

POLICY

E & B Oilfield Services, Inc. has implemented this policy to ensure proper safe work practices and procedures are followed to protect employees from the fall hazards.

REFERENCES

- 1926 Subpart M, Fall protection
- § 1926.500, Scope, application, and definitions applicable to this subpart
- § 1926.501, Duty to have fall protection
- § 1926.502, Fall protection systems criteria and practices
- § 1926.503, Training requirements
- Appendix A, Determining roof widths - Non-mandatory guidelines for complying with 1926.501(b)(10)
- Appendix B, Guardrail systems - Non-mandatory guidelines for complying with 1926.502(b)
- Appendix C, Personal fall arrest systems - Non-mandatory guidelines for complying with 1926.502(d)
- Appendix D, Positioning device systems - Non-mandatory guidelines for complying with 1926.502(e)
- Appendix E, Sample fall protection plan - Non-mandatory guidelines for complying with 1926.502(k)

RESPONSIBILITIES

Employer Responsibilities

E & B Oilfield Services, Inc. will provide at no cost to employees fall protection such as guard rails, safety nets, or personal fall arrest systems whenever employees are potentially exposed to falls to lower levels from heights of six feet or greater. This includes work near and around bins, tanks and excavations. Exception: When the standard methods of protection are not feasible or a greater hazard would be created. The exposure determination will be made without regards to the use of PPE.

E & B Oilfield Services, Inc. is responsible for:

- Ensuring that safety inspections of the facility occur on regular basis
- Training personnel in fall protection equipment selection and use
- Responding quickly to eliminate workplace hazards
- Ensuring all equipment is kept in good repair
- Ensuring employees follow safe job procedures
- Reviewing job hazard analysis whenever there is a significant change to any element of the job or there has been an injury or illness

Danny Abegglen Responsibilities

Danny Abegglen is the Program Administrator – designated qualified person - responsible for managing the Fall Protection Program, the Danny Abegglen will specify a fall protection system for each work-site, supervise its implementation, and inspect the system prior to use.

Safety Committee Responsibilities

- Assist in fall protection as necessary
- Assist in training employees to recognize and control workplace hazards
- Monitor the workplace for hazards
- Encourage employees to report hazards
- Implement appropriate controls
- Ensure corrective action is taken promptly

Employee Responsibilities

Employees will comply with the fall protection program at all times when working at heights of 6 feet or above will wear appropriate PPE (The fall protection system used will be appropriate for the specific work location or situation using best practices).

All employees are expected to: assist in job hazard analyses; follow safe job procedures; and report hazards to a supervisor immediately

TRAINING

Danny Abegglen will ensure that all employees who participate in work where fall hazards are present are trained in recognition of fall hazards, fall protection procedures, equipment, and work practices. Written certification records will be maintained showing who was trained, types of training, dates of training, signature of person providing training, and the date training was determined to be adequate. Employees will be certified upon completion of training in the following areas:

- The nature of fall hazards in the work area
- The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used
- The use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, personal fall restraint systems, slide guard systems, positioning devices, and other protection to be used
- The role of each employee in the safety monitoring system when this system is used
- The limitations on mechanical equipment use of during roofing
- The correct procedures for the handling and storage of equipment and materials and the erection of overhead protection
- The role of employees in the fall protection work plan

Employee re-training in fall protection will be provided when: previous training is deemed deficient; changes in work environment occur which would necessitate additional training; changes in fall protection equipment or systems occur; employee is observed applying unsafe work practices.

PROCEDURES

Prior to the start of work, Danny Abegglen will make an initial survey of the types of fall hazards which are expected to be encountered and develop a plan relative to providing the kind and number of safeguards that will protect against these fall hazards. Each employee on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge which is 6 feet or more above a lower level will be protected from falling by the use of guardrail systems, safety nets, or personal fall arrest systems.

- All accidents and serious incidents involving E & B Oilfield Services, Inc. employees will be reported immediately to the supervisor for the work location. All accidents/incidents will be investigated under the guidelines of the company Accident Investigation Program. Changes will be implemented to the Fall Protection Plan as necessary
- E & B Oilfield Services, Inc. will provide for prompt rescue of employees in the event of a fall or will assure the employees are able to rescue themselves
- All materials and equipment purchased and used at E & B Oilfield Services, Inc. for fall protection will comply to ANSI and ASTM standards required for that material or equipment

Fall Protection Locations

Fall protection is required wherever the potential to fall 6 feet or more exists. Fall protection is not needed if an employee or employees are on a low sloped roof for inspection/observation, provided that they do not approach within 8 feet of the roof's edge.

Fall Protection Work Plans

Danny Abegglen will develop and implement a written fall-protection work plan including each area of the work place where employees are assigned and where fall hazards of 6 feet or more exist. It is recommended that the written plan be upgraded as conditions change. The fall-protection work plan will:

- Identify all fall hazards in the work area as the project work progresses
- Describe the method of fall arrest or fall restraint to be provided
- Describe the procedures for assembly, maintenance, and disassembly of the fall-protection system
- Describe procedures for the handling, storage, and securing of tools and materials
- Describe the method of providing overhead protection for workers who may be in, or pass through, the area below the work site
- Be available on the job site for inspection
- Ensure that employees are trained and instructed
- Include inspection of fall-protection devices and systems to ensure compliance with applicable parts of this procedure

Fall Restraint and Fall Arrest Systems

Danny Abegglen will ensure that fall-restraint or fall-arrest systems are provided, installed, and implemented according to the following requirements. Fall-restraint and arrest protection will consist of:

Standard Guardrails

- Top rail 39 to 45 inches above the working surface, and must be smooth and of a shape to permit grasping easily
- Midrail (center between riser and top rail), screen or mesh (continuous) or intermediate vertical members (not more than 19 inches apart) will be provided between the top rail and working surface
- Guardrail systems will be capable of supporting 250 pounds in the downward or outward direction at any point along the top edge
- Midrail will support a 150-pound load in the downward or outward direction
- Top rails and midrails will be at least 1/4-inch nominal thickness. Plastic or steel banding will not be used
- Chain gates will be used to cover hoisting areas, and the guardrails will extend 4 feet minimum on either side of the opening
- Rails will be so constructed so as not to deflect under test loads. If cable or rope is used it will have tension adjusting capability and remain taut at all times
- Wood Railings: Wood components will be minimum 1500 lb.-ft. / in.² fiber (stress grade) construction grade lumber. Posts will be at least 2-inch by 4-inch (5 cm x 10 cm) lumber spaced not more than 8 feet (2.4 m) apart on centers. The top rail will be at least 2-inch by 4-inch (5 cm x 10 cm) lumber; the intermediate rail will be at least 1-inch by 6-inch (2.5 cm x 15 cm) lumber
- Pipe Railings: Post, top rails, and intermediate railings will be at least one and one half inches nominal diameter (schedule 40 pipe) with posts spaced not more than 8 feet (2.4 m) apart on centers
- Structural Steel Railings: Posts, top rails, and intermediate rails will be at least 2 inch by 2-inch (5 cm x 10 cm) by 3/8-inch (1.1 cm) angles, with posts spaced not more than 8 feet (2.4 m) apart on centers

Portable Guardrails

- Portable guardrails may be used in locations where permanent guardrails are not feasible
- Top rail 39 to 45 inches above the working surface, and must be smooth and of a shape to permit grasping easily
- Midrail (center between riser and top rail), screen or mesh (continuous) or intermediate vertical members (not more than 19 inches apart) will be provided between the top rail and working surface
- Guardrail systems will be capable of supporting 250 pounds in the downward or outward direction at any point along the top edge
- Midrail will support a 150-pound load in the downward or outward direction

Harness, Lanyards, Lifelines and Anchor Points

- An approved Class III full body harness will be used
- All full body harness and lanyard hardware assemblies will be capable of withstanding a tensile loading of 4,000 pounds without cracking, breaking, or taking a permanent deformation
- Anchorage points used for fall restraint will supporting four times the intended load
- Restraint protection and positioning devices will be rigged to allow the movement of employees only as far as the sides and edges of the walking / working surface
- Full body harnesses will be attached to securely rigged restraint lines
- Rope-grab devices are prohibited for fall-restraint applications unless they are part of a fall-restraint system designed specifically for the purpose by the manufacturer and used in strict accordance with the manufacturer's recommendations and instructions
- Danny Abegglen will ensure component compatibility
- Body harness systems or components subject to impact loading will be immediately removed from service and will not be used again for employee protection unless inspected and determined by a competent person to be undamaged and suitable for reuse
- All safety lines and lanyards will be protected against being cut or abraded
- Body harness systems will be rigged to minimize free-fall distance with a maximum free-fall distance allowed of 6 feet, and ensure that employees will not contact any lower level
- Hardware will have a corrosion-resistant finish and all surfaces and edges will be smooth to prevent damage to the attached body harness or lanyard
- When vertical lifelines (droplines) are used, not more than one employee will be attached to any one lifeline
- Full-body harness systems will be secured to anchorages capable of supporting 5,000 pounds per employee, except when self-retracting lifelines or other deceleration devices are used which limit free fall to two feet; in this case, anchorages will be capable of supporting 3,000 pounds
- Independent lifelines (droplines) will have a minimum tensile strength of 5,200 pounds, except that self-retracting lifelines and lanyards, which automatically limit free fall distance to two feet or less, will have a minimum tensile strength of 3,000 pounds
- Horizontal lifelines will have a tensile strength capable of supporting a fall impact load of at least 5,200 pounds per employee using the lifeline, applied anywhere along the lifeline
- Lanyards will have a minimum tensile strength of 5,200 pounds
- All components of body harness systems whose strength is not otherwise specified in this section will be capable of supporting a minimum fall impact load of 5,000 pounds applied at the lanyard point of connection
- Snap-hooks will not be connected to loops made in webbing-type lanyards
- Snap-hooks will not be connected to each other
- Not more than one snap-hook will be connected to any one D-ring
- Independent lifelines used on rock-scaling operations, or in areas where the lifeline may be subjected to cutting or abrasion, will be a minimum of 7/8-inch wire core manila rope. For all other lifeline applications, a minimum of 3/4-inch manila rope or its equivalent, with a minimum breaking strength of 5,000 pounds, will be used

- Safety harnesses, lanyards, and lifelines, independently attached or attended, will be used while performing the following types of work when other equivalent protection is not provided:
 - Work in hoppers, bins, silos, tanks, or other confined spaces
 - Work on hazardous slopes, or dismantling safety nets
 - Working on poles or from boatswains chairs at elevations
- Fall protection will be used when working at heights greater than six feet, on swinging scaffolds or other unguarded locations, and work on skips and platforms used in shafts by crews when the skip or cage does not include the opening to within one foot of the sides of the shaft, unless cages are provided
- Full-body harness systems will be inspected prior to each use for mildew, wear, damage, and other deterioration, and defective components will be removed from service if their function or strength has been adversely affected

Safety Nets

- Safety nets will be installed as close as practicable under the walking/working surface on which employees are working, but in no case more than 30 feet (9.1 m) below such level. When nets are used on bridges, the potential fall area from the walking/working surface to the net will be unobstructed
- Safety nets will extend outward from the outermost projection of the work surface as follows:

Vertical distance from working level to horizontal plane of net	Minimum required horizontal distance of outer edge of net from the edge of the working surface
Up to 5 feet	8 feet
More than 5 feet up to 10 feet	10 feet
More than 10 feet	13 feet

- Safety nets will be installed with sufficient clearance under them to prevent contact with the surface or structures below when subjected to an impact force equal to the drop test specified in the full-body harness section
- Safety nets and their installations will be capable of absorbing an impact force equal to that produced by the drop test specified in the full-body harness section
- Safety nets and safety net installations will be drop-tested at the job site before being used as a fall-protection system. The drop-test will consist of a 400-pound bag of sand 30+2 inches in diameter dropped into the net from the highest walking / working surface on which employees are to be protected. Exception: when the employer can demonstrate that a drop-test is not feasible or practicable, the net and net installation will be certified by a qualified person to be in compliance with the provisions of this section
- Safety nets will be inspected weekly for mildew, wear, damage, and other deterioration, and defective components will be removed from service
- Materials, scrap pieces, and tools which have fallen into the safety net will be removed as soon as possible from the net, and at least before the next work shift

- The maximum size of each safety net mesh opening will not exceed 36 square inches nor be longer than six inches on any side measured center-to-center of mesh ropes or webbing. All mesh crossings will be secured to prevent the enlargement of any mesh opening
- Each safety net (or section of it) will have a border rope for webbing with a minimum breaking strength of 5,000 pounds
- Connections between the safety net panels will be as strong as integral net components and will be spaced not more than six inches apart

Catch Platforms

A catch platform will be installed within ten vertical feet of the work area. The catch platform's width will equal the distance of the fall but will be a minimum of 45 inches wide and will be equipped with standard guardrails on all open sides

Guarding Of Low Pitched Roof Perimeters

During the performance of work on low pitched roofs with a ground to eaves height greater than 6 feet, Danny Abegglen will ensure that employees engaged in such work be protected from falling from all unprotected sides and edges of the roof as follows:

- By the use of a fall-restraint or fall-arrest system, as defined in applicable OSHA or state regulations
- Mechanical equipment will be used or stored only in areas where employees are protected by a warning line system, or fall-restraint, or fall-arrest systems as described in applicable OSHA or state regulations. Mechanical equipment may not be used or stored where the only protection is provided by the use of a safety monitor
- The general provisions section of this section do not apply at points of access such as stairways, ladders and ramps, or when employees are on the roof only to inspect, investigate, or estimate roof level conditions. Roof edge materials handling areas and materials storage areas will be guarded as provided in the roof edge materials handling section of this section
- Workers engaged in built-up roofing on low-pitched roofs less than 50 feet wide may use a safety system without warning lines where the use of hot tar poses additional hazards

Warning Line Systems and Access Paths

- When mechanical equipment is not being used, the warning line will be erected not less than 6 feet (1.8 m) from the roof edge
- When mechanical equipment is being used, the warning line will be erected not less than 6 feet (1.8 m) from the roof edge which is parallel to the direction of mechanical equipment operation, and not less than 10 feet (3.1 m) from the roof edge which is perpendicular to the direction of mechanical equipment operation
- Points of access, materials handling areas, storage areas, and hoisting areas will be connected to the work area by an access path formed by two warning lines
- When the path to a point of access is not in use, a rope, wire, chain, or other barricade, equivalent in strength and height to the warning line, will be placed across the path at the point where the path intersects the warning line erected around the work area, or the path will be offset such that a person cannot walk directly into the work area
- Warning lines will be erected around all sides of the work area for work 6 to 10 feet from the roof edge.
- A warning line system as prescribed in 29 CFR 1926.500 and supplemented by the use of a safety monitor system as prescribed in 29 CFR 1926.500 to protect any employee engaged in

duties between the forward edge of the warning line and the unprotected sides and edges, including the leading edge, of a low pitched roof or walking/working surface

- Warning line and safety monitor systems as described in 29 CFR 1926.500 are prohibited on surfaces exceeding a 4/12 pitch, and on any surface whose dimensions are less than 45 inches in all directions
- The warning line will consist of a rope, wire, or chain and supporting stanchions
- The rope, wire, or chain will be flagged at not more than six feet intervals with high-visibility material
- The rope, wire, or chain will be rigged and supported in such a way that its lowest point (including sag) is no less than 39 inches from the roof surface and its highest point is no more than 45 inches from the roof surface
- After being erected, with the rope, wire or chain attached, stanchions will be capable of resisting, without tipping over, a force of at least 16 pounds applied horizontally against the stanchion, 30 inches above the roof surface, perpendicular to the warning line, and in the direction of the roof edge
- The rope, wire, or chain will have a minimum tensile strength of 500 pounds, and after being attached to the stanchions, will be capable of supporting, without breaking, the loads applied to the stanchions
- The line will be attached at each stanchion in such a way that pulling of one section of line between stanchions will not result in slack being taken up in adjacent sections before the stanchion tips over.
- Access paths: points of access, materials handling areas, and storage areas will be connected to the work area by a clear access path formed by two warning lines.
- When the path to a point of access is not in use, a rope, wire or chain, equal in strength and height to the warning line, will be placed at the point where the path intersects the warning line erected around the work area.

Roof edge Materials Handling Areas and Materials Storage

Employees working in a roof-edge materials-handling or materials storage area location on a low-pitched roof with a ground-to-work-area height greater than six feet will be protected from falling along all unprotected roof sides and edges of the area.

- When guardrails are used at hoisting areas, a minimum of four feet of guardrail will be erected on each side of the access point through which materials are hoisted
- A chain or gate will be placed across the opening between the guardrail sections when hoisting operations are not taking place
- When guardrails are used at bitumen pipe outlets, a minimum of four feet of guardrail will be erected on each side of the pipe
- When safety-harness systems are used, they will not be attached to the hoist
- When fall-restraint systems are used, they will be rigged to allow the movement of employees only as far as the roof edge
- Materials will not be stored within six feet of the roof edge unless guardrails are erected at the roof edge

Leading Edge Control Zone

When performing leading-edge work, Danny Abegglen will ensure that a control zone is established according to the following requirements:

- The control zone will begin a minimum of six feet back from the leading edge to prevent exposure by employees who are not protected by fall-restraint or fall-arrest systems
- The control zone will be separated from other areas of the low-pitched roof or walking/working surface by the erection of a warning-line system
- The warning-line system will consist of wire, rope, or chain supported on stanchions, or a method which provides equivalent protection
- The spacing of the stanchions and support of the line will be such that the lowest point of the line (including sag) is not less than 39 inches from the walking / working surface, and its highest point is not more than 45 inches from the working / walking surface
- Each line will have a minimum tensile strength of 500 pounds
- Each line will be flagged or clearly marked with high-visibility materials at intervals not to exceed six feet

Safety-Monitor System

The employer will designate a competent person to monitor the safety of other employees and the employer will ensure that the safety monitor complies with the following requirements:

- The safety monitoring system will not be used as a fall protection system for any work other than roofing work on roof slopes of 2 in 12 (vertical to horizontal) or less
- Use of a safety monitoring system alone (i.e., without the warning line system) is not permitted on roofs more than 50 feet (15.25 m) in width
- When selected, the employer will ensure that the safety-monitor system will be addressed in the fall-protection work plan, include the name of the safety monitor(s) and the extent of their training in both the safety-monitor and warning-line systems, and will ensure that the following requirements are met:
 - The safety-monitor system will not be used when adverse weather conditions create additional hazards.
 - A person acting in the capacity of a safety monitor will be trained in the function of both the safety-monitor and warning-lines systems
 - The safety monitor will:
 - Be a competent person as defined in 29 CFR 1926.32(f)
 - Have control authority over the work as it relates to fall protection
 - Be instantly distinguishable from members of the work crew
 - Engage in no other duties while acting as safety monitor
 - Be positioned in relation to the workers under their protection, so as to have a clear, unobstructed view and be able to maintain normal voice communication
 - Not supervise more than eight exposed employees at one time
- Control zone workers will be distinguished from other members of the crew by wearing a high-visibility vest only while in the control zone

General Safety Considerations

The company will ensure prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves.

Fall arrest systems will be inspected prior to each use for wear, damage and other deterioration, and defective components shall be removed from service.

If Fall Protection Plans are utilized, site specific plans will be prepared, or modified by a Qualified Person, and maintained at the job site. The plan will be under the supervision of a Competent Person, and the plan will address why the use of conventional fall protection is infeasible, or why their use would cause a greater hazard.

If Fall Protection Plans are utilized, Danny Abegglen will post a written notice of how is designated to work in controlled access zones. No other employees may enter controlled access zones.

If Fall Protection Plans are utilized, and in the event an employee falls, or some other related, serious incident occurs, (e.g., a near miss) the company will 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.

All affected employees will undergo training to the recognize fall hazards and how to minimize these hazards. Retraining will occur when the following conditions occur: it is determined that employees already trained do not have the necessary understanding or skill, work place changes, and/or fall protection systems or equipment changes that render previous training obsolete. This training is documented, and the latest training certification is maintained.

