

Offshore Support Vessels – Atlantic Region Operations
EOI / Prequalification Reference 8.5.1.099
Bulletin 002

Husky Energy Inc. (Husky) is providing the following information in response to queries received from supplier(s) in relation to the above referenced EOI / Pre-qualification document.

<i>Question #1</i>	<i>Can Husky provide wave scatter diagrams / historical weather for WHP site if available?</i>
HUSKY RESPONSE	
Wording in EOI	3.3 - The vessel(s) design shall maximize laydown area and operability with considerations for a walk to work system, including vessel motions. RAOs will be evaluated at the bid stage.
Additional Comments	<p>For the information of all respondents the “WHP site” (Well Head Platform) is the principal location in which the proposed vessel(s) Walk to Work outfit intends to be utilized. It will be a fixed platform.</p> <p>Husky Energy has had a metocean study completed which is proprietary. This information will be shared on request at the bid stage with respondents invited to proceed.</p>

<i>Question #2</i>	<i>Can Husky provide WHP schematic for analysis of W2W system integration?</i>
HUSKY RESPONSE	
Wording in EOI	4.7 The proposed vessel(s) design should have flexibility to incorporate a walk to work gangway system capable of servicing an airgap of up to 32.5m and maintain operability in a minimum sea state of 4.5m hs. It is envisioned that the walk to work gangway is modular in design and could be shared between the proposed vessel(s) as operational requirements demand.
Requested information in Prequalification Questionnaire	<p>4.71 Confirm vessel design can integrate a walk to work transfer system capable of servicing an airgap of up to 32.5m.</p> <p>4.72 Please provide details of how a Walk to Work system can be shared between vessels, including rapid mobilizations and demobilizations between proposed vessels.</p>
Guidance in Prequalification Questionnaire	<p>4.71 Provide planned vessel modifications to support a Walk to Work system. It is anticipated that this system will be installed on one vessel within the fleet with full supporting platforms (plug and play) on at least another two vessel(s) to allow for quick mobilization and fleet continuity during dockings, unplanned breakdowns, etc.</p> <p>This includes power, structural requirements, and inherent design to ensure deck operations are not impaired by the outfit and ensure maximum transfer system workability. The proposed vessel must have the required clean electrical power to meet system requirements and not affect station keeping ability and DP configuration. The system will require redundant power sources.</p>

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	<p>The operational target is sea heights greater than or equal to 4.5m hs. Please provide: The vessel's GA with proposed structural modifications and a review of potential workability issues for AH, towing and deck operations. Environmental workability of the system(s) will be assessed at the bid stage.</p> <p>4.7.2 Please consider the method, equipment requirements (including craneage), and time required for system mobilizations and demobilizations and how this can be achieved both locally and efficiently.</p>
Additional Comments	<p>The WHP (Well Head Platform) design and layout is subject to continued modifications and review. The design team is currently working through the locations of potential W2W (in service) landing locations and a schematic for the purposes of this EOI is not available at this time.</p> <p>In general, 3 to 4 landing locations on different sides of the installation are envisioned. The platform design base has strict weight and space restrictions and any W2W system must be engineered to keep receptacle structure as light as possible with minimal footprint. Forces exerted on the platform structure from a W2W system should be nominal.</p> <p>A detailed W2W (walk to work) integration analysis will be completed during the bid stage with respondents invited to proceed. Full schematics and integration drawings will be developed at this point.</p>

<i>Question #3</i>	<i>Does Husky have a minimum deck load requirement?</i>
HUSKY RESPONSE	
Wording in EOI	<p>3.1 The vessel(s) must be classed by a recognized international classification agency, (IACS member) and maintain notations (DNV or equivalent). Indicative notations <u>may</u> include but <u>are not limited to</u>: *1A, Offshore Service Vessel (AHTS), S, NAUT (OSV), Fire Fighter 2, E0, LFL 2, Clean, COMF-V/C, DYNPOS AUTR, SF, ICE (1A), DK +, Winterized (Basic), OILREC, SPS, BWM, Walk2work</p>
Information in Prequalification Questionnaire	<p>3.5 Please provide details of laydown, including deck strengthening/loading, total laydown area, laydown area whilst maintaining standby compliance, laydown whilst tow compliant/able and a drawings of anticipated deck layout</p> <p>3.7 In general, the vessel is expected to have a system which meets class requirements for the bollard pull produced and would have the standard AHTS equipment including a j hook, and grapple, two sets of jaws/forks, pins, a stern roller(s) and dual gypsies/inserts and handling arrangements for a variety of typical offshore chain (76mm/84mm etc..). Both work and towing wires and drums are required. Deck strengthening shall be consistent with anchor handling requirements.</p>

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Additional Comments	In keeping with common anchor handling specifications, a minimum deck strengthening of 10 Te/m² is expected. It is anticipated that this would be increased in way of high load area's such as the "skid plate" up to 15Te/m² .
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<i>Question #4</i>	<i>Confirm or clarify meaning of "dual AH package", whether it means handling of two anchor systems (dual gypsies as described elsewhere in EOI)?</i>
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HUSKY RESPONSE	
Wording in EOI	3.7 The vessel(s) require a winch and dual anchor handling package sized for vessel capability and bollard pull.
Requested information in Prequalification Questionnaire	3.7 Please detail the proposed vessel(s) Anchor Handling and towing capabilities.
Guidance in Prequalification Questionnaire	3.7 Please provide details of proposed vessel(s) winch package and anchor handling equipment/towing equipment including equipment specification(s), safe working loads/limits, redundancy concepts, chain locker capacities and potential/proposed safe deck systems. In general, the vessel is expected to have a system which meets class requirements for the bollard pull produced and would have the standard AHTS equipment including a j hook, and grapple, two sets of jaws/forks, pins, a stern roller(s) and dual gypsies/inserts and handling arrangements for a variety of typical offshore chain (76mm/84mm etc..). Both work and towing wires and drums are required. Deck strengthening shall be consistent with anchor handling requirements.
Additional Comments	To clarify, "dual anchor handling package" was intended to indicate a AH package with two gypsies, two sets of: forks/jaws, centering devices, lifters or otherwise, and pins. A split stern roller and a minimum of two wires and drums.

<i>Question #5</i>	<i>Confirm or clarify whether forward Azimuth Thruster can be included in 180T BP test?</i>
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HUSKY RESPONSE	
Wording in EOI	3.8 - \geq 180 t continuous bollard pull.
Requested information in Prequalification Questionnaire	Please provide the vessel(s) last bollard pull certificate or designed bollard pull statement.
Guidance in Prequalification Questionnaire	3.8 - The proposed vessel is required to maintain \geq 180 t continuous bollard pull via the primary shafts/movers with all other consumers and auxiliaries running. The proposed vessel is expected to maintain bollard pull certificate less than 10 years old. The vessel must maintain this minimum bollard pull performance throughout its anticipated service life.

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	Bollard pull testing should be completed to DNV A505 or equivalent standard.
Additional Comments	The use of thrusters (those in addition to the primary shafts/mover) should not be included in the bollard pull test or statement.

<i>Question #6</i>	<i>With regards to the ice classification of the vessels specified in 3.0 General Vessel requirements, can you confirm the Ice Class as being greater than or equal to DNV GL 1A. Considering that all of the vessels employed offshore here at the moment are Ice class 1C, would vessels be considered if they did not have a 1A classification?</i>
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HUSKY RESPONSE	
Wording in EOI	Greater than or equal to DNV GL 1A or equivalent.
Requested information in Prequalification Questionnaire	Confirm Vessel has DNV GL Ice Class 1A or equivalent notation.
Guidance in Prequalification Questionnaire	Provide details of existing or anticipated strengthening
Additional Comments	ICE DNV GL 1 A has been specified based on Husky's long term needs as to not restrict any potential or anticipated operations.