Northwestern
Aerial Work Platform Program
Risk Management
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I. Program Goals and Objectives
This program establishes procedures for the safe operation of Aerial Work Platforms (AWP).

II. Scope and Application
This program applies to the operation of all aerial work platforms, owned or leased by Northwestern, and operated by staff, faculty, students or contract employees.

III. Definitions
- Aerial Work Platform – Equipment designed to raise personnel to an elevated work position, supported by scissors, masts, or booms.
- Articulating Boom – Aerial equipment that has two, or more, hinged boom sections.
- Boom Supported Lift – Aerial equipment with work platform positioned beyond the base.
- Insulated Aerial Device – An aerial work platform that is designed with dielectric components to meet specific electrical insulating ratings.
- Mechanically Positioned – The elevating assembly, whether mechanical, hydraulic, pneumatic or electric, used to raise or lower the platform.
- Platform – The work surface of an aerial work platform, such as a bucket, basket, stand, or cage, designed to be occupied by personnel.
- Qualified Person – A person who possesses a recognized degree, certificate, professional standing, or skill and who by knowledge, training, or experience has demonstrated the ability to deal with situations relating to the work or project.
- Scissor Lift – Aerial lift with work platform positioned over its base, and used within only a vertical ascent or decline of the platform.
- Straight Mast Boom Lift – High load capacity aerial work platform, with work platform positioned beyond the base. Also referred to as telescopic lifts.
- Vertical Tower – An aerial device that is designed to operate vertically on a level surface.

IV. Responsibilities
A. Supervisors:
   i. Ensure only trained and authorized individuals utilize aerial work platforms.
   ii. Provide appropriate fall protection equipment to employees when necessary.
   iii. Remove aerial work platforms from service when an unsafe condition is identified, inspection, maintenance, or operation
   iv. Maintain completed aerial work platform inspection and maintenance records.

B. Aerial Work Platform Operators:
   i. Operate only those aerial work platforms for which you have received training.
ii. Complete a Pre-Use Inspection checklist prior to operating any lift.

iii. Inspect fall protection equipment prior to use, and wear fall protection equipment when required.

iv. Report concerns, accidents, or unsafe practices to your immediate supervisor.

C. Risk Management:
   i. Review and revise this program as necessary.
   ii. Develop aerial work platform training for Northwestern employees.
   iii. Provide consultation and guidance when necessary.

V. Personal Fall Arrest Equipment

Personal fall arrest equipment is required when:
   i. Working on an articulating or telescoping boom.
   ii. Working beyond the footprint of an aerial work platform.
   iii. Attach personal fall arrest equipment to the AWPs designated anchor points.

VI. Aerial Work Platform Procedures

A. Pre-Use Inspection
   i. Complete the Pre-Use Inspection Checklist (Appendix 1) prior to operating any aerial work platform.
   ii. Perform pre-use inspections at the beginning of each work shift, or whenever a new operator takes control of the aerial lift.
   iii. Any safety defects or impairments (including but not limited to hydraulic fluid leaks; defective brakes, steering, lights, or horn; and/or missing fire extinguisher, lights, or back-up alarm), must be reported to your supervisor for immediate repair, locked, tagged, and taken out of service.

B. Operating Guidelines
   i. Remove AWPs from service when an unsafe condition is identified during inspection, maintenance or operation.
   ii. Operate AWPs in accordance with the manufacturer’s operating instructions and safety guidelines.
   iii. Only trained personnel are authorized to operate aerial work platforms.
   iv. When available, use outriggers in accordance with the manufacturer's specifications.
   v. Maintain clearance when working under, over or near energized electrical power lines:

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Minimum Clearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 50kV</td>
<td>10 feet</td>
</tr>
<tr>
<td>Over 50kV</td>
<td>10 feet + .5 inch per kV</td>
</tr>
</tbody>
</table>

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vi. Utilize the guard rails of the AWP as intended by the manufacturer, and not as storage platforms or step ladders to gain additional height while working.

vii. When working in elevated positions, assure all platform gates are in the closed position.

viii. Stunt driving and horseplay are prohibited.

ix. Yield the right of way to pedestrians and emergency vehicles.

x. All features that were received on the AWP from the dealer or manufacturer must be in the intended working condition, and not disabled, tampered, or removed from the equipment.

xi. Use all safety features required to operate an aerial work platform.

xii. Utilize a “ground person” when the AWP is used in hazardous situations, including but not limited to:

   a. Where pedestrians or vehicle traffic is within close proximity of the aerial work platform.

   b. Work is being performed within 30 feet of energized power lines, or other heavy equipment.

xiii. Use seatbelts, when seatbelts are provided.

xiv. Hardhats are required when operating an aerial work platform where there is danger of head injury from impact, falling, flying objects, or electrical shocks.

xv. Climbing down the assembly if the aerial lift fails, while the platform is raised, is prohibited.

VII. Maintenance and Charging Batteries

A. Maintenance

   i. Only authorized personnel can perform repairs on AEPS

   ii. Before initiating repairs to the electrical system disconnect the battery

   iii. Repairs to an aerial lift must be conducted within a designated area for equipment or vehicle maintenance.

   iv. 

B. Batteries

   i. Utilize the correct personal protective equipment (PPE) when charging or changing batteries, including face shields, indirect splash goggles, long sleeves, rubber boots, gloves and an apron.

   ii. Battery charging installations must be located in areas designated for that purpose.

   iii. Avoid open flames, sparks, or electric arcs in battery charging areas.
VIII. Training

A. Training

i. Each employee operating an aerial work platform must receive training and instruction specific to the equipment used, and training must be completed prior to the use of any lift.

ii. Classroom instruction, a written exam, hands-on training and hands-on evaluation can be conducted by either a competent trainer in the department, equipment manufacturer, safety professional and/or a vendor who specializes in aerial/scissor lift training.

iii. Training must cover the following:

   a. The purpose and use of equipment manuals.
   b. The Northwestern Aerial Work Platform Program.
   c. Proper use of personal fall protection equipment.
   d. Pre-use inspection checklist.
   e. The purpose of placards and decals.
   f. Worksite inspections and barricades.
   g. Factors affecting stability.
   h. Hands-on operation of the equipment.

iv. Participants must successfully complete hands-on training before they are authorized to operate any aerial work platform (Appendix 3).

B. Re-Evaluation

i. Documented re-evaluation of an operator will be completed whenever:

   a. The operator is observed using the aerial work platform in an unsafe manner.
   b. The operator is involved in an accident or near-miss incident.
   c. A condition in the workplace changes that could affect the safe operation of the aerial work platform.

IX. Recordkeeping

Records of employee training, certification, maintenance, and equipment should be maintained by supervisors for no less than 3 years.
X. **Regulatory Authority and Related Information**


29 CFR Subpart F 1910.68, Man-lifts

29 Subpart S - Electrical 1910.333, Selection and Use of Work Practices


American National Standards Institute (ANSI) A92.6-2006, Self-propelled Elevating Work Platforms

ANSI A92.2-2015, Vehicle-mounted elevating and rotating work platforms

ANSI A92.3-2006, Manually Propelled Elevating Aerial Platforms

ANSI A92.5-2006, Boom-Supported Elevating Work Platforms

XI. **Contact**

For questions contact Gwen Butler, Director Environmental Health and Safety, Risk Management Services at risk@northwestern.edu (847) 491-4936
These instructions address how to conduct an Aerial Work Platform Pre-Use Checklist. Aerial Work Platforms are equipment designed to raise personnel to an elevated work position, supported by scissors, masts, or booms.

Prior to operating any aerial work platform, the Pre-Use Inspection Checklist must be completed. This applies to the beginning of every work shift, or whenever a new operator takes control of the aerial lift. When complete, submit the completed Pre-Use Checklist to the departmental supervisor.

**Step 1: Type of Aerial Work Platform, and Location of Use**
Identify the operator of the Aerial Work Platform, the ID or serial number of the equipment, type of equipment to be used, and the location of use for the equipment.

**Step 2: Inspection Item(s) and Description**
To the right of each inspection item and description, indicate whether the item “Passed”, “Failed”, or is “Not Applicable” (P/F/NA).

**Step 3: Safety Precautions**
Check to confirm that all personal protective equipment is being used, hazards are recognized or mitigated, and barricades are set-up around the work area.

**Step 4: Completing the Pre-Use Inspection Checklist**
Following the completion of an operator’s Pre-Use Inspection Checklist, return the checklist to the supervisor. Supervisors will maintain these documents for 3 years.

For questions contact regarding Interim Life Safety Measures Assessments, please contact Risk Management Services, Peter Sackett, at risk@northwestern.edu 847.491.3266
## AERIAL LIFT PRE-USE INSPECTION CHECKLIST

<table>
<thead>
<tr>
<th>Section 1: Inspection Item and Description</th>
<th>P/F/NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating and emergency controls are in proper working condition, EMO button or Emergency Stop Device</td>
<td></td>
</tr>
<tr>
<td>Functional upper drive control interlock (i.e. foot pedal, spring lock, or two hand controls)</td>
<td></td>
</tr>
<tr>
<td>Emergency Lowering function operates properly</td>
<td></td>
</tr>
<tr>
<td>Lower operating controls successfully over ride the upper controls</td>
<td></td>
</tr>
<tr>
<td>Both upper and lower controls are adequately protected from inadvertent operation</td>
<td></td>
</tr>
<tr>
<td>Control panel is clean &amp; all buttons switches are clearly visible (no paint over spray, etc.)</td>
<td></td>
</tr>
<tr>
<td>All switch &amp; mechanical guards are in good condition and properly installed</td>
<td></td>
</tr>
<tr>
<td>All Safety Indicator lights work</td>
<td></td>
</tr>
<tr>
<td>Drive controls function properly &amp; accurately labeled (up, down, right, left, forward, back)</td>
<td></td>
</tr>
<tr>
<td>Motion alarms are functional</td>
<td></td>
</tr>
<tr>
<td>Safety decals are in place and readable</td>
<td></td>
</tr>
<tr>
<td>Guardrails and anchor points are in place, and in good condition</td>
<td></td>
</tr>
<tr>
<td>Work platform &amp; extension slides are clean, dry, &amp; clear of debris</td>
<td></td>
</tr>
<tr>
<td>Work platform extension slides in and out freely with safety locking pins in place to lock setting on models with extension platforms</td>
<td></td>
</tr>
<tr>
<td>Inspect for defects such as cracked welds, fuel leaks, hydraulic leaks, damaged control cables or wire harness, etc.</td>
<td></td>
</tr>
<tr>
<td>Tires and wheels are in good condition, with adequate air pressure if pneumatic</td>
<td></td>
</tr>
<tr>
<td>Braking devices are operating properly</td>
<td></td>
</tr>
<tr>
<td>The manufacturer’s operations manual is stored on AWP (in all languages of the operators)</td>
<td></td>
</tr>
<tr>
<td>Oil level, Hydraulic Oil Level, Fuel Level, Coolant Level</td>
<td></td>
</tr>
<tr>
<td>Battery Charge</td>
<td></td>
</tr>
<tr>
<td>Outriggers in place or functioning. Associated alarms working</td>
<td></td>
</tr>
</tbody>
</table>

**Section 2: Safety Precautions (Have, Look For, or be Aware of)**

In windy conditions see manufacturer guidelines or if not in guidelines then...If lift begins to rock in the wind lower the lift.

- Floor conditions: Drop offs, holes, uneven surfaces, and sloped floors.
- Housekeeping: Debris, floor obstructions, cords, construction material and supplies.
- Electrical power cables or panels, (minimum 10 feet away). If larger lines or wet conditions contact EH&S or the Electrical shop for guidance. Insolated small lines in dry conditions 3 feet away.
- Chemical lines, gas lines, drain lines, and utilities.
- Overhead obstructions
- Loads (do not exceed capacity)
- Watch for vehicular and pedestrian traffic. Set up barricades if necessary.

**Comments**

If the AERIAL LIFT FAILS ANY PART OF THIS INSPECTION, REMOVE THE KEY AND REPORT THE PROBLEM TO YOUR SUPERVISOR. DO NOT ATTEMPT TO MAKE REPAIRS UNLESS YOU ARE A TRAINED AND AUTHORIZED SERVICE PERSON. ALL SERVICE IS TO BE DOCUMENTED. IF ANYTHING HAS BEEN JERRY-RIFFLED NOTIFY YOUR SUPERVISOR AT ONCE.
Appendix 3  Performance Test for Aerial Lift Operators

Northwestern
Performance Test for Aerial Lift Operators

<table>
<thead>
<tr>
<th>RATINGS:</th>
<th>✓ = SATISFACTORY</th>
<th>X = UNSATISFACTORY</th>
<th>N/A = NOT APPLICABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operators:</td>
<td>Department:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment Manufacturer:</td>
<td>Date:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model:</td>
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</tr>
</tbody>
</table>

1. Checked all items on pre-use inspection checklist (shows familiarity with the controls).
2. Fall protection (guardrail system in place, fall arrest system).
3. Inspected work site for hazards (drop-offs, floor obstructions, electrical hazards etc.).
5. Planned route ahead, checked doorways.
6. Kept a clear view of direction of travel.
8. Barricade area (Ensure 4 cones and barricade tape are used to barricade area or other appropriate device).
9. Boom up, down, in and out (Fully extend lift while maintain safe control of operation).
10. Turn lift 360 degrees right and left.
11. Maneuvered the lift if equipped with proper wheel drive train.
12. Turn off lift using the emergency stop function.
13. Lowered the basket before attempting to move the lift.
14. Entrance and dismount using 3 point contact (two hands, one foot or two feet, one hand).
16. Followed proper procedures at both start and finish.

Comments: __________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

Operator: ___________________________ Signature: ___________________________
Evaluator: __________________________ Signature: ___________________________