REMOLCADORES DE PUERTO Y ALTURA, S.A.

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INST-RE-08: Instrucción para las Operaciones con Anclas.

ESTADO DE REVISIÓN / REVISION STATEMENT

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1. Scope / Objective

This procedure describes the actions to be taken prior to commencement of anchor handling, the responsibilities of the various parties involved. Anchor handling operations are potentially hazardous. Vessel / Rig personnel should appreciate the tug’s operational limitations, including power and freeboard. Safety of vessel and crew is paramount.

2. Responsibilities

2.1 The Company shall ensure:

- The tug is in operational order and comply with relevant legislation.
- The tug is adequately manned by competent personnel taking into account hours of rest requirements and scope of work.

2.2 The Charterer shall:

- Ensure that there are the necessary anchor handling vessels / tugs, survey positioning equipment and personnel, marine equipment as appropriate and brief all involved in the scope of the anchor handling operation.
- Ensure adequate planning and risk assessment of the entire anchor handling and towing operation for the contracted installation.
- Ensure the vessel / rig is moored in accordance with the proposed anchor pattern.
- Obtain required information, including chart data and site survey to anchor installation in a field. Similar requirements, including soil specific data, will be required to locate jack up rigs.
- Organize vessel / rig move meetings with all relevant parties in good timed. Brief anchor handling vessel masters before leaving port or, in exceptional circumstances, on location before starting operations, including any particular installation’s detailed procedures, also any safety awareness issues.
- Determine logistic requirements.
- Brief their nominated marine representative.
- Ensure anchor handling equipment is sourced, shipped and certified.
- Provide as necessary:
  1. Seabed infrastructure, conditions and any obstructions and relevant site information.
  2. Weather and wave data, also tidal stream data as appropriate.
  3. Information on simultaneous operations.
  4. Full written procedures for vessel / rig move. These should identify key roles and responsibilities.
2.3 The Master shall:-

- Ensure the safety of crew and equipment onboard the tug at all times. The master may, if necessary stop operations that may put vessel or crew at risk.
- Hold pre-move briefing of crew to ensure anchor handling safety procedures are fully understood, and how these apply to specific rig procedures.
- Define communication of power requirements, particularly instructions specifically relating to bollard pull.
- Be responsible for ensuring that anchor handling operations are conducted in a safe manner with due regard to safe working practices and the practices of good seamanship.
- Ensure that tensions applied avoid over-stressing any of the vessel / rig move equipment or the tug’s towing gear.
- When lead towing tug master be responsible for navigation of the towing operation; compliance with prepared plans, shall issue appropriate navigational warnings at regular intervals and ensure other towing vessels follow the stipulated.

3. Vessel / Rig Move Meeting

The Charterer should arrange a vessel / rig move meeting before the operation starts. Vessel / rig move procedures should be distributed before the meeting. Meeting should be attended by all relevant parties.

Meeting is intended to identify needs in connection with:

- Anchor handling equipment
- Navigation and positioning
- Advance inspection of materials
- Risk Assessment input for all vessels
- Drawings and sketches of anchor equipment
- Anchoring analysis, anchor pattern and vessel / rig move procedures
- Tug requirements; quantity and technical specifications
- Tug and vessel / rig manning
- Communications

4. Reporting

The charterers shall ensure that the following is reported immediately, in cooperation with tug master and Marine Representative or Towmaster:

- Notification of departure when the last anchor is off the seabed.
- Notification of arrival when the first anchor is on the seabed.
- Overview of equipment in use (including rental equipment).
- Near misses and incidents.
• Any damaged equipment and its condition.

5. Vessel / Rig Move Procedures

The rig move procedures shall have an introduction that describes their purposed and define the roles and responsibilities of key personnel. It shall take a step-by-step approach to the rig move, making maximum use of diagrams and contain the following:

• Positions, departure and arrival.
• Water depths.
• Sea bottom conditions (and site specific conditions for jack up rigs).
• Infrastructure (pipelines, templates etc).
• Field-specific requirements.
• Appendices should describe the anchor pattern with line lengths, and operations manual for the running anchor issued by supplier.

6. Required Information

6.1 The Master shall provide as required:

• Bollard pull.
• Winch capacity (pull, drum capacity, diameter and number of drums).
• Gypsys, number and dimensions.
• Chain lockers, number and capacity.
• Secondary winches, number and capacity.
• Guide pins / hydraulic stoppers (minimum 2).
• Requirements for wire terminations.
• Stem roller: singer or double.
• System for clay removal.
• Spooling gear.
• Minimum freeboard requirement for safety on deck.
• Requirements for crane on aft-deck for equipment handling.

6.2 The Charterer shall provide as required:

• Step-by-step illustrated descriptions for special operations.
• Where anchoring arrangement is more complex than chains with PCP, a drawing should be available.
• Catenary curves for relevant water depths showing the various tensions.
• Vessel / rig draught during anchor handling operations and transit.
• List of back up equipment.
• Weather criteria and weather window.
• Time estimate.

7. Equipment
To maintain the tug’s and vessel / rig safe working environment the following should be in place.

• All equipment operation and maintenance should be according to manufacturer’s instructions;

• A suitable system, with record keeping, for testing, inspection, maintenance and recording of anchor handling equipment retained onboard the tug and vessel / rig.

• Cutting gear should be readily available.

• A safe and effective method of stoppering wire pennants, recognizing likely loads on the wire and the load-bearing capacity of wire termination employed. Note: Soft eye pennants wear more quickly than hard eye pennants and require frequent inspection.

• Use of alloy ferrule terminations to be avoided.

• Monitoring with regular inspection and maintenance, of roller fairleads on tug’s deck or crash barrier to ensure that uplift by eg a tugger wire will not dislodge them.

• Suitable lifesaving appliances must be available at the stern and immediately accessible.

• Secure all anchor handling equipment until required.

• Hired equipment must be labeled adequately to enable tracking. Original certificates should be available if required.

• Care should be taken opening wire coils, in particular pennant wires, as coils springing open following securing bands release may cause injury.

8. Anchor Handling Operations
Should be in accordance with the agreed vessel / rig move procedures. The Towmaster, Charterer’s representative or rig OIM may amend this as required subject to review of the Job Safety Assessment and if necessary new Job Safety Assessment carried out. All amendments must be logged, and the tug master and charterer’s representative must approve significant changes.

9. Securing of Anchors on Deck
When running or recovering anchors over pipelines, anchors must be checked and double secured to prevent the anchor dropping uncontrollably off the stern.

10. Bollard Pull
Maximum bollard pull utilized must not exceed SWL for the installation’s equipment. Use vessel’s tension gauge to monitor. Extra care is to be taken if the equipment is not fitted.
11. Reference Documents

Anchor Handling Manual (Onboard)
Method Statement Form 1 & 2
Method Statement Form 1

Work / Job Scope
Moving and re-positioning anchors to new location without decking
- Lift anchor off seabed
- Move to new position
- Lay anchor on seabed in new location

Limitations / Operational Criteria
- Crew are wearing correct PPE
- Crew are competent for task
- All gear is fit for use and certificated
- Sea state not to be above 1.5mtr – 2mtr (at master’s discretion)
- Toolbox talk has been held
- Communications with rig/barge are established
- Survey (Tug Manager) system is functioning correctly

Detailed description of the operation
- Place AH winch wire between pins
- Approach can and pick-up buoy – Bow on
- Retrieve pick-up buoy using boathook, grapnel or lasoo
- Attach A/H winch wire to pick-up rope
- Disconnect buoy (if necessary)
- Clear deck of personnel
- Lower pins
- Haul in slack on A/H winch ensuring wire
- Request clearance from rig/barge to lift anchor
- Manoeuvre wire into pins using vessel’s propulsion
- Once anchor off bottom: inform rig/barge and head for new location under their instruction, keeping weight on wire
- When at new location request clearance from rig/barge to lay anchor
- Drop anchor to seabed and inform barge master when on bottom
- Drop pins and pay out pennant wire
- When all pennant wire over roller reconnect buoy and disconnect from A/H winch
Method Statement Form 2

Work / Job Scope
This work covers up to 15t anchors including decking
- Anchor hung on barge / rig, grab anchor and pennant and run out
- Anchor on deck, connect to barge, splash anchor and run out
- Lift anchor, deck and run back to barge (moving off-field)
- Lift anchor, run back to barge and hang anchor (moving inter-field)

Limitations / Operational Criteria
- Crew are wearing correct PPE
- Crew are competent for task
- All gear is fit for use and certificated
- Sea state not to be above 1.5mtr – 2mtr (at master’s discretion)
- Toolbox talk has been held
- Communications with barge are established
- Survey (Tug Manager) system is functioning correctly

Detailed description of the operation

- Anchors hung on barge / rig
  - Approach barge / rig with due regard to wind and tide
  - Hold vessel in position or moor vessel to barge
  - Receive anchor pennant from barge crew using messenger / crane
  - Use drum end / tugger winch to pull aboard anchor pennant
  - Use Karm Forks if required
  - Connect to A/H winch and spool on
  - Clear deck of personnel
  - Once A/H winch has taken weight of anchor; request rig/barge to lower anchor
  - Continue taking in wire until anchor is below roller
  - Request barge to give open brake on barge winch
  - Run anchor as per Method Statement 1

- Anchor on deck, connect to barge, splash anchor and run out
  - Wind anchor pennant onto winch ensuring it is correctly spooled on
  - Position anchor in front of A/H winch
  - Connect anchor pennant to crown of anchor using proper shackle
  - Fit split pin to shackle
  - Approach barge with due regard to wind and tide
  - Hold vessel in position or moor vessel to barge
  - Receive anchor wire messenger from barge crew
- Use drum end / tugger winch to pull aboard anchor wire
- Place anchor wire in Karm Fork and fit safety pin
- Position wire between pins
- Connect to stock of anchor using proper shackle
- Fit split pin to shackle
- Confirm with master safety pin can be removed from Karm Fork
- Clear deck of personnel
- Haul anchor tight into A/H winch
- Drop Karm Fork
- Request open brake on barge winch
- Pull off to safe distance from barge with due regard to wind and tide
- Request closed brake on barge winch
- Drop pins
- Keep weight on anchor wire and lower on A/H winch
- Guide anchor over the roller using vessel’s propulsion
- Once anchor in water; inform barge/rig and ask for open brake
- Run anchor as per Method Statement 1

- Lift anchor, deck and run back to barge
  - Refer to Method Statement 1 for approaching can and lifting anchor
  - Clear deck off personnel
  - Once all slack hauled in lower pins
  - Keep wire in centre off roller using vessel’s propulsion
  - Lift off bottom and inform barge
  - Haul anchor up to roller and aboard – ensure flukes do not catch on the stern of the tug.
  - Haul anchor close into A/H winch
  - Manoeuvre wire into pins using vessel’s propulsion
  - Catch wire in karm fork
  - Lower A/H winch so spelter catches in karm fork and fit safety pin
  - Keep slack in barge/rig wire by holding station
  - Disconnect anchor wire
  - Inform barge/rig that anchor is disconnected
  - Keep weight on anchor wire whilst barge reels in wire
  - Connect messenger to wire for easy retrieval by barge crew
  - When 20mtr off barge/rig; take weight off wire, remove safety pin and drop karm fork
  - Wire and messenger will run overboard
• Lift anchor, run back to barge and hang anchor
  o Refer to Method Statement 1 for approaching can and lifting anchor
  o Clear deck off personnel
  o Once all slack hauled in lower pins
  o Keep wire in centre off roller using vessel’s propulsion
  o Lift off bottom and inform barge/rig
  o Haul anchor up to roller
  o Inform barge/rig to start reeling in wire
  o Keep weight on wire while barge reels in wire
  o Once 30mtr off barge/rig request for barge to stop hauling
  o Position vessel alongside barge/rig and hold station or moor vessel when necessary
  o Request barge/rig to continue hauling
  o When barge has weight of anchor start lowering A/H winch
  o Once weight is off anchor pennant; stopper wire
  o Crew to pull pennant off winch
  o When all pennant wire off winch; crew to pass wire to barge/rig crew