MATERIAL HANDLING - FIELD RIGGING
SAFETY PROGRAM

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I. PURPOSE
   a. THE HILLIS GROUP, LLC is dedicated to the protection of our employees from occupational injuries and illnesses.
   b. THE HILLIS GROUP, LLC is responsible for providing a safe working environment, and the employees have and must assume the responsibility of working safely.
   c. THE HILLIS GROUP, LLC recognizes the potential for serious injury or death while rigging & lifting materials with the help of cranes. To reduce the potential, this program was developed to communicate the proper techniques of rigging.

II. RIGGING
   a. The term "rigging" refers to both of the following:
      i. The hardware and equipment used to safely attach a load to a lifting device.
      ii. The process of safely attaching a load to a hook by means of adequately rated and properly applied slings and related hardware.

III. GENERAL RIGGING SAFETY REQUIREMENTS
   a. The following requirements apply:
      i. Only rigging equipment that is in good condition may be used.
      ii. Rigging equipment shall be inspected to ensure it is safe.
         1. Rigging equipment for material handling shall be inspected prior to use on each shift and as necessary during its use to ensure that it is safe.
      iii. Defective equipment shall not be used and removed from service immediately.
      iv. Rigging equipment shall not be loaded beyond its recommended safe working load.
      v. Identification markings, indicating rated capacity for the type(s) of hitch(es) used, the angle upon which it is based, and the number of legs if more than one, shall be permanently affixed to the rigging.
      vi. All employees shall be kept clear of loads about to be lifted and of suspended loads.
      vii. All rigging equipment shall be stored and maintained in accordance with the manufacturer's recommendations.
      viii. Rigging equipment not in use shall be removed from the immediate work area so as not to present a hazard to employees.
      ix. Slings (e.g., wire rope, synthetic web or rope, and chain) and rigging hooks shall:
         1. Be inspected at least annually by a qualified inspector
         2. Have a documented inspection history, with records readily available
         3. Be labeled for identification purposes with a durable tag (synthetic or metal) permanently affixed to the device.
      x. Equipment that is not properly labeled shall not be used. However, manufacturer-supplied serial numbers or other individualized markings meet the labeling requirement.
     xi. The Responsible Individual for the equipment shall ensure that a designated person (Competent Person) determines whether conditions found during inspection constitutes a hazard and whether a more detailed inspection is required.
xii. Defective equipment shall be removed from service and destroyed to prevent inadvertent reuse.

xiii. All rigging equipment shall be maintained, inspected, tested (or calibrated), inventoried, and stored.

xiv. The Competent Person shall ensure that equipment purchased through commercial channels meets or exceeds the requirements.

xv. Examples of conditions that may require rigging hardware to be removed from service are:

1. Synthetic slings with
   a. Abnormal wear
   b. Torn stitching
   c. Visible red threads from the interior of the sling fabric
   d. Broken or cut fibers
   e. Discoloration or deterioration
   f. Evidence of heat damage

2. Wire-rope slings with:
   a. Kinking, crushing, bird-caging, or other distortions
   b. Evidence of heat damage
   c. Cracks, deformation, or worn end attachments
   d. Broken wires in excess of regulatory requirements

3. Hooks
   a. opened more than 15% at the throat
   b. Hooks twisted sideways more than 10° from the plane of the unbent hook

4. Shackles, eye bolts, turnbuckles, or other components that are damaged or deformed.

xvi. Hooks on overhaul ball assemblies, lower load blocks, or other attachment assemblies shall be of a type that can be closed and locked, eliminating the hook throat opening.
   1. Alternatively, an alloy anchor type shackle with a bolt, nut and retaining pin may be used.

xvii. The manufacturer’s requirements shall also be consulted, and the most conservative requirements shall prevail.

IV. RIGGING A LOAD

a. Do the following when rigging a load:
   i. Determine the weight of the load - Do not guess
   ii. Determine the proper size for slings and components
   iii. Make sure that shackle pins and shouldered eye bolts are installed in accordance with the manufacturer’s recommendations
   iv. Make sure that ordinary (i.e., shoulderless) eye bolts are threaded in at least 1.5 times the bolt diameter
   v. Use safety hoist rings (i.e., swivel eyes) as a preferred substitute for eye bolts whenever possible
   vi. Ensure that all hooks are equipped with a latch to eliminate the throat opening.
vii. Pad sharp edges to protect slings.
   1. Machinery foundations or angle-iron edges may not feel sharp to the touch but could cut into rigging when under several tons of load.
   2. Wood, tire rubber, or other pliable materials may be suitable for padding.

viii. Do not use slings, eye bolts, shackles, or hooks that have been cut, welded, or brazed

ix. Determine the center of gravity, and balance the load before moving it.

x. Keep the attachment points of rigging accessories as far above and as far away from the center of gravity as possible

xi. Initially lift the load only a few inches to test the rigging and balance

xii. Tag lines shall be used unless their use creates an unsafe condition

xiii. Protect rigging hardware as required. Items left in the sun may have surface temperatures that exceed the safe limits of synthetic lifting devices

V. CRANE SAFETY (See THG_0033)
   a. Cranes must not be assembled or used unless ground conditions are firm, drained, and graded to a sufficient extent so that, in conjunction (when necessary) with the use of supporting materials, the equipment manufacturer’s specifications for adequate support and degree of level of the equipment are met.
   b. The crane manufacturer’s procedures and prohibitions must be compiled with when assembling and disassembling equipment.
      i. The assembly/disassembly of equipment must be directed by a competent and qualified person.
   c. The work zone shall be identified by demarcating boundaries such as flags and range limiting devices, or defining the work zone as 360 degrees around the equipment up to the maximum working radius.
   d. The hazard assessment must determine if any part of the equipment could get closer than 20 feet to a power line. (see THG_0033 Cranes)
Controlled Document

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_________________  __________________
Signature          Date

Safety Committee Review  Date:_______________________
Chairman: ________________________________

History

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