

Manual Section 7	Issue Date 09/15/11	Revision Date 01/05/22	Policy Number LLCP-106
Scaffolding			

REGULATORY STANDARDS:

- 29 CFR 1910.28 Safety Requirements for Scaffolding.
- 29 CFR 1910.29 Manually Propelled Mobile Scaffolds.
- 29 CFR 1910.145 Specifications for accident prevention signs and tags.
- 29 CFR 1926.454 Training requirements.

Purpose

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.

Scope

All LLC Companies including, Blanchard Industrial, LLC, GIS Engineering, LLC, Grand Isle Shipyard, Inc., and GWIS, Mack Steel, NuWave, Sun Industries; hereafter identified as “Company”.

General

The Company 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 Corporate HSE Director is solely responsible for all facets of this program and has full authority to make necessary decisions to ensure success of the program. The HSE Director 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.

- Written Program.
- General Requirements.
- Manufacturers Recommendations for Safety.
- Company Fixed Scaffolding Safety Policy.
- Company Mobile (Rolling) Scaffolding Safety Policy.
- Erecting of Scaffolding.
- Pre-Inspection of Erected Scaffolding.
- Final Inspection of Erected Scaffolding.
- Dismantling of Scaffolding.
- Maintenance.
- Training.
- Tagging Systems.

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Written Program

The Company 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 the 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.

General Requirements

All facilities and equipment owned by the 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. The Company 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.

Company Fixed Scaffolding Safety Policy

To insure safety and serviceability the following general precautions concerning the care and use of Scaffolding will be observed:

- 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.
- Scaffolds and their components will be capable of supporting without failure at least four times the maximum intended load.
- Scaffolds will be maintained in a safe condition at all times in accordance with the manufacturer's recommendations. Fixed scaffolds will not be altered or moved horizontally while they are in use or occupied.
- Any scaffold damaged or weakened from any cause will be immediately repaired and will not be used until repairs have been completed.
- Scaffolds will not be loaded in excess of the working load for which they are intended.
- All load-carrying timber members of scaffold framing will be a minimum of 1,500 f. (Stress Grade) construction grade lumber.
- All planking will be Scaffold Grade as recognized by grading rules for the type of wood used. The scaffold manufacturer's recommendations will be followed.
- 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.
- All planking or platforms will be overlapped (minimum 12 inches) or secured from movement.
- An access Scaffold or equivalent safe access will be provided.
- Scaffold planks will extend over their end supports not less than 6 inches nor more than 18 inches unless cleated or restrained by hooks, nails or number nine gauge wire.
- The poles, legs, or uprights of scaffolds will be plumb, and securely and rigidly braced to prevent swaying and displacement.

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- Materials being hoisted onto a scaffold will have a tag line.
- Overhead protection will be provided for men on a scaffold exposed to overhead hazards.
- 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.
- **Employees must be 100% tied off at all times**, while ascending and descending all scaffolds. D-ring scaffold straps will be used by first man up (attached to vertical members of scaffold only) and a davit arm and retractable yo-yo will be installed at top of ladder. Remaining workers must tie off to yo-yo to ascend and descend on scaffold. Last man off (dismantling of scaffold) shall use D-ring straps to tie off as he descends.
- **Harnesses shall be worn while working on any scaffold no matter what color tag the scaffold has. Due to drills or emergencies, employees must be ready to get off of the scaffold at short notice. This requires the harness to be on to be attached to the lifeline during descent.**
- 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.
- Tools, materials, and debris will not be allowed to accumulate in quantities to cause a hazard.
- Only treated or protected fiber rope will be used for or near any work involving the use of corrosive substances or chemicals.
- Wire or fiber rope used for scaffold suspension will be capable of supporting at least six times the intended load.
- The use of shore scaffolds or lean-to scaffolds will not be used by this company.
- Lumber sizes, when used in this section; refer to nominal sizes except where otherwise stated.
- 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.
- Special precautions will be taken to protect scaffold members, including any wire or fiber ropes, when using a heat-producing process.

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:

- Working loads. Work platforms and scaffolds will be capable of carrying the design load under varying circumstances depending upon the conditions of use.
- 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.
- 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.)
- All exposed surfaces will be free from sharp edges, burrs or other safety hazards.

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- 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.
- 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.
- 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.
- 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.
- All scaffold work levels 10 feet or higher above the ground or floor will have a standard (4-inch nominal) toeboard.
- 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.
- 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.
- All scaffold casters will be inspected to ensure that they are provided with a positive wheel and/or swivel lock to prevent movement.
- Where leveling of the elevated work platform is required, screw jacks or other suitable means for adjusting the height will be used.
- Employees are not permitted to ride rolling scaffolds during relocation.
- Adjusting screws may not be extended more than 12 inches.
- Before moving the platform, secure all equipment and material.
- Casters or wheels must have a serviceable locking device.
- Be aware of overhead obstructions when moving scaffolds.
- Never run over electrical cords.
- Never pull scaffolds from the top, always push at base level.
- Work only from the platform area, never extend work beyond guardrail.

Erecting of Scaffolding. Only trained and authorized employees of the 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:

- Manufacturer's erection instructions will be followed.
- Advance planning considerations will be followed during the erection process.
- Only trained and authorized employees will erect scaffolding.
- Each component will be visually inspected before use.

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- Defective or unserviceable materials will not be used,
- Only approved lumber will be used.
- Scaffold erection should be suspended during inclement weather or lightning.
- Consult with the project manager where any instructions are unclear.

Scaffold Access. When erecting or dismantling supported scaffolds, a safe means of access shall be provided when a competent person has determined the feasibility and analyzed the site conditions Standard scaffold access methods will be added to the scaffold as soon as safely possible during the erection process. The access points to the scaffold shall be kept clear at all times.

- Fall protection is required while climbing all ladders to access a scaffold.
- Inward opening swing gates are the preferred access points when utilizing external scaffold ladders and shall be used on all scaffolds applicable.
 - Scaffold ladders shall be installed no further than 12” (twelve inches) from the middle of the rung to the closest edge of the scaffold landing zone.
- All external scaffold ladders shall be installed 90 degrees to the platform opening/swing gate.
- When scaffold access penetrates the deck of the platform, a hard barricade shall be built around the opening with a swing gate as access point to prevent employees from falling into the opening.
- A rest platform shall be installed for all ladder section greater than 20 feet.

Pre-Inspection of Erected Scaffolding. The three main areas of inspection are for rust, straightness of members, and welds. Only trained and authorized employees of the 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:

- 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.
- 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.
- 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.
- Check serviceability of locking devices.
- Check alignment of coupling pins and braces.
- Check serviceability of caster brakes (rolling scaffolds).
- Optional checklist is available at the end of the policy.

Final Inspection of Erected Scaffolding. Only trained and authorized employees of the 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:

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

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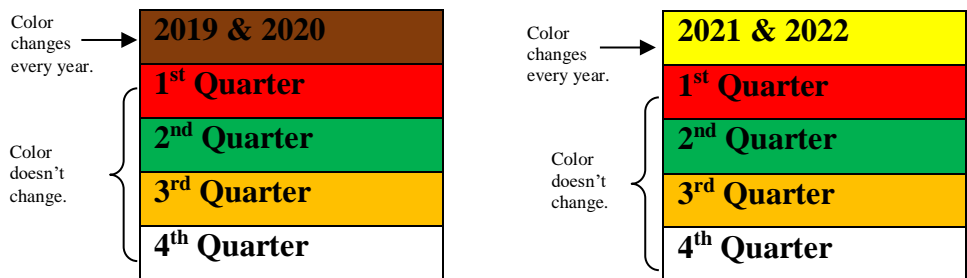
- Check serviceability and correctness of all cross braces.
- Check to ensure that all planking and accessories are properly installed.
- Check to ensure that all guard rails are in place.
- Assure all knuckles are in place and have a minimum of one foot of pipe extending past the knuckle.
- Recheck periodically to ensure conditions remain safe.
- Scaffolds and scaffold components shall be inspected for visible defects by a competent person before each work shift, and after any occurrence which could affect a scaffold's structural integrity. This inspection shall be duly noted on the attached scaffold tag.

The Company is now requiring all scaffold material sent out to jobsites be rotated out and sent in for regular maintenance and integrity checks every twenty-four (24) months or 2 years. This is to assure that equipment is kept in a safe and reliable condition.

Requests by Customers asking for Company scaffolding materials to remain past this 2 year span will require a Company MoC. The MoC must be initiated by the Company Supervisor on site with the name of the Customer contact requesting the delayed return of materials listed on the document for questions or concerns. Furthermore, a detailed explanation should be written on the MoC to describe the reason for not rotating materials out as required for integrity checks.

For identification purposes, the Company has implemented a color code system to align with Customers and fellow Contractors. A predetermined color will now be painted on one side of scaffold material to identify the year in which it is issued. On the other end of the component will be a variation of four (4) different colors. Each color will represent the quarter of the year in which it was issued (i.e. 4 quarters in a year; one color for each quarter). The colors representing the four quarters of the year will not change. The only color change will be when we issue materials after the end of a given year (i.e. yellow; Brown; Purple; etc). Listed below are charts identifying the colors for the next few years.

At the start of every quarter of the year (January; April; July; October), Supervisors will have the responsibility of assuring that all scaffolding at their location has been sent out within six months. They will also be required to add the next color to the material. When adding the appropriate color to the material, attention shall be given to assure the previous color is not covered up. The previous color shall always be left to associate the original quarter it was sent out. Only employees working in the Company's Scaffold Yard will have the authority to take all paint off and start over. If scaffolding material is found to be "out of date" arrangements shall be made to have it rotated out with new material. If a Customer would like it to stay, a MoC must be initiated and approved prior to further use. Please use the Scaffold Builder Inspection Form (LLCF-063) to this document every quarter.



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Dismantling of Scaffolding

Only trained and authorized employees of the 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:

- Manufacturers dismantling instructions will be followed.
- Relocation planning considerations will be considered during the dismantling process.
- Dismantling will be supervised by a competent employee.
- Each component will be visually inspected after use.
- Defective or unserviceable materials will not be stored with serviceable materials.
- Avoid dropping or throwing the components as this could result in damage to the equipment.
- Scaffold dismantling should be suspended during inclement weather or lightening
- Consult with the project manager where any instructions are unclear.

Maintenance

If damage does occur, the Competent Person evaluates the damage and decides whether the situation calls for immediate repair, replacement, bracing or removal from service. Repairs are made by trained personnel familiar with scaffold design and repair. Unsafe equipment or conditions must be tagged out by a Competent Person.

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

Initial training

Training will be conducted prior to job assignment. The Company 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:

- Types of scaffolding used by this company.
- Recognition of applicable fall hazards associated with the work to be completed and the locations of such.
- Load determination and balancing requirements.
- Safety precautions in the use of scaffolds.
- 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.

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- Equipment maintenance and inspection requirements.
- Equipment strengths and limitations.
- Certification. The Company 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.

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.

- 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.
- Additional retraining will also be conducted whenever a periodic inspection reveals, or whenever the Company has reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of scaffolding equipment or procedures.
- Whenever a scaffolding safety procedure fails.
- The retraining will reestablish employee proficiency and introduce new or revised methods and procedures, as necessary.
- Certification. The Company 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.

Tagging Systems

This system shall comply with regulation standards 1919.145 (General Environmental Controls), 1926.200 (Signs, Signals, and Barricades) signs and symbols shall be visible at all times while work is performed and shall be removed or covered promptly when the hazards no longer exist.

There shall be no variation in the type of design of signs posted. All signs shall be furnished with rounded or blunt corners and shall be free from sharp edges, burrs, splinters, or other sharp projections. The ends or heads of bolts or other fastening devices shall be located in such a way that they do not constitute a hazard.

Green tags indicate that the scaffolds meet all OSHA requirements for that type of scaffold.

Yellow Tags denotes caution and indicates that a specific hazard exists. The type of hazard will be listed on the tag.

Red tags denote danger and warn personnel not to use or climb the scaffold.

The Company will **ONLY** allow green tags on scaffolds (offshore and onshore) that are built from the ground up. ALL hanging scaffolds (offshore and onshore) will require a yellow tag and 100% fall protection required.

At a minimum, the tag shall include the load category of the scaffolding, date erected / tagged, inspected by: name (print & signature) and the inspection date.

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Danger Signs

Danger signs shall be used only where an immediate hazard exists.

Danger signs shall have red as the predominating color for the upper panel; black outline on the borders; and a white lower panel for additional sign wording (see accompanying figure).

Caution Signs

Caution signs shall be used only to warn against potential hazards or to caution against unsafe practices.

Caution signs shall have yellow as the predominating color; black upper panel and borders; yellow lettering of "caution" on the black panel; and the lower yellow panel for additional sign wording. Black lettering shall be used for additional wording. Standard color of the background shall be yellow; and the panel, black with yellow letters. Any letters used against the yellow background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 of American National Standard ANSI Z53.1-1967 (see accompanying figure).

Safety Instruction Signs

Safety instruction signs, when used, shall be white with green upper panel with white letters to convey the principal message. Any additional wording on the sign shall be black letters on the white background (see accompanying figure).

Accident Prevention Signs

Accident prevention tags shall be used as a temporary means of warning employees of an existing hazard, such as defective tools, equipment, etc. They shall not be used in place of, or as a substitute for, accident prevention signs. Specifications for accident prevention tags are similar to those shown below.