

Clarification # 5

RFP # 2011/L002 - LNG Floating Storage & Regasification Terminal December 2, 2011

#	Clarification Requested	Response
1	In reference to ITB 4.7, we tried to access the website http://www.ocg.gov.jm many times, we only found “internal server error” message. It will be appreciated if you make this corrected and inform us.	The website http://www.ocg.gov.jm is currently working.
2	When will the Terminal Use Agreement (TUA) be posted on the website?	The draft Terminal Use Agreement (TUA) is expected to be posted on the website during the week of December 12, 2011. We apologize for this delay.
3	Please inform to the Bidders with Onshore Pipeline project which is being prepared by Jamaican Government. It will be appreciated if you explain work scope, detailed project scheme and schedule of Onshore Pipeline project. Also, it will be very helpful for us to understand overall energy project in Jamaica.	An RFP for an onshore natural gas pipeline network is being prepared for issuance in the 1 st quarter of 2012. The pipeline network will initially cover only the requirements of the first phase of the LNG project, but will be expanded in latter phases to include supplies to other areas of the island as demand for natural gas increases.
4	In reference to Basis of Design, Section 2.10.1 (Gas Flow Rate), 1. Please clarify the Peak capacity for the 1-hour line packing. Whether peak capacity of the entire plant, or peak capacity of some plants? 2. Does the line from ORF to user include 1-hour line packing? Please	One (1) hour line packing is preferred, but not mandatory. Actual line pack will be dependent upon location of SRT and length of pipeline interconnecting Storage & Regasification Terminal (SRT) to the Onshore Receiving Facility (ORF).

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	clarify.	
5	<p>In reference to Basis of Design, Section 5.3 (Offshore Soil Properties), We couldn't find reference information, Mustang marine facilities FEED work [3], in ITB Package. Please provide the reference [3] and Rocky Point boring data for being used as reference data.</p>	<p>The requested documents are available for downloading and viewing as follows:</p> <ol style="list-style-type: none"> 1. Ref: 2006/585/A "Mustang Engineering LNG Import Plant Port Esquivel, St. Catherine-Geotechnical Investigation" by Jentech Consultants Ltd. Dated 2006 This report is available for download at www.cabinet.gov.jm/procurement/lng. 2. Document CD*PRJ 1032/05 "EIA for the Construction and Operation of a Temporary Barge Unloading Facility at Rocky Point, Clarendon by Jamalco" by Conrad Douglas and Associates, Ltd. Dated January 2007. http://www.nepa.gov.jm/eias/Clarendon/Rocky_Point/Jamalco-Barge/Jamalco-Temporary-Barge.pdf
6	<p>In reference to Basis of Design, Section 8.5 (Current Profile), Section 8.7 (Tide Condition) and Section 8.8 (Storm Surge), "To be Advised By CONTRACTOR" To expedite and develop design, the following data of the seabed geometry data, current, tide, storm surge and any soil data. If COMPANY could provide us any of data mentioned above. Please let us know.</p>	<p>The Company does not have access to data in any more detail than supplied in the Basis of Design (BOD). However, the local environmental firms listed on the website (www.cabinet.gov.jm/procurement/lng) do have extensive experience in this area and may be able to provide additional information. Contractor should interpret and make own enquiries. Any assumptions should be clearly identified in the proposal.</p>

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7	In reference to Basis of Design, Section 11.2 (Loading Arms), Three (including hybrid arm) unloading arm can handle the LNG. This means total 18,000 m ³ /hr can be handled. But, design unloading rate is different (10,000 m ³ /hr). Please clarify the loading arm capacity. Our recommendation is 3,500 or 4,000 m ³ /hr per each loading arm.	The intention is that only two loading arms and one vapour return will be used at any one time during offloading. As the minimum design offloading rate is 10,000 m ³ /hr, the 6,000 m ³ /hr loading arm rating is required.
8	In reference to Basis of Design, Section 11.2 (Loading Arms) and Section 2.10.2 (Gas Pressure and Temperature), Our recommended Send out pressure is 90 barg. To meet the ORF receiving pressure, 80 barg, considering the line pressure drop, 90 barg could be used for the subsea pipeline operation pressure. Please clarify whether our suggestion is acceptable or not.	The requirement for 100-barg pipeline is a requirement to provide an additional degree of safety margin.
9	In reference to Basis of Design, Section 12.4 (Shore Approach Design), Please confirm whether the open cut method for shore approach instead of HDD is applicable.	This would be acceptable, subject to the Contractor securing permission from the local authority, based on an environmental justification.
10	In reference to Basis of Design, Section 12.4 (Shore Approach Design), We would like to know whether post trenching method is acceptable or not.	This would be acceptable, subject to the Contractor securing permission from the local authority, based on an environmental justification. Please refer to Section 8.4 of the NEPA Guidelines found at: http://www.nrca.org/publications/guidelines/Underwater%20Cables%20&%20Pipelines/U

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		ndersea%20cables%20and%20pipelines%20-%20part%202.html
11	<p>In reference to Basis of Design, Section 13 (Onshore Receiving Facilities), For the Indirect heating capacity design, supply pressure shall be confirmed to the phase 2 user. If the send-out pressure to the phase 2 user is high pressure like a 70~80 barg, indirect fired heater design capacity is fit for phase 1 design capacity. Please clarify the phase 2 user send-out pressure.</p>	<p>Pressure letdown will be removed from the requirements of the Onshore Receiving Facility (ORF) and will be handled by the End-Users at their facilities. Therefore, there would be no need for pressure reduction heaters and equipment at the Onshore Receiving Facility (ORF).</p>
12	<p>In reference to Basis of Design, Section 13.6 (Fiscal Metering Skids), During the phase 1 stage, 3 end users are considered. This paragraph means 3 other metering packages are required or only one metering skid is required. Please clarify the required number of metering skid.</p>	<p>Individual meter skids, including a spare meter, is required for each of the three (3) End-Users. Therefore, three (3) separate meter skids will be required in this first phase of the project.</p>
13	<p>In reference to Basis of Design, Section 13.8 (Cold Vent), For the Cold vent system typically N₂ snuffing is required. During emergency case, cold vent temperature can be lower than freezing point of CO₂. Please clarify.</p>	<p>Please design for the temperature expected.</p>
14	<p>In reference to Basis of Design, Section 13.9.4 (Electric Power System), Please clarify whether the Electric power, 400V 50-Hz 3 Phase, will be ready to supply whenever</p>	<p>Electric power from the nearby Jamaica Public Services Company (JPSCo) grid is available. Contractor should contact JPSCo directly to arrange.</p>

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	switchboard of ORF is set-up or not.	
15	<p>In reference to SRT Scope of Work, Section 10.3 (Machinery and Cargo Systems) and FSRU Functional Specifications, Section 13 (Mechanical Completion),</p> <p>1. We understand Equipment running test for duration of not less than 72 Hrs mentioned on Para 10.3, page 53 in Attachment 03 –SRT Scope of Work is as same meaning as performance test mentioned on Para 13.0, page 67 in Attachment 07-FSRU Function. Please confirm our opinion.</p> <p>2. If the mean of above tests would be different each other, Please inform us further detail information related Equipment running test for duration of not less than 72Hrs mentioned on Para 10.3, page 53 in Attachment 03 – SRT Scope of Work to carry out with COMPANY’s satisfaction.</p> <p>3. Regarding “selected Equipment and machinery” on Para 10.3, page 53.</p> <p>1) Who is in charge of issuing the list of “selected Equipment and machinery”? By COMPANY or Contractor.</p> <p>2) If COMPANY has a plan to issue the list. Please let us know the expected issuing time.</p>	<p>Contractor should provide their recommendation in their proposal and Company will review and revert if they believe that additional equipment/machinery tests will be required.</p>

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16	<p>In reference to Pipeline & ORF Operating Philosophy, Section 5.3 (Fiscal Metering Meter Proving), Ultrasonic flow meter will be installed for the Fiscal metering package. Typically, Meter proving is not required for the ultrasonic meter. Please give us your clarification.</p>	<p>Meter proving is required based on manufacturer recommendation because of custody transfer issues.</p>
17	<p>In reference to Pipeline & ORF Scope of Work, Section 8.2 (Pipelines Engineering), Preliminary pipeline route is not included in the ITB document.</p> <p>COMPANY is requested to provide this if available.</p>	<p>This is a Contractor decision based on the location of the FSRU in their offer.</p>
18	<p>In reference to Pipeline & ORF Scope of Work, Section 8.4.2 (Equipment Layout), Preliminary layout is not included in the ITB document.</p> <p>We need the land information for ORF to expedite technical works and estimating relevant costs regarding available accommodation area during construction and etc.</p> <p>COMPANY is kindly requested to provide us following information.</p> <ul style="list-style-type: none"> - Specific land location for ORF Area Information.(Length x Breadth) 	<p>The Jamaica Public Services Company (JPSCo) has preliminarily agreed to offer a five (5) acre parcel on their Old Harbour site for the Onshore Receiving Facility (ORF). However, alternative locations for the ORF within the Port Esquivel or Old Harbour areas may be acceptable pending review of Contractor's proposal.</p>

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19	<p>In reference to Regas Plant Functional Specification, Section 9.2 (Other Utilities),</p> <p>Please confirm the motor operated valve and Pneumatic valve can be installed instead of hydraulic power actuated valves.</p>	<p>No, please provide hydraulic powered actuated valves as specified.</p>
20	<p>In reference to Regas Plant Functional Specification, Section 6.1 (Gas Metering), two provisions are added for future expansion for onshore gas metering skid. In offshore gas metering case, is there any requirement to install the additional provisions? Please clarify.</p>	<p>Yes, this is a requirement, as it is preferable in the likely event of expansion, we do not want any disruption or restriction on the future operation of the Floating Storage & Regasification Terminal (SRT).</p>
21	<p>In reference to FSRU Functional Specification, Section 2.2 (Design and Operations Philosophy),</p> <p>Typically, Payment of LNG will be calculated using the calorific value of components. This will be checked using off-line method or on-line method. On-line GC on the unloading line is recommendable for the FSRU. Please confirm the sampling method of LNG composition.</p>	<p>Offline sampling will be required for verification of delivered gas composition. System of sampling to be proposed by Contractor.</p>
22	<p>In reference to FSRU Functional Specification, Section 16.6.11 (Laboratory),</p> <p>Bidder recommends using the on-line GC to check the imported LNG specification. Please clarify the</p>	<p>The laboratory required to deal with offline samples, etc.</p>

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	<p>purpose of laboratory on the FSRU. The purpose of the laboratory installation will affect the configuration of laboratory equipment.</p>	
23	<p>In reference to Jetty Design Philosophy, Section 3.4 (Mooring Structure and Equipment),</p> <p>3.4.1 Breasting Dolphins</p> <p>Our design basis is 2 breasting dolphins on each berth side. Please confirm our design concept.</p>	<p>Three (3) breasting dolphins are required for the delivery berth, to allow broadest range of LNG Carrier vessels to deliver. Contractor may reduce to two (2) breasting dolphins for the FSRU berth, so long as it can be demonstrated to not impact FSRU availability.</p>
24	<p>In reference to Pipelines & ORF Operating Philosophy, Section 5.4 (Future Requirements),</p> <p>'Basis of design' mentions that 100% capacity filters will be installed in the ORF. But, on 'Pipeline and ORF philosophy', Natural gas filter capacity is based on phase 1 capacity. Is there any requirement for installation of stand-by filters for each flow meter? Please clarify.</p>	<p>Yes, stand-by filters are required for operability.</p>
25	<p>In reference to Pipeline & ORF Operating Philosophy, Section 7.4.5 (Gas Chromatograph),</p> <p>Is it needed to be installed individually the GC equipment for each flow meter?</p>	<p>Yes, as there is a custody transfer issue for each of the End-Users, so they will want absolute certainty about the calorific value of the gas delivered to them.</p>
26	<p>In reference to Pipeline & ORF Operating Philosophy, Section 7.7.1</p>	<p>Although it is most unlikely that any condensate will ever be encountered, the</p>

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	<p>(Cold Vent),</p> <p>Natural Gas has no condensate during the emergency de-pressuring operation. Cold vent on the ORF do not require the Knock Out drum.</p>	<p>consequences of it occurring would be considerable. The knock-out drum is therefore still a requirement.</p>
27	<p>Under 'RFP #2011/L002', there are three packages, that is, SRT, pipeline, ORF. Bidder is considering all three packages have to be submitted by BCD.</p> <p>Please clarify our understanding is right or not.</p>	<p>Yes, this is correct.</p>