

INDIA PORTS GLOBAL PVT. LTD.
TECHNICAL QUERIES AND REPLY FOR 14 RTGC TENDER.

Tender for "Design, Manufacture, Supply, Installation, Testing, Commissioning and Guaranteeing the performance of (14) Fourteen Nos. of New RTGCs at Shahid Beheshti Port, Chabahar, Islamic Republic of Iran".:
 Clarifications/amendments to the pre-bid quarries of the meeting held on 1st December 2016.

Sr. no.	Clause No.	Tenders Specification Requirements	Queries	Clarification From IPGPL
1	1.4.5 Seismic	Seismic Design Data (minimum values) :Horizontal acceleration (50 year) 0.34g Vertical (50% x horizontal) 0.17g	.Please provide S_{DS} & S_{D1} based on ASCE 7-10 or seismic design response spectrum. . Based on ASCE 7-10, we understand vertical seismic factor is under 0.05g (0.2*0.7*SDS).	To be clarified later.
2	1.18.1 Acceptance Testing	Vibration tests of the structure, operator cabin and trolley shall be carried out and results recorded at the complete range of operating speeds and loads.	With Bidder's experience, vibration test does not need to be carried out for those equipment. If required, the detailed requirement shall be provided for clarification before contract.	To be clarified later.
3	1.18.2 Durability test	The test shall include putting the crane ~ for period of 48 hours, ~	With more than 30 years Bidder's experience and to reduce the cost, we recommend to test the crane for 24 hours, which is still satisfy all the requirement. (12 hours : Allow fault, 12 hours : Fault free)	Not accepted.
4	2.1 General	The allowable bearing stress of pins shall not exceed 0.3 times the yield stress of the material.	At the operating condition, the indicated bearing stress will be applied. But at the overload condition, the allowable bearing stress will be increased as per stress increase factor.	Accepted.
5	3.2 Trolley Travel	Four double flanged wheels shall support the trolley. Each wheel shall be driven.	With Bidder's experience, to reduce the cost and the weight of Trolley, only 50% of wheel shall be driven and all the functions are still satisfy.	Not Accepted. Tender condition prevail.
6	3.13 Sheaves	All sheaves shall be statically balanced.	According to experience in performing many projects, Bidder recommend that sheaves do not need to be static balanced because they are non-critical items that give no any impact to crane life.	Not Accepted. Tender condition prevail.

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7	3.15 Gear reducers	Reducer vibration, ~ shall be monitored by the crane management system.	With Bidder's experience, the vibration level does not need to be monitored because the alignment of gearbox will not be changed during crane operation and easily maintain by maintenance step.	Acceptable.
8	3.21 Diesel Set	The diesel set shall be mounted on a structural sub-base within an IP65 enclosure.	With Bidder's experience, the diesel set shall be mounted on a structural sub-base within an IP23 enclosure.	Switchboard compartment shall be confirming to IP 65 and genset compartment with IP 44 is acceptable.
9	4.3 Wiring	Cabling for 380/415V shall be 600/1000V grade XLPE/SWA/PVC cable.	Cabling for 380/415V shall be 600/1000V grade XLPE/PVC cable. With Bidder's experience, due to the various conduit way and limited space, Crane can not use XLPE/SWA/PVC cable (Armored Cable). Normally it should be XLPE/PVC cable. .XLPE : Materials of Insulation .SWA : Single Layer of Round Wire Armored (Steel Wire Armored) .PVC : Materials of Sheath	Accepted.
10	1.4.5	<u>Seismic Design Data</u> Horizontal acceleration (50 year)0.34g Vertical (50% x horizontal)0.17g	The maximum horizontal acceleration that Kalmar 16 wheels RTG can comply is 0.275g.	Not Acceptable, Tender condition prevail.
11	1.6	<u>Principal Dimensions and Loads</u> <u>Inside Clear Span min 22m Overall width of crane lower part 26.5m</u>	The inside clear span of Bidder RTG is 21.89m. It is difficult to achieve 26.5m. The overall width of Bidder RTG is 26.59m. For more detail, please refer to Dimensional Drawing RCDxxxxxx.	Not Acceptable, Tender condition prevail.

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12	1.9	<u>Interfaces with Civil Works</u> The design loading for the stacking area is 60 kN/m ² Crane shall be supplied with complete storm anchor point and tie down.	For more detail about the wheel loading of Bidder RTG, please refer to Technical Calculation RCD0053770. It is too little, please check the typographical error if so. Bidder proposes the storm anchor points at the yard shall be on Buyer's scope. Bidder shall provide the tie down only.	To be clarified later.
13	1.12.2	<u>Maintenance Staff Training</u> The training plan shall include.... of a specified number of people appointed by the ...	Bidder proposes maximum one (1) week of training at Seller's factory in Taicang, China for maximum ten (10) Buyer's personnel. For more detail, please refer to Technical Specification K1101-J15-0091,page 28.	
14	1.18.1	<u>Acceptance Testing</u> The Manufacturer shall provide the testing facilities including power supply... test container. Vibration tests of the structure, operator cabin and trolley ...complete range of operating speeds and loads....	Bidder proposes the test weight and on-site power supply required for the acceptance testing shall be provided by the Buyer at its own cost. Bidder proposes no vibration test for the acceptance testing.	on-site power supply required for the acceptance testing shall be provided by the Buyer at its own cost. to be clarified later.
15	3.2	<u>Trolley Travel</u> Each wheel shall be driven. Stow pins shall be provided on trolley for parking under storm wind.	Bidder proposes its standard trademark design, the Positive Drive, for the trolley drive to ensure better positioning and no slipping occur. The trolley is driven by means of sprocket and chain. For more detail, please refer to Trolley Drive RTG0101 as per attached. In Bidder's design, the locking clamp is used instead of stow pin.	Not Accepted. Tender condition prevail.

Sr. no.	Clause No.	Tenders Specification Requirements	Queries	Clarification From IPGPL
16	3.5	<p><u>Headlock and Telescopic Spreader</u></p> <p>The spreader shall be fitted with a monitoring and diagnostics package that feeds information for operation, maintenance and fault finding purposes.</p> <p>The telescopic frames shall be mechanically locked to prevent sliding motion when the telescopic motion is not activated.</p> <p>Lifting lugs shall be rated for a 13 tonnes safe working load.</p> <p>ISO floating twist lock shall be able to float +/- 8mm.</p> <p>The detectors shall be positioned such that they will function on the corner castings of ISO containers and non-ISO type containers.</p> <p>Limit switches shall be proximity type, except for twist lock and detector.</p>	<p>IPGPL has mentioned they want 30ft container to handle, but at page 20 it is not mentioned. Please clarify.</p> <p>Bidder proposes no monitoring and diagnostic package on the spreader as the Bromma test panel provided shall already serve the purpose.</p> <p>In Bromma's design, the locking mechanism of telescopic beam is done by the brake integrated in the worm-gear motor and no additional mechanical lock is needed.</p> <p>The SWL of the lifting lugs shall be 10 tonnes as the spreader is designed for SWL of 40 tonnes only.</p> <p>The ISO twist lock used by Bromma shall have the floating range of +/- 6mm.</p> <p>For non-ISO type container, more information on the corner casting shall be needed. Therefore, Bidder cannot guarantee the functionality of the detector on non-ISO corner casting.</p> <p>In Bromma's design, all the limit switches used shall be of proximity type.</p>	<p>30ft container is also required to be handled.</p> <p>Not Accepted. Tender condition prevail.</p> <p>The telescopic frames shall be mechanically locked</p> <p>Not Accepted. Tender condition prevail.</p> <p>Not Accepted. Tender condition prevail.</p> <p>Accepted.</p>

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17	3.11	<p><u>Rope Drum</u></p> <p>Four dead turns of wire rope....</p> <p>Guide rollers for wire rope on the rope drums shall be provided.....</p> <p>The maximum fleet angle shall not exceed 3 degree. The hoist drum arrangement shall have 1m clearance from hoist motor.</p>	<p>Three turns of the rope remain when the spreader is landed on top a container at ground.</p> <p>No guide rollers shall be needed for the hoist drum.</p> <p>Bidder standard proposes the maximum fleet angle shall not exceed 3.5 degree.</p> <p>In Bidder's design, the arrangement of hoist drum and hoist motor is parallel to each other. Therefore, the clearance is less than 1m. For more detail, please refer to Main Hoist RTG0701C.</p>	Not Accepted. Tender condition prevail
18	3.13	<p><u>Sheaves</u></p> <p>Mounting of all rope sheave shall be on split type bracket that enable easy removal of sheave, shaft...</p>	In Bidder's design, the fixed type brackets shall be used. However, Bidder can provide the threaded hole on the shafts for ease of removal.	Not Accepted. Tender condition prevail

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19	3.19	<p><u>Greased Lubrication System</u> Sets of centralised lubrication system shall be provided..... to lubricate the bearings, on the trolley platform to lubricate the wire ropes and on the bogies. Each centralised lubrication system shall be provided with a reservoir.</p> <p>All lubrication points on the gantry wheels rocker beams shall be grouped and linked by piping, divider valves and metering valves to 4 centralized lubrication points located at 4 corners of the crane. Each centralized lubrication system for the gantry wheels shall be provided with a manual operated pump.</p>	<p>Bidder proposes only the hoist shall be fitted with automatic hoist rope lubrication system with reservoir. For other trolley part's lubrication, where manual lubrication is impractical, the lubrication points are fitted with extension piping and the nipples brought to a group battery plate mounted in a convenient position with the nipples.</p> <p>Bidder proposes no centralized lubrication system for the gantry wheels rocker beams at ground level.</p> <p>There's only 1 point in the equalizer beam. No need this.</p>	Not Accepted. Tender condition prevail
20		<p><u>List of Manufacturers</u> Paint – Sweden / Germany Hoist reducer – Germany / Italy Coupling – Flender Motors – Germany Floodlights – Philip (Netherland) Aircon – Japan/Korea/USA Electrical Components – Sweden/Germany</p>	<p>We can't provide Paint with Germany/Sweden Our hoist reducer Flender/SEW only made in China Propose KTR Czech Republic with Siemens. Germany is impossible. Now all made in China. Made in Thailand We can't guarantee all are from Germany/Sweden. – Electrical components are too general.</p>	Not Accepted. Tender condition prevail

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21	1.6	Inside clear span : Minimum 22 meters for six containers across and one traffic lane.	When span is 23.5meters and 16 wheels, the maximum clear span between legs is 21.8 meters, which is enough for 6 containers and 1 truck.	Not Accepted. Tender condition prevail
22	1.12	Training shall be provided to the crane operators and maintenance staff by competent instructors in the Farsi language, unless otherwise agreed and approved by the Buyer.	Bidder suggest training language will be English	Training language will be English However, competent instructors in the Farsi language unless otherwise agreed and approved by the Buyer.
23	2.4	Unless otherwise stated all protective coating systems shall have a life to first major maintenance of 15 years.	Usually, the protective coating system life span is 10 years, Sany suggest its life is 10 years.	EN ISO 12944 shall be followed. Protective systems shall be compatible with C5-M corrosion category, suitable for coastal and offshore areas with high salinity.
24	3.2	The trolley shall be self-propelled with the drive mechanism mounted on the trolley. Four double flanged wheels shall support the trolley. Each wheel shall be driven. The mechanism shall include electric motor(s), fail safe disc brake(s), flexible geared coupling(s), gearbox/speed reducer(s) and drive shafts. It shall be possible to remove the motors without disturbing the brakes.	Suggest use flangeless wheel with guide roller in trolley travelling mechanism. Each wheel is driven by Motor-gear unite directly, Motor gear unite take less space on trolley and wide used in RTG cran.	flangeless trolley wheels are acceptable subject to provision of side rollers, independent brake systems is also required.
25	3.6	The crane shall be equipped with skew and trim adjustment of +/- 5 degrees with rated load.	For the skew mechanism spreader can be adjusted up to +/- 5 degrees. But for the trim mechanism spreader only can be adjusted +/- 3 degrees.	Not Accepted. Tender condition prevail

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26	3.7	The anti-sway system shall be capable of damping the sway of the spreader, with rated load at a height above ground and beneath the spreader of 4.5 meters, bringing it to rest within + 50 mm displacement in less than five seconds after the trolley is brought to a halt from full speed.	The anti-sway system can be capable of damping the sway of the spreader, with rated load at a height above ground and beneath the spreader of 4.5 meters, bringing it to rest within + 100 mm displacement after 2.5 cycles of sway.	Not Accepted. Tender condition prevail
27	3.8	The horizontal fine positioning system shall be capable of movement of the spreader relative to the trolley of ± 250 mm in both trolley and gantry travel directions.	Suggest this displacement is ± 200 mm.	Not Accepted. Tender condition prevail
28	3.11	The main hoist drum arrangement shall have at least one meter clearance from main hoist motor.	The clearance is approximate 150mm and will be decided in the crane designing stage.	"at least one metre distance between input axle and output axle of the hoist gearbox is acceptable.
29	3.21	The diesel set shall be mounted on a structural sub-base within an IP65 enclosure.	Bidder suggest the IP55.	Switchboard compartment shall be confirming to IP 65 and genset compartment with IP 44 is acceptable.
30	4.6	whilst motors exposed to outdoor conditions shall be totally enclosed to IP65 protection complete with drain plug sand breathers,	Bidder suggest the IP55 of the whilst motors exposed to outdoor conditions	IP 56 for outside motors are acceptable

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31	1.10	The Manufacturer shall submit the following documents and drawings to the Buyer for approval. Unless otherwise agreed by the Buyer, documents and drawings shall be supplied in four (4) full size paper copies (sizes A0, A1, A2, A3 or A4 as appropriate) plus electronic format (Microsoft office or AutoCAD as necessary).	Due to property, Bidder will only provide PDF format drawings.	Providing drawings in PDF format and four (4) full size paper copies (sizes A0, A1, A2, A3 or A4 as appropriate) is OK
32	2.4	Unless otherwise stated all protective coating systems shall have a life to first major maintenance of 15 years.	Bidder would like to offer 5 (five) years guarantee with a degree of rusting of RE2 of European grade corresponding to Ri 2 of ISO 4628, The painting specification of all the bought-out components shall be as per the manufacturer's standard. Would client accept?	EN ISO 12944 shall be followed. Protective systems shall be compatible with C5-M corrosion category, suitable for coastal and offshore areas with high salinity.
33	3.2	Four double flanged wheels shall support the trolley ...The mechanism shall include electric motor(s), fail safe disc brake(s), flexible geared coupling(s), gearbox/speed reducer(s) and drive shafts. It shall be possible to remove the motors without disturbing the brakes.	Bidder would like to offer flangeless trolley wheel, as well as electric-magnetic trolley brake embedded into the motors, would client accept?	flangeless trolley wheels are acceptable subject to provision of side rollers, independent brake systems is also required
34	3.5	Containers eccentrically loaded by 60/40 proportions shall be capable of being handled.	Please clarify what " 60/40 proportions" refers. Bidder would like to offer eccentric load lift capacity as much as +/-10% of the rated load, which follows the common practice.	The crane shall be designed for an eccentricity load of 40 tonnes under the spreader beam, with a maximum load eccentricity of 1.37 m in longitudinal direction and 0.24 m in transversal direction of the container.

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35	3.6	The crane shall be equipped with ... trim adjustment of +/- 5 degrees with rated load.	Trim adjustment of +/- 3 degrees with rated load is recommended, would client accept?	it should be +/- 5 degrees
36	3.7	Anti-Sway System...with rated load at a height above ground and beneath the spreader of 4.5 metres, bringing it to rest within + 50 mm displacement in less than five seconds after the trolley is brought to a halt from full speed	The sway movement can be kept within a range of 250mm after about 3 circulations when an 8'6" high container is lifted by a spreader up to a clearance of 1500 mm between the quay level and the bottom of the container. would client accept?	It shall be according to the tender technical specification
37	3.8	The horizontal fine positioning system shall be capable of movement of the spreader relative to the trolley of ± 250 mm in both trolley and gantry travel directions.	Only fine position in gantry travel direction is recommended, since fine position in trolley travel direction could be realized by inching movement of trolley, would client accept?	Fine positioning system shall be according to the technical specification
38	3.11	The main hoist drum arrangement shall have at least one metre clearance from main hoist motor.	One meter clearance between hoist drum and hoist motor is redundant and unnecessary. This clause is recommended to be changed as "at least one metre distance between input axle and output axle of the hoist gearbox ", would client accept?	The tenderer suggestion is compatible with technical specification. Acceptable.
39	3.21	The diesel set shall be mounted on a structural sub-base within an IP65 enclosure. There shall be adequate ventilation within the enclosure.	The offered genset group enclosure is IP 44,the additional filter will be provided for avoid sandstorm and dust.	Switchboard compartment shall be confirming to IP 65 and genset compartment with IP 44 is acceptable.
40	4.6	Motors mounted indoors shall be IP54, whilst motors exposed to outdoor conditions shall be totally enclosed to IP65 protection	The offered outside motor IP degree is IP56,IP65 is not available for motor supplier,like Siemens.	IP 56 for outside motors are acceptable.

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41	4.17	Junction boxes shall be protected from corrosion and mechanical damage and exposed junction boxes shall be constructed to provide a minimum enclosure standard of IP66 when installed and cables connected. Each junction box shall carry a unique identifier.	The offered Junction boxes Ip degree is IP65.	IP 65 for junction boxes are acceptable
42	Appendix B	A Frame complete	Please clarify what "A frame" refer, it seem to be structure component from STS.	"A Frame" shall be omitted