



UPF PROJECT PROCEDURE

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Revision History

Revision	Reason/Description of Change
7	This revision is a complete re-write, therefore no revision bars are shown. This revision further establishes guidance and instructions for safe the use of aerial and scissor lifts.
6	Adopted initial issue from Bechtel Core Process 224 at its current revision 6.

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1.0 PURPOSE

This procedure defines the general operating requirements for the safe operation of aerial/scissor lifts at the Uranium Processing Facility (UPF) construction site and support areas.

2.0 GENERAL**2.1 Description**

This procedure applies to all UPF employees performing work on the UPF construction site and support areas, to include subcontractors.

2.2 Acronyms

CM	Construction Manager
DS	Discipline Superintendent
FSM	Field Safety Manager
FSR	Field Safety Representative

2.3 Definitions

Aerial/Scissor Lift - A collective term meaning or referring to both aerial lifts and scissor lifts. For the purposes of this procedure, the terms are synonymous except where specific references are made to an “aerial lift” or “scissor lift.”

Aerial Lift - A vehicle-mounted aerial device that has a telescoping (extendable) boom, articulating boom or both used to position personnel, along with their necessary tools and materials, at work locations.

Clearing the Path - This activity includes removing, when possible, objects (e.g., cords, air hoses, welding leads, etc.) in the path of the lift prior to travel.

Level Surface - A flat, even surface having no part higher than another based upon visual observation. Dirt surfaces are considered level if they visually appear to have no slope. Permanent plant slabs are considered level for operating lifts.

Obstruction - A term used to collectively describe fixed structures, pits, holes, floor drain depressions, etc. that cannot be removed from the path of travel.

Operator - A worker who has been trained by a trainer in proper inspection, and has demonstrated proficiency in, aerial/scissor lift operations.

Scissor Lift - A self-propelled, mobile elevated work platform that has a vertically adjustable platform used to position personnel, along with their necessary tools and materials, at work locations. Scissor lifts include both slab and rough terrain models. Solid rubber, low profile tires are associated with slab lifts and foam filled high profile tires are associated with rough terrain lifts.

Spotter – Worker identified by the aerial/scissor lift operator, and/or supervision, to assist the operator with identifying hazards and obstacles that the operator is unable to identify while operating the aerial/scissor lift.

3.0 RESPONSIBILITIES

3.1 Construction Manager – has the overall responsibility for ensuring the implementation of this procedure, ensuring that all project personnel actively participate; and provides

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worker support, facilities, and other resources necessary to effectively carry out this procedure.

3.2 Field Safety Manager – has the overall authority for interpretation of the regulations associated with the procedure and the interpretation of the procedure as to intent and application.

3.3 Field Safety Representative – has the responsibility of compliance oversight with the procedure through periodic field inspections and is responsible for supplying technical advice and interpretation of the environmental, safety, and health codes included in the procedure.

3.4 Discipline Superintendent – is responsible for being thoroughly familiar with this procedure and their individual responsibilities regarding compliance with and implementation of this procedure, pre-planning work activities to identify the appropriate equipment to use and ensuring workers understand the requirements of the procedure.

3.5 Supervisor – is responsible for ensuring the applicable safety controls and processes are incorporated into planning and execution of the work and that the workers are implementing and complying with this procedure within their area of responsibility.

3.6 Spotter – A spotter is responsible to perform his/her duties within the guidelines of procedure *Safety Watches*, (UPF-CP-227).

3.7 Operator – is responsible for understanding and complying with the requirements of this procedure and the manufacturer's requirements.

4.0 AERIAL/SCISSOR LIFT OPERATIONS

4.1 Operator Training

- (a) Only trained and competent operators shall be permitted to operate aerial/scissor lifts on the UPF construction site.
- (b) Aerial/scissor lift operators will be trained using a model with manufacturer controls similar to the aerial/scissor lift they will be operating, in accordance with the manufacturer's requirements.
- (c) Refresher training in relevant topics shall be required by the operator when:
 - Operator has been observed operating the equipment in an unsafe manner.
 - Operator has been involved in an accident or near-miss incident.
 - Operator receives an evaluation that reveals that the operator is not operating the aerial/scissor lift safely.
 - Operator is assigned to drive a different type of aerial/scissor lift.
 - A condition in the workplace changes in a manner that could affect safe operation of the aerial/scissor lift.
- (d) Workers who operate or use an aerial/scissor lift must have completed fall protection training before operating the aerial/scissor lift.

4.2 General Equipment

- (a) All aerial/scissor lifts must be equipped with an ABC rated fire extinguisher (2.5 pound or greater for scissor lifts; 10 pound or greater for aerial lifts) mounted inside the platform/basket. The fire extinguisher shall be secured in a manner as to prevent displacement of the extinguisher.
- (b) All controls are to be plainly marked as to their function.

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- (c) All Operators and Safety manuals are to be located in manual storage box.
- (d) All capacity decals are to be in place, secure and legible, at both the platform/basket and ground stations.

4.3 Pre-Start Planning and Inspection

- (a) Pre-Start Planning. Before an aerial/scissor lift is used the operator shall check the work area for possible hazards such as, but not limited to:
 - (i) Drop-offs or holes, including those concealed by water, ice, mud, etc.
 - (ii) Slope(s)
 - (iii) Bumps and floor obstructions
 - (iv) Debris
 - (v) Overhead obstructions and electrical conductors
 - (vi) Hazardous locations and atmospheres
 - (vii) Inadequate surface and support to withstand all load forces imposed by the aerial platform in all operating configurations
 - (viii) Wind and weather conditions
 - (ix) Presence of unauthorized persons
 - (x) Other possible unsafe conditions

While clearing the path of travel, if hazards identified above are encountered, attempt to eliminate the hazard. If the hazard cannot be mitigated or removed from the travel path, obtain approval to navigate the lift through the area from the DS and FSR, and document controls on the STARRT card before proceeding.

- (b) Pre-Start Inspections. Operator completes a pre-start daily inspection of the aerial/scissor lift utilizing form *Aerial/Scissor Lift Daily Checklist*, UCN-23248. The completed checklist will remain with the lift and be submitted to the Project Equipment Superintendent (PES) on a monthly basis for review. If an unsatisfactory condition exists, immediately tag the equipment and attach a "Danger – Defective Tool/Equipment – Do Not Use" tag with the specific defects noted and notify supervision.

4.4 General Lift Operations

- (a) To achieve 100% fall protection, workers riding in, or working from, aerial/scissor lifts must wear an approved safety harness/lanyard system with the lanyard secured to the platform anchorage point at all times.
- (b) When working from a lift platform, utilize barricades and/or signs as required in *Barricades and Signs*, UPF-CP-214.
- (c) When aerial/scissor lift equipment is used with outriggers, outriggers shall be positioned on a solid surface.
- (d) Aerial/scissor lift operators will read all warning placards on the machine and become familiar with the operation manual.
- (e) The basket or platform of aerial/scissor lift will not be loaded in excess of the design lifting load capacity. The weight of workers in aerial/scissor lift baskets or platforms will be included as part of the lifting load capacity.
- (f) Personnel will not walk under a boom to gain access to the platform.

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- (g) Aerial/scissor lifts are to be used for lifting workers, small tools, and limited materials that can be contained and secured inside the aerial/scissor lift basket or platform. If material cannot be contained inside the aerial/scissor lift basket or platform, obtain approval from the DS and FSR, and document on the STARRT card before lifting the material.
- (h) Workers shall always stand firmly on the floor of the basket/platform and shall not sit or climb on the edge of the basket/platform or use planks, ladders, or other devices for a work position.
- (i) Place the emergency stop button in the STOP position and close the platform mounted control panel cover (if equipped) when the lift is not in motion to prevent accidental movement.
- (j) Personnel riding in the lift basket should keep their hands off the handrail when raising or lowering the basket; use interior grab rail for balance when provided.
- (k) Operator and/or supervisor review the following, or similar type conditions to be encountered to determine when a spotter is required:
 - 1. Area blind spots exist.
 - 2. Obstructions exist in the path of the planned travel (e.g., other equipment, other activities).
 - 3. Obstruction exists when raising or lowering the lift.
 - 4. Other (e.g., abrupt edges, holes, tight spots, soft surfaces).
- (l) When it is determined a spotter is required, the spotter(s) maintains visual or verbal contact with the operator while the equipment is moving. If contact is lost between the spotter(s) and the operator, the equipment operator stops the equipment. The operation may resume only after confirmation is made.
- (m) If operator determines that a spotter is not needed, operator takes responsibility associated with any damage or incidents that occur as a result of not having spotter present.
- (n) No electrical cords, welding leads, or hoses are to be tied to aerial/scissor lift when operated (traveling, raised, or lowered).
- (o) An aerial/scissor lift platform or basket will not be secured to any structure for any reason nor be allowed to rest on any structure.
- (p) Aerial/scissor lifts are not to be used as access (elevator) to any structure. Workers must stay in the aerial/scissor lift platform or basket while performing work. If it is necessary to leave the platform or basket to perform work, obtain approval from the DS and FSR, document on the STARRT card before exiting the lift. Workers shall maintain 100 % tie-off while exiting the basket through the gate of the lift.
- (q) In the event the lift platform becomes caught, snagged or otherwise prevented from normal motion; and control reversal does not free the platform, or In the event the lift malfunctions, appears to malfunction or does not operate as expected, the lift operator will make notification to the ground crew and suspend any lift operations until the UPF PES (or designee) can evaluate. Prior to any further operation, ground control manipulation, or trouble shooting by the maintenance crew the CM

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and FSM shall be notified in the event personnel retrieval from the platform is deemed essential.

- (r) When aerial/scissor lifts are not in use, they must be parked in a stowed position with the boom or platform lowered and the power turned off or the emergency stop activated.

Additional Scissor Lift use requirements:

- (s) For scissor lifts operating on slabs, ensure the area under pothole protection guards is clear of objects to allow guards to fully deploy on slab.
- (t) When operating a scissor lift on a slab ensure that all four wheels of the lift are positioned on a level, sound, and rigid supporting surface capable of providing adequate support for the scissor lift weight, including equipment, materials, tools, personnel, etc., without displacement.
- (u) If a scissor lift cannot be placed on a level surface or a working position requires a wheel or wheels to be placed on an elevation or in a depression the lift can be leveled using cribbing.
- (v) If the tilt alarm sounds, the lift platform is to be immediately returned to its stowed position.

4.5 Refueling and Battery Charging

- (a) Fuel as follows:
- Follow manufacturer's instructions for gasoline, diesel, or propane fueling.
 - Refuel only in assigned, ventilated areas containing no ignition sources.
 - Aerial/Scissor lift fuel tanks are not be filled while the engine is running.
- (b) Follow manufacturer's instructions for charging batteries.
- (c) Report spillage of oil, fuel or battery acid immediately to supervisor. Attempt to contain the spill with spill kits until clean-up can be performed by the appropriate personnel.

4.6 Electrical Hazards

Aerial/scissor lifts shall be operated with a minimum safe approach distance near overhead exposed and energized power lines in accordance with the following requirements:

Voltage Range (phase to phase)	Minimum Safe Approach Distance	
	Feet	Meters
0 to 300V	Avoid Contact	
Over 300V to 50kV	10	3.05
Over 50kV to 200kV	15	4.60
Over 200kV to 350kV	20	6.10
Over 350kV to 500kV	25	7.62
Over 500kV to 750kV	35	10.67
Over 750kV to 1000kV	45	13.72

Note: Aerial/scissor lifts can operate next to the 110V - 480V extension cord circuits on this project. The current carrying conductors in the 480V power supply cable are insulated and the sheathing over the conductor provides sufficient/appropriate protection for the working conditions.

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4.7 Wind Conditions

Follow the manufacturer's recommendations of use under high wind conditions and/or direction from the Plant Shift Superintendent (PSS), whichever is more restrictive.

4.8 Welding from Lift

- (a) Ensure that the ground is located as close to the point of welding as possible. If the ground is connected a long distance from the welding activity, it is possible for electrical current to seek the path of least resistance through the lift causing damage to tools and equipment.
- (b) Ensure the electrode holder and welding rod do not contact the metal components of the lift. Contact can result in a current path that flows through the electrical system of the lift causing damage.
- (c) When not in use, do not rest the electrode holder on the guardrail with the welding rod inserted into the electrode holder, but rather perform the following:
 - Remove metal and carbon electrodes from holders to eliminate danger of electrical contact by personnel or conducting objects;
 - Place electrode holders so that they cannot make electrical contact with persons, conducting objects, flammable liquids, wet earth, or compressed gas cylinders.

5.0 RECORDS

All records generated as a result of this procedure are maintained in accordance with Y15-101, *Records and Controlled Documents*, and Y15-95-800, *UPF Document Management*.

- UCN-23248, *Aerial/Scissor Lift Daily Checklist*

6.0 REFERENCES**6.1 Source References**

- OSHA 29 CFR 1926.453, *Aerial Lifts*
- OSHA 10 CFR 851, *Worker Safety and Health Program*
- Bechtel Core Process, CP-224, *Articulating Boom Platforms*
- ANSI/SIA A92.5 – 2006, *Boom-Supported Elevating Work Platforms*
- ANSI/SIA A92.6 – 2006, *Self-Propelled Elevation Work Platforms*

6.2 Interfacing References

- UPF-CP-227, *Safety Watches*
- UPF-CP-214, *Barricades and Signs*
- UPF-CP-212, *Fall Protection*