type: none"> - A qualified person has determined that the set-up and rated capacity of the crane/derrick (including the hook, load line and rigging are capable of supporting at least 5,000 pounds per employee attached. - The equipment operator must be at the worksite and informed that the equipment is being used for this purpose - No load is suspended from the load line when the personal fall arrest system is anchored to the crane/derrick's hook (or other part of the load line). <p>12.2 The crane must be uniformly level within one percent of level grade, and located on footing that a qualified person has determined to be sufficiently firm and stable.</p> <p>12.3 Equipment with outriggers or stabilizers must have them all extended and locked. The amount of extension must be the same for all outriggers and stabilizers in accordance with the manufacturer procedures and load charts.</p> <p>12.4 The total load must not exceed 50% of the rated capacity for the radius and configuration of the equipment (except during trial lift). This includes the weight of personnel anchored to the crane/derrick's hook and all tools and equipment attached to the person.</p> <p>12.5 When personnel are anchored to the crane/derrick's hook, the load and boom hoist brakes, swing brakes, and operator actuated secondary braking and locking features or automatic secondary brakes must be engaged.</p> <p>12.6 Articulating cranes must be equipped with a properly functioning automatic overload protection device.</p> <p>12.7 Equipment with telescoping boom must be equipped with a device to indicate the boom's extended length clearly to the operator, or must</p>

	<p>have measuring mark on the boom.</p> <p>12.8 A trial lift with load of at least the anticipated weight must be made from ground level and location where personnel will be working. The trial lift must be performed immediately prior to each shift in which the personnel will be anchored. The trial lift is required to be repeated in the following circumstances:</p> <ul style="list-style-type: none"> - The crane is moved and set up in a new location or returned to a previous location - If additional crew members are added, or if additional tools or materials are required to be added to personnel. <p>12.9 A competent person must determine that:</p> <ul style="list-style-type: none"> - Safety devices and operational aids required by this section are activated and functioning properly. - Nothing interferes with the equipment in the course of the trial lift. - The lift will not exceed 50% of the equipment's capacity at any time during the lift. - The load radius to be used during the lift has been accurately determined.
<p>13.0 Emergency Procedures</p>	<p>13.1 Rescue of fallen employees who are incapable of self-rescue shall be done using established emergency procedures:</p> <ol style="list-style-type: none"> a. Make an emergency declaration on radio channel 14A b. Contact the Unit Operator <p>13.2 Harness suspension Trauma:</p> <ul style="list-style-type: none"> - In the event of a fall, blood can pool in the lower extremities and lead to complicating situations, and in extreme cases, death. - Therefore to prevent such outcome the worker should try to move their legs to promote blood flow. - The use of a suspension trauma safety strap is highly recommended and available at the Safety Store.
<p>14.0 Personal Fall Arrest Equipment Care and Storage</p>	<p>14.1 Equipment should be stored in dry areas protected from sunlight and contaminants.</p> <p>14.2 Wet harnesses, lanyards and lifelines must be allowed to dry thoroughly before storing to prevent growth of mold or mildew.</p> <p>14.3 Equipment exposed to oils, chemicals or other contaminants must be decontaminated to prevent degradation.</p> <p>14.4 To clean, use mild soap and warm water to clean. Do not use solvents or harsh chemicals.</p> <p>14.5 Fall arrest equipment should be hung or stored flat to maintain proper shape.</p>
<p>15.0 Training</p>	<p>15.1 No person shall wear or use fall arrest devices without completing training prior to use of this equipment. This training shall include:</p> <ul style="list-style-type: none"> - Fall hazards in the workplace and how to recognize them. - The purpose of fall protection systems and their limitations. - Review the requirements of this policy (SAF-042 Working at Heights). - Use, care, operation and inspection of applicable fall protection systems. - The roles and responsibilities of personnel. <p>15.2 Training shall be completed by a competent person qualified in the following areas:</p> <ul style="list-style-type: none"> - Types of fall hazards in the work area. - Correct procedures for erecting, using, maintaining and inspecting fall protection systems. - Limitations of the use of mechanical equipment and materials. - Correct procedure for handling and storage of equipment and materials. - Requirements contained in the policy. <p>15.3 Documentation of training shall be maintained verifying training completion/competence.</p> <p>15.4 All applicable personnel will be retrained if there is a change in the</p>

	procedure of fall protection equipment or if the employee demonstrates a lack of understanding.										
16.0 Inspection	<p>Pre-Use Inspections:</p> <p>16.1 All fall protection equipment must be inspected by the user prior to each use. Inspections of harnesses and lanyards should include signs of:</p> <ul style="list-style-type: none"> - Wear - Cuts - Burns - Abrasion - Loose threads - Evidence of chemical exposure <p>16.2 Inspect hardware for proper operation, breakage, corrossions and distortion.</p> <p>16.3 Equipment found to be defective must be immediately removed from service, tagged as defective and repaired, or destroyed.</p> <p>Annual Inspection:</p> <p>16.4 All fall protection equipment must have an annual inspection performed by a competent person other than the user.</p> <p>16.5 BP equipment will be inspected under the direction of the BP safety team and documented.</p> <p>16.6 Fall protection equipment that has received a satisfactory in-depth inspection shall be marked/color-coded with vinyl tape or some other secure means according to the following annual inspection schedule:</p> <table border="1" data-bbox="740 927 1059 1099"> <tr> <td>2017</td> <td>Green</td> </tr> <tr> <td>2018</td> <td>Blue</td> </tr> <tr> <td>2019</td> <td>White</td> </tr> <tr> <td>2020</td> <td>Yellow</td> </tr> <tr> <td>2021</td> <td>Orange</td> </tr> </table> <p>16.7 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.</p> <p>16.8 Fall protection equipment subjected to fall forces must be immediately removed from service and returned to the BP Safety Team.</p>	2017	Green	2018	Blue	2019	White	2020	Yellow	2021	Orange
2017	Green										
2018	Blue										
2019	White										
2020	Yellow										
2021	Orange										
17.0 Auditing	<p>17.1 All contract personnel are responsible for managing their own programs.</p> <p>17.2 Elements of the Working at Heights policy will be audited in accordance to Toledo Refinery's auditing program.</p>										
18.0 Deviations	<p>18.1 Any deviation from this procedure shall be approved through a Management of Change</p> <p>18.2 Turnarounds, Special Projects, Greenfield or Brownfield work may be exempt from specific elements of this procedure provided they have a written plan that addresses working at heights activities and meets all OSHA requirements. The exemption from this procedure must be approved by consensus from the HSSE Manager, Operations Manager and Maintenance Manager.</p>										

Appendix A: Dropped Object Prevention

Overview

This section describes the management of objects that could fall and harm personnel or damage property. It applies to all permitted work in which employees using tools or materials are positioned on work platforms or areas greater than 6 feet above lower levels. This includes all BP employees, contractors, and subcontractors handling tools or materials at heights within the Toledo Refinery. The requirements and considerations below pertain to all work at elevation including scaffold or fixed platforms, suspended personnel platforms, powered platforms, ladders, confined spaces, etc.

1.0 Exclusion Zones	<p>1.1 When handling tools/equipment within 6 feet of a deck penetration or platform edge where the object can fall through the opening, a controlled exclusion zone should be established on all lower levels beneath the areas of work.</p> <p>1.2 The default size of an exclusion zone is recommended as a radius of 1 foot beyond the perimeter of the overhead work for every 4 feet of height above grade or intermediate platform.</p> <p>1.3 If the 4:1 ratio cannot be used, the risk assessment should document why the ratio could not be used and what controls will be used instead. The CoW task risk assessment should consider whether the nature of the task, equipment involved, and space limitations warrant modifying the size of the exclusion zone. Where the 4:1 ratio cannot be used, a ground spotter that is actively controlling access in/out of the “drop zone” should be utilized. Additionally at least one of the controls below should be utilized:</p> <ul style="list-style-type: none"> - Tool tethers; or - The gap/opening should be plugged or reduced in size such that it is not possible for the loose objects to fit through the opening and become a dropped/falling object hazard.
2.0 Tool Tethering	<p>2.1 Where tool lanyards/tethers are to be used, they must be rated for the expected use.</p> <p>2.2 All tool lanyards must be inspected prior to use.</p> <p>2.3 No more than 5 pounds per tether should be attached to a person.</p> <ul style="list-style-type: none"> - 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.
3.0 Approved Barriers	<p>3.1 Acceptable barriers include but are not limited to the use of:</p> <ul style="list-style-type: none"> - Plywood - Fire blanket - Scaffold rails - Debris netting - Pre-made insulation pads that prevent items from falling through small openings around deck penetrations or close to gaps between platforms and equipment. <p>3.2 When choosing a barrier, ensure that the barrier can support the weight of the tools or materials being used in the area.</p>
4.0 Lifting/Hoisting Materials	<p>4.1 During lifting or lowering of small tools and materials, closable top safety buckets should be used.</p>

	<p>4.2 The use of skid boxes to transport materials to elevated decks shall be lifted in accordance with MAINT-E-033</p> <p>4.3 All materials shall be lifted in accordance with the type of rope specified in MAINT-E-033.</p> <p>4.4 The contents must fit within the bucket whereas the top can be fully closed during lifting/lowering.</p> <p>4.5 When carrying or transporting materials to elevations, the use of backpacks is recommended.</p> <hr/> <hr/> <p>NOTE: The area at grade must be barricaded during lifting/lowering activities.</p> <hr/> <hr/> <p style="text-align: center;">WARNING</p> <p>Plastic buckets or other containers which are NOT closable nor rated for the intended load cannot be used for hoisting.</p> <hr/> <hr/> <p>4.6 The risk assessment associated with the permitted work will be used to document the selected dropped object controls that are deemed to provide the most effective protection</p> <p>4.7 The area around the lifting/hoisting operation shall be barricaded in accordance with SAF-116.</p>
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Appendix B: Ladders

SCOPE	This HSSE policy exists to ensure that portable ladders, extension ladders and mobile work platforms are safely operated to prevent injury to employees, contractors, and visitors. This policy applies to all portable ladders, extension ladders and mobile work platforms used, stored or staged on-site. This policy applies to all contractors and BP employees who operate or manage the aerial platform lifts. For this policy, "on-site" means any property owned by BP Toledo Refinery and includes all parking lots and the property south of Cedar Point Road. These guidelines do not encompass Firefighting equipment.
HEALTH Special PPE & Special Hazards	Working at heights is a recognized risk that must be managed to prevent employees from falling. Having procedures for safe use, storage and inspection of portable ladders, extension ladders and mobile work platforms is essential to prevent falls injuries.
SAFETY	Prevention of harm to people, the environment and no damage to the property.
REFERENCE DOCUMENTS	29 CFR 1910.67 29 CFR 1926.1053 Manufacturer's instructions and guidelines
SPECIAL MATERIALS & EQUIPMENT	Personal Fall prevention/Arrest Equipment Barrier Tape-Red Danger Safety Cones
QUALITY	N/A
ENVIRONMENTAL	N/A

1.0 Portable Ladder General Requirements	<p>1.1 Ladders must only be used for the purpose in which they are designed.</p> <p>1.2 Portable ladder rungs, steps, and cleats are parallel, level, and uniformly spaced when the portable ladder is in position for use.</p> <p>1.3 Portable ladder rungs, steps, and cleats are spaced no less than 10 inches and no more than 14 inches apart, as measured between the centerlines of the runs, cleats, and steps.</p> <p>1.4 Portable ladder rungs, steps, and cleats have a minimum clear width of 11.5 inches.</p> <p>1.5 Fixed ladders must maintain a minimum clear width of 16 inches.</p>
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	<p>1.6 Metal ladders are made with corrosion-resistant material to protect against corrosion</p> <p>1.7 Ladder surfaces must be free of puncture and laceration hazards</p> <p>1.8 Manufacturer's tags shall be legible and visible at all times on portable ladders.</p>
2.0 Portable and Step Ladder Use	<p>2.1 Ladders placed in locations such as passageways, doorways, or driveways where they can be displaced by other activities or traffic one of the following must be put in place:</p> <ul style="list-style-type: none"> - Ladder must be secured to prevent accidental displacement; or - Ladder must be guarded by a temporary barricade, such as hard barricades or caution tape <p>2.2 All personnel must ascend and descend facing the ladder.</p> <p>2.3 When using a ladder all personnel must use at least one hand to grasp the ladder when climbing.</p> <p>2.4 Personnel are not permitted to carry a load that prevents the employee from maintaining 3-points of contact.</p> <p>2.5 Rungs and steps of portable metal ladders must be corrugated, knurled, dimpled, coated with skid-resistant material or otherwise treated to minimize the possibility of slipping.</p> <p>2.6 All stepladder or combination ladder used as a stepladder must be equipped with a metal spreader or locking device that securely holds the front and back sections in an open position while the ladder is in use.</p> <p>2.7 Ladders can only be used on stable and level surfaces unless they are secured or stabilized to prevent accidental displacement.</p> <p>2.8 Moving a ladder while an employee is on it is prohibited.</p> <p>2.9 Ladders and ladder sections cannot be fastened together to provide added length unless they are specifically designed for such use.</p>
3.0 Straight or Extension Ladders	<p>3.1 All straight or extension ladders must have a minimum width between side rails of 12 inches.</p> <p>3.2 Single ladders or individual sections of ladders shall not exceed 30 feet. Two-section ladders shall not exceed 48 feet in length</p> <p>3.3 Ladders over two-section are not permitted at Toledo Refinery.</p> <p>3.4 Verify that safety feet are in good condition.</p> <p>3.5 Extension ladders must extend 3 feet above the level accessed.</p> <p>3.6 Ensure rung-locks are fully engaged. The sections of an extension ladder must be bound together by 9 wire or equivalent when extended.</p> <p>3.7 Ensure ladders are positioned at a 4:1 ratio.</p> <hr/> <p style="text-align: center;">NOTE: Never use ladders in the horizontal position</p> <hr/> <p>3.8 Extension ladders must be approved and be tied off or attended while work is being performed.</p>
4.0 Mobile Ladder Platform General Requirements	<p>4.1 Mobile ladder stands and platforms have a step width of at least 16 inches</p> <p>4.2 The steps and platforms of mobile ladder stands and platforms must be slip resistant.</p> <p>4.3 Mobile ladder stands and platforms must be capable of supporting at least four times their maximum intended load.</p> <p>4.4 Steps must be uniformly spaced and arranged, with a rise of not more than 10 inches and a depth of not less than 7 inches.</p>
5.0 Personal Safety Requirements	<p>5.1 Three points of contact with the ladder or personal fall arrest system is required when working from a ladder where an employee's feet are 4 foot or greater from a lower level. If three points of contact cannot be maintained, personal fall arrest system must be used.</p> <hr/> <p style="text-align: center;">NOTE: Three points of contact means at least one hand must be used to grasp the ladder and both feet must be on a ladder rung (or two</p>

	<p style="text-align: center;"><u>hands and one foot must be on the ladder).</u></p> <p>5.2 Any Mobile Ladder platform greater than 4 foot from grade must have handrails with a vertical height of at least 36 inches, mid-rails, toeboards, and a swing gates or non-rigid members, such as chains.</p>
<p>6.0 Inspection</p>	<p>6.1 A pre-use inspection is required for all portable ladders</p> <p>6.2 All portable ladders are required to be inspected for visible defects annually and after any occurrence that could affect their safe use.</p> <p>6.3 All ladders must be tagged annually with the color in Section 16.0 of this procedure.</p> <p>6.4 Ladders shall be inspected by a Scaffolding Competent Person Annually.</p> <p>6.5 Ladder Inspection tasks are considered Non-Permitted work per the CoW Task Risk Category Table.</p> <p>6.6 Ladder Inspection PM's for BP owned ladders are generated annually in Maximo for each operating asset and facilities operated areas (including maintenance shops).</p> <p>6.7 Inspection criteria includes:</p> <ul style="list-style-type: none"> - Inspecting all rung-toeside 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. <p>6.8 Any ladder with structural or other defects must be immediately tagged and removed from service.</p> <p>6.9 Ladders shall be marked in a manner that readily identified them as defective.</p> <p>6.10 Ladder repairs shall restore the ladder to a condition meeting its original design criteria before the ladder is returned to service.</p> <p>6.11 If the ladder cannot be properly repaired, the competent person or designee will properly dispose the defective ladder.</p> <div style="border: 1px solid black; background-color: #e0e0e0; padding: 5px; text-align: center;"> <p>WARNING</p> <p>Ladders can be dangerous and must be used properly and be in good condition.</p> </div>

Appendix C: Safe Use of Aerial Platform Lifts

SCOPE	This HSSE policy exists to ensure that aerial platform lifts are safely operated to prevent injury to employees, contractors, and visitors. This policy applies to all aerial platform lifts used, stored or staged on-site. This policy applies to all contractors and BP employees who operate or manage the aerial platform lifts. For this policy, "on-site" means any property owned by BP Toledo Refinery and includes all parking lots and the property south of Cedar Point Road. This does not encompass any firefighting equipment or scissor lifts.
HEALTH Special PPE & Special Hazards	Working at heights is a recognized risk that must be managed to prevent employees from falling. Also, some aerial platform lifts have the potential to create a "caught in between" or crush hazard due to swing radius. Having procedures for safe operation, storage and staging of aerial platform lifts is essential to prevent falls and crush injuries.
SAFETY	Prevention of harm to people, the environment and no damage to the property.
REFERENCE DOCUMENTS	29 CFR 1910.67 29 CFR 1926.453 Manufacturer's instructions and guidelines SAF-042 FM01 Daily Inspection Sheet SAF-042 FM02 Aerial Lift Exit Permit MAINT-E-025
SPECIAL MATERIALS & EQUIPMENT	Personal Fall prevention/Arrest Equipment Retractable Lanyard Barrier Tape-Red Danger Safety Cones
QUALITY	N/A
ENVIRONMENTAL	Any fluid or vapour leak from a piece of equipment can cause an environmental concern.

1.0 Aerial Platform Lift General Requirements	1.1	A copy of the manufacturer's manual shall be kept with the aerial platform lift.
	1.2	Aerial platform lifts shall have both platform (upper) controls and lower controls. Upper controls shall be in or beside the platform within easy reach of the operator. Lower controls shall provide for overriding the upper controls.
	1.3	Controls shall be plainly marked as to their function. All labels shall be legible.
	1.4	All aerial platform lifts shall be fit for purpose, and shall be maintained in

	<p>safe working order as defined by the manufacturer.</p> <p>1.5 Aerial platform lifts may be “field modified” for used other than those intended by the manufacturer, provided the modification has been certified in writing by the manufacturer. This certification shall be kept with the aerial platform lift. In addition, the field modification shall be completed in accordance with MAINT-E-025.</p> <p>1.6 The manufacturer boom and basket load weight limit shall be labelled in view of personnel in the basket</p> <p>1.7 Boot around joystick controllers must be free of cracks.</p> <p>1.8 Electrocutation warnings must be visible to basket operators</p> <p>1.9 If an electrical outlet is installed on the basket, it must be free of damage and be equipped with a cover.</p> <p>1.10 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.</p> <p>1.11 All aerial platform lifts shall be equipped with a working alarm that sounds when the platform is lowering</p> <p>1.12 All aerial platform lifts shall be equipped with either a gravity or swing gate. The latch on the swing gate must be in proper working condition.</p> <p>1.13 Tires shall 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.</p> <ul style="list-style-type: none"> - 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 gouges.
<p>2.0 Training Requirements</p>	<p>2.1 BP and all 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.</p> <p>2.2 Aerial platform lift training will have the following components: <u>Classroom training that covers the following subject area as a minimum:</u></p> <p>2.3 Types of aerial platform lifts</p> <p>2.4 Labels and markings required in lifts</p> <p>2.5 Pre-use inspections and provide a copy of the company specific form to be used.</p> <p>2.6 Responsibilities of the lift operator.</p> <p>2.7 Safe work considerations such as fall protection, tipovers (ground conditions), working near electrical lines, use of spotters and dropped objects.</p> <p>2.8 Use of stabilizing devices such as outriggers and extending axels</p> <p>2.9 When base controls can be used in place of platform controls</p> <p>2.10 What conditions will activate the lifts “safe mode” due to an over extension of operation conditions (for example: tilt alarm)</p> <p>2.11 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.</p> <p><u>Competency Verification will be necessary for the following categories of lifts:</u></p> <ul style="list-style-type: none"> • Less than or equal to 80’ boom • Greater than 80’ boom <p>2.12 The Competency Verification will require a demonstration of competency in a minimum of the following subject areas:</p> <ul style="list-style-type: none"> - Performing a pre-use inspection

	<ul style="list-style-type: none"> - Proper access and use of fall protection - Ability to maneuver the lift smoothly and properly - Safely operates the lift: <ul style="list-style-type: none"> • 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. <p>2.13 Initial training does not require that an employee be trained in each category. The intention is that prior to an employee operating a lift that they receive competency verification on that category of equipment.</p> <p>2.14 Each company on site must retain records of classroom and competency verifications and be able to produce these records on request.</p> <p>2.15 Aerial platform lift training must be refreshed every 3 years. Classroom and competency verifications may be refreshed on cycles separate from each other as long as they are, respectively, within the 3 year cycle.</p> <p>2.16 Retraining is mandatory if an employee performs in a manner that brings into question their ability to safely operate the lift.</p> <p>2.17 Ensure training is sufficient for the particular piece of equipment being used. If the equipment changes, hands-on review is required on the new equipment (i.e., controls, features, etc.).</p>
<p>3.0 Operational Requirements</p>	<p>3.1 Only trained persons shall operate an aerial platform lift</p> <p>3.2 A dedicated spotter will be utilized whenever the aerial platform lift is in motion, except while traveling on non-permitted roadways</p> <p>3.3 A dedicated spotter must have a verbal or signal based communication with the operator of the aerial platform lift.</p> <p>3.4 The dedicated spotter may be in the basket of the aerial platform lift provide that all provisions below are met:</p> <ul style="list-style-type: none"> - 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 <p>3.5 If equipped with stabilizing devices, the stabilizing devices must be fully extended before the aerial platform lift may be operated.</p> <p>3.6 While stabilizing devices are in motion, only the personnel in the basket of the aerial platform lift may be within the swing radius of the aerial platform lift.</p> <p>3.7 When there are accessible areas in which the equipment's rotating superstructure poses a reasonably foreseeable risk of striking an employee or pinching/crushing an employee against another part of the equipment or another object, the following apply:</p> <ul style="list-style-type: none"> - Warning lines shall be erected to mark the boundaries of the hazard area. Where it's not feasible to erect these lines, signs (danger-swing/crush zone) and high visibility markings can be placed on equipment to identify the hazard areas <p>3.8 Boom and basket load limits specified by the manufacturer shall not be exceeded. Tool weights will be included in the total weight in the basket.</p> <p>3.9 Lower level controls shall not be operated while the lift is in use, unless permission has been obtained from the person in the lift, except in the case of an emergency.</p>

	<p>3.10 The wheels of aerial platform lift may be moved when the boom is elevated in a working position with workers in the basket, except when not specifically designed for this type of operation, per the manufacturer's recommendations.</p> <p>3.11 When equipped with brakes they shall be set and outriggers, when used, shall be positioned on pads or a solid surface.</p> <p>3.12 Wheel chocks shall be used whenever an aerial platform lift is being used on an incline.</p> <p>3.13 Fire blankets or other materials that would limit the operators view shall be stored properly in the aerial platform lift before the platform is lowering to grade.</p> <p>3.14 Aerial platform lifts shall not be used in sustained wind or gusts that exceed the safe operating limits set by the manufacturer. Wind speeds are available by calling the EOC on 14A.</p>								
<p>4.0 Operating Near Electrical Equipment</p>	<p>4.1 Aerial platform lifts shall not be operated within 20 feet of any exposed and energized electrical line. The 20-foot distance applies to the aerial lift, and also all personnel and materials within the basket. Exceptions to the rule include:</p> <ul style="list-style-type: none"> - Specifically trained and certified linemen, - Qualified electricians and tree trimmers using electrically insulated aerial platform lifts - Qualified electricians using distances in 4.2 <p>4.2 Qualified electricians may operate a non-insulated aerial platform near insulated, energized conductors but must maintain the required distance from uninsulated parts or conductors shown in the table below:</p> <table border="1" data-bbox="544 1003 1321 1234" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2" style="text-align: center;">Operation Near Insulated, Energized Electrical Lines (actual distance including elevation and distance)</th> </tr> <tr> <th style="text-align: center;">Voltage, KV: (Phase to Phase)</th> <th style="text-align: center;">Minimum Required Clearance:</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">13.8KV and below</td> <td style="text-align: center;">10 feet</td> </tr> <tr> <td style="text-align: center;">69KV</td> <td style="text-align: center;">15 feet</td> </tr> </tbody> </table>	Operation Near Insulated, Energized Electrical Lines (actual distance including elevation and distance)		Voltage, KV: (Phase to Phase)	Minimum Required Clearance:	13.8KV and below	10 feet	69KV	15 feet
Operation Near Insulated, Energized Electrical Lines (actual distance including elevation and distance)									
Voltage, KV: (Phase to Phase)	Minimum Required Clearance:								
13.8KV and below	10 feet								
69KV	15 feet								
<p>5.0 Personal Safety Requirements</p>	<p>5.1 A body harness and a retractable fall arrest device shall be used when operating the aerial platform lift.</p> <p>5.2 The retractable fall arrest device shall be anchored to the designated anchor points manufactured into the platform basket. No person shall ever anchor to the platform railings.</p> <p>5.3 Anchoring to an adjustable pole, structure or equipment while working from an aerial platform lift shall not be permitted, except when entering or exiting the platform basket at an elevation greater than 4 feet with 100% fall protection.</p> <p>5.4 When working over open water, personnel in the basket shall wear a personal flotation device over top of a body harness and fall arrest device. While over open water, personnel shall unanchor from the from the aerial platform lift.</p> <p>5.5 Employees shall always stand firmly on the floor of the basket, and shall not sit or climb on the railing of the basket or use planks, ladders or other devices for work position.</p> <p style="text-align: center;">NOTE: Sitting and climbing on the railing of the basket will be acceptable only when exiting and entering the basket when the use of the gate is not possible. Requirements of 5.3 must be adhered to in these situations.</p>								
<p>6.0 Staging and</p>	<p>6.1 If the aerial platform lift is being stored or staged on a roadway, cones,</p>								

storage Requirements	danger tape and/or barricades should be placed around the aerial platform lift to ensure that all drivers are aware of its presence on the roadway. When possible, the lifts should be staged and stored off of roadways.
7.0 Inspection Requirements	<p>7.1 All Aerial platform lifts onsite will be current in the yearly inspection and daily pre-use inspection. These records shall be kept for the current year and 3 years previous.</p> <p>7.2 Aerial platform lifts will be inspected before each use. The BP Husky pre-use Inspection sheet shall be used. If another sheet has been deployed by a contractor, it may be used providing that it meets or exceeds all OSHA Regulations.</p> <p>7.3 The daily pre-use inspection must be performed prior to use on a job. A copy of the day's inspection sheet shall be kept with the aerial platform lift for the duration of the working day (24 hour maximum) and then filed with dispatch at the end of use for BP owned lifts. The same daily pre-use inspection sheet may be used for 7 days. Contractors shall retain records of their daily pre-use inspections within their company.</p> <p>7.4 The yearly inspection should be conducted by a mechanic that is competent on the specific make and model of the aerial platform lift. A manufacturer approved yearly inspection sheet should be used.</p> <p>7.5 Copies of the yearly inspection shall be kept with the aerial platform lift.</p>
8.0 Permits for Vehicle Entry	<p>8.1 Vehicles entering a permitted roadway or hazardous classified area shall have a Vehicle Entry Permit or Hot Work Spark Potential Permit to Work (PTW). See SAF044 Hot Work, Hot Work Spark Potential and Vehicle Entry for details on required permits.</p> <p>8.2 A Permit to Work (PTW) shall be issued for aerial platform lifts that are used as a tool for part of a task. A Vehicle Entry Permit shall be issued for all other vehicles.</p>
9.0 Aerial Lift Exit Permit Requirements	<p>9.1 If a worker must exit a lift at elevation, an Aerial Lift Exit Permit must be completed and implemented.</p> <p>9.2 This permit is only valid for 1 shift and shall be maintained with the Permit to Work (PTW).</p> <p>9.3 All personnel must use the Aerial Lift Exit Permit found in SAF-042 FM02</p> <p>9.4 The Aerial Lift Exit Permit must be completed prior to beginning work.</p> <p>9.5 The form shall stay with Control of Work permit, and be turned in with the permit at the end of the shift.</p> <p>9.6 Aerial Lift Exit Permits must be signed by all members exiting the Aerial Lift, the crew foreman or supervisor, and the safety representative for the company.</p>

Appendix D: Scissor Lifts

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SCOPE	This HSSE policy exists to ensure that scissor lifts are safely operated to prevent injury to employees, contractors, and visitors. This policy applies to all scissor lifts used, stored or staged on-site. This policy applies to all contractors and BP employees who operate or manage the aerial platform lifts. For this policy, "on-site" means any property owned by BP Toledo Refinery and includes all parking lots and the property south of Cedar Point Road.
HEALTH Special PPE & Special Hazards	Working at heights is a recognized risk that must be managed to prevent employees from falling. Having procedures for safe use, scissor lifts is essential to prevent falls injuries.
SAFETY	Prevention of harm to people, the environment and no damage to the property.
REFERENCE DOCUMENTS	29 CFR 1910.67 29 CFR 1926.453 Manufacturer's instructions and guidelines SAF-042 FM02 Daily Inspection Sheet
SPECIAL MATERIALS & EQUIPMENT	Personal Fall prevention/Arrest Equipment Retractable Lanyard Barrier Tape-Red Danger Safety Cones
QUALITY	N/A
ENVIRONMENTAL	Any fluid or vapour leak from a piece of equipment can cause an environmental concern.

Overview

Scissor lifts are work platforms used to safely move workers vertically and to different locations. Scissor lifts are different from aerial lifts because the lifting mechanism moves the work platform straight up and down and using crossed beams functioning in scissor-like fashion.

1.0 Scissor Lifts General Requirements	<p>1.1 A copy of the manufacturer's manual shall be kept with each scissor lift.</p> <p>1.2 All controls must be plainly marked and legible.</p> <p>1.3 The manufacturer basket load weight limit shall be labelled in view of personnel in the basket.</p> <p>1.4 Electrocutation warnings must be visible to basket operations</p> <p>1.5 Scissor Lifts must be stored in the downward position.</p>
2.0 Operational Requirements	<p>2.1 Only trained persons shall operate a scissor lift.</p> <p>2.2 Do not elevate the lift unless on a level surface.</p> <p>2.3 Elevated driving can only be done on a level surface.</p> <p>2.4 Always ensure the load is evenly distributed.</p> <p>2.5 Enter and exit the basket using three points of contact.</p>

	<p>2.6 Prior to moving each employee in the basket must be made aware.</p> <p>2.7 Do not use the equipment if it:</p> <ul style="list-style-type: none"> - Does not appear to be working properly - Has been damaged or appears worn or missing parts - Alterations or modifications have been made and not approved by the manufacturer - Safety devices have been altered - Has been tagged or locked out of service <p>2.8 Aerial platform lifts shall not be used in sustained wind or gusts that exceed the safe operating limits set by the manufacturer. Wind speeds are available by calling the EOC on 14A.</p>								
<p>3.0 Electrical Hazards</p>	<p>3.1 Scissor lifts shall not operate within 20 feet of any exposed or energized electrical line.</p> <p>3.2 The 20-foot distance applies to the scissor lift as well as personnel and materials within the basket.</p> <p>3.3 Exceptions to this rule include:</p> <ul style="list-style-type: none"> - Specifically trained and certified linemen - Qualified electricians and tree trimmers using electrically insulated aerial platform lifts - Qualified electricians following distances in 3.4 <p>3.4 Qualified Electricians may operate a non-insulated aerial platform near insulated, energized conductors but must maintain the required distance from uninsulated parts or conductors shown in the table below:</p> <table border="1" data-bbox="544 958 1321 1189"> <thead> <tr> <th colspan="2" style="text-align: center;">Operation Near Insulated, Energized Electrical Lines (actual distance including elevation and distance)</th> </tr> <tr> <th style="text-align: center;">Voltage, KV: (Phase to Phase)</th> <th style="text-align: center;">Minimum Required Clearance:</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">13.8KV and below</td> <td style="text-align: center;">10 feet</td> </tr> <tr> <td style="text-align: center;">69KV</td> <td style="text-align: center;">15 feet</td> </tr> </tbody> </table>	Operation Near Insulated, Energized Electrical Lines (actual distance including elevation and distance)		Voltage, KV: (Phase to Phase)	Minimum Required Clearance:	13.8KV and below	10 feet	69KV	15 feet
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<p>4.0 Inspections</p>	<p>4.1 A pre-use inspection sheet is required to be completed prior to using the scissor lift.</p> <p>4.2 Inspections should include a review of:</p> <ul style="list-style-type: none"> - Safety devices - Emergency controls - Fall Protection equipment - The lift's tires - Other critical components <p>4.3 Tires shall be in good condition. If tires do not meet the criteria for "good condition" listed below, the scissor lift should not be used to perform work:</p> <ul style="list-style-type: none"> - 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 rubber is free of cracks and gouges. <div style="border: 1px solid black; padding: 5px; text-align: center; margin-top: 10px;"> <p>WARNING</p> <p>If the equipment fails an inspection, it shall be tagged out of service and reported.</p> </div>								
<p>5.0 Personal Safety Requirements</p>	<p>5.1 Personal fall arrest (harness) and retractable lanyard are required whenever traveling or working in a scissor lift.</p> <p>5.2 Use manufacturers anchor points within the basket.</p> <p>5.3 Avoid entanglement with ropes, cords, or hoses.</p> <p>5.4 Stay within the bounds of the guardrail.</p> <p>5.5 Standing on the mid-rails or top rail is forbidden.</p> <p>5.6 Exiting the basket is not permitted.</p>								

<p>6.0 Permits for Vehicle Entry</p>	<p>6.1 Vehicles entering a permitted roadway or hazardous classified area shall have a Vehicle Entry Permit or Hot Work Spark Potential Permit to Work (PTW). See SAF044 Hot Work, Hot Work Spark Potential and Vehicle Entry for details on required permits.</p> <p>6.2 A Permit to Work (PTW) shall be issued for aerial platform lifts that are used as a tool for part of a task. A Vehicle Entry Permit shall be issued for all other vehicles.</p>
<p>7.0 Training Requirements</p>	<p>7.1 BP and all onsite contractors will meet the following scissor lift training requirements.</p> <p>7.2 Scissor lift training must be refreshed every 3 years. Classroom and competency verifications may be refreshed on cycles separate from each other as long as they are, respectively, within the 3 year cycle.</p> <p>7.3 Retraining is mandatory if an employee performs in a manner that brings into question their ability to safely operate the lift.</p> <p>7.4 Scissor Lift training should include:</p> <ul style="list-style-type: none"> - Operator Responsibilities - Fall hazards - Personal Safety Requirements - Falling Object Hazards - Electrical Hazards - Safe Operating Conditions (e.g. wind, weather conditions) - Crush/Pinch Hazards - Lift Pre-Inspection

Date	Revised By	Changes
3/31/17	E. Stewart	M2017300-001

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