Rigger Competence Reassessment

COURSE: RIGGER COMPETENCE REASSESSMENT – STAGE 4.

SCOPE AND APPLICABILITY:

The aim and objectives of the Rigger Competence Reassessment are to establish that the learner has maintained the competence requirements for the Rigger role.

TARGET GROUP:

The target group for Rigger Competence Reassessment are personnel that wish to renew their Rigger Competence or Rigger Competence Reassessment certificate (two-year validity for each certificate).

REGULATIONS & STANDARDS

- Standard 9099/9199 - Rigger Competence Assessment and Reassessment;
- ISO 12480 – Cranes - Safe Use;
- International Marine Contractors Association - IMCA SEL 019, IMCA M 187;
- Offshore Mechanical Handling Equipment Committee - OMHEC;
- Health and Safety Executive – HSE.

COURSE CONTENT:

1. Preparation for Lifting and Moving of Loads
   - 1.1. The hazards associated with a lifting operation
     - 1.1.1. Overloading
     - 1.1.2. Structural Failure
     - 1.1.3. Sudden Movements
     - 1.1.4. Inadequate Inspection
     - 1.1.5. Environmental hazards
       - 1.1.5.1. Wind
       - 1.1.5.2. Rain, snow or ice
       - 1.1.5.3. Visibility
   - 1.2. The purpose of a lifting plan and who produces one
     - 1.2.1. Routine Lifts and Non-Routine Lifts
   - 1.3. The purpose of a lifting risk assessment
   - 1.4. Why a Lifting Plan Must be Followed
   - 1.5. How to Determine the Weight of Loads
2. Key Roles in Lifting Operations
   - 2.1. The relevant roles of personnel involved in lifting operations
     - 2.1.1. Hierarchy
     - 2.1.2. Rigger
     - 2.1.3. Banksman
     - 2.1.4. Slinger
     - 2.1.5. Crane Operator
     - 2.1.6. Reporting Lines
3. Comprehensive Rigging and Lifting Safety and Procedures
   - 3.1. How to Identify Areas Near the Load Where it is Unsafe to Stand
   - 3.2. Load Movement Route Planning Methods and Techniques
     - 3.2.1. Load Capacity Analysis
     - 3.2.2. Rigging Plan
     - 3.2.3. Lift Planning Software
     - 3.2.4. Lift Path Analysis
     - 3.2.5. Pre-Lift Meeting
   - 3.3. Areas of the Installation/Site which Need Special Consideration
     - 3.3.1. Electrical lines and equipment
     - 3.3.2. Personnel and bystanders
     - 3.3.3. Overhead obstructions
     - 3.3.4. Structural integrity of the installation or site
     - 3.3.5. Environmental conditions
     - 3.3.6. Equipment and rigging
   - 3.4. Rigging Principles
     - 3.4.1. SWL
     - 3.4.2. WLL
     - 3.4.3. Difference Between SWL and WLL
     - 3.4.4. Identification of Safe Working Load
     - 3.4.5. Safety Margin
     - 3.4.6. Angles of lift
     - 3.4.7. Lifting equipment and lifting accessories are marked with SWL and WLL
   - 3.5. Pre-use Inspections
     - 3.5.1. Independent Competent Person (ICP)
   - 3.6. Load stability, Safety and Weight Distribution
     - 3.6.1. Determine the load weight
     - 3.6.2. Overall maximum dimensions of the load
     - 3.6.3. Check the lifting equipment
     - 3.6.4. Proper lifting technique
     - 3.6.5. Regular maintenance
     - 3.6.6. Determine the lifting point
     - 3.6.7. COG (Center of Gravity)
   - 3.7. The Types of Faults
     - 3.7.1. Mechanical faults
     - 3.7.2. Electrical faults
     - 3.7.3. Structural faults
     - 3.7.4. Human error
   - 3.8. Toolbox Talk
   - 3.9. Handovers During Lifting Operations
   - 3.10. Types of lifting accessories
     - 3.10.1. Slings
       - 3.10.1.1. Synthetic Slings

- 3.10.1.2. Critical safety issues to consider when using synthetic slings
- 3.10.1.3. Chain Sling
- 3.10.1.4. Alloy Chain Slings
- 3.10.1.5. Wire Rope Sling
- 3.10.1.6. Sling Configuration
- 3.10.2. Hooks and Latches
- 3.10.2.1. Hook Inspection
- 3.10.2.2. Load Hook Inspection
- 3.10.3. Shackles
- 3.10.3.1. Shackles inspection
- 3.10.4. Spreader and Equalizer Beams
- 3.10.4.1. Spreader and Equalizer Beams Inspection
- 3.10.5. Turnbuckles
- 3.10.5.1. Turnbuckles Inspection
- 3.10.6. Cable Clips
- 3.10.7. Pad Eyes, Eyebolts, Other Anchor Points
- 3.10.8. Sheaves and Blocks
- 3.10.8.1. Typical Block Components
- 3.10.8.2. Blocks Mechanical Advantages
- 3.10.9. Rings, Links, Swivels
- 3.10.10. Dispose of waste materials
- 3.10.10.1. Wire rope and wire rope slings
- 3.10.10.2. Alloy chain slings
- 3.10.10.3. Synthetic web slings
- 3.10.10.4. Synthetic round slings
- 3.10.10.5. Lifting hardware
- 3.10.11. Damage to Synthetic Slings
- 3.10.11.1. Abrasion
- 3.10.11.2. Acid Damage
- 3.10.11.3. Cuts
- 3.10.11.4. Missing or Illegible Identification
- 3.10.12. Broken Wires, Corrosion, and Deformation to Wire Rope
- 3.10.13. Broken or Damaged Rigging Hardware
- 3.11. Rigging Loft
- 3.12. What Should You do if You Think Your Equipment is Not Safe?
- 3.13. Quarantine System
- 3.14. Dynamic Factors
- 3.15. Communication system
- 3.15.1. Hand signals

4. Lifting, Moving, Lowering and Landing of a Load
- 4.1. Pre-use and post-use Inspection of Lifting Equipment
- 4.2. How to Identify and Report
- 4.2.1. Visual inspection
- 4.2.2. Testing
- 4.2.3. Maintenance records
- 4.2.4. Reporting
- 4.3. Correctly Store
- 4.3.1. Chains and slings
- 4.3.2. Shackles
- 4.3.3. Hoists and winches
- 4.3.4. Lifting beams and spreader bars
- 4.3.5. Hooks
- 4.3.6. Synthetic slings
- 4.4. Restore the Worksite
- 4.4.1. Move the load
- 4.4.2. Lower the load
- 4.4.3. Return the equipment
- 4.4.4. Clean up the area
- 4.5. Post-Work Debriefings

COURSE DESIGN:

Theoretical – 12 hours
Practical – 8 hours
TOTAL: 20 hours

PREREQUISITE(S):

Learners must possess a valid Rigger Competence or Rigger Competence Reassessment Certificate.

MINIMUM/MAXIMUM NUMBER OF DELEGATES

This course requires a minimum of 2, and a maximum number of 4 trainees.

The assessor-to-learner ratio is 1:1 (while four learners may be assessed within the group of learners, the assessor can only fully assess one learner at a time).

In instances where there are only two learners are under assessment, the training programme may be completed over the duration of a single day.

To offshore trainings, the course number of attendees will comply with the vessels/rig necessity.

MAIN SAFETY ISSUES:

- Special cares to avoid: Passing under the loads, placing the body parts between suspended loads or imminent movement cargoes;
- Know and use standardized manual signs as the main means of communication;
- Hold pre-shift meetings;
- Previously know the location of escape routes;
- Conduct risk analysis;
- Be careful and identify inadequate atmospheric conditions;
- Communication between team and operator;
- Inspection of equipment.

REQUIRED EQUIPMENT:

- As a minimum, the following equipment is required to meet the stated content of the Rigger Competence Assessment:
  1. Appropriate PPE e.g., safety boots, safety helmet, eye protection, hearing protection and gloves;
  2. A variety of loads to be lifted e.g., structural steelwork, steelwork assemblies, pipework assemblies, plant and equipment, loads with an offset center of gravity etc.;
  3. Examples damaged lifting equipment and lifting accessories;
  4. Appropriate lifting equipment typically found in a workplace rigging loft, to include:
     - Chain blocks;
     - Lever hoists;
     - Snatch blocks;
     - Wire rope hoist (Tirfor);
     - Beam clamps (universal and standard);
     - Beam trolley;
     - Master links;
     - Shackles;
     - Chain Slings;
     - Wire rope slings;
     - Fiber slings;
     - Eye bolts and Eye nuts;
     - Swivel hoist rings;
     - Turnbuckles;
     - Jacks*;
     - Machine skates*.
- All equipment must be maintained, inspected and tested in accordance with applicable legislation and standards. Certificates and maintenance schedules should be always available.
- Note: Damaged lifting equipment - purposely used for specific assessment criteria by the approved center - must be securely controlled and clearly identifiable to the assessor and center support staff.

PROCEDURE FOR PRACTICAL EXERCISES:

- Communicate, discuss and ensure understanding of the prepared lifting plan and risk assessment with the lifting team and ensure control measures are implemented;
- Carry out dynamic risk assessment for any additional potential hazards associated with the lifting operation;
- Implement any additional control measures to address the identified hazards;
- Communicate, discuss and agree with appropriate personnel, actions to take related to the lifting operation in the event of an emergency;
- Inform the relevant personnel of the lifting operation and identify any potential disruption to operations;
- Obtain the resources identified in the lifting plan required to move the load, following relevant rigging loft procedures;
- Carry out pre-use inspection of lifting equipment and certification is current;
- Ensure the lifting equipment is free of obvious defects throughout the duration of the task;
- Prepare the load according to specified requirements of the lifting plan;
- Protect the load from damage during the lifting operation;
- Attach the lifting accessories to the load using industry best practice;
- Determine the center of gravity of a load that has an offset center of gravity;
- Install and position the lifting equipment for balanced weight distribution;
- Ensure appropriate barriers are installed at appropriate areas;
- Give clear instructions to the lifting team before and during the moving of the load;
- Use the identified method of communications derived from the risk assessment, lifting plan and permit-to-work, and comply with signaling protocols agreed within the lifting team, or company-specific protocols;
- Progressively apply force/tension to the load via the attached lifting equipment, until the weight of the load is fully taken up;
- Confirm the load security before raising to the minimum height required for moving;
- Maintain load security and stability throughout transportation of the load;
- Take adequate precautions to maintain the safety of personnel and surroundings during the moving of the load;
- Correctly position the load in the intended location and progressively remove the lifting equipment force/tension;
- Safely disconnect the load from the lifting equipment and remove the lifting accessories
- Work effectively as part of a team;
- Compliance with relevant health and safety legislation and guidelines at all times.

CERTIFICATION:

Training certificate.

CERTIFICATE VALIDITY PERIOD:

2 years.