PURPOSE

The purpose of this program is to utilize appropriate rigging gear suitable for overhead lifting within industry standards and manufacturer's recommendation and conduct regular inspection and maintenance of the rigging gear.

1.0 DEFINITIONS

A. Qualified Rigger – Person who attaches or detaches lifting equipment to loads or lifting devices, has formal training and experience and has successfully completed an approved rigger-training program. Rigging operations shall only be performed by a qualified rigger.

B. Sling – An assembly that connects the load to the material handling equipment.

C. Working Load Limit (WLL) – The maximum mass or force, which the product is authorized to support in a particular service.

D. Proof Test – A nondestructive tension test applied to a product solely to determine injurious material or manufacturing defects.

E. Hitch – A sling configuration whereby the sling is fastened to an object or load, either directly to it or around it.

F. Basket Hitch – A sling configuration whereby the sling is passed under the load and has both ends, end attachment, eyes or handles on the hook or a single master link.

G. Choker Hitch – A sling configuration with one end of the sling passing under the load and through an end attachment, handle or eye on the other end of the sling.

H. Vertical Hitch – A method of supporting a load by a single, vertical part or leg of the sling.

2.0 SAFE OPERATING PRACTICES

A. Only personnel with training and experience who have completed a rigger training program can attach or detach lifting equipment to loads or lifting loads. This includes crane operators and inspectors.

B. All qualified riggers shall participate in the pre-lift meeting to review the scope of work and the execution plan.

C. Qualified riggers shall conduct a pre-lift inspection and prepare a written JSA for all lifts. Rigging equipment & gear for material handling shall be inspected prior to use on each shift and as necessary during its use to ensure that it is safe. Defective equipment shall not be used and removed from service immediately.

D. Evaluate lift operations to determine if additional qualified riggers are needed to assist in loading or off-loading operations.

E. Ensure that a clear method of communication is established.

F. Assess site conditions to ensure that the lift operation can be conducted safely (sea conditions, currents, wind speed and direction, size of vessel, position of cargo and adequate lighting).

G. Review the lift path, the weight of the load, and the WLL (working load limit) of the slings, shackles and hooks to determine safe operations.

H. Stop work and conduct another pre-lift meeting if site conditions or plans change.

3.0 ATTACHING THE LOAD

A. Ensure that only qualified riggers and essential personnel are allowed in the work area during routine and non-routine lifting operations.

B. Verify the load weights by the markings on the load.

C. Select the proper rigging equipment and/or cargo container for the lift.

D. Ensure rigging equipment is never loaded beyond its recommended safe working load. Load & certification tags shall be attached to the rigging. If the identification tag is missing, the sling must not be used.

E. Inspect all pre-slung equipment ensuring a single-point hookup.

F. Verify that multiple part lines are not twisted around each other.

G. Verify and inspect all required tag lines. Tag lines shall be used unless their use creates an unsafe condition.

H. Ensure that the crane's swing path is clear of obstructions and load is free to be lifted.

I. Ensure that a designated signal person is identified and that the team agrees upon a communication method.

J. Ensure that the hook is brought over the load to minimize swinging. 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 possibility of a hook throat opening. Alternatively, an alloy anchor type shackle with a bolt, nut and retaining pin may be used.

K. Verify that the rope is properly seated on the drums and in the sheaves.

L. Ensure that all lifting equipment/hardware is free from side loading.

4.0 DURING LIFTING OPERATIONS

A. Assume responsibility for the safety of all personnel around the crane operating area, including the rigger's personal safety.

B. Look for potentially unsafe situations and be prepared to warn the crane operator others in the crane operating area.

C. Never stand between the load and another stationary object including boat railings. The rigger should be facing the crane at a safe distance and never stand directly beneath the load. All personnel shall be kept clear of suspended loads and loads about to be lifted.

D. Wear proper work clothes and personal protective equipment in accordance with Company and/or customer PPE requirements.

E. Stop any lift operation deemed as unsafe (exercise stop work authority).

5.0 SLING USAGE

A. Do not choke slings in the splice.

B. Do not permit kinks or knots in slings.

C. Secure the unused legs of a multi-leg bridle.

D. Slings shall not be made using wire rope clips.

E. Wire rope slings should not be field fabricated.

F. Cut the eyes of any defective sling and discard the sling body.

G. Do not place eye of sling over a hook that is larger than natural width of eye.

H. Protection shall be provided between the sling and all sharp surfaces of load.

6.0 POST-OPERATION

A. All rigging equipment that is not being use shall be removed from the immediate work area so as to prevent any additional hazards to employees.

B. Properly store and maintain rigging equipment and tackle.

7.0 REMOVAL CRITERIA

A. Broken Wires: Remove from service strand laid and single part slings if ten or more randomly distributed wires in one rope lay, or five broken wires in one rope strand in one rope lay.

B. Wire Rope Distortion: Remove from service wire rope slings that have any damage resulting in distortion of the wire rope structure such as kinking, crushing, bird-caging, and strand displacement or core protrusion.

8.0 INSPECTION OF CHAIN SLINGS

A. Inspection Frequency: Visually check chain at the pre-use and annual thereafter by a qualified source.

B. Inspection Criteria (ANSI B30.9):

- Wear
- Nicks, Cracks, Breaks
- Gouges, Stretch, Bends
- Weld Splatter
- Excessive Temperature
- Throat Opening of Hook

C. Chain Links: Remove sling from service if links are worn excessively (more than 10% or refer to manufacturer's information). Chain links and attachments should hinge freely to adjacent links.

D. Identification: Chain slings shall have permanently affixed identification stating; size, grade, rated load, number of legs and manufacturer

9.0 INSPECTION OF SYNTHETIC SLINGS

A. Inspection Frequency: Visually check synthetic slings at the pre-use and annual thereafter by a qualified source.

B. Inspection Criteria (ANSI B30.9):

- Acid or Caustic Burns
- Melting or Charring
- Holes, Cuts
- Tears & Snags
- Broken Stitches
- Worn Stitches
- Excessive Abrasion
- Knots

C. Identification: Web slings and round slings shall be permanently marked indicating; manufacturer's trademark or stock number and rated loads for the three hitches.

10.0 INSPECTION OF RIGGING HARDWARE

A. Deformation - Remove from service if any significant deformation; check throat opening of hooks.

B. Wear - Remove from service if excessive wear (wear is excessive if: More than 5% wear in throat or eye of hooks and other critical areas of hardware; More than 10% wear in other areas).

C. Cracks, Nicks, & Gouges - Remove from service if cracks, nicks or gouges are detected.

D. Modification - Do not weld, do not substitute shackle pins or other components, do not heat, bend or modify in any manner.

E. Proper Function - Improperly installed hardware or malfunction is cause for removal. Check for latches, swivel bearings, locking devices, and installation of wire rope clips and wedge sockets.

11.0 EMPLOYEE TRAINING

A. Peak NDT Solutions shall require all personnel responsible for rigging on customer and/or Company property to successfully complete a rigger training course in order to be considered a qualified rigger.

B. All training shall include formal classroom facilitation as well as a hands-on practical review (proper inspection, use, selection and maintenance of slings, shackles, hooks, etc.) and a written examination. Training will incorporate familiarization with rigging, hardware, slings and safety issues associated with rigging, lifting loads and lift planning.

C. Training shall be documented and shall be good for four years.

D. All qualified riggers shall carry updated training cards with them on jobs where rigging may be required. Training cards must indicate expiration date, certified under API RP 2D, 6th Edition, date of training, and signature of trainer.

REVISION INFORMATION

This is applicable to changes made to the current version of the preceding document.

Revision Number	Description