



RIGGING

Meets California OSHA Requirements
Integrated Water Services, Inc.
(the Company)



Purpose

The purpose of this training program is to ensure a safe and incident free lifting operation in accordance with Cal/OSHA California Code of Regulations, Title 8, Section 5043.

Scope

When work is performed in California on a non-owned or operated site, the operator's program shall take precedence, however, this document covers Company employees and contractors and shall be used on owned premises, or when an operator's program doesn't exist or is less stringent.

Key Responsibilities

- Management shall determine if this program is required for regulatory compliance within his/her region.
- Management shall select a training facility or use an in-house qualified trainer to supply and document the training.
- The supervisor shall verify that each of their employees have the proper training before being involved in rigging operations.
- Only qualified and trained personnel can attach or detach lifting equipment to loads or lifting loads.
- Employees shall follow the requirements of this procedure.

Procedure

General

Only "qualified riggers" are allowed to attach any loads to a lifting hook and only "qualified operators" are allowed to operate a crane while engaged in lifting operations.

Rigging Requirements

- Pre-Use Inspection of Rigging Equipment - Each day before being used, the sling and all fastenings and attachments shall be inspected for damage or defects by a qualified person. Additional inspections shall be performed during sling use, where service conditions warrant. Damaged or defective slings shall be immediately removed from service.
- Defective rigging must be removed from service. Slings and hooks that are damaged or defective shall not be used. Defective slings should be removed from use and destroyed.
- Slings are not shortened. Chain or wire rope slings shall not be shortened with knots or bolts or other makeshift devices. Slings shall not be kinked or knotted.
- The safe working load is marked on rigging equipment. Slings and shackles shall have permanently affixed and legible identification markings, as prescribed by the manufacturer, that indicate the recommended safe working load.

Safe Use of Rigging

- Examples of safe practices include slings and shackles shall not be loaded in excess of their rated capacities as prescribed by the sling manufacturer on the identification markings permanently affixed to the sling. Slings used in a basket hitch shall have the loads balanced to prevent slippage. Slings shall be



padded or protected from the sharp edges of their loads. Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load. A sling shall not be pulled from under a load when the load is resting on the sling and damage to the sling may result. Slings shall be set to avoid slippage.

- Suspended loads are not lifted over workers. Suspended loads shall be kept clear of all obstructions. All employees shall be kept clear of loads about to be lifted and of suspended loads.
- Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load.
- Shock loading is prohibited. Whenever any sling is used, shock loading is prohibited.
- Deformed hooks or rings shall be replaced or repaired and reshaped under proper metallurgical control and proof tested.
- Rigging is used and/or maintained in accordance with manufacturer's recommendations. Rigging must be used and maintained in accordance with manufacturer's recommendations. Hooks and shackles shall only be used in a manner recommended by the manufacturer. Proof coil steel chain, also known as common or hardware chain, or other chain not recommended for slinging or hoisting by the manufacturer, shall not be used for hoisting purposes. Wrought iron chains in constant use shall be annealed or normalized at intervals not exceeding 6 months when recommended by the manufacturer. The chain manufacturer shall be consulted for recommended procedures for annealing or normalizing. Alloy chains shall not be annealed. Deformed hooks or rings shall be replaced or repaired and reshaped under proper metallurgical control and proof tested. The Company shall follow proper annealing or normalizing procedures done only in accordance with the chain manufacturer's specifications.
- All hooks for which no applicable manufacturer's recommendations are available shall be tested to twice the intended safe working load before they are initially put into use.
- Proof Testing of Rigging Equipment - Special custom design grabs, hooks, clamps or other lifting accessories for such units as modular panels, prefabricated structures and similar materials, shall be marked to indicate the safe working loads and shall be proof-tested to 125 percent of the rated load prior to use.
- Tag lines shall be used unless their use creates an unsafe condition.

Training

Company employees shall display their competency in the following topics:

- The selection of proper hardware (eye bolts, shackles, hooks, wire rope products, synthetic slings, chain slings, etc.) for the correct application (weight, hitches, angles, temperatures, center of gravity, etc.).
- The inspection of the selected hardware before, during and after the lift.
- The proper methods of securing the load, attaching the load to the hook, lifting the load, handling of the load during the movement of the load and lowering and placement of load.
- The proper storage of the rigging equipment.