

TENDER NOTICE

TENDER No. T/12/2011

PRICE AGREEMENT FOR REPAIR AND REWINDING OF ELECTRICAL MOTORS FOR TWO YEARS

The tender document in digital format may be purchased by Contractors experienced in the said works, from the Contracting Section, Finance Department, Haya Water.

Office location:	OOSC Building, 2 nd Floor, Madinat Sultan Qaboos
Office hours:	7.00 am to 12.30pm and 1.00 pm to 3.30 pm, Saturday to Wednesday
Period of sale of Tender Document:	27/03/2011 to 30/03/2011
Tender Fee:	RO: 25.000 (Rials Omani Twenty Five only) Non-refundable
Payment method:	Cash or Demand Draft or Wire Transfer in favor of Haya Water (DD/Wire Transfer shall be inclusive of banker's commission by the paying bank)
Bid validity:	90 days from date of submission
Bid Bond:	1% of bid value, in favour of Haya Water valid for 90 days from date of submission
Last date for submission of Tender Bids:	1200 Hrs on 10/04/2011

The Tenderer shall complete and submit the Form of Tender, Schedule of Prices and Undertaking Statement, in **hard copy**. All other document shall be submitted in **digital pdf format** in a CD or Flash Drive. A digital copy of the Form of Tender, Schedule of Prices and Undertaking Statement shall also be included along with other submissions.

In addition to the above, you are required to fill the form for Tender Purchase enclosed and submit it to Contract Section along with copy of Tender Board Registration and Commercial Registration.

FORM FOR TENDER PURCHASE

TENDER Title: PRICE AGREEMENT FOR REPAIR AND REWINDING OF ELECTRICAL MOTORS FOR TWO YEARS

Tender No. **T/12/2011** Receipt No: Fees: **R.O 25** Dated:...../..... /.....

- 1] Name of Company Wishing to Participate in the Tender
.....
- 2] Address of the Company (For Correspondence)
.....
- 3] Telephone No. along with ISD Code (For Correspondence)
.....
- 4] Fax No. along with ISD Code (For Correspondence)
.....
- 5] Email ID (Note that correspondence, circulars, amendments will be sent to this e-mail ID)
.....
- 6] Name of Contact Person with mobile Number if any
.....
- 7] Name of company representing the tendering company-if any.
.....
- 8] Enclose: 1. Tender Board Registration
 2. Commercial Registration

➤ **You came to know about this tender through (choose one)**

- Haya Website** **Invitation Letter** **Newspaper** **Other:.....**

Tender Received by..... ID.....
GSM No.....Signature

SCOPE OF WORK

1. INTRODUCTION

- 1.1. Oman Wastewater Services Company S.A.O.C herein after referred as Haya Water was formed in December 2002 to implement and operate the wastewater collection, treatment and effluent distribution system in the Governorate of Muscat.
- 1.2. Oman Wastewater Services Company S.A.O.C (Haya Water) intends to obligate the contract for repair and rewind of motors which are used in sewage treatment plants (STPs). The contractor shall fulfill HSE requirements, professionalism in execution of the work, high performance and document maintenance during the contract.
- 1.3. All documents issued to bidders shall be treated with strict privacy and confidentiality at all times.

2. GENERAL REQUIREMENTS

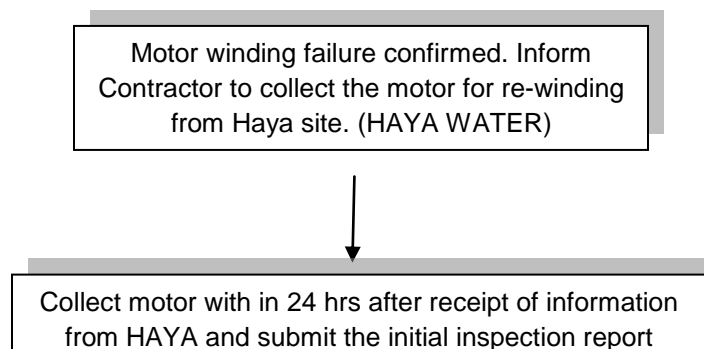
- 2.1. Contractor shall carry out the work with due diligence and according to Haya Water specifications or, in the absence thereof, according to good practice and standards of workmanship. Contractor undertakes that all works done will be fit for its intended purpose.
- 2.2. Haya Water may at all reasonable times inspect or test any part of the work and materials, tools or equipment and reject anything that does not comply with the contract. Contractor shall replace anything rejected at its cost.
- 2.3. Contractor shall ensure that the work is executed and completed in accordance with the contract. Any omissions, errors or other such deficiencies in the contract shall not relieve the contractor from his obligation to perform the work in accordance with standards which are generally accepted.
- 2.4. Contractor shall operate a fully equipped and adequately manned workshop in Muscat to carry out repair, overhaul, refurbishment and/or rewinding of weather proof and "Ex" rated motors designed for use in hazardous areas. For "Ex" type motor repairs, Contractor must have his personnel trained, certified and regularly attended refresher courses. Haya Water has the right to ask for documents or/and visit workshops to prove the above at any time.
- 2.5. Contractor shall, throughout the contract duration, maintain and have readily available all necessary resources and capabilities to provide the required Services. Contractor shall also ensure that all Services are carried out under the supervision of its competent personnel and are performed in accordance with appropriate safety and other standards acceptable to Haya Water.
- 2.6. Contractor shall identify a list of its personnel whom will be assigned to work with Haya Water to perform the requirements under the contract. CVs Shall be attached along with the list. Haya Water might interview the personnel to assess their seniority and experience.
- 2.7. All services/jobs performed shall be guaranteed by Contractor for a period of six (06) calendar months from the date of receipt and acceptance of repaired/overhauled motor at Haya Water site.
- 2.8. Contractor and his personnel while providing services at the site shall comply with all H.S.E requirements that are in place from time to time.
- 2.9. Contractor shall submit Inspection Test Plan, procedures and repair schedule and obtain Haya Water approval before commencing the job. All the works and services

carried out by the contractor will be witnessed and accepted by the Company's authorized representative. Initial and final inspection is to be witnessed by Haya Water representative.

- 2.10. Contractor personnel shall be well conversant with all related standards and shall be qualified and experienced to carry out repairs, refurbishment and rewinding of motors in accordance with the established Quality Control and Quality Assurance Procedures.
- 2.11.
- 2.12. Haya Water shall arrange to remove damaged motors from the site , transport them to Al Ansab and keep them ready to be transported by the contractor to its workshop for repair / rewinding.
- 2.13. Contractor to arrange transportation for collection of Motor/s within 24 hrs on written communication from Haya Water. Should repair of motors require urgent action, then work may commence first whilst the estimate is being prepared.
- 2.14. Contractor shall be responsible for any damage occur to the motors, from loading the motors at Haya Water workshop at Al Ansab for repair till unloading them back in Al Ansab Workshop after the repair.
- 2.15. Contractor shall rectify any damage caused to the motor or its parts thereof piece of equipment damaged during the transportation or elsewhere without any additional cost to Haya Water.
- 2.16. Contractor has to submit the initial inspection report within 3 working days after receipt of the motors.
- 2.17. Haya Water shall arrange to reinstall the repaired motor back at its intended location at site.
- 2.18. All drivers shall hold a current driving license issued by appropriate governmental department, shall have attended a formal defensive driving course, obtaining a pass certificate, and shall have completed a formal medical check up.
- 2.19. Repair and maintenance of motors shall be on a Call-off basis and the Contractor shall perform such Call-off in accordance with the contract terms and rates. The Call-off shall be affected within 24 hours from receiving of an official request.
- 2.20. Generally, Company's representative will discuss the nature and the scope of the intended SERVICES with the Contractor's representative, and agree to the time required to carry out the intended SERVICES. The value of the intended SERVICE shall be determined in accordance with the rates and prices contained - Compensation. Company shall then issue a CALL OF ORDER to proceed with works/services

REPAIR AND REWINDING OF ELECTRICAL MOTORS

FLOW CHART



3. REPAIR AND REWINDING OF MOTORS

- 3.1. On receipt of damaged motor at Contractor's work shop, following activities are to be performed:
 - Visual inspection of the motor.
 - IR and winding resistance measurement and recording.
 - Dismantling the motor for assessment of damage and define.
- 3.2. Contractor has to submit an "INCOMING INSPECTION REPORT" of the motor to the Haya Water, prior to start of repair. If deemed necessary Haya Water would nominate a representative to witness the damages as reported in "INCOMING INSPECTION REPORT".
- 3.3. Remove the defective winding and clean the internal laminated Stator Core slot, rewind the stator and apply suitable varnish. Clean all the mechanical parts, end frame, grease caps, rotor and bearings.

- 3.4. Inspect all bearings, end shield, rotor etc; record sizes; repair rotor, if needed. This may involve re-sleeving or metal spray, inspecting DE & NDE bearing and bearing housing, rotor shaft, re-sleeving the bearing housing and metalizing and machining the rotor shaft, if required
- 3.5. Replace drive and non drive bearings and re-assemble the motor. Replace both DE & NDE bearing with like to like new bearings, for equivalent make and type of bearings to be used, prior approval of Haya Water is required
- 3.6. Replace drive and non drive Oil Seal if exist.
- 3.7. Check the Thermostat and replace if faulty. (If exist).
- 3.8. Reassemble the motor.
- 3.9. Carry out dynamic balancing of rotor with cooling fan and drive coupling
- 3.10. Conduct motor no load test at rated voltage and frequency, observe and record motor temperature, voltage and current in all the phases and vibration levels (velocity and displacement in H/V/A plane at DE&NDE bearing) repaint the motor body as per applicable standard.
- 3.11. Submit the final detailed repair report.
- 3.12. Deliver the motor to Haya Water' workshop, at Al Ansab.

4. REWINDING OF EXPLOSION PROOF & NON SPARKING MOTORS

For rewinding of explosion proof & non sparking motors, following are the steps in addition to (applicable) steps already explained above.

- 4.1. Record winding specifications.
- 4.2. Remove all the stator coil windings.
- 4.3. Sand blasting the stator & other metallic parts of the motor.
- 4.4. Clean stator free of contamination & burrs.
- 4.5. Paint the stator core with Epoxy varnish paint.
- 4.6. Prepare stator slot liners with class F insulation – 155 degree C.
- 4.7. Prepare winding coils (Class F-insulation – 155 degree C)
- 4.8. Rewind stator
- 4.9. Connect windings as per manufacturer specification and data sheet of motor.
- 4.10. Test windings
- 4.11. Varnish & stove the windings.
- 4.12. Remove surplus varnish from all parts.
- 4.13. Test the windings again.
- 4.14. Assemble the motor.
- 4.15. Test the motor at no load & locked rotor. Record the values.
- 4.16. Run the motor at rated voltage and monitor and record temperature rise and vibration level.
- 4.17. Paint the motor with corrosion resistance paint.
- 4.18. Carry out final inspection of the motor.
- 4.19. Deliver the motor to Haya Water workshop, Al Ansab.

5. OVERHAULING OF EXPLOSION PROOF & NON SPARKING MOTORS

For overhauling of explosion proof & non sparking motors, following are the steps in addition to (applicable) steps already explained above.

- 5.1. Clean the windings with suitable cleaner.
- 5.2. Varnish the winding & oven bake.
- 5.3. Clean the mechanical parts free of surplus varnish.

- 5.4. Dynamically balance the rotor (with fan if applicable).
- 5.5. Repair bearing housing, if needed. This may involve re-sleeving or metal spray.
- 5.6. Fit the new bearings.
- 5.7. Assemble the motor.
- 5.8. Check & record all the gaps in motor bearing / housing.
- 5.9. Test the motor at no load & locked rotor. Record the values.
- 5.10. Run the motor at rated voltage and monitor and record temperature rise and vibration level.
- 5.11. Paint the motor with corrosion resistance paint.
- 5.12. Carry out final inspection of the motor, and submit the final report.
- 5.13. Deliver the motor to Haya Water workshop, Al Ansab.

6. DYNAMIC BALANCING

- 6.1. Dynamically balance the rotor at motor's rated speed in accordance to ISO 1940 or VDE Gr. 2.5.
- 6.2. Include motor balance certificate and data in final report.

7. ROTOR SHAFT RUN OUT CONCENTRICITY CHECKS AND REPAIR

- 7.1. Check rotor for run out within + OR --- 0.02 MM.
- 7.2. Correct / repair rotor shaft by (metalizing, straightening and welding etc.)
- 7.3. Carry our dynamic balancing as above & submit detailed report and certificate of repair.

8. MOTOR END SHIELD SLEEVING AND MACHINING

- 8.1. Check and correct end shield spigot trueness by machining.
- 8.2. Rough machining of the bearing housing.
- 8.3. Insert the sleeve by press fitting.
- 8.4. Machine the sleeve to the desired tolerance to suit bearing installed.

9. MATERIALS / SPARE PARTS

- 9.1. Contractor shall provide all the consumables and/or spare parts required for the repair, overhaul, rewinding and refurbishment like Fan, Grease Nipple, Eyebolt, Fan cover, casing of the motor, terminal box / gas kit, all the rewinding wires, and accessories required for rewinding of motors. All consumables shall be new and comply with motor data and Haya Water recommendations. Any Material to be fixed shall first be approved by Haya Water.
- 9.2. Contractor shall provide the driving and non-driving end bearings and oil seals (where applicable).
- 9.3. Contractor shall supply all tools, materials and manpower required for the services.
- 9.4. Contractor shall supply and install thermostats for the windings of submersible pump motors for thermal protection.

10. STANDARD WORKING HOURS

- 10.1. Contractor normally shall be required to provide the services from Saturday to Wednesday, from 07:00 to 03:30. In urgent cases, Contractor shall respond to the emergencies calls within 2 hours from a written or verbal communication from Haya Water Representative.