

Fall Protection Plan

Policy:

It is the policy of Pagoda Electrical, Inc. to take all practical measures possible to prevent employees from being injured by falls from heights. Pagoda Electrical, Inc. will take all necessary steps to eliminate, prevent, and control fall hazards. Pagoda Electrical, Inc. will comply fully with the OSHA Fall Protection standard (CFR 1926, Subpart M, Fall Protection).

This policy will follow the OSHA standard for potential falls from heights of 4 feet and more. First consideration will be given to the elimination of fall hazards. If a fall hazard cannot be eliminated, effective fall protection will be planned, implemented, and monitored to control the risks of injury due to falling.

All personnel exposed to potential falls from heights will be trained to minimize their exposures. Fall protection equipment will be provided and used by all employees. Managers will be responsible for implementation of a fall protection plan for each job site.

Fall protection equipment will meet the requirements of applicable ANSI, ASTM, or OSHA requirements. When purchasing equipment and raw materials for use in fall protection systems, the equipment and raw material shall meet applicable ANSI and ASTM requirements.

Fall Hazard Identification and Evaluation Responsibilities:

The Manager/foreman on each job site will be responsible for identifying fall hazards on their job site. The Manager/foreman will evaluate each situation or work procedure where employees may be exposed to a fall of 4 feet or more. The Manager/foreman will be responsible for developing a plan to eliminate the exposures, if possible, or to select the appropriate fall protection systems and/or equipment.

Fall Rescue Policy:

Pagoda Electrical, Inc. shall provide for prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves.

Examples of Situations Requiring Fall Protection:

The following are examples of situations where fall protection will be required. This listing is by no means complete, and there are many other situations where a fall of 4 feet or more is possible. It should be noted that ladders and scaffolding are not included in this list. They are covered by other OSHA standards and other requirements of our safety program.

- Wall Openings

Any employee working near a wall opening (including those with chutes attached) where the outside bottom edge of the wall opening is 4 feet or more from a lower level, or the wall opening is less than 39 inches (1.0 meter) above the walking/working surface below, will be protected from falling by the use of a guardrail system, a safety net system, or a personal fall arrest system.

- Holes

Personal fall arrest systems, covers, or guardrail systems shall be erected around holes (including skylights) that are more than 4 feet above lower levels.

- Leading Edges

Each employee who is constructing a leading edge 4 feet or more above lower levels shall be protected by guardrail systems, safety net systems, or personal fall arrest systems.

- Excavations

Each employee at the edge of an excavation 4 feet or more deep shall be protected from falling by guardrail systems, fences, barricades, or covers. Where walkways are provided to permit employees to cross over excavations, guardrails are required on the walkway if it is 4 feet or more above the excavation.

- **Form-work and Reinforcing Steel**

For employees, while moving vertically and/or horizontally on the vertical face of reinforcing bar (rebar) assemblies built in place, fall protection is not required when employees are moving. OSHA considers the multiple hand holds and foot holds on rebar assemblies as providing similar protection as that provided by a fixed ladder. Consequently, no fall protection is necessary while moving point to point for heights below 24 feet. An employee will be provided with fall protection when climbing or otherwise moving at a height more than 24 feet, the same as for fixed ladders.

- **Hoist Areas**

Each employee in a hoist area shall be protected from falling 4 feet or more by guardrail systems or personal fall arrest systems. If guardrail systems (chain gate or guardrail) or portions thereof must be removed to facilitate hoisting operations, as during the landing of materials, and a worker must lean through the access opening or out over the edge of the access opening to receive or guide equipment and materials, that employee must be protected by a personal fall arrest system.

- **Overhand Bricklaying and Related Work**

Each employee performing overhand bricklaying and related work 4 feet or more above lower levels shall be protected by guardrail systems, safety net systems, or personal fall arrest systems, or shall work in a controlled access zone. All employees reaching more than 10 inches (25 cm) below the level of a walking/working surface on which they are working shall be protected by a guardrail system, safety net system, or personal fall arrest system.

- **Precast Concrete Erection and Residential Construction**

Each employee who is 4 feet or more above lower levels while erecting precast concrete members and related operations such as grouting of precast concrete members and each employee engaged in residential construction, shall be protected by guardrail systems, safety net systems, or personal fall arrest systems.

- Ramps, Runways, and Other Walkways

Each employee using ramps, runways, and other walkways shall be protected from falling 4 feet or more by guardrail systems.

- Low-slope Roofs

Each employee engaged in roofing activities on low-slope roofs with unprotected sides and edges 4 feet or more above lower levels shall be protected from falling by guardrail systems, safety net systems, personal fall arrest systems or a combination of a warning line system and guardrail system, warning line system and safety net system, warning line system and personal fall arrest system, or warning line system and safety monitoring system. On roofs 50 feet or less in width, the use of a safety monitoring system without a warning line system is permitted.

- Steep Roofs

Each employee on a steep roof with unprotected sides and edges 4 feet or more above lower levels shall be protected by guardrail systems with toeboards, safety net systems, or personal fall arrest systems.

- Controlled Access Zones

A Controlled access zone is a work area designated and clearly marked in which certain types of work (such as overhand bricklaying) may take place without the use of conventional fall protection systems—guardrail, personal arrest or safety net—to protect the employees working in the zone.

Controlled access zones are used to keep out workers other than those authorized to enter work areas from which guardrails have been removed. Where there are no guardrails, masons are the only workers allowed in controlled access zones.

Controlled access zones, when created to limit entrance to areas where leading edge work and other operations are taking place, must be defined by a control line or by any other means that restrict access.

Control lines shall consist of ropes, wires, tapes or equivalent materials, and supporting stanchions, and each must be:

- Flagged or otherwise clearly marked at not more than 6-foot intervals with a high-visibility material
- Rigged and supported in such a way that the lowest point (including sag) is not less than 39 inches from the walking/working surface and the highest point is not more than 45 inches --nor more than 50 inches when overhand bricklaying operations are being performed—from the walking/working surface
- Strong enough to sustain stress of not less than 200. Control lines shall extend along the entire length of the unprotected or leading edge and shall be approximately parallel to the unprotected or leading edge.
- Control lines will be connected on each side to a guardrail system or wall.

When control lines are used, they shall be erected not less than 6 feet nor more than 25 feet from the unprotected or leading edge, except when precast concrete members are being erected. In the latter case, the control line is to be erected not less than 6 feet nor more than 60 feet or half the length of the member being erected, whichever is less, from the leading edge.

Controlled access zones when used to determine access to areas where overhand bricklaying and related work are taking place are to be defined by a control line erected not less than 10 feet nor more than 15 feet from the working edge. Additional control lines must be erected at each end to enclose the controlled access zone. Only employees engaged in overhand bricklaying or related work are permitted in the controlled access zones.

On floors and roofs where guardrail systems are not in place prior to the beginning of overhand bricklaying operations, controlled access zones will be enlarged as necessary to enclose all points of access, material handling areas, and storage areas.



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On floors and roofs where guardrail systems are in place, but need to be removed to allow overhand bricklaying work or leading edge work to take place, only that portion of the guardrail necessary to accomplish that day's work shall be removed.

Fall Protection Systems:

When there is a potential fall of 4 feet or more, Pagoda Electrical, Inc. will utilize one or more of the following means of providing protection:

- **Guardrail Systems**

Guardrail systems must meet the following criteria. Toprails and midrails of guardrail systems must be at least one-quarter inch nominal diameter or thickness to prevent cuts and lacerations. If wire rope is used for toprails, it must be flagged at not more than 6 feet intervals with a high-visibility material. Steel and plastic banding will not be used as toprails or midrails. Manila, plastic, or synthetic rope used for toprails or midrails must be inspected as frequently as necessary to ensure strength and stability.

The top edge height of toprails, or (equivalent) guardrails must be 42 inches plus or minus 3 inches, above the walking/working level. When workers are using stilts, the top edge height of the top rail, or equivalent member, must be increased an amount equal to the height of the stilts.

Screens, midrails, mesh, intermediate vertical members, or equivalent intermediate structural members must be installed between the top edge of the guardrail system and the walking/working surface when there are no walls or parapet walls at least 21 inches high. When midrails are used, they must be installed at a height midway between the top edge of the guardrail system and the walking/working level. When screens and mesh are used, they must extend from the top rail to the walking/working level and along the entire opening between top rail supports. Intermediate members, such as balusters, when used between posts, shall not be more than 19 inches apart.

Other structural members, such as additional midrails and architectural panels, shall be installed so that there are no openings in the guardrail system more than 19 inches.



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The guardrail system must be capable of withstanding a force of at least 200 pounds applied within 2 inches of the top edge in any outward or downward direction. When the 200 pound test is applied in a downward direction, the top edge of the guardrail must not deflect to a height less than 39 inches above the walking/working level.

Midrails, screens, mesh, intermediate vertical members, solid panels, and equivalent structural members shall be capable of withstanding a force of at least 150 pounds applied in any downward or outward direction at any point along the midrail or other member.

Guardrail systems shall be surfaced to protect workers from punctures or lacerations and to prevent clothing from snagging.

The ends of top rails and midrails must not overhang terminal posts, except where such overhang does not constitute a projection hazard.

- **Guardrail Systems**

When guardrail systems are used at hoisting areas, a chain, gate or removable guardrail section must be placed across the access opening between guardrail sections when hoisting operations are not taking place.

At holes, guardrail systems must be set up on all unprotected sides or edges. When holes are used for the passage of materials, the hole shall have not more than two sides with removable guardrail sections. When the hole is not in use, it must be covered or provided with guardrails along all unprotected sides or edges.

If guardrail systems are used around holes that are used as access points (such as ladderways), gates must be used or the point of access must be offset to prevent accidental walking into the hole.

If guardrails are used at unprotected sides or edges of ramps and runways, they must be erected on each unprotected side or edge.

Personal Fall Arrest Systems:

These consist of an anchorage, connectors, and a body belt or body harness and may include a deceleration device, lifeline, or suitable combinations. If a personal fall arrest system is used for fall protection, it must do the following:

- Limit maximum arresting force on an employee to 900 pounds when used with a body belt
- Limit maximum arresting force on an employee to 1,800 pounds when used with a body harness
- Be rigged so that an employee can neither free fall more than 4 feet nor contact any lower level
- Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet
- Have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 4 feet or the free fall distance permitted by the system, whichever is less.

The use of body belts for fall arrest is prohibited and a full body harness is be required.

Personal fall arrest systems must be inspected prior to each use for wear damage, and other deterioration. Defective components must be removed from service.

Positioning Device Systems:

These body belt or body harness systems are to be set up so that a worker can free fall no farther than 2 feet. They shall be secured to an anchorage capable of supporting a least twice the potential impact load of an employee's fall or 3,000 pounds, whichever is greater.

Safety Monitoring Systems:

When no other alternative fall protection has been implemented, Pagoda Electrical, Inc. shall implement a safety monitoring system. Pagoda Electrical, Inc. will appoint a competent person to monitor the safety of workers and shall ensure that the safety monitor:

- Is competent in the recognition of fall hazards;

- Is capable of warning workers of fall hazard dangers and in detecting unsafe work practices;
- Is operating on the same walking/working surfaces of the workers and can see them;
- Is close enough to work operations to communicate orally with workers and has no other duties to distract from the monitoring function.

Mechanical equipment shall not be used or stored in areas where safety monitoring systems are being used to monitor employees engaged in roofing operations on low-sloped roofs.

No worker, other than one engaged in roofing work (on low-sloped roofs) or one covered by a fall protection plan, shall be allowed in an area where an employee is being protected by a safety monitoring system.

All workers in a controlled access zone shall be instructed to promptly comply with fall hazard warnings issued by safety monitors.

Safety Net Systems:

Safety nets must be installed as close as practicable under the walking/working surface on which employees are working and never more than 30 feet (9.1 meters) below such levels. Defective nets shall not be used. Safety nets shall be inspected at least once a week for wear, damage, and other deterioration. Safety nets shall be installed with sufficient clearance underneath to prevent contact with the surface or structure below.

Items that have fallen into safety nets including—but not restricted to, materials, scrap, equipment, and tools—must be removed as soon as possible and at least before the next work shift.

Warning Line Systems:

Warning line systems consist of ropes, wires, or chains, and supporting stanchions and are set up as follows:

- Flagged at not more than 6-foot intervals with a high-visibility material;
- Rigged and supported so that the lowest point including sag) is no less than 34 inches from the walking/working surface and its highest point is no more than 39 inches from the walking/working surface.
- Stanchions, after being rigged with warning lines, shall be capable of resisting, without tipping over, a force of at least 16 pounds applied horizontally against the stanchion, 30 inches above the walking/working surface, perpendicular to the warning line and in the direction of the floor, roof, or platform edge;
- The rope, wire, or chain shall have a minimum tensile strength of 500 pounds and after being attached to the stanchions, must support without breaking the load applied to the stanchions as prescribed above.
- Shall be attached to each stanchion in such a way that pulling on one section of the line between stanchions will not result in slack being taken up in the adjacent section before the stanchion tips over.

Warning lines shall be erected around all sides of roof work areas. When mechanical equipment is being used, the warning line shall be erected not less than 6 feet from the roof edge parallel to the direction of mechanical equipment operation, and not less than 10 feet from the roof edge perpendicular to the direction of mechanical equipment operation.

When mechanical equipment is not being used, the warning line must be erected not less than 6 feet from the roof edge.

Covers:

Covers located in roadways and vehicular aisles must be able to support at least twice the maximum axle load of the largest vehicle to which the cover might be subjected. All other covers must be able to support at least twice the weight of employees, equipment, and materials that may be imposed on the cover at any one time. To prevent accidental displacement resulting from wind, equipment, or workers' activities, all covers must be secured. All covers shall be color coded or bear the markings "HOLE" or "COVER."

Protection From Falling Objects:

When guardrail systems are used to prevent materials from falling from one level to another, any openings must be small enough to prevent passage of potential falling objects. No materials or equipment except masonry and mortar shall be stored within 4 feet of working edges. Excess mortar, broken or scattered masonry units, and all other materials and debris shall be kept clear of the working area by removal at regular intervals.

During roofing work, materials and equipment shall not be stored within 6 feet of a roof edge unless guardrails are erected at the edge, and materials piled, grouped, or stacked near a roof edge must be stable and self-supporting.

Training:

Pagoda Electrical, Inc. shall provide a training program for each employee who might be exposed to fall hazards. The program shall enable each employee to recognize the hazards of falling and shall train each employee in the procedures to be followed in order to minimize these hazards.

Pagoda Electrical, Inc. shall verify compliance with paragraph (a) of this section by preparing a written certification record. The written certification record shall contain the name or other identity of the employee trained, the date(s) of the training, and the signature of the person who conducted the training or the signature of Pagoda Electrical, Inc. If Pagoda Electrical, Inc. relies on training conducted by another employer or completed prior to the effective date of this section, the certification record shall indicate the date Pagoda Electrical, Inc. determined the prior training was adequate rather than the date of actual training.

Retraining:

When Pagoda Electrical, Inc. has reason to believe that any affected employee who has already been trained does not have the understanding and skill required by, Pagoda Electrical, Inc. shall retrain each such employee. Circumstances where retraining is required include, but are not limited to, situations where:

- Changes in the workplace render previous training obsolete; or
- Changes in the types of fall protection systems or equipment to be used render previous training obsolete; or

- Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill.

Employees will be trained in the following areas, as a minimum:

- (a) The nature of fall hazards in the work area;
- (b) The correct procedures for erecting, maintaining, disassembling, and inspecting fall protection systems;
- (c) The use and operation of controlled access zones and guardrail, personal fall arrest, safety net, warning line, and safety monitoring systems;
- (d) The role of each employee in the safety monitoring system when the system is in use;
- (e) The limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs;
- (f) The correct procedures for equipment and materials handling and storage and the erection of overhead protection; and,
- (g) The Employees' role in fall protection plans.

"Fall protection plan" for employees engaged in leading edge work, precast concrete erection work, or residential construction work (See 1926.501(b)(2), (b)(12), and (b)(13) of the OSHA Regulations for more guidance) who can demonstrate that it is infeasible or it creates a greater hazard to use conventional fall protection equipment. A site specific plan is not utilized here in this chapter. A site specific plan will be developed at a later date depending on the circumstances. The fall protection plan must conform to the following provisions:

- The fall protection plan shall be prepared by a qualified person and the Safety and Health Manager and developed specifically for the site where the leading edge work, precast concrete work, or residential construction work is being performed and the plan must be maintained up to date.
- Any changes to the fall protection plan shall be approved by a qualified person and the Safety and Health Manager.

- A copy of the fall protection plan with all approved changes shall be maintained at the job site.
- The implementation of the fall protection plan shall be under the supervision of a competent person.
- The fall protection plan shall document the reasons why the use of conventional fall protection systems (guardrail systems, personal fall arrest systems, or safety nets systems) are infeasible or why their use would create a greater hazard.
- The fall protection plan shall include a written discussion of other measures that will be taken to reduce or eliminate the fall hazard for workers who cannot be provided with protection from the conventional fall protection systems. For example, Pagoda Electrical, Inc. shall discuss the extent to which scaffolds, ladders, or vehicle mounted work platforms can be used to provide a safer working surface and thereby reduce the hazard of falling.
- The fall protection plan shall identify each location where conventional fall protection methods cannot be used. These locations shall then be classified as controlled access zones and Pagoda Electrical, Inc. must comply with the criteria in paragraph (g) of this section.
- Where no other alternative measure has been implemented, Pagoda Electrical, Inc. shall implement a safety monitoring system in conformance with OSHA Regulation 1926.502(h).

If an employee falls

In the event an employee falls, or some other related, serious incident occurs, (e.g., a near miss) Pagoda Electrical, Inc. shall investigate the circumstances of the fall or other incident to determine if the fall protection plan needs to be changed (e.g. new practices, procedures, or training) and shall implement those changes to prevent similar types of falls or incidents.

Safety Harness Inspection Report

JOB SITE	Date	Inspector's Name
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Harness Make/ Model	MFG.'S SERIAL NUMBER	HARNESS WEBBING OR LEATHER	ALL STITCHING	RIVETS & EYELETS	D-RINGS, BUCKLES & TONGUE	BODY PAD (IF APPL.)	LANYARDS	SAFETY LATCH / HOOK	CERTIFICATION OR DATA TAG

0 = YES - OK

X = NO - REPLACE

Ensure Harness is COLOR-CODED with the appropriate tape marker

FORWARD TO SAFETY DIRECTOR AT _____