1 Status

1.1 Update of existing policy, effective 06/03/11.

2 Purpose

2.1 Elevating Work Platforms (E.W.P.) shall be designed and constructed in conformance with the applicable requirements of the American National Standards for Vehicle Mounted Elevating and Rotating Work Platforms. To avoid a serious incident by understanding the safety hazards around the work area and with operating of Elevating Work Platforms (E.W.P.)

3 Applicability

3.1 This policy applies to all subsidiary companies and departments of The Cianbro Companies and its subcontractors.

4 Definitions

4.1 Elevating Work Platform (E.W.P.): A mechanical self propelled device used to elevate personnel to elevating work locations. Cianbro uses both extendable boom platforms and scissor action types of platforms.

4.2 Functional Test: A hands on testing of the functions of the equipment done by the operator.

4.3 Job Hazard Analysis (JHA): Inspection of the work areas for potential hazards and identification of methods to control those hazards through substitution, engineering controls, administrative controls and PPE as the last resort. A JHA must include why the method we choose is the safest method and what extra additional control(s) are we going to use to ensure the safety of our team members.

4.4 Minimum Approach Distance (M.A.D.): The allowed distance between the elevating work platform and an energized line or part. This applies also to temporary construction power lines and cord. Reference the table in Appendix B of this policy.

4.5 Rated Load Limits: The combined static weight, in pounds, of team members and materials in the E.W.P. platform. Never exceed the manufacturer’s rated load limits in the platform.

5 Policy

5.1 Use of Elevating Work Platforms (E.W.P.) shall be used to access work areas that are not easily accessible or is the safer way of accessing an area to complete a task. E.W.P. can be of a Snooper or Bridge master design that can reach down and under structures for inspections or repairs. Or, an extendable boom or scissor lift design that can access work areas from ground or floor level up to the work areas.

5.2 Elevating Work Platforms (E.W.P.) shall be designed, and constructed and operated in conformance with the applicable requirements of the American National Standards for Vehicle Mounted Elevating and Rotating Work Platforms, OSHA 29. CFR 29 1910, OSHA 29. CFR 29 1926, MSHA standard, ANSI/SIA A92.6-1990 (Self-Propelled Elevating Work Platforms), and Cianbro’s requirements.
6 Responsibilities

6.1 Cianbro is responsible to provide sound principles of safety, training, inspection, maintenance, application and operations consistent with all resource data available from the manufacturer, OSHA and ANSI.

6.2 Project Management is responsible for the implementation and execution of these standards. Since each job site has direct control over the application and operation of elevating work platforms, good safety behavior in this area is the responsibility of Project Management and his/her assigned operating personnel. Decisions on the use and operation of the Elevating Work Platforms must always be made with due consideration that the machine will be carrying personnel whose safety is dependent on those decisions.

6.3 Operators must exercise good judgment, safety controls and caution in evaluating each situation. Safety of all personnel in the elevating work platforms is dependent on safe use and operation by the operator.

6.4 Having more than two team members in the platform must be approved by the project manager on site.

6.5 Operating E.W.P. within twenty feet (20’) of energized power line must have the approval of the superintendent.

6.6 Any deviation from this policy requires a thorough JHA and approval by the Corporate Safety Officer or designee.

6.7 The top Cianbro manager of the job site is responsible for the implementation of this policy on the project.

6.8 The Corporate Safety Department is responsible for maintaining this document.
7 Elevating Work Platforms Index

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7.1 Planning
Ensure that safety considerations are evaluated for the safe use of Elevating Work Platforms and written into the job task specific activity plan. The following issues must be planned for and incorporated into the activity planning process.

7.1.1 Identify competent operator(s) whom
• Have been trained by a qualified person to Cianbro’s Elevating Work Platforms Certification Program.
• Have read and understand manufacturer’s operating instructions for the particular elevating work platform they are going to use.

7.1.2 Conduct workplace inspection checking for hazards in the area where the Elevating Work Platform is to be used. Possible hazards such as but not limited to
• Drop-offs or holes and uneven terrain
• Bumps and floor obstructions
• Debris
• Overhead obstructions and high voltage conductors
• Hazardous locations
• Inadequate surface and support to withstand all load forces imposed by the Elevating Work Platforms in all operating configurations
• Wind and weather conditions
• Presence of unauthorized persons
• Evaluate swing radius for pinch/crush points and barricade as needed
• Other possible unsafe conditions
• Working above or below other crews
• Working on barges where tie-downs are required
• Working over water
• Presence of energized lines or parts

7.1.3 Evaluate expected loading for platform and ensure capacities for each specific configuration are within manufacturer’s limits. Include also added weight that could come from a welding lead, for example, hanging out of an Elevating Work Platform to cart below.

7.1.4 Manufacturer Provided Tie off Point
This policy requires team members to use the anchorage points provided for by the manufacturer for each lift. Refer to the Operator’s Manual for each piece of equipment. In the case of some scissor lifts, there is no anchorage point provided by the manufacturer. If no point is provided, tie off to the lowest possible structural anchorage point in the basket no higher than the mid-rail. This requirement is to keep each team member within the basket not to catch the team member if they fall out of the basket because of the risk of pulling the lift over on top of you. If there is no point provided, most lifts can be retrofitted with an anchorage point. Contact Cianbro Equipment, LLC.

7.1.5 Include in activity plans emergency response/actions.
7.2 Inspection and Maintenance

7.2.1 Pre-Start Inspection
Inspections are to be done each day of use or at the beginning of each shift. The E.W.P. shall be given a visual inspection or visual inspection with functional tests on the following items by the operator:

- Operating and emergency controls
- Safety devices
- Personal protective devices, including fall protection
- Air, hydraulic and fuel system(s) leaks
- Cables and wiring harness
- Loose or missing parts
- Tires and wheel
- Placards, warnings, control markings and operating manual(s)
- Outriggers, stabilizers, extendible axles and other structures
- Guardrail system
- Other items specified by the manufacturer
- Complete daily, Cianbro’s “Operators Safety Inspection” (SH925) card and turn in weekly with explanation of all noticed defects

Note: Any problems or malfunctions that affect the safe operations shall be repaired prior to the use of the Elevating Work Platforms.

7.2.2 Frequent Inspection
- Once each month a frequent inspection shall be completed using Cianbro’s “Equipment Inspection” card (OP410). Frequent inspections must be done by a qualified mechanic or the assigned E.W.P. operator. If more than one individual is operating a particular aerial lift, one operator shall be designated by Project Management to be responsible for conducting frequent inspections at the job site.
- Functional Test:
  - Engine Running: Manually operating controls from the ground, while the engine is running, to test the functions of each manual control valve. (i.e.: raising boom up and down, scoping sections of the boom out and back in, swinging right and left and articulating the platform). It is better to find a fault in the operation of components on the ground than while up in the air.
  - Engine Not Running: Using the electric over-ride switch on ground controls to test the above functions (Engine Running). The same controls are also on the platform controls and are to be used in an emergency situation in the event that the engine stopped working.
  - Manual Descent Valves: Can test the operation of these valves on equipment having them. The valves can only be operated by a team member on the ground to bring team members in the platform back down to the ground. Used only for testing and when team members are stranded in the air and both the engine and electric over-rides are not working. These valves will only scope in the boom and then boom down to safety.

  - Safety related items are to be written down on Cianbro’s “Operators Safety Inspection” (SH925) card, key removed and tagged “DO NOT OPERATE” until a mechanic has serviced or repaired the EWP.

7.2.3 Annual Inspection
Project Management shall assure an annual inspection is performed on the E.W.P. no later than thirteen (13) months from the date of the prior annual inspection. The annual inspection must be performed by an individual qualified as a mechanic or the operator designated by Project Management to be specifically responsible for frequent and annual inspection of specific aerial lifts at the job site. The inspection shall include the completion of Cianbro’s “Equipment Inspection” card (OP410) and any additional items specified by the manufacturer for an annual inspection.
7.2.4 Special Incident Inspection
An annual inspection shall be conducted before continuing the operation of an Elevating Work Platform following any incident where the Elevating Work Platform has obvious or suspected operational damage. This special incident inspection (annual) must be supported by communications to the manufacturer of the Elevating Work Platform requesting any additional specific inspection or maintenance checks that should be done.

7.2.5 Visual Inspection
Do a visual walk around survey of the EWP. Team member would look for damages, leaks from hoses, cracks, missing or damaged safety decals, fluids on the ground, gate not closing, flat tires, etc.

7.2.6 Maintenance/Repairs
All maintenance and repairs shall be made by a qualified person in conformance with the manufacturer's recommendations. Scheduled maintenance may exceed the manufacturer's minimum requirements as determined by Cianbro's equipment group. Aerial lifts shall not be used under the following conditions:
- Elevating Work Platforms that are not in proper operating condition as determined by either the operator or Project Management shall be immediately removed from service until repaired.
- Any time there are problems or malfunctions that affect safe operations or safety systems on the Elevating Work Platform.

7.3 Operator Training

7.3.1 Operators must be trained and certified and only authorized team members shall operate an Elevating Work Platform. Cianbro has trained a minimum selected number of team members in each geographical regional area who are competent Elevating Work Platform training instructors. ONLY those individuals who have successfully passed Cianbro’s train-the-trainer program can conduct operator training for Cianbro operators. Contact the corporate safety department if there are any questions about who is authorized to train Cianbro team members as operators.

7.3.2 Since Cianbro’s fleet includes more than one type (manufacturer) of Elevating Work Platform, plus rental units, the operator must also read and understand the manufacturer’s operating and maintenance manual for the specific Elevating Work Platforms they are expected to operate prior to operating the equipment.

7.3.3 Operators on the Truck Mounted work platforms, such as the Bridge Master or Snooper Truck bridge inspection trucks, may be required to have a valid CDL – B or A driver’s license, DOT - Physical and have a completed the requirements of Cianbro’s ‘Fleet Driver Level III or IV’ certifications.

7.4 Subcontractors or Clients Team Member Use of Cianbro Equipment

7.4.1 Note: Under certain circumstances, with the Cianbro Project Managers approval, subcontractor/client/team members may be allowed to use and operate Cianbro furnished elevating work platforms provided the following procedures are strictly adhered to:
- The subcontractors must have acknowledgement, signed, and returned the subcontract issues by the Cianbro Corporate Purchasing Department agreeing to all terms, including the insurance and indemnification requirements. (This requirement does not apply to team members of client.)
- Each subcontractor/client operator must show evidence of appropriate training in accordance with OSHA, and any other pertinent regulations, including all contract safety requirements.
- Each of the subcontractor/client proposed operators shall sign the “Apparatus Supplied by Cianbro” agreement form.
• The subcontractor/client supervisor and the Cianbro supervisor will perform a thorough equipment inspection, before and after the subcontractor’s use of the equipment to determine any damage or malfunctioning components. The results of this inspection shall be documented on a form meeting OSHA and Cianbro requirements. Any damage or defects not noted during this inspection shall become the responsibility of the subcontractor/client. The subcontractor/client operator shall perform daily inspections in accordance with the manufactures requirements.

7.4.2 Cianbro will not be responsible for operator training for subcontractor personnel. It is the responsibility for the subcontractor to secure the necessary training and to provide the acceptable certifications in accordance with the manufacturer’s requirements.

7.4.3 This subcontractor use policy only applies to elevating work platforms with a reach capacity of less than forty feet (40’). All other equipment will be operated by a properly trained Cianbro Team member. Exceptions to this rule must be approved by the Regional Vice President. In the event that an exception is approved allowing a subcontractor/client team member to operate an elevating work platform with a reach capacity of forty feet (40’) or more, all other requirements of this policy shall be strictly adhered to.

7.5 Operations

7.5.1 Since the operator is in direct control of the E.W.P., conformance with good safety practices in this area is the responsibility of the operator. The operator must make decisions on the use and operation of the E.W.P. with due consideration that his/her own safety as well as the safety of other personnel in the platform is dependent on those decisions. During operation, the E.W.P. shall be used in accordance with Cianbro requirements, manufacturer operation specifications and the following specific guidelines.

• Ensure the Elevating Work Platform is operated on a surface within the limits specified by the manufacturer.
• Ensure the outriggers, stabilizers, extendible axles or other stability enhancing means are used as required by the manufacturer.
• Ensure that guardrails are in a safe condition and access gates or openings are closed per manufacturer’s instructions.
• Ensure the load and its distribution on the platform and any platform extension(s) are in accordance with the manufacturer’s rated capacity for that specific configuration.
• Ensure there is adequate clearance from overhead obstructions.
• Ensure that the boom, boom knuckles, basket, counterweight and tires have adequate clearance to avoid contact. Use of spotters is recommended.
• Ensure that the Minimum Approach Distances (M.A.D.) to energized (exposed or insulated) overhead power lines and parts are maintained including temporary construction power lines/cord sets. (See attached figure 2 for safe operating procedures.)
• Ensure that team member’s fingers are inside the guard railings while moving the platform.
• Ensure that team member and operator have communicated and completed task before moving.
• Ensure that the bottom of boom style E.W.P. platform is not buried in earth (debris damaging greased knuckles or damaging hydraulic line).
• Ensure that a fire extinguisher is in the platform for hot work.
• Considerations when hanging air hoses, electric cords and ropes over the sides of the platform:
  • Calculate the weight of these items into the rated load limit of the platform.
  • Use care that these items do not snag onto something that would cause side loading and possibly tip E.W.P. over. Use the internal airline or electric lines to supply air and electric power to the platform.
• Do not disconnect warning lights or alarms.
• Ensure that the platform is not in contact with another structure before moving (i.e. top rail has pressure against the bottom of a steel structure when moving which will cause a catapult effect to the occupants.)

Note: Operations within 20’ of energized (exposed or insulated) power lines requires compliance with Cianbro’s safety practices including a written activity plan approved by the Safety Officer before activity starts.

Note: The sign of a good operator is a smooth operator. Ease into and out of the controls.

Note: If the engine does not start – try the following:

• Most E.W.P. will not start if a foot is depressing the pedal in the platform pod. This pedal is used to operate the hand controls on the console.
• Ensure that the master switch is on (switch will be near the engine or battery box).
• Ensure that the ground control switch is in the platform position to start at the platform.

• Never tow E.W.P. with out contacting the mechanic first (may damage hubs in wheels).
• Ensure that all decals around the E.W.P. and on the platform controls are in place and can be read.
• No horse playing with other team members up in the platform. (i.e. turning the switch at the ground control panel from PLATFORM to GROUND controls, then moving their platform around).
• Ensure that an Operator’s manual is on the E.W.P. (water proof box or blue pouch).
• Keep an eye on the weather. (wind loading on the platform and lightning.)
• Ensure that a Minimum Approach Distance (M.A.D.) to energized (guarded) power lines associated with installations at fixed/permanent facilities is maintained and under the direct supervision of a qualified individual electrician. For example, insulated energized power lines lying in a cable tray, in conduit attached to a permanent structure or an “armor” guarded power line may be approached to a M.S.O.D. but avoiding contact. A written activity plan must be developed with documented review (sign off) by a qualified individual (electrician) who is directly responsible for the work activity.
• Ensure all personnel in the platform are wearing fall protection devices and other safety gear as required at all times. (100% fall protection required for any reason while in the aerial or scissor lift) Tie off only to manufacturer provided anchorage points in the platform and not handrails.
• Ensure only essential materials and tools required to perform the work from the lift are in the platform and fit completely inside, taking into account total weight inside the platform. Never exceed manufacturer’s rated load limits! Know the range and capacity of your Elevating Work Platform!
• Work must be accomplished by standing firmly on the platform floor. Never stand on mid rail, hand rails or top rail to perform work!
• Any deviation from this requirement must have a written job hazard analysis (JHA) developed and approved by the corporate safety director or designee. Complete the tasks out of elevating work platforms form available on Cianbro.net; include it with a written activity plan and forward to the corporate safety director for approval.
• Conduct workplace inspection for hazards in the work area. (See section 7.1 Planning).
• When operating from a barge ensure that the Elevating Work Platform is positively secured to the barge deck using tie down eyes and appropriate anchorage points. Anchorage needs to ensure wheels remain firm on barge deck. Use four-point tie down or equivalent method. Never secure to anything loosely lying on the barge deck!
• Never use the aerial lift for hoisting, towing or pulling.
Never place heavy objects on hand rails or come in contact with objects that could damage railings or platform.

Immediately report any problems or equipment malfunctions occurring during operation to your supervisor. Do not continue to operate the Elevating Work Platform if unsafe conditions occur during operations!

Never alter, disconnect or disable interlocks or other safety devices that would allow operation in violation of manufacturers specifications.

Ensure care is taken to prevent entanglement in ropes, wires, cables, etc.

Ensure work area below Elevating Work Platform is clear or barricaded from team member traffic in case something is dropped from work platform (or use railing mesh, etc. to prevent tools and materials from falling).

Retract and lower boom to lowest possible position, maintaining good viewing, before attempting to travel.

Ensure that the movement alarm is operational and that the travel way is clear of debris and personnel. A spotter is required whenever the movement alarm is not functioning or if travelling in congested areas. Travel speed must be appropriate for surface conditions. Watch for overhead obstructions!

Shut engine off during refueling and fuel only in a well-ventilated area free of other flammable/combustible materials.

Never travel on grades, side slopes or ramps exceeding those for which the aerial lift is rated by the manufacturer.

Should Elevating Work Platform become snagged or caught up while operating, preventing normal operation/motion, remove personnel from platform before attempting to free the platform using ground controls.

Never alter or modify an Elevating Work Platform without written permission from the manufacturer and Cianbro’s equipment group.

Never attempt to operate an Elevating Work Platform from below (ground controls) when it is already in use, except in an emergency situation. Example: Team member is using E.W.P. for access to upper levels where it requires operator to leave the work platform to do his/her work. The operator conducting work at upper levels who has to physically leave the lift platform must give approval for intermediate use.

Scissor lifts must be operated from inside the basket. Walking beside a moving lift in order to move it creates additional hazards. In special cases where it is not possible to be in the basket (Example: Rails are lowered to get through a doorway) a specific plan must be completed by the supervisor. The plan can be documented in a JHA format or on an Activity Plan but it must include provisions for the operator to maintain adequate distance from the lift as it travels, use of spotters, and address any other hazards that are created by the operation. This written plan must be approved by the top manager on the site prior to the activity.

No more than two people shall be in an Elevating Work Platform at any one time without the approval of the top manager. Under no circumstances shall more than two people be allowed in the E.W.P. platform if the manufacturer prohibits the practice.

Although OSHA considers scissor lifts and vertical mast (e.g. Genie) lifts to be scaffolding not requiring tie off if fully railed, Cianbro requires team members to tie off at a low point (mid-rail or below) while in the lift to restrain team members from falling over the hand rail. Newer lifts of these types have manufacturer supplied tie off points. Older lifts can sometimes be retrofitted. Remember: Elevating Work Platforms are a key component in our routine work activities today, enabling us to perform work safely, efficiently and productively. We must always be conscious to respect their capabilities and the potential for serious incidents resulting from improper use, care, inspections, maintenance and operations.
8 Budget / Approval Process

8.1 Any modification to the E.W.P. must be a joint approval between the E.W.P. manufacture and Cianbro Equipment, LLC.

8.2 It is the responsibility of each jobsite to procure and provide all materials and PPE required and provide necessary training.

9 Related Documents

9.1 See attachments.

9.2 Documents available on Cianbro.net > Standard Operating Procedures – SOP

| Tasks Out of Elevating Work Platforms  | SD1073 |
Examples of Elevating Work Platforms
Minimum Approach Distance (M.A.D.)
To energized (exposed or insulated) power lines.

<table>
<thead>
<tr>
<th>Voltage range (phase to phase)</th>
<th>Minimum safe approach distance (Feet)</th>
<th>(Meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 300V</td>
<td>Avoid Contact</td>
<td></td>
</tr>
<tr>
<td>Over 300V to 50kV</td>
<td>10</td>
<td>3.05</td>
</tr>
<tr>
<td>Over 50kV to 200kV</td>
<td>15</td>
<td>4.60</td>
</tr>
<tr>
<td>Over 200kV to 350kV</td>
<td>20</td>
<td>6.10</td>
</tr>
<tr>
<td>Over 350kV to 500kV</td>
<td>25</td>
<td>7.62</td>
</tr>
<tr>
<td>Over 500kV to 750kV</td>
<td>35</td>
<td>10.67</td>
</tr>
<tr>
<td>Over 750kV to 1000kV</td>
<td>45</td>
<td>13.72</td>
</tr>
</tbody>
</table>

Note: For Scissor or Genie type lifts, the minimum approach distance in the 0 to 300 volt voltage range is 3 feet (0.91 meters) instead of “Avoid Contact” since OSHA considers these types of lifts to be scaffolds.

Danger: Do not allow machine personnel or conductive materials inside prohibited zone. Maintain M.A.D. from all energized lines and parts as well as those shown. Assume all electrical parts and wires are energized unless known otherwise.

Caution: Diagrams shown are only for purposes of illustrating M.A.D. work positions not all work positions.