DHHS POLICIES AND PROCEDURES

Section V:	**Human Resources**
Title:	**Safety and Benefits**
Chapter:	**Aerial Lift Safety Plan**
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Purpose

This plan outlines safety procedures for DHHS employees whose job duties may include work on aerial lifts.

Policy

It is the policy of DHHS to protect employees, patients, clients, residents, and any other individuals from hazards associated with aerial lifts and to comply with all regulatory requirements for the safe operation of such equipment.

Definitions

Aerial ladder - An aerial device that consists of a single- or multiple-section rung ladder.

Aerial lift – A mobile or manually propelled device that has an adjustable position platform, supported from ground level by a structure.

Articulating boom - An aerial device that has 2 or more hinged boom sections.

Authorized person - A person who is approved and assigned to perform specific types of duties by the employer and who is qualified to perform those duties because of his or her training or experience.

Commercial chassis - A vehicle that is built for over-the-road (roadway) travel.

Exposed power line - A power line that is not isolated or guarded.

Extensible boom - An aerial device, except for the aerial ladder-type, that has a telescopic boom.

Insulated aerial device - An aerial lift that is designed with dielectric components to meet specific electrical insulating ratings.

Mechanically Positioned - The elevating assembly, whether a mechanical (cable or chain), hydraulic, pneumatic, electric or other powered mechanism, is used to raise or lower the platform.

Platform - The portion of an aerial lift, such as a bucket, basket, stand, cage, or the equivalent, that is designed to be occupied by personnel.

Power Line - A distribution or transmission electrical line.

Qualified Person - A person who possesses a recognized degree, certificate, professional standing, or skill and who, by knowledge, training, and experience, has demonstrated the ability to deal with problems relating to the subject matter, the work, or the project.

Vehicle - Any carrier that is not manually propelled**.**

Vehicle-mounted elevating and rotating aerial lift - An aerial device or aerial lifts.

Vertical tower – An aerial device that is designed to operate vertically on a level surface.

Roles and Responsibilities

Safety Programs Manager

The Safety Programs Manager (SPM) ensures that a written plan is in place to establish a policy for the safe use of aerial lifts. The SPM reviews the policy periodically.

Safety Officer

The Safety Officer monitors his/her assigned area to ensure compliance with this policy. The Safety Officer is responsible for coordinating training for applicable staff on aerial lift safety and ensuring the training documentation is maintained.

Manager/Supervisor

The manager/supervisor ensures that only authorized and trained staff use aerial lifts, and that employees comply with the procedures in this Plan. The manager/supervisor ensures that designated staff successfully complete the qualification procedures outlined in this Plan prior to using aerial lifts.

DHHS Staff

Staff who use aerial lifts are responsible for complying with this policy. Staff are also responsible for reporting equipment defects and discontinuing operations when unsafe conditions exist.

Implementation

Equipment Specifications

Aerial lifts must meet the following requirements:

- Aerial lifts must not be field modified for uses other than those intended by the manufacturer, unless a modification has been certified in writing by the manufacturer or by any other equivalent entity.
- Directional controls must:
    A. Be of the type that will automatically return to the off or neutral position when released.
    B. Be protected against inadvertent operation.
    C. Be clearly marked as to their intended function.
    D. Have an overriding control which must be continuously activated for platform directional controls to be operational and which automatically returns to the off position when released.
- Aerial lifts must be equipped with emergency controls at ground level that are clearly marked as to their intended function and be capable of overriding the platform controls.
- All of the following information must be clearly marked in a permanent manner on each aerial lift:
    A. Special workings, cautions, or restrictions necessary for operation
    B. Rated work load
    C. A clear statement of whether or not the aerial lift is electrically insulated
- Rotating shafts, gears, and other moving parts that are exposed to contact must be guarded, as prescribed in general industry safety standard 29 CFR 1910 Subpart O.
- Attachment points described in 29 CFR 1910.502 must be provided for fall protection devices for personnel who occupy the platform on aerial lifts.

Inspection, Maintenance, and Testing

- Each aerial lift must be inspected, maintained, repaired, and kept in proper working condition in accordance with the manufacturer's operating or maintenance and repair manual or manuals.
- Any aerial lift found not to be in a safe operating condition is removed from service until repaired. All repairs must be made by an authorized person in accordance with the manufacturer's operating or maintenance and repair manual or manuals. Repairs and maintenance of aerial lifts must be documented (see Attachment A).
- Before use a visual equipment inspection is performed (see Attachment B) and must include:
    A. Cracked welds
    B. Bent or broken structural members
    C. Hydraulic or fuel leaks
    D. Damaged controls and cables
    E. Loose wires

F. Tire condition
G. Fuel and hydraulic fluid levels
H. Slippery conditions on the platform

- Any time an aerial platform lift has not been used for a period of 3 months or more (or after the lift has been purchased) a frequent inspection is performed by a qualified person (see Attachment C).
- Before and during use, visual jobsite inspections (see Attachment D) include:
  A. Ditches
  B. Drop-offs
  C. Holes
  D. Bumps and floor obstructions
  E. Debris
  F. Overhead obstructions
  G. Power lines
- Any unsafe conditions identified in the jobsite inspection must be corrected prior to the use of an aerial lift in the jobsite area.
- If the aerial lift is rated and used as an insulated aerial device, the electrical insulating components are tested for compliance with the rating of the aerial lift in accordance with latest ANSI standard A92.2. Such testing must comply with all of the following provisions:
  A. The test is performed not less than annually.
  B. Written, dated, and signed test reports are retained by the department responsible for the insulated aerial device.
- The insulated portion of an aerial device must not be altered in any manner that might reduce its insulating value.
- All danger, caution, and control markings and operational plates must be legible and not obscured.
- A copy of the operator's manual must be in a dry compartment on the aerial lift.

Operating Procedures

- Only trained persons with a permit are allowed to operate an aerial lift.
- Belting off to an adjacent pole, structure, or equipment while working from an aerial lift is not permitted.
- Employees always stand firmly on the floor of the aerial lift, and may not sit or climb on the edge of aerial lift guardrails, or use planks, ladders or other devices for a work position.
- A scissor lift with approved guardrails can be used without a personal fall arrest system.
- The brakes must be set, and when outriggers are used, they must be positioned on pads or a solid surface.
- The aerial lift is used in accordance with the manufacturer's operating instructions and safety rules.
- The designed rated capacity for a given angle of elevation must not be exceeded.

- The manufacturer's rated load capacity must not be exceeded. The load and its distribution on the platform must be in accordance with the manufacturer's specifications. The aerial lift rated load capacity must not be exceeded when loads are transferred to the platform at elevated heights.
- Only employees, their tools, and necessary materials are on or in the platform.
- The guardrail system of the platform is not used to support materials, other lifts, or employees.
- Employees maintain firm footing on the platform while working on the aerial lift. The use of railings, planks, ladders, or any other devices on the platform for achieving additional height is prohibited.
- Fuel gas cylinders are not carried on bucket platforms that would allow the accumulation of gases.
- Only aerial lifts equipped with manufacturer's installed platform controls for horizontal movement may be moved while in the elevated position.
- Before and during driving, an operator of a platform must look in the direction of travel, keep a clear view of the path of travel, and make sure that the path is firm and level. A driver must avoid:
    A. Pedestrians
    B. Vehicles
    C. Debris
    D. Drop-offs
    E. Holes
    F. Depressions
    G. Ramps
    H. Overhead obstructions
    I. Overhead electrical lines
    J. Other hazards to safe elevated travel.
- Outriggers or stabilizers, when provided, are used in accordance with the manufacturer's instructions. Brakes are set and outriggers and stabilizers are positioned on pads or a solid surface.
- Aerial lifts are elevated only when on a firm and level surface or within the slope limits allowed by the manufacturer's instructions.
- A vehicle-mounted aerial lift must have its brakes set before elevating the platform.
- A vehicle-mounted aerial lift must have wheel chocks installed before using the unit on an incline.
- Climbers must not be worn while performing work from an aerial lift.
- Platform gates must be closed while the platform is in an elevated position.
- Altering, modifying, or disabling safety devices or interlocks is prohibited.
- The permitted operator prevents ropes, cords, and hoses from becoming entangled in the aerial lift.
- A platform operator ensures that the area surrounding the aerial lift is clear of personnel and equipment before lowering the platform.

- The aerial lift must not be positioned against another object to steady the platform.
- The aerial lift must not be operated from a position on a truck, trailer, railway car, floating vessel, scaffold, or similar equipment.
- The boom and platform of the aerial lift are not used to move or jack the wheels off the ground unless the machine is designed for that purpose by the manufacturer.
- If the platform or elevating assembly becomes caught, snagged, or otherwise prevented from normal motion by adjacent structures or other obstacles so that control reversal does not free the platform, all employees exit from the platform before attempts are made to free the platform.
- Stunt driving and horseplay are prohibited.
- Weather conditions such as wind and lightning are evaluated prior to raising the boom or platform. Manufacturer's recommendations for use in windy conditions are followed.

Fall Protection

- A permitted operator must use a safety harness that has a lanyard which is in compliance with the DHHS Fall Protection Plan and which is affixed to attachment points provided and approved by the manufacturer. A permitted operator may use a harness with a restraint device with the lanyard and the anchor arranged so that the employee is not exposed to any fall distance.
- Any occupant of an aerial lift must use a harness.
- A fall arrest system is only used where the aerial lift is designed to withstand the vertical and lateral loads caused by an arrested fall as specified by the manufacturer.
- An employee must use a restraint device where the aerial lift cannot withstand the vertical and lateral loads imposed by an arrested fall as specified by the manufacturer.
- A permitted operator is prohibited from tying off to an adjacent pole, structure, or equipment while working from an aerial lift.
- A permitted operator must not exit an elevated aerial lift, except where elevated work areas are inaccessible or hazardous to reach. Employees may exit the platform with the knowledge and consent of the employer. When employees exit to unguarded work areas, fall protection must be provided and used.
- A means of notifying emergency personnel for the prompt rescue of employees in the event of a fall must be present on the jobsite. A means for promptly rescuing employees who have fallen must be determined before the work begins. This could include self-rescue if such means are required.

Electrical Hazards

- Workers in aerial lifts that are not electrically insulated must not come within 10 feet of energized overhead power lines.

- Only specially trained high voltage personnel, with approved PPE and in approved insulated aerial lifts, are authorized to work within 10 feet of energized overhead power lines.

Traffic and Vehicular Hazards

- Before moving a vehicle supporting an aerial ladder for highway travel, employees secure ladders in the lower position and must use the manually operated device at the base of the ladder, or other effective means to prevent elevation or rotation of the ladder.
- Before moving a vehicle supporting an aerial lift for travel, employees inspect the boom to ensure it is properly cradled and the outriggers are in the stowed position.
- When a vehicle-mounted elevating platform is elevated with employees in working position, the vehicle supporting an aerial device must not be moved.
- Before and during travel, an operator must do all of the following:
    A. Inspect to see that booms, platforms, aerial ladders, or towers are properly cradled or secured.
    B. Ensure that outriggers are in a stored position.
    C. Limit travel speed according to the following factors:
    D. Condition of the surface
    E. Congestion.
    F. Slope
    G. Location of personnel
    H. Other hazards
- Operators of an aerial lift over or adjacent to any public or private roadway must maintain adequate clearances of all portions of the aerial lift to prevent being struck by vehicular traffic.

Training

Employees must be trained in the hazards associated with the use of aerial lifts before their use. This training must include safety guidelines for avoiding hazards above, below, and beside the aerial lift. Documentation of this training must be maintained.

- This training as a minimum must include:
    A. Fall protection and job hazards analysis
    B. Unstable surfaces
    C. Live power proximity
    D. Tipping hazards and outriggers
    E. Falling objects and barricading
    F. Load capacity of the aerial lift
    G. Crushing and pinch-points
    H. Wind exposure limits
    I. Sloping surfaces
    J. Ground surface pot holes
    K. Operation of the aerial lift “under the direction of a qualified person”
    L. Controls operation

M. Emergency descent
N. Operator's manual Pre-operation inspection and record keeping
O. Identification of malfunctions
P. Purpose of placards and decals
Q. Operator warnings and instructions
R. Function tests
S. Evaluating the work site Hazards unique to the general type of aerial lift

- It is expected that departments provide detailed training to staff based on the general type of aerial lift that their staff will operate (i.e. vehicle-mounted aerial lift, manually propelled elevating lift, boom-supported aerial lift, and self-propelled aerial lift).
- It is not expected that multiple detailed training sessions need to be performed if an operator is to operate two different manufacturers' models of a similar type of aerial lift. For example, an operator who is trained to operate self-propelled aerial lifts does not need to attend a detailed training course on a JLG model, if they attended detailed training on a Genie model. However, the trained operator is responsible for reviewing the model specific hazard information provided in the owner's manual.

References

- OSHA Powered Industrial Trucks, 29CFR 1910.178
  https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9828
- ANSI A92.2 – Vehicle-Mounted Elevating and Rotating Aerial Devices.
- ANSI A92.3 – Manually Propelled Elevating Aerial Platforms
- ANSI A92.5 – Boom-Supported Elevating Work Platforms
- ANSI A92.6 – Self-Propelled Elevating Work Platforms [Scissor Lifts]

For questions or clarification on any of the information contained in this policy, please contact Human Resources. For general questions about department-wide policies and procedures, contact the DHHS Policy Coordinator.

Attachment A

AERIAL LIFTS
Repair & Maintenance Record

Owners and operators of aerial lifts are required to document maintenance and repairs. If you have any questions or concerns, please contact the Safety Officer. Keep this form on file for your records.

Division:	**Facility:**
Location:	**Supervisor:**
Manufacturer:	**Model #:**
Serial #:	**Aerial Lift ID:**

Date	Description of Work	Maintenance Performed by:

Retain this form for the life of the equipment

AERIAL LIFTS
Pre-Use Inspection Checklist

Attachment B

The operator shall inspect aerial lifts prior to placing the machine in service at the beginning of each work shift. Deficiencies noted on the inspection form must be corrected prior to operation. If the deficiencies cannot be corrected, the aerial lift must not be used and lockout/tagout procedures initiated according to the Aerial Lift Policy. Keep documentation of repairs with preventive maintenance records on file for no less than 30 days, form is subject to review by Safety Officer.

Division:	**Facility:**
Location:	**Supervisor:**
Manufacturer:	**Model #:**
Serial #:	**Aerial Lift ID:**
Inspected by:	**Date:**

Inspection Items	OK	Maintenance
Operating and emergency controls		
Safety devices		
Structural and other critical components present and all associated fasteners and pins in place		
Personal protective devices (harness, lanyard, etc.)		
Fluid levels checked (hydraulic oil, engine oil, coolant, etc.)		
Hydraulic power unit, reservoir, hoses, fittings, cylinders, and manifolds		
Electrical components, wiring harness, and electrical cables		
Loose or missing parts		
Tires and wheels		
Placards, warnings, and control markings		
Owner's manual legible and stored inside container located on platform		
Outriggers, stabilizers and other structures		
Guardrail system		
Cracks in welds or structural components		
Dents or damage to machine		
Other items specified by manufacturer		

Comments:

AERIAL LIFTS
Work Area Inspection Checklist

Attachment C

Before an aerial lift is used and during use, the operator shall check the area in which the aerial platform lift is to be used for possible hazards. Hazards include, but are not limited to, those in the following checklist. Keep this form on file for no less than 30 days, form is subject to review by Safety Officer.

Division:	**Facility:**
Location:	**Supervisor:**
Inspected by:	**Date:**

Inspection Items	Yes	No	Comments
Drop-offs or holes			
Slopes			
Bumps and floor obstructions			
Debris			
Overhead obstructions and high voltage conductors			
Hazardous locations and atmospheres			
Tools and/or other equipment			
Inadequate surface and support to withstand all load forces imposed by the aerial platform lift			
20mph wind speeds or anticipated gusts (lower lifts to a maximum height of 20 ft.)			
25mph wind speeds or anticipated gusts (ground all lifts)			
Presence of unauthorized people			
Other possible unsafe conditions:			

AERIAL LIFTS
Frequent Inspection Checklist

Attachment D

A frequent inspection is performed at least annually by a qualified person. Any time an aerial platform lift has not been used for a period of 3 months or more (or after the lift has been purchased) a frequent inspection is performed by a qualified person. Form is subject to review by Safety Officer.

Division:	**Facility:**
Location:	**Supervisor:**
Manufacturer:	**Model #:**
Serial #:	**Aerial Lift ID:**
Inspected by:	**Date:**

Inspection Items	OK	Maintenance
All functions and their controls for speed(s) smoothness, and limits of motion		
Lower controls including the provisions for overriding of upper controls		
All chain and cable mechanisms for adjustment, wear or damaged parts		
All emergency and safety devices		
Lubrication of all moving parts, inspection of filter element(s), hydraulic oil, engine oil, and coolant as specified by the manufacturer		
Visual inspection of structural components and other critical components such as fasteners, pins, shafts and locking devices		
Placard, warnings and control markings		
Additional items specified by the manufacturer		
All functions and their controls for speed(s) smoothness, and limits of motion		
Lower controls including the provisions for overriding of upper controls		
All chain and cable mechanisms for adjustment, wear or damaged parts		
All emergency and safety devices		
Lubrication of all moving parts, inspection of filter element(s), hydraulic oil, engine oil, and coolant as specified by the manufacturer		
Visual inspection of structural components and other critical components such as fasteners, pins, shafts and locking devices		
Placard, warnings and control markings		
Additional items specified by the manufacturer		

Comments:

Powered Industrial Trucks
Electric Cargo/Burden Carrier Trucks
Operator's Daily Checklist

Attachment E

Vehicle Mounted Aerial Lift / Bucket Truck	
	The lift platform is an integral part of an over-the-road vehicle.
Articulating Boom Aerial Lift	
	This lift has at least 2 hinged sections which are used to increase mobility.
Man Lift/Cherry Picker	
	This lift will rise vertically but not horizontally.
Scissor Lift	
	This lift will rise vertically but not horizontally.
Extendable/Telescopic Aerial Lift	
	This lift has a boom that extends vertically and horizontally.