

STANDARD PRACTICE INSTRUCTION

DATE: 4 April 2019

SUBJECT: Scaffolding and Aerial Lift Safety

REGULATORY STANDARDS: 29 CFR 1910.28 Safety Requirements For Scaffolding.
29 CFR 1910.29 Manually Propelled Mobile Scaffolds.
29 CFR 1926.450 Subpart L Construction

BASIS: Scaffolds are a major source of injuries and fatalities. Of the 510,500 injuries and illnesses that occur in the construction industry annually, 9,750 are related to scaffolds. In addition, of the estimated 924 occupational fatalities occurring annually, at least 79 are associated with work on scaffolds. Most of these accidents can be prevented if proper safety precautions are initiated. This poses a serious problem for exposed workers and their employer. The OSHA Standards governing Scaffolding establish uniform requirements to ensure that the hazards existing in U.S. workplaces are evaluated, safety procedures implemented, and that the proper hazard information is transmitted to all affected workers.

GENERAL: Nowland Associates, Inc. will ensure that all potential hazards regarding Scaffolding in our facility or job sites are evaluated. This standard practice instruction is intended to address comprehensively the issues of; evaluating and identifying potential deficiencies, evaluating the associated potential hazards, communicating information concerning these hazards, and establishing appropriate procedures, and protective measures for employees.

RESPONSIBILITY: The company Safety Officer is solely responsible for all facets of this program and has full authority to make necessary decisions to ensure success of the program. The Safety Officer is the sole person authorized to amend these instructions and is authorized to halt any operation of the company where there is danger of serious personal injury.

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Nowland Associates, Inc. **Scaffolding and Aerial Lifts Program**

1. Written Program. Nowland Associates, Inc. will review and evaluate this standard practice instruction on an annual basis, or when changes occur to the governing regulatory standards, that prompt revision of this document, or when facility operational changes occur that require a revision of this document. Effective implementation requires a written program for job safety and health, that is endorsed and advocated by the highest level of management within this company and that outlines our goals and plans. This written program will be communicated to all required personnel. It is designed to establish clear goals, and objectives.

2. General Requirements. All facilities and equipment owned by this company will be maintained in a safe and healthful manner. Certain work conditions may contain a reasonable probability of injury that can be prevented by proper maintenance and supervision. Nowland Associates, Inc. will do all possible to ensure the safety of our employees. No employee will knowingly be subjected to a hazardous condition without all possible protective measures first being implemented.

3. Manufacturers Recommendations for Safety. To insure safety and serviceability, manufacturers recommendations on use and maintenance will be strictly adhered to.

4. Company Fixed Scaffolding Safety Policy. To insure safety and serviceability the following general precautions concerning the care and use of Scaffolding will be observed:

4.1 Footing and anchorages. The footing and or anchorage for scaffolds will be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, boxes, loose brick, or concrete blocks will not be used to support scaffolds or planks.

4.2 Scaffolds and their components will be capable of supporting without failure at least four times the maximum intended load.

4.3 Scaffolds will be maintained in a safe condition at all times in accordance with the manufacturers recommendations. Fixed scaffolds will not be altered or moved horizontally while they are in use or occupied.

4.4 Any scaffold damaged or weakened from any cause will be immediately repaired and will not be used until repairs have been completed.

4.5 Scaffolds will not be loaded in excess of the working load for which they are intended.

4.6 All load-carrying timber members of scaffold framing will be a minimum of 1,500 f. (Stress Grade) construction grade lumber.

- 4.7 All planking will be Scaffold Grade as recognized by grading rules for the type of wood used. The scaffold manufacturers recommendations will be followed.
- 4.8 Nails or bolts used in the construction of scaffolds will be of adequate size and in sufficient numbers at each connection to develop the designed strength of the scaffold. Nails will not be subjected to a straight pull and will be driven full length.
- 4.9 All planking or platforms will be overlapped (minimum 12 inches) or secured from movement.
- 4.10 An access Scaffold or equivalent safe access will be provided.
- 4.11 Scaffold planks will extend over their end supports not less than 6 inches nor more than 18 inches.
- 4.12 The poles, legs, or uprights of scaffolds will be plumb, and securely and rigidly braced to prevent swaying and displacement.
- 4.13 Materials being hoisted onto a scaffold will have a tag line.
- 4.14 Overhead protection will be provided for men on a scaffold exposed to overhead hazards.
- 4.15 Scaffolds will be provided with a screen between the toeboard and the guardrail, extending along the entire opening, consisting of No. 18 gauge U.S. Standard Wire one-half-inch mesh or the equivalent, where persons are required to work or pass under the scaffolds.
- 4.16 Employees will not work on scaffolds which are covered with ice or snow, unless all ice or snow is removed and planking sanded to prevent slipping.
- 4.17 Tools, materials, and debris will not be allowed to accumulate in quantities to cause a hazard.
- 4.18 Only treated or protected fiber rope will be used for or near any work involving the use of corrosive substances or chemicals.
- 4.19 Wire or fiber rope used for scaffold suspension will be capable of supporting at least six times the intended load.
- 4.20 The use of shore scaffolds or lean-to scaffolds will not be used by this company.
- 4.21 Lumber sizes, when used in this section, refer to nominal sizes except where otherwise stated.

4.22 Scaffolds will be secured to permanent structures, through use of anchor bolts, reveal bolts, or other equivalent means. Window cleaners' anchor bolts will not be used.

4.23 Special precautions will be taken to protect scaffold members, including any wire or fiber ropes, when using a heat-producing process.

5. Company Mobile (Rolling) Scaffolding Safety Policy. To insure safety and serviceability the following general precautions concerning the care and use of Scaffolding will be observed:

5.1 Working loads. Work platforms and scaffolds will be capable of carrying the design load under varying circumstances depending upon the conditions of use.

5.2 The design load of all scaffolds will be calculated on the basis of:

Light - Designed and constructed to carry a working load of 25 pounds per square foot.

Medium - Designed and constructed to carry a working load of 50 pounds per square foot.

Heavy - Designed and constructed to carry a working load of 75 pounds per square foot.

5.3 Nails, bolts, or other fasteners used in the construction of ladders, scaffolds, and towers will be of adequate size and in sufficient numbers at each connection to develop the designed strength of the unit. Nails will be driven full length. (All nails should be immediately withdrawn from dismantled lumber.)

5.4 All exposed surfaces will be free from sharp edges, burrs or other safety hazards.

5.5 Work levels. The maximum work level height will not exceed four (4) times the minimum or least base dimensions of any mobile scaffold. Where the basic mobile unit does not meet this requirement, suitable outrigger frames will be employed to achieve this least base dimension, or provisions will be made to guy or brace the unit against tipping.

5.6 The minimum platform width for any work level will not be less than 20 inches for mobile scaffolds (towers). Ladder stands will have a minimum step width of 16 inches.

5.7 The supporting structure for the work level will be rigidly braced, using adequate cross bracing or diagonal bracing with rigid platforms at each work level.

5.8 The work level platform of scaffolds (towers) will be of wood, aluminum, or plywood planking, steel or expanded metal, for the full width of the scaffold, except for necessary openings. Work platforms will be secured in place. All planking will

be 2-inch (nominal) scaffold grade minimum 1,500 f. (stress grade) construction grade lumber or equivalent.

5.9 All scaffold work levels 10 feet or higher above the ground or floor will have a standard (4-inch nominal) toeboard.

5.10 All work levels 10 feet or higher above the ground or floor will have a guardrail of 2- by 4-inch nominal or the equivalent installed no less than 36 inches or more than 42 inches high, with a mid-rail, when required, of 1- by 4-inch nominal lumber or equivalent.

5.11 Wheels or casters. Wheels or casters will be inspected to ensure that they are provided with strength and dimensions to support four (4) times the design working load.

5.12 All scaffold casters will be inspected to ensure that they are provided with a positive wheel and/or swivel lock to prevent movement.

5.13 Where leveling of the elevated work platform is required, screw jacks or other suitable means for adjusting the height will be used.

5.14 Employees are not permitted to ride rolling scaffolds during relocation.

5.15 Adjusting screws may not be extended more than 12 inches.

5.16 Before moving the platform secure all equipment and material.

5.17 Casters or wheels must have a serviceable locking device.

5.18 Be aware of overhead obstructions when moving scaffolds.

5.19 Never run over electrical cords.

5.20 Never pull scaffolds from the top, always push at base level.

5.21 Work only from the platform area never extend work beyond guardrailing.

6. Erecting of Scaffolding. Only competent employees designated by this company will supervise the erection of scaffolding. Pertinent OSHA regulations and information and guidance provided by the manufacturer of the particular type of scaffolding will be used. The following apply:

6.1 Manufacturers erection instructions will be followed.

6.2 Advance planning considerations will be followed during the erection process.

6.3 Only trained and authorized employees will supervise the erection of scaffolding.

- 6.4 Each component will be visually inspected before use.
- 6.5 Defective or unserviceable materials will not be used,
- 6.6 Only approved lumber will be used.
- 6.7 Consult with the project manager where any instructions are unclear.

7. Pre-Inspection of Erected Scaffolding. The three main areas of inspection are for rust, straightness of members, and welds. Only competent employees designated by this company will conduct the pre-inspection. Pertinent OSHA regulations and information and guidance provided by the manufacturer of the particular type of scaffolding will be used. The following as a minimum apply:

- 7.1 Rust. Heavily rusted scaffolding equipment is a possible sign of abuse or neglect. Severely rusted components should be thoroughly inspected and cleaned before approved for use.
- 7.2 Straightness of members. Mishandling, trucking and storing may cause damage to scaffolding equipment. All members or parts of all steel scaffolding components should be straight and free from bends, kinks or dents.
- 7.3 Welds. Scaffolding equipment should be checked before use for damaged welds and any piece of equipment showing damaged welds or rewelding beyond the original factory weld should not be used. The factory weld reference pertains to location and quality of rewelds.
- 7.4 Check serviceability of locking devices.
- 7.5 Check alignment of coupling pins and braces.
- 7.6 Check serviceability of caster brakes (rolling scaffolds).

8. Final Inspection of Erected Scaffolding. Only competent employees designated by this company will conduct the final inspection of erected scaffolding. Pertinent OSHA regulations and information and guidance provided by the manufacturer of the particular type of scaffolding will be used. The following as a minimum apply:

- 8.1 Check for proper support under every leg of every frame.
- 8.2 Check for wash out (if outside) due to rain.
- 8.3 Check to ensure all base plates or adjustment screws are in firm contact with supports.
- 8.4 Check frames for plumbness and squareness in both directions.
- 8.5 Check serviceability and correctness of all cross braces.

8.6 Check to ensure that all planking and accessories are properly installed.

8.7 Check to ensure that all guard rails are in place.

8.8 Recheck periodically to ensure conditions remain safe.

8.9 When defective scaffolding is found, a tag or sign will be used to inform workers.

9. Dismantling of Scaffolding. Only competent employees designated by this company will supervise the dismantling of scaffolding. Pertinent OSHA regulations and information and guidance provided by the manufacturer of the particular type of scaffolding will be used. The following apply:

9.1 Manufacturers dismantling instructions will be followed.

9.2 Relocation planning considerations will be considered during the dismantling process.

9.3 Dismantling will be supervised by a competent employee.

9.4 Each component will be visually inspected after use.

9.5 Defective or unserviceable materials will not stored with serviceable materials.

9.6 Avoid dropping or throwing the components as this could result in damage to the equipment.

9.7 Consult with the project manager where any instructions are unclear.

10. Aerial Lifts. This section applies to all employees who perform work with any type of aerial lift, including Genie-type lifts, scissor lifts, bucket trucks, cherry pickers, and any other type of elevated working surface. All employees must:

10.1 Be authorized and trained before using and performing work on one.

10.2 Perform pre-use inspection, including controls.

10.3 Keep feet firmly on the floor.

10.4 Keep at least 10 feet from overhead power lines.

10.5 Abide by machine load limits.

10.6 Use an appropriate Personal Fall Arrest System. **Note: A PFAS is not required on scissor type lifts since they are considered a “mobile” scaffold, as long as the guardrail system meets minimum requirements. A PFAS will be utilized in all other type of lifts and will be attached to the proper anchor point in the basket or on the boom.**

10.7 Be familiar with the type of lift being used, and use it according to the manufacturer's guidelines. No modifications may be made without prior approval from the manufacturer.

10.8 Ensure the use of a back-up signal, or use a spotter.

11. Training. A training program will be provided for all employees who will be using scaffolding in the course of their duties. The training will be conducted by competent personnel. The program will include but will not be limited to:

- A description of fall hazards in the work area or job site
- Procedures for using fall prevention and protection systems
- Scaffolding access and egress procedures
- Scaffolding equipment limitations
- Inspection and storage procedures for the equipment

11.1 Initial training. Training will be conducted prior to job assignment. Nowland Associates, Inc. will provide training to ensure that the purpose, function, and proper use of scaffolding is understood by employees and that the knowledge and skills required for the safe application, and usage is acquired by employees. This standard practice instruction will be provided to, and read by all employees receiving training. The training will include, as a minimum the following:

11.1.1 Types of scaffolding used by this company.

11.1.2 Recognition of applicable fall hazards associated with the work to be completed and the locations of such.

11.1.3 Load determination and balancing requirements.

11.1.4 Safety precautions in the use of scaffolds, including electrical hazards.

11.1.5 All other employees whose work operations are or may be in an area where scaffolding may be utilized, will be instructed to an awareness level concerning the associated hazards.

11.1.6 Equipment maintenance and inspection requirements.

11.1.7 Equipment strengths and limitations.

11.1.8 Certification. Nowland Associates, Inc. will certify that employee training has been accomplished and is being kept up to date. The certification will contain each employee's name and dates of training. Training will be accomplished by competent personnel.

11.2 Refresher training. This standard practice instruction will be provided to, and read by all employees receiving refresher training. The training content will be identical to initial training. Refresher training will be conducted on an as needed basis or when the following conditions are met, whichever event occurs sooner.

11.2.1 Whenever (and prior to) a change in their job assignments, a change in the type of scaffolding equipment used, or when a known hazard is added to the work environment which affects this program.

11.2.2 Additional retraining will also be conducted whenever a periodic inspection reveals, or whenever Nowland Associates, Inc. has reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of scaffolding equipment or procedures.

11.2.3 Whenever a scaffolding safety procedure fails.

11.2.4 The retraining will reestablish employee proficiency and introduce new or revised methods and procedures, as necessary.

11.2.5 Certification. Nowland Associates, Inc. will certify that employee training has been accomplished and is being kept up to date. The certification will contain each employee's name and dates of training. Training will be accomplished by competent personnel.