Vendor Dynamic Lift Requirements

Objective

This document is intended to outline for vendors Woodside's requirements for any piece of cargo to be lifted to or from a Woodside Energy's offshore facility. This document extracts from the Lifting Operations Standard the data critical to the safety of Transit Containers going offshore. It is also supplemented by an inspection chart, equipment checklist, and additional logistics requirements incorporated from prior incidents. Vendors properly utilizing the checklist and the document should have no issues moving equipment through the Shorebase without Non-Conformances. The document also provides Shorebase contacts in order to provide guidance for lifts that are unusual or non-routine.

Audience

Vendors who supply Cargo Carrying Units and Rental Equipment to Woodside need to be familiar with this document and utilize the required checklist.

Owner

Logistics Supervisor GOM / Shane Pitre

This document must be updated any time the Petroleum Lifting Operations Standard (PET-HSE00-HX-STD-00001) is updated to reflect any changes made. Contents pulled from Appendix 8.5

Revision History

Rev. No	Rev. Date	Valid Until	Doc Status	Comments/Revision Changes
00	4/15/2020	2/15/2022	IFU - Issued for Use	Origination (Replaced retired GOMPU-BHPB-LG-STD-0001 Dynamic Lift Requirements)
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Document Signatures

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Dynamic Lift Requirements

1 Design Requirements

Petroleum Lifting Operations Standard

1.1 All containers must be accompanied by full dossiers (cert packs) demonstrating that the unit was designed, fabricated, inspected and tested to DNV 2.7-1, EN ISO 10855 or API 2CCU

1.2 Must have four lifting points as standard. Two or three lifting points are acceptable on the condition that they meet the requirements above as confirmed by a qualified engineer.

1.3 Must have a working stress design based on 1/3 yield.

1.4 Conex containers must be engineered and reinforced to include pad-eyes (flame cut pad-eyes are prohibited).

1.5 Pad-eyes must meet the following:

1.5.1 Be drilled or bored, with cheek plates (if fitted) also drilled or bored after fitting to the pad-eyes

1.5.2 Have a maximum eye hole size equal to the diameter of the shackle pin plus 10%, with minimum pad-eye thickness equal to the jaw gap of the shackle less 25%

1.5.3 Be oriented in alignment with the direction of the lift, unless certified as suitable by a qualified engineer

1.5.4 Be positioned accurately for even loading of slings, while also minimizing the risk of the sling fouling on the transit container

1.5.5 Not substituted with ISO locks

1.6 Must be designed to minimize the risk of trapped debris in areas such as the forklift pockets or open end tubing (to mitigate dropped object risk).

1.7 Must have forklift pockets of a sufficient size to enable the forks to enter fully. If forklift pockets are only for empty handling, then this must be clearly marked on the container.

1.8 Cargo baskets must have solid floors (not of mesh construction), with drainage holes. Drainage holes must be small enough to prevent the potential for dropped objects. If mesh is used on the sides, a minimum of a 4-inch (10cm) kicker plate must be fitted.

1.9 Bolted connections, if used as part of the load bearing structure must be made from Grade 8 or equivalent stainless steel charpy tested and referenced in the design drawing. At intervals of annually, 25% of the bolts shall be removed and visually inspected. After 60 months in service, they shall be replaced. Bolted end extensions are not permitted. (all inspections shall be documented and provided)

1.10 Top rails (minimum of four areas) must be painted with contrasting colors of high visibility. Open topped Cargo Carrying Units must be painted with cross-hatching of a contrasting color of high visibility.

1.11 Containers shall be designed with the intent of eliminating potential snag hazards keeping all internal securement devices protected inside the smooth periphery walls of the container

1.12 Open top baskets of boxes shall have no hooks, tag lines (must be coated style), tie down points or sharp jagged uneven edges that could snag on slings during the lift operation. Similarly, the sides must be

smooth and free of protrusions to avoid potential of snagging lift slings or other adjacent items during the lift operation.

1.13 Top opening doors shall be identified as pinch points and have dampening system to prevent lid slamming.

2 Wire Rope Slings

Petroleum Lifting Operations Standard

2.1 Must have sling assembly with a Working Load Limit (WLL) of 1.3 times the maximum gross weight of the container (safety factor of 6.5 to 1), unless manufactured in accordance with DNV2.7-1, where the slings has a co-efficient given within DNV2.7-1.

2.2 A master link with sub-links must be used where a sling assembly has three or more legs and a Rated Capacity greater than 25,000 lbs. On tall transit containers the D-ring should rest between 3-5 feet from the ground. A stinger with D-ring (5th Leg) can be used to achieve.

2.3 The following must be on a metal identification tag or stamped on the ferrule of slings (if not marked to API2CCU, DNV 2.7-1 or EN ISO 10855-2):

2.3.1 Unique identification number or tag number

2.3.2 Working Load Limit (WLL)

2.3.3 Date of Manufacture

2.3.4 Date of last inspection

3 Shackles

Petroleum Lifting Operations Standard

3.1 Shackles fitted to a transit container must be Bolt Type shackles (four-part, body, bolt, nut and cotter pin or other fit for purpose design). Permanently captive shackles are also acceptable, however welding rods, nails, and R clips must not be used.

3.2 Each pair of shackles must be able to support the container maximum gross weight.

3.3 Must be individually identified by either hard stamping using low stress stamps on the shackle body or an identification tag. Shackles that are captivated in the thimble do not need to be marked, but evidence of this must be on the load test certificate.

4 Tool/Gang Boxes

Petroleum Lifting Operations Standard

4.1 Tool/gang boxes and any other container with hinged doors shall have robust primary and secondary locking devices/latches (excluding top opening).

Logistics

4.2 Tool/Gang boxes shall be designed to a recognized lifting standard and tested for use in a dynamic environment. Any gang boxes designed for shop use without lifting certification, bottom testing, or on wheels shall require packaging and approval to ship.

4.3 Top opening lid pinch points identified by tiger striping or high contrast markings (Reference 1.13)

5 Vessels and Tanks for Transporting Liquids

Petroleum Lifting Operations Standard

5.1 Vessels and tanks for transporting liquids must be labelled to International Maritime Dangerous Goods (IMDG) requirements and must have:

5.1.1 A crash frame completely enclosing the container/vessel (In the US this excludes metal tote tanks that are built and certified to DOT49 CFR 178.813)

5.1.2 Valves accessible from the ground level

5.1.3 Valves cable-tied closed (or similar) with caps or plugs installed

5.1.4 A vent/pressure relief system appropriate for the liquid being transported

5.1.5 An accurate and reliable level measurement system to aid in filling and decanting vessel

5.1.6 Drip trays under any valves or other outlets (required if in crash frame)

5.1.7 Drain plug shall have secondary retention

5.1.8 An air inlet valve (vacuum protection)

5.1.9 Guards on any protrusion where damage to those protrusions could lead to a spill of the product being transported

5.1.10 Grating on the top of the tank to protect the man hole (required if in crash frame)

5.1.11 Chemical tanks for hazardous goods and marine pollutants must meet the International Maritime Dangerous Goods (IMDG) Code. They must be lift tested as required by the IMDG code (Volume 1 parts 1, 2 and 4-7). Small volumes of non-hazardous or non-marine pollutant chemicals can be transported in tote type tanks. For tote tanks, crash frames must be provided at the shore-base prior to transportation.

5.1.12 Cuttings boxes must meet DOT-CFR 49 176.40 (US only)

6 Gas Cylinder Racks

Logistics

6.1 Gas Cylinders shall be shipped in bottle racks. Bottles shall be properly segregated by size and hazard class. Bottle racks are required to fit the bottles without movement and shall have secondary fasteners to hold bottles in place in the event of damage during a lift.

6.2 Gas Cylinders valves shall have caps installed or other appropriate valve protection. Valve Manifolds shall be shielded from impact on all sides. 49CFR 173.301(g)

7 General Requirements

Logistics

7.1 Inspection and Data Plates shall be affixed to containers in a way that they will not pose a dropped object threat. They should be placed in an area that will shield them from impact with other lifts.

7.2 All lifting equipment shall have a unique serial number permanently marked on the item, traceable to the manufacturer or owner, which last the life of the CCU in lettering of no less than 3 inches tall. This

identification number should also be clearly visible on the roof of the CCU in letter no less than 1 foot tall where applicable. The Tare Weight, Payload and Maximum Goss Weight should also be visible on one side of the CCU in letters no less than 3 inches tall.

7.3 Baskets loads must be packed and balanced properly with a loading plan aimed at a stabilized Center of Gravity with consideration for effects of shock loading.

7.4 Synthetic and chain slings are not permitted for containers. Synthetic slings may be permitted for special lifting situations after review and approval.

7.5 Dropped Objects: check to ensure no loose items on, in or beneath the containers or in any fork lift pockets in the side base rail that may move. All CCU's shall be free from rust scale that may cause the potential for dropped objects.

7.6 Any transit container with grating used as a barrier or walkway that is secured by bolts shall use lock washers or some form of secondary securement (i.e. cotter pins, safety pins, etc.) to prevent the possibility for the securement to come loose and allow the grating to become free.

7.7 Protrusions: No item of equipment should be permitted to protrude outside the periphery of any open-top container; e.g. baskets. Center of Gravity: All items loaded into open top containers that protrude above the top rail of the container shall be properly secured; loaded in a way that does not foul the container slings, and should have a center of gravity below 3/4 of the container height. When in doubt contact Shore-base for review.

7.8 Slings must never be trapped / pinned underneath any tools or equipment in baskets.

7.9 Vendors shall not stack containers or baskets on trucks/trailers for shipment.

7.10 All fully enclosed containers must be shipped with a seal or device to prevent security breaches or tampering of its contents.

7.11 Equipment that is shipped in transit containers shall be correctly secured such that the equipment arrives in a fit for purpose using a proper securing mechanism (not manila rope).

7.12 All double stacked pallet boxes must incorporate a safety net that prevents loose items from falling when opening the door. The safety net must be free from damage or defects and fit for use.

7.13 Weights of cargo must be known and documented correctly.

7.14 Non-Conformance Reporting Process shall be used to clear up any vendor deficiencies relating to Woodside Energy's requirements.

8 Inspector Qualifications

Logistics

8.1 All NDT Inspectors shall be a minimum of ASNT Level II as per SNT-TC-1A or ISO 9712 in the NDT method being used.

8.2 All lifting set yearly inspections shall be performed in accordance with ASME B30.9 and ASME B30.26 or EN 818-6 and EN 13414-2 as applicable. Inspections shall be done by a qualified individual and a COC shall be issued.

9 Approvals

Logistics

9.1 Contact the Woodside Shore-base to clarify any concerns with equipment to be shipped as well as to obtain approvals to ship items that may fall into any grey areas of this standard.

9.1.1 Phone Number: _____E-Mail:_____

9.1.2 Potential mitigation for items not compliant to Lifting Operations Standard:

9.1.2.1 All CCU's (e.g., baskets, cargo boxes) shall meet design standards in Section 1.1.

9.1.2.2 Rental Units (e.g., tool racks, tool pallets, lubricators, generators) should meet a recognized design standard, but may be allowed to ship with a properly engineered load path and supporting documentation. Units shall also meet 1.3, 1.5, and inspection criteria in section 10.

9.1.2.3 Conex boxes designed to ISO 1496 will only be allowed if modified for lifting by pad-eyes with properly engineered load path and supporting documentation. Shall meet 1.4 and 1.5.5.

9.1.2.4 Tanks will be required to meet IMDG design and testing requirements. Lifting set, pad-eyes, and load path still require certification at intervals specified in section 10 of this document with the exception of stainless tote tanks which are only prototype tested inspected visually between uses.

9.1.2.5 Large specialty lifts (e.g., project skids) with pad-eyes not designed to a recognized CCU standard, must meet requirements of section 1.5, and must include an engineered lifting arrangement. NDT must be carried out on pad-eyes, and a relevant lift plan (Non-Routine or Complex) must be approved. Lifting set must meet all requirements.

9.1.2.6 Small specialty lifts (e.g., cabinet, carriers) with pad-eyes not designed to a recognized CCU standard, may be shipped containerized with prior approval from facility OIM/Supervisor. Pad-eyes shall have a current NDT/Inspection, and lifting set must meet all requirements.

10 Inspections and Testing

Table 1: Required in Service Testing and Periodic Inspections

Equipment	Time Interval Months	Proof Load Test	Non-Destructive Test	Visual Inspection
Dynamic Lifts (Transit Containers, Baskets, Boxes, Skids, etc.)	**Prior to First Use** (After any repair/mod)	2x – 2.5x MGW	Yes (Load bearing areas)	Yes
	12 Months	No	Yes	Yes
	60 Months	2x – 2.5x MGW	Yes (Load bearing areas)	Yes
Wire Rope Slings	**Prior to First Use** (After any repair/mod)	2x WLL	No	Yes
	12 Months	Acceptable (Visual Preferred)	No	Yes
	60 Months	Acceptable (Visual Preferred)	Yes (Master Link, Sub-Links)	Yes
Shackles	**Prior to First Use**	2x WLL if included on the lifting set certificate	No	Yes
	12 Months	Acceptable Not Required	No	Yes
	60 Months	Acceptable Not Required	No	Yes
Bolts / Pins (Load Bearing) (Document Inspections)	**Prior to First Use**	2x – 2.5x MGW Installed on CCU	No	Yes
	12 Months	No	No	Yes 25% of Bolts
	60 Months	Replace	No	Yes

*Shackles not integrated into the lifting set and certificate will required individual inspection certificates per section 3.3

Vendor Dynamic Lift Requirements

Cargo Carrying Unit (CCU) and Lift Checklist A signed, completed copy of this checklist is to accompany each CCU or Lift to the Shore-base.					
Deliver to: E-mail to:					
Supplier:				Date:	
Responsible Party	Name:		Telephone:	E-Mail:	

Container Specifics (CCU sheet must be completed for each lift being delivered.) (7.13)

Unit ID	Description of Unit [Container, Basket, Rack, Pallet Box…]	Dimensions [LxWxH] [Ft/m]	Net Weight Loaded	Max Gross Weight

Inspection Requirements (DOT & UN tanks that are not IMDG will be required to have in date slings and shackles.) (10)

CCU or Lift Inspections				Wire Rope Sling Inspections			
Load Test < 60 Months [2-2.5X MGW]	Yes / No	Cert:		Proof Load Test 2X WLL < 5 Years (In Service)	Yes / No	Cert:	
NDT < 1 Year since last	Yes / No	Cert:		Visual Inspection < 1 Year (or Pull Test)	Yes / No	Cert:	

*Proof Load testing is acceptable on Wire Rope Slings instead of visuals. Woodside's preference is visual inspections after initial proof load test. (10)

Load Bearing Bolted or Pinned Connections				Shackles (*If not captive and referenced in the sling certificate above*)			
25% Removed and Inspected <12 Months	Yes / No	Date:		Visual Inspection < 1 Year	Yes / No	Cert:	
				Visual Inspection < 1 Year	Yes / No	Cert:	
60 Months – All Replaced	Yes / No	Date:		Visual Inspection < 1 Year	Yes / No	Cert:	
				Visual Inspection < 1 Year	Yes / No	Cert:	

Item	Requirement	Yes	No	N/A
1.1	Is the lift built to API 2CCU, DNV 2.7-1, or ISO 10855? (Certificate of Conformance Available)			
10	Are all required inspections complete and referenced above, do inspections last long enough for lift to return from use?			
1.4	Do **Conex boxes** modified for Pad-eyes have supporting engineering that eliminate the use of ISO locks? (1.5.5)			
7.5	Has the container been inspected around all surfaces, openings, and underneath for potential dropped objects? (1.6) (1.8) (7.6)			
1.11	Lift is designed & packaged to eliminate snag hazards to sling or other lifts? (1.12) (7.7) (7.9)			
1.13	Are **top opening doors** hazard striped as potential pinch points & does door have dampening system?			
2	Is the lifting set (Slings/Shackles) properly sized, inspected, and configured for the container? (3)			
4	Do **side opening hinged doors** have robust primary & secondary locking devices?			
5	Are **Portable Tanks** IMDG compliant? – Do Lifting Sets & Framed Tanks meet inspection criteria above?			
6	Are **cylinder racks** designed with secondary restraints to hold cylinders in place? Are all valves & manifolds shielded?			
7.1	Is Data Plate properly secured, shielded from impact, and updated with latest inspections?			
7.2	Is lift properly identified with permanent unique serial number, and is MGW clearly visible on lift?			
7.3	Has lift been properly packed to pick up level when using the lifting set? (especially **long containers**)			
7.11	Has equipment been packed with securement that eliminates potential for damage & shift in the lifts COG?			
7.8	(**Strapped cargo in Baskets**) Is lifting set free for use and not pinched or strapped into the container securement?			
7.12	Are nets installed in **pallet boxes** to prevent loose items from falling when opening the door?			

Shorebase Contact for Review – Send pictures to _____ and call _____

Woodside Energy Shorebase does **not** required all of the certificates for each lift being sent of the following requirements are met:

1) This checklist is properly filled out with all applicable blanks filled and certificate numbers present for each lift.
2) Data Plate on lift is up to date for all inspections.
3) Woodside Energy will still call for certificates if any concerns exist and as part of a regular audit process.