



IfATE

Shaping skills training

Standard Draft Preview

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Standard in development

L4: Jack-up Barge Master - Non-propelled unit

Version 0.0

Title of occupation

Jack-up Barge Master - Non-propelled unit

UOS reference number

ST1336

Core and options

No

Level of occupation

Level 4

Occupational maps data

Route: Transport and logistics

Pathway: Transport

Cluster: Captain

Typical duration of apprenticeship

36 months

Target date for approval

13/07/2022

Resubmission

No

Would your proposed apprenticeship standard replace an existing framework?

No

Does professional recognition exist for the occupation?

Yes

Regulated occupation

Is this a statutory regulated occupation?

No

Occupational summary

This occupation is found in civil construction and offshore operations. These are non-propelled units which are towed and have no self-propulsion means. The units are known as jack-up barges, they rise above the water on hydraulically powered legs, using the riverbed or seabed as their foundation, meaning they are reliant on a stable foundation for operations.

Jack-up barges are operated by a variety of employers ranging from multinational companies (MNCs) to small and medium-sized enterprises (SMEs).

These units are often chartered out to clients to use in supporting piling operations, deconstructing operations, erecting offshore windfarms, offshore windfarm operations, maintenance activities and as accommodation platforms during oil and gas projects. The barges can either be in floating mode, which is during transit when the legs do not touch the sea bed and the unit is fully dependent on buoyancy for supporting the hull weight and deck equipment, or standing mode, when the legs are placed onto the riverbed or seabed, and the unit is supported either solely by the leg reaction force or partially with buoyancy, if it is in contact with the water.

The broad purpose of the occupation is to prepare, assist with planning the transportation of, locate, operate and maintain the jack-up barge. The jack-up barge master controls and coordinates the initial preparation of the jack-up barge for operation. This includes the assembly and function testing of all jack-up barge systems, machinery and equipment prior to any operations being undertaken to ensure seaworthiness.

The jack-up barge master ensures that the jack-up barge has enough fuel, additives, oil, water, spare parts, marine stores, subsistence stores and sundries for the operations to be undertaken. Following the completion of preparation activities, the jack-up barge master liaises with the towing vessel to ensure the tow is connected, undertaken and disconnected safely to arrive at the operational location, liaising with the port authorities.

The jack-up barge master assists the tow master in ensuring all barge operations under tow comply with Maritime and Coastguard Agency (MCA) legislation where applicable. Before and during transportation the jack-up barge master assists the tow master in monitoring environmental and jack-up barge conditions such as, stability, trim, watertightness, deck load integrity, sea fastenings integrity, to ensure safety of jack-up barge.

At the operational site, the jack-up barge master establishes the suitability of the site as to whether jacking can be undertaken. Following site suitability confirmation the jack-up barge master will jack-up the jack-up barge, ensuring all operational requirements are achieved. Once located at the operational site the jack-up barge master maintains the stability and effectiveness of the jack-up barge, by monitoring a range of performance characteristics.

The jack-up barge master should ensure that when the jack-up barge is working that all deck load distribution and occurring forces should stay within the allowable design limits.

On completion of operational activities, the jack-up barge master will re-float the jack-up barge and retract the legs before returning to port. Post operation and in line with planned and preventative maintenance schedules, the jack-up barge master ensures that the jack-up barge is properly maintained for future operation.

Working patterns can vary with some larger barges having accommodation onboard. This can be influenced by a number of factors such as distance offshore, accommodation and tidal influences.

In their daily work, an employee in this occupation interacts with the other crew onboard the barge to ensure safe preparation, transportation, and operation of the jack-up barge. The jack-up barge master will also need to interact with clients who have chartered the jack-up barge to ensure that their requirements can be achieved. When entering or exiting port areas the jack-up barge master will be required to interact with harbour masters, pilot skippers and tug masters. During the preparation activities the jack-up barge master will also need to

interact with port authorities involved in preparation activities. Another interaction consideration will be with onshore organisational stakeholders, particularly with regards to changes to operational plans.

An employee in this occupation will be responsible for the overall command of the jack-up barge and the day-to-day safety of the barge and crew with final responsibility for decisions affecting the barge including weather assessments, river, sea and tidal conditions, proposed work activities and crew planning and shift patterns. The jack-up barge master reports to organisational line management (ashore), clients must also be communicated and coordinated with.

The jack-up barge master is responsible for the safe operation of barge related activities and equipment onboard and to ensure other activities conducted by client, crew and operators does not affect the safety of the barge and crew. The jack-up barge master is also responsible for ensuring the work readiness of the barge and then moving it to the desired site and meeting customer requirements.

Other responsibilities include completing and maintaining barge documentation, such as completing daily diaries, conducting inspections, conducting daily briefings, toolbox talks and completing site movement reports. The jack-up barge master takes charge of responses during an emergency, including communication with emergency services, search and rescue coordinators and crew. To ensure appropriate responses during emergency situations jack-up barge master's must ensure regular emergency situation drills take place.

Typical job titles

Barge master

Are there any statutory / regulatory or other typical entry requirements?

No

Occupation duties

DUTY	KSBS
<p>Duty 1 Comply with quality, health and safety and environmental policies and management systems in relation to preparing for operations and operating jack-up barges and in accordance with risk and method statements.</p>	<p>K1 K2 K3 K4 K5 K6 K8 K9 K11 K13 K20 K21 K24 K28 K34 K35</p> <p>S1 S2 S3 S4 S5 S6 S7 S9 S10 S11 S13 S20 S27 S33</p> <p>B1 B4 B6</p>
<p>Duty 2 Take charge of response during an emergency, including communication with emergency services, search and rescue coordinators and crew. Use the Safety Management System (SMS) processes where instructed.</p>	<p>K5 K6 K8 K13 K16 K28 K29 K30 K31 K32 K35</p> <p>S2 S6 S7 S9 S13 S27 S28 S29 S30 S31 S33</p> <p>B1 B2 B4 B5 B6</p>
<p>Duty 3 Prepare the Jack up barge for operation, ensuring function testing of all systems, machinery and equipment to ensure seaworthiness and also ensure sufficient amounts of consumables, spare parts and stores.</p>	<p>K2 K4 K7 K8 K9 K10 K11 K12 K14 K15 K18 K25 K29 K31 K32 K35</p> <p>S2 S3 S5 S8 S9 S10 S11 S12 S14 S15 S17 S18 S24 S28 S30 S31 S33</p> <p>B1 B2 B5</p>
<p>Duty 4 Lead the planned and preventative maintenance activities for the jack-up barge.</p>	<p>K10 K11 K12 K14 K15 K29 K30 K31 K32 K35</p> <p>S11 S12 S14 S15 S17 S28 S29 S30 S31 S33</p> <p>B2 B5</p>
<p>Duty 5 Ensure towing provision is in place and towing gear is prepared and checked, liaising with tug master and their crew to ensure safe passage into or out of port and to and from operational sites.</p>	<p>K4 K5 K8 K12 K18 K19 K23 K25 K26 K29 K31 K32 K35</p> <p>S5 S6 S9 S12 S18 S19 S22 S23 S24 S25 S28 S30 S31 S33</p> <p>B5</p>
<p>Duty 6 Transit the non-propelled Jack up barge to and from operational site, ensuring port entry and exit procedures are followed including communication with the relevant port officials and pilots.</p>	<p>K4 K5 K8 K13 K18 K19 K23 K24 K25 K26 K29 K31 K35</p> <p>S5 S6 S9 S13 S18 S19 S22 S23 S24 S25 S28 S30 S33</p> <p>B5</p>

<p>Duty 7 Assess operational conditions, including jack-up barge stability, trim, watertight integrity, deck load integrity and sea fastenings integrity, taking corrective actions, as necessary.</p>	<p>K4 K5 K7 K8 K11 K13 K14 K15 K17 K18 K19 K20 K21 K23 K24 K26 K27 K29 K30 K31 K35</p> <p>S5 S6 S8 S9 S11 S13 S14 S15 S16 S18 S19 S20 S22 S23 S25 S26 S28 S29 S30 S33</p> <p>B2 B5</p>
<p>Duty 8 Assess the prevailing and forecasted weather conditions, site specific assessment data and decide whether the jack-up barge can be safely jacked up, then position and refloat the jack-up barge ensuring it is not at risk from visible hazards or exclusions.</p>	<p>K5 K11 K17 K18 K19 K21 K22 K26 K29 K30 K31 K35</p> <p>S6 S11 S16 S18 S19 S20 S21 S25 S28 S29 S30 S33</p> <p>B2 B5</p>
<p>Duty 9 Jack up the barge using the site-specific assessment in accordance with organisational operating documentation, monitoring actual leg penetration against anticipated penetration predicted for site soil conditions.</p>	<p>K8 K11 K17 K18 K19 K21 K22 K23 K24 K25 K26 K27 K29 K30 K31 K35</p> <p>S9 S11 S16 S18 S19 S20 S21 S22 S23 S24 S25 S26 S28 S29 S30 S33</p> <p>B2 B5</p>
<p>Duty 10 Maintain the stability and effectiveness of the Jack-up barge at the operational site.</p>	<p>K7 K10 K11 K17 K18 K19 K20 K21 K22 K23 K24 K26 K27 K29 K31 K35</p> <p>S8 S11 S16 S17 S18 S19 S20 S21 S22 S23 S25 S26 S28 S30 S33</p> <p>B5</p>
<p>Duty 11 Lower the Jack up barge and lift and pull the legs in accordance with operating documentation.</p>	<p>K8 K11 K17 K18 K19 K20 K21 K24 K26 K27 K29 K30 K31 K35</p> <p>S9 S11 S18 S19 S20 S23 S25 S26 S28 S29 S30 S33</p> <p>B5</p>
<p>Duty 12 Ensure all reasonable measures are undertaken, at all times to prevent pollution of the environment, including, but not limited to, correct disposal of waste, recycling of materials, use of solar panels, use of wind generators, all in compliance with local regulations.</p>	<p>K3 K6 K29 K35</p> <p>S2 S4 S7 S28 S33</p> <p>B5</p>

<p>Duty 13 Lead, direct and manage groups of diverse employees and ensure effective communication with internal and external stakeholders.</p>	<p>K5 K6 K13 K16 K29 K30 K31 K32 K33 K34 K35</p> <p>S2 S6 S7 S13 S28 S29 S30 S31 S32 S33</p> <p>B1 B2 B3 B4 B5</p>
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KSBs

Knowledge

K1: Statutory and industry regulations for safe working on board a jack-up barge, for example, Control of Substances Hazardous to Health (COSHH). Display Screen Equipment. Due diligence. Electrical safety and compliance. Emergency evacuation procedures. Health and Safety at Work Act – responsibilities. Isolation and emergency stop procedures. L8 Legionella. Lifting Operations and Lifting Equipment Regulations (LOLER). Lone working. Management systems of occupational health and safety ISO 45001. Manual handling. Near miss reporting. Noise regulation. Provision and use of Work Equipment Regulations (PUWER). Reporting of Injuries, Diseases, and Dangerous Occurrences Regulations (RIDDOR). Risk assessments. Safe systems of work. Safety equipment: guards, signage, fire extinguishers. Situational awareness. Slips, trips, and falls. Types of hazards. Personal Protective Equipment (PPE). Working at height. Working in confined spaces.

K2: Certification requirements for jack-up barge and equipment for example, class certification, Marine Warranty Surveyor, flag state, relevant insurance documentation, certification of equipment.

K3: Environmental and sustainability regulations and guidance. Environmental hazards that can arise from jack-up barge operations.

K4: Jack-up barge navigation, lights and shapes requirements as defined under International Regulations for the Prevention of Collisions at Sea (COLREGS).

K5: Emergency procedures, applicable to jack-up barge operations, for example, safe haven location, survival limits of the barge, emergency response plan, specific life raft deployment methods, parameters for boarding and moving the barge.

K6: Jack-up barge evacuation drills, for example, man overboard, fire evacuation, collision drill, intake of water, breaching a compartment.

K7: Operating manuals and documentation relevant to specific barge type, for example, barge stability book, emergency response plan, jacking systems operations manual.

K8: Operating manuals and documentation for equipment to be used on customer projects, for example, deck, crane, and lift plans.

K9: The Marine warranty surveyor's report and survey; its content, and its impact on jack-up barge operation.

K10: Principles of jack-up barge design and construction.

K11: Jack-up barge safe working load principles, for example, size of barge, crane positioning, slewing, movement of items on deck, deck loading principles.

K12: Pre-departure and tow requirements, for example, fuel, additives, oil, water, critical spare parts.

K13: Principles and procedures of access and egress.

K14: Tools and equipment in line with sea fastening principles.

K15: Maintenance requirements for jack-up barge and survival equipment.

K16: Roles and responsibilities of internal stakeholders, for example, jack up barge master, crewmembers, onshore personnel.

K17: Site specific data and sea charts relating to the location of the jack up barge.

K18: Principles and procedures of barge jacking including pre-loading and pre-driving.

K19: Principles and procedures of jacking down from operational position and leg removal from seabed.

K20: Principles and procedures of static and dynamic stability factors, for example, seabed scour, stability systems, elevated weight, centre of gravity and leg penetration.

K21: Principles and techniques of establishing and maintaining an air gap.

K22: Sources of metrological data, wave and sea state information.

K23: Principles of jack up barge performance during operation and in transit.

K24: Principles and requirements of jack up barge stability afloat.

K25: Principles of jack-up barge towing: role of tow survey, types of towing bridle, winch cables, towing risks, information to be shared with tug crews, warranty surveyor's report.

K26: Principles and techniques of jack up barge mooring.

K27: Principles and techniques of jack up barge anchoring.

K28: Continuing professional development: planned and unplanned and recording methods.

K29: Problem solving tools and techniques.

K30: The organisational and sector digital toolkits and systems. General Data Protection Regulation (GDPR) and cyber security.

K31: Verbal communication techniques and maritime terminology.

K32: Written communication techniques. Plain English principles.

K33: Principles of equity, diversity, and inclusion in the workplace. Unconscious bias.

K34: Personal wellbeing and mental health awareness.

K35: Team working and collaboration principles.

Skills

S1: Supervise work activity to ensure it complies with statutory and industry regulations for safe working on board a jack-up barge.

S2: Monitor crew and contractor compliance with statutory and industry regulations for safe working on board a jack-up barge.

S3: Implement jack-up barge and equipment inspection and check that valid certifications are in place.

S4: Comply with environmental and sustainability regulations and guidance.

S5: Ensure that navigation lights, day signals and markers are displayed on the jack-up barge in compliance with COLREGS.

S6: Implement the safe movement of the jack-up barge to an agreed 'safe haven' when required.

S7: Coordinate jack-up barge evacuation drills.

S8: Use and apply operating manuals and documentation to inform operation and passage plans.

S9: Implement jack up barge activities in line with operating manuals and standard operating procedures.

S10: Implement jack-up barge activity to standards specified within the marine warranty surveyor's report.

S11: Apply jack-up barge safe working load principles.

S12: Carry out pre-operational checks of the jack up barge.

S13: Manage and comply with access and egress procedures.

S14: Use, store and secure tools and equipment in line with sea fastening principles.

S15: Maintenance requirements for jack-up barge and survival equipment.

S16: Analyse and report data to the location of the jack up barge to support operational decision making.

S17: Carry out jack up barge operations.

S18: Apply and perform barge jacking principles and procedures.

S19: Apply and perform barge jacking down principles and procedures including leg removal.

S20: Establish and monitor the jack up barge air gap.

S21: Monitor, record and report operational performance in response to environmental impact of the weather and any site specific operating requirements.

S22: Assess and report jack up barge performance prior to transit.

S23: Assess and report jack up barge performance during operation.

S24: Monitor and guide the crew to ensure safe towing operations.

S25: Position jack up barge.

S26: Apply anchoring techniques and practices.

S27: Plan and undertake Continued Professional Development (CPD) to meet personal and organisational development. Evaluate CPD outcomes against any plans made.

S28: Apply problem solving techniques, identifying issues. Propose solutions to problems.

S29: Monitor, manage and report organisational and sector information technology and digital systems. Comply with General Data Protection Regulation (GDPR) and cyber security.

S30: Communicate verbally with internal and external stakeholders using industry specific terminology.

S31: Communicate in writing with supervisors and contractors.

S32: Apply equity, diversity and inclusion policies.

S33: Apply team working principles.

Behaviours

B1: Takes personal responsibility for and promotes for health, safety and welfare.

B2: Respond and adapt to work demands and situations.

B3: Contributes to equity, diversity, and inclusivity workplace culture.

B4: Acts in a professional and ethical manner.

B5: Take responsibly for the quality of work.

B6: Committed to maintaining and enhancing competence of self through Continued Professional Development (CPD).

Qualifications

English and maths

Apprentices without level 2 English and maths will need to achieve this level prior to taking the End-Point Assessment. For those with an education, health and care plan or a legacy statement, the apprenticeship's English and maths minimum requirement is Entry Level 3. A British Sign Language (BSL) qualification is an alternative to the English qualification for those whose primary language is BSL.

Does the apprenticeship need to include any mandated qualifications in addition to the above-mentioned English and maths qualifications?

No

Professional recognition

This standard aligns with the following professional recognition:

- The Nautical Institute for Member (MNI)

Consultation

Progression routes

There are progression opportunities into this occupation from the following apprenticeship standards: Workboat Crewmember (ST0400) Boatmaster (ST0621) Also, within the sector there are regular occurrences of technical drillers progressing into the role of jack-up barge master. On completion of this apprenticeship candidates have the opportunity to progress to the following occupations: Senior barge master Marine superintendent Operations Director/senior operations position (onshore)

Supporting uploads

Mandatory qualification uploads

Mandated degree evidence uploads

Professional body confirmation uploads

Subject sector area