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TELEGRAMS: BARC-MUMBAI, CHEMBUR.
टेलिक्स : ०११-६१०१७/०११-६१०२२ बार्क ईन
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सत्यमेव जयते

भारत सरकार

GOVERNMENT OF INDIA

भाभा परमाणु अनुसंधान केन्द्र

BHABHA ATOMIC RESEARCH CENTRE

Research Reactor Maintenance Division

ट्रॉम्बे,
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TROMBAY,
MUMBAI-400 085.

Ref: RRMD/TR-1/TN-20/2019

April 16, 2019

Sub: Invitation of Quotations for "Supply, Replacement of Hoist wire rope, Overhauling and providing Radio Remote Control for 5Te SWL EOT Crane, Apsara"

Tender No.RRMD/TR-1/TN-20/2019, dtd. 16/04/2019

Sir,

Sealed quotation is invited for Supply, Replacement of Hoist wire rope, Overhauling and providing Radio Remote Control for 5Te SWL EOT Crane, Apsara, as per the description and scope of work given below, from firms who have previously executed similar work. Quotation, subscribing the tender notice no. with name of work over the envelope, shall be sent to Administrative Officer - III, Reactor Group Office, Dhruva, BARC, Trombay, Mumbai-85 so as to reach upto 15.00hrs on or before 06th May, 2019.

The quotation shall be sent through registered post/speed post through Indian postal services only. Quotation delivered by person or through courier will not be accepted and not considered for bidding process.

The quotation shall be in the format of attached schedule-B and shall show the basic cost and GST separately, if applicable and shall include the tender ref. no., PAN and GST no. of the firm.

1.0 Introduction:

1.1 Reactor Building, Apsara is provided with 5Te EOT Crane, Make: Walter Atto hans Chilled. Handling of various equipments, piping material and other items is being done using this crane. The wire rope of the crane has now got damaged and other issues like gear box oil leakage etc. are there. Presently the crane is operated from a cabin at the top, on the body of the crane itself. The speed of the crane is controlled by drum controllers. For ease of operation, a radio remote control, for operating the crane from ground, is to be incorporated for the crane.

2.0 SCOPE OF WORK:

The quantum of work will include jobs as following:

- 2.1 Supply, testing and replacement of 12.0mm dia. (6X36 steel core) wire rope for hoist.
- 2.2 Supply of components, accessories, erection, testing and commissioning Radio Remote Control operation for the crane that include
 - PVC insulated copper cable
 - RRC equipment
 - Interfacing panel and contactors
 - Supply and approval of design drawings
 - Selector switches
- 2.3 Necessary hardware and wiring.
- 2.4 Overhauling of drives of main hoist, long travel and cross travel, including gear box, couplings, wheels, supply and changing of oil seals, O-rings, gaskets & replacing of

lubrication oil, grease etc. in respective locations (gear boxes bearings etc.). Changing of bearings, pinions & gears if found damaged. (Bearings, pinions/gears will be provided by department.)

- 2.5 Checking of geared, muff, bush, drum, brake couplings.
- 2.6 Checking of all pedestals, floating shafts.
- 2.7 Checking of rope drum bearings.
- 2.8 Checking of entire crane span & skewness rectification if required.
- 2.9 Checking and alignment (if required) of rail.
- 2.10 Servicing of Electrical terminal boxes, starters, control panels, drum controllers, checking and lubrication of motor bearings.

3.0 Technical Specifications.

3.1 Wire Rope :

- a) Rope diameter: 12 mm.
- b) Rope construction & type : Plain ended steel (6 x 36 filler construction with steel core as per IS-2266-1989)
- c) Type of lay: Ordinary Right handed.
- d) Delivery form: Reel (1 x 100 mtr.)

Specifications of the Wire rope:

- a) Tensile strength: 1570 Newton/ mm².
 - b) Breaking strength: 10.86 tonnes.
 - c) Torsion: Minimum 30 nos.
 - d) Reverse bend test: As per applicable IS code
 - e) Wrapping test: As per applicable IS code
 - f) Standard / code of the rope: IS 2266-1989. The wire used for manufacture of the ropes shall comply with IS: 1835-1961 (of which IS: 1521-1960 for tensile test, IS: 1717-1960 for Torsion test, IS: 1716-1960 for Reverse Bend test and IS: 1755-1961 for Wrapping test) specification for steel wire for ropes. All Indian standards referred here shall be of latest years.
- 3.2 During overhauling the whole gear box shall be inspected for any damage of gears etc...(write the job process) :
 - 3.2 Oil seal, O-rings and gasket material shall be of reputed make.
 - 3.3 Electrical servicing include cleaning, terminal tightness checking/correction, supply and replacement of worn out parts, meggering etc. A certificate and completed checklist to this effect shall be submitted after the job.
 - 3.4 The radio remote control shall be incorporated in such a way that crane can be operated from cabin AND from remote control. The system shall compose of receiver, interface panel and transmitter along with mode selector; Manual/cabin or Radio remote, for complete operation of all the motions of crane. The details of the system is as follows:

S.No.	Name	Description
1	GENERAL	
1.1	Encoding and Decoding	Microprocessor based
1.2	Range	100M Approx.
1.3	Operating Temperature	-30°C - +80°C
2	TRANSMITTER	
2.1	Joysticks	3 (dual) with 3 speed steps
2.1	Power Supply	6VDC (Powered by size AA x 4 Alka or Rechargeable Batteries)

2.3	Weight	< 900 gms
2.4	Size	< (250 x 150 x 150) mm
2.5	Housing	Nylon Fiber
2.6	Overall control contacts	Minimum 40
3	RECEIVER	
3.1	Relay contact	5 A/250 VAC
3.2	Power Supply	24/48/110/220 VAC or 12/24 VDC
3.3	Antenna	External
3.4	Size	320x250x100 mm
3.5	Housing	Nylon Fiber
3.6	Weight	<2.5 kg
4	CONTROLS	
4.1	Start Push button	For Mains ON
4.2	Main Hoist	UP/DOWN 3-0-3 steps Joystick 1.
4.3	Aux Hoist	UP/Down 3-0-3 steps Joystick 2.
4.4	Aux Hoist Micro	UP/Down 1-0-1 steps PB
4.5	Cross Travel (Trolley)	Right/Left 1-0-1 steps PB
4.6	Long Travel (Bridge)	Forward/Reverse 3-0-3 steps Joystick
4.7	Under bridge light	Toggle switch A.
4.8	Battery status	LED
4.9	Hooter	Start Push button.
4.10	Emergency Stop	Mushroom Switch.
5	Interface panel	
5.1	Auxiliary contactors	For driving all the power contactors of crane

- All the power & control cable shall be laid properly with cross ferules, Lug, glands and terminals for all Control Panels. The supplier shall include sufficient quantities of the above mentioned items.
- Any other left out item necessary for complete functioning all the systems of the crane shall be covered by the vendor.
- All the items shall be of reputed make as approved by EIC.

3.5 Inspection & Testing:

- A sample of rope shall be cut and sealed by the vendor in presence of BARC representative and sent to NABL for chemical composition test.
- Supplier shall demonstrate the specified tensile strength, breaking strength and other tests as mentioned in item 3.1 of the rope in presence of BARC representative. The length of the rope on which these destructive tests shall be carried out will be additional to our requirement and on the account of the vendor.
- Physical inspection and length measurement of the rope shall be carried out by the vendor in presence of BARC representative. After completion of physical inspection & length measurement, the entire rope shall be cleaned with acetone and reel shall be formed. The reel shall be covered & packed suitably to avoid any dust deposition on the rope during transport.
- FUNCTIONAL TESTING
The operation of all the motions of crane shall be checked from both remote and cabin. Operating speed for all the motions and for all the steps will be checked. The speeds shall be within 10% band of the existing speeds.
- All the test certificates in original shall be furnished by the Vender for scrutiny. On satisfactory test results, wire rope pre-dispatch inspection shall be carried out.

4.0 **Terms and Conditions:**

- 4.1 The quality of workmanship shall conform to high engineering standards and strictly as per instructions of engineer in charge (EIC) of job.
- 4.2 The contractor shall make arrangements for all the necessary Tools, tackles, equipments, consumables etc., required for the job.
- 4.3 The work shall be started within 15 days after the receipt and acceptance of work order.
- 4.4 All the Personnel brought for the work shall have valid Police Verification Certificates. As per prevailing security regulations, the contractor is required to obtain valid entry passes from the security section for working inside BARC, for which related documents will be required to be submitted.
- 4.5 The contractor may visit the site in advance and familiarize himself with the quantum of work.
- 4.6 The bidder shall provide copies of previously executed work orders alongwith the quotation.
- 4.7 All the workers arranged by the contractor shall be physically and mentally fit. All the Industrial Safety standards shall be followed and all safety gadgets as per safety engineer shall be arranged by the contractor. Department shall not be responsible for any untoward incident during the work.

5.0 **Commercial Terms & Conditions**

- 5.1 The bidder shall quote clearly with item wise break up **inclusive of all applicable taxes, as per schedule of work attached, in absence of which the offer will not be considered.** It shall clearly indicate the price of each item covered in this specification. If the offer/quotation differs in any respect from the specifications, the bidder shall provide a list of such deviations in his quotation.
- 5.2 The prices quoted by the vendor shall be valid for at least three months from the date of opening of the tender.
- 5.3 GSTN and PAN shall be indicated in the quotation.
- 5.4 As per notification issued by the Ministry of Finance, Department of Revenue of Government of India, the goods (other than services) specified herein are exempted from GST to certain extent to including Department of Atomic Energy. Interstate transaction for R&D will attract IGST @ 5% only as per notification No. 47/17-Integrated Tax (Rate) dated 14.11.2017. Transaction within the state will attract Central Goods and Service Tax (CGST) @ 2.5% and State Goods Service Tax (SGST) @2.5% as per notification no. 45/2017- dt. 14.11.2017. This limits the total GST component to 5%. A GST exemption certificate approved by Competent Authority will be issued to the firm before dispatch of the items. Hence this limit may be considered while submitting the quotation.
- 5.5 Transportation and safe delivery of the items to BARC shall be done by the vendor.

6.0 **Payment terms & conditions:**

- 6.1 No advance or part payment is admissible. The full and final payment will be made within 45 days after completion of the job in all respects and submission of following documents:
 - a) Bill in duplicate. (Taxes need to be shown separately in the bill).
 - b) Advance stamped receipt.
 - c) GSTN & PAN number to be indicated in the stamped invoice.
- 6.2 Payment will be made **only** through ECS/Core Banking System. Hence, please furnish the bank details such as Bank's name & address, A/c No. and IFSC code in the invoice.

6.3 Income tax @ 2% will be deducted from your bill.

BARC is the final consumer of the goods/services procured and does not intend to make any outward supply. BARC will not avail the benefits of Input Tax Credit and hence, the goods can be supplied without quoting the GSTIN of BARC, Mumbai on the invoice. The invoices taxed under GST, as per rates applicable under the GST Schedule of Rates, shall be admitted for payment.

7.0 Work Completion Schedule

7.1 The job shall be completed within 4(Four) calendar months from the receipt of acceptance of the work order by you.

7.2 Time is the essence of the contract. If you fail to comply with this condition you shall be liable to pay compensation.

7.3 Penalty clause: Any delay in the completion of the job which is attributable to the vendor, is liable for a penalty @ ½ % of the work-order value per week (max. 5%).

7.4 In case extension in the job completion period is required, the vendor has to write to BARC & it should be approved.

8.0 CONFIDENTIALITY CLAUSE:

Confidentiality:

No party shall disclose any information to any third party concerning the matter under this contract.

Restricted information:

Categories under section 18 of the Atomic Energy Act, 1962 and “official secrets” under section 5 of Official Secret Act, 1923 – Any contravention of the above mentioned provisions by any contractor, sub-contractor, consultant, advisor or the employee of a contractor will invite penal consequences under the aforesaid legislation.

Prohibition against use of BARC’s name without permission for publicity

The contractor or sub contractor, consultant, advisor or the employees engaged by the contractor shall not use BARC’s name for any publicity purpose through any public media like press, radio, TV or internet without the prior written approval of BARC.

9.0 SECURITY INSTRUCTION:

Please indicate whether any of your relatives are employed in BARC or you or any of your employees were employed in BARC or any other units of DAE.

10.0 General:

10.1 The acceptance of the tenders/quotations will rest with AD,RG who does not bind himself to accept the lowest offer, and reserves to him the authority to reject any or all the tenders received without assigning any reason.

10.2 Quotation received after the due date and time shall be summarily rejected.

10.3 You may contact Shri Vilas G. Shelar, SO/E, at Telephone No. 25594260/25596226, for further clarifications.

-SD-

(K. Ramavarma)
EIC-P(M), RRMD

Encl: Schedule B of work

Schedule B

Name of work: Supply, Replacement of Hoist wire rope, Overhauling and providing Radio Remote Control for 5Te SWL EOT Crane, Apsara.

1	2	3	4	5	6
Sl. No	Particulars	Unit	Qty	Rate(Rs.)	Total cost (4 X 5)
1.0	Supply, Testing and replacement of 12.0mm dia. wire rope as per specifications	Metre	100		
2.0	Overhauling of drives of Main hoist, Long Travel and Cross travel including gear boxes, couplings, wheels, alignment, re-lubrication, changing of all oil seals, O-rings, gaskets, lub. oil, grease etc & replacement of damaged bearings and gears, as per specifications.	Lumpsum	1		
3.0	Servicing of Electrical terminal boxes, starters, control panels, drum controllers, checking and lubrication of motor bearings, as per specifications.	Lumpsum	1		
4.0	Supply of components, accessories, erection, testing and commissioning Radio Remote Control operation for the crane as per specifications and including -PVC insulated copper cable -RRC equipment -Interfacing panel -Supply and approval of design drawings -Selector switches -Necessary hardware and wiring	Lumpsum	1		
				Total =	

Taxes (if any) :

GST @ % :

Any other :

Other charges (if any) :

Total (including all of above) :
(In figures & words)

Date:

Authorised Signature & Seal of Vendor