Requesting Office: **Magalies Water Vaalkop Plant**	 **RFQ-100013713 &10013716**
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DATE ISSUED:27 Nove**mber 2020**

CLOSING DATE:07 December 2020

PLACE OF DELIVERY: Vaalkop Plant

For More information/query email: selinam@magalieswater.co.za or call 014 597 4636

Item No.	Description/Specification
1	Repair MV switchgear motor feeder 3,3KV Please see the attached scope of work **SCOPE OF WORK FOR PLANT 2C PUMP 8 & 9** **a) Testing of Current transformer for two Medium voltage motor feeders x 2 can only be tested onsite.** Manufacture: Electroresin Transformer Construction (PTY) LTD V: 3,6 KV/16KV RPC: 100A, STC: 13,7 KA, 3s Ratio: 100/5 Type: 3404 IL Rating: 10 VA Class: 10P10 Routine Tests: General 1) Verification of terminal markings and polarity tests. 2) Insulation test shall be made on the windings as specified as follows: - Power frequency tests on primary windings and measurements of partial discharges. - Power frequency tests on secondary windings and between sections of primary and secondary windings. - Overvoltage inter turn tests. Additional Routine Tests for Measuring Current Transformers - Tests shall be performed to verify limits of current error and phase displacement. Additional Routine Tests for Protection Current Transformers: Class 10 P - Tests shall be performed to verify limits of current error and phase displacement. - Tests shall be performed to verify limits of composite error. - Secondary winding resistance corrected to 75°C. Additional Routine Tests for Special Purpose Current Transformers: Class 10 P Routine tests shall be performed to verity and establish the following:

- Rated knee-point e.m.f.
- Exciting current.
- Secondary winding resistance corrected to 75°C.
- Turn ratios.

A magnetising curve shall also be provided to the End user for Class 10P current transformers prior to the running of pumps and above mentioned test report.

b) Supply, replace and wire the two motor protection relays with Micom relay P225 without optional cards x 2

The Contractor shall be responsible to calculate all relay settings. The settings shall be submitted to the End user for approval at least 2 weeks before the installation commences.

The settings shall be substantiated by calculation sheets and graphs where applicable.

The Contractor shall check that all protection relays and overload devices are properly set to protect equipment such as motors, cables and capacitors etc., before the system is energised or any motors are switched on. Where overload devices are overrated or the ranges of relays insufficient to protect equipment, the End user shall be informed and the equipment shall not be energised.

Load

Motor 400 KW, 86.6A, RPM 1490, 3.3KV, STAR, INSUL CL: F, S1
Capacitor 125 KVAR
ZORC Surge Suppressor

Isolator

400A

Fuse

160A

Vacuum Contactor

3,3 KV

c) Wiring in panels

1. In general all internal wiring in the cubicles shall be carried out in 600 V PVC insulated copper multi-strand conductors. If the internal ambient temperature of the cubicle is likely to exceed 50°C silicon rubber insulated stranded copper conductors shall be used. The minimum cross-sectional area for control circuits shall be 1,5 square mm and 2,5 square mm for load and CT circuits. The current carrying capacity of conductors shall be determined in accordance with the relevant codes and specifications taking the appropriate correction factors for ambient air temperatures, grouping and condition of use into account.
2. Where several conductors are used, these shall be neatly grouped and bound together in groups not exceeding 10 conductors and shall be arranged in neat vertical or horizontal rows or installed in PVC trunking with slotted sides. Wiring shall follow the board construction features as far as possible without the twisting or crossing of conductors.
3. No joints will be allowed in internal wiring, and all connections to busbars or earth bars shall be made with approved tinned copper cable lugs soldered or crimped to the ends of the conductors and bolted to busbars by means of cadmium-plated high tensile steel bolts and nuts provided with spring washers. Connections of conductors to equipment i.e. circuit breakers, isolators or contactors shall be made by a ferrule of correct size or by the soldering of the end of the conductor. Conductors connected to terminal blocks need not to be soldered or ferruled. Conductors terminating on meters, fuse holders and other

equipment with screwed terminals shall be fitted with pre-insulated lugs. The lugs shall be soldered or crimped to the end of the conductor. The correct amount of insulation shall be stripped from the end to fit into the terminal. Strands may not be cut from the end of the conductor. Crimping tools used shall be of the ratchet type and indent an identifying symbol on the terminal insulation.

4. All wiring is to be kept free and away from any exposed terminals or other uninsulated current carrying parts. Wiring shall also be kept free from metal edges and shall be protected where they cross metal edges. Grommets shall be installed in each hole in the metalwork through which conductors pass. Connections to equipment on swing doors shall be arranged so as to give a twisting motion and not a bending motion to the conductors.

5. Only wires of the same potential shall be grouped together and power control circuit wiring shall be in separate wiring channels. Wiring channels shall not be more than 60% full.

6. Wires shall be clearly marked at all termination points in accordance with the numbering of the board manufacturer's wiring diagram, by means of suitable markers.

7. Additional red cable markers marked "T" in white shall also be fitted on wires associated with trip circuits.

8. A maximum of two conductors shall be used per equipment terminal.

9. Unless otherwise approved the following insulation colours shall identify wiring:-

- Red phase of 3-phase circuits - red
- White phase of 3-phase circuits - white

Blue phase of 3-phase circuits - blue

- Live of single-phase circuits – red
- Neutral - black
- Earth - green/yellow
- Alarm circuits - orange
- AC control circuits - red
- DC control circuits - blue
- Instruments - - grey

10. The following test shall be carried out after the wring and testing of Current Transformers and Electrical protection relay, but not limited to the below.

- Primary injection testing
- Insulation Resistance test

11. The detail drawings shall be supplied with the changes

SERVICE PROVIDER:

- CIDB Grading: 1EB or 1EP
- The work shall be carried out by a person with at least ORHVS and or Medium voltage certification (MQA or accredited institution) and or Electrical Protection technician from an accredited institution

STANDARDS:

- The national and international standards shall be followed as well as the Original Equipment Manufacturer (OEM) specifications and standards.

PRODUCT LEAD TIME/ DELIVERY:

- Supplier to state expected equipment lead times. Letter from Original Equipment

	• Manufacturer (OEM) or supplier. +/- 2 month **GURANTEE/ WARRANTY** • The warranty shall cover faulty materials and workmanship on a carry-in basis for 12 months from the time the item was commissioned. **SITE BRIEFING** • Compulsory, date will be provided **SHE SPECIFICATION:** SHE file shall be compiled and submitted to Magalies water 7 days prior to onsite work commencement for approval/disapproval by end user & SHE department and kept onsite during the duration of the work which shall consists of the following items: • Baseline SHE Risk Assessments for work to be undertaken. • Method statement for work to be undertaken. • Proven competence of ability to conduct work (includes competence declaration, competence certificates, affiliations, testimonials, relevant standards and reference). • Organogram, CV's, Identity document and qualifications of service provider employees or contractors on site. • SHE training (includes induction, awareness training, as necessary while operating on Magalies Water premises), induction takes about 2 hours. • Provision and use of personal protective equipment. • Nonconformity/ Incident/ Accident/ Near-miss reporting requirements. • Covid 19 measures plan • Report to the end user number of employees on site and submit an attendance register. **<u>Compulsory site Briefing</u>**: Place : Vaalkop Water Treatment Plant Date : 03 December 2020 Time : 11H00
2	Repair MV switchgear Incomer 11KV **<u>SCOPE OF WORK FOR MAIN SUB ESKOM INCOMER 1 ELECTRICAL PANEL</u>**

a) Supply, replace the electrical protection relays (Over current and Earth fault) with Micom relay P122 x 1
Micom P122 Overcurrent relay - P122B00Z112EC0 P122
P122 Overcurrent Relay
P122-ERTH_B -0.01 - 8 IN, nom
P122-VTRA_0 - Not used
P122-ADOP_0 - Not used
P122-PSUP_Z - 24 - 250 Vdc / 48 - 240 Vac 24 - 250 Vdc / 24 - 240 Vac
P122-COMM_1 - MODBUS
P122-LANG_1 - English / American
P122-HARD_2 - Phase 2 with standard display
P122-SOFT_EC - Software version
P122-MOUN_0 - Mounting Options : door

- The Contractor shall check that all protection relay is properly set to protect equipment, the set point shall be obtained from the old one and Eskom Incomer no. 2 before the system is energised.

b) CT'S Functional Tests x 1 on Eskom Incomer no. 1

- **The CTs** connected to the protection relay shall be tested, and the Contractor shall provide the following results for all CTs:
  - Magnetizing curves.
    - Ratio tests (Primary and Secondary).
    - Insulation resistance tests.
    - Resistance tests.
    - Polarity tests.

c) Site Acceptance Testing (SAT) x 1 on Eskom Incomer no. 1
Site Acceptance Tests shall be conducted to verify correct functioning of the installed control and protection system, and shall include:
1) Relays

- Relay function tests shall include: secondary injections on the relay to:
  - ensure the relay is tripping during fault conditions,
  - ensure the relay is programmed and configured correctly,
  - ensure the relay is tripping the breaker,
  - wiring is done properly**.**

2) Indications

- Indication tests shall include switching on/off of the indication to ensure status are configured for the correct indication.

3) Circuit breaker tests

- Circuit breaker tests includes: speed test to check tripping time of the breaker.

d) Supply motor protection relays a Micom relay P225 x 1

SERVICE PROVIDER:

- CIDB Grading: 1EB or 1EP
- The work shall be carried out by a person with at least ORHVS and

or Medium voltage certification (MQA or accredited institution) and or Electrical Protection technician from an accredited institution

STANDARDS:

- The national and international standards shall be followed as well as the Original Equipment Manufacturer (OEM) specifications and standards.

GURANTEE/ WARRANTY:

The warranty shall cover faulty materials and workmanship on a carry-in basis for 12 months from the time the item was commissioned.

PRODUCT LEAD TIME/ DELIVERY:

- Supplier to state expected equipment lead times. Letter from Original Equipment Manufacturer (OEM) or supplier. +/- 2 month

SITE BRIEFING

- Compulsory, date will communicated

SHE SPECIFICATION:

SHE file shall be compiled and submitted to Magalies water 7 days prior to onsite work commencement for approval/disapproval by end user & SHE department and kept onsite during the duration of the work which shall consists of the following items:

- Baseline SHE Risk Assessments for work to be undertaken.
- Method statement for work to be undertaken.
- Proven competence of ability to conduct work (includes competence declaration, competence certificates, affiliations, testimonials, relevant standards and reference).
- Organogram, CV's, Identity document and qualifications of service provider employees or contractors on site.
- SHE training (includes induction, awareness training, as necessary while operating on Magalies Water premises), induction takes about 2 hours.
- Provision and use of personal protective equipment.
- Nonconformity/ Incident/ Accident/ Near-miss reporting requirements.
- Covid 19 measures plan

	• Report to the end user number of employees on site and submit an attendance register. **Compulsory site Briefing:** Place : Vaalkop Water Treatment Plant Date : 03 December 2020 Time : 11H00

1. SUBMISSION OF QUOTATIONS

RFQ Number must always be stated on the quotation.

Quotations should be submitted on or before the Request for Quotation Deadline Date @12H00 to the email below:

Email: selinam@magalieswater.co.za, procurement@magalieswater.co.za

2. SELECTION OF QUALIFYING QUOTATION

The selection of the qualifying quotation will be at Magalies water's sole discretion.
Magalies Water is under no obligation to accept any particular Quotation

3. EVALUATION

The quotation shall be evaluated for responsiveness as follows:-

3.1 MANDATORY REQUIREMENTS:

3.1.1 Submit a Valid certified B-BBEE Certificate/ Certified Sworn Affidavit
3.1.2 Completed and signed Declaration of Interest Form (SBD4)
3.1.3 State CSD Vendor number on the quotation
3.1.4 Quotation should state the physical address & contact details
3.1.5 The quotations will be evaluated in terms of the PPPFA using the 80:20 Preference point systems.
* **NB** All non-responsive bids will be rejected.

4. SPECIAL TERMS & CONDITIONS

4.1 Quotations received after the closing date will not be accepted.
4.2 All costs to be included in the quotation.
4.3 Delivery must take place at the specified place.
4.4 Quotations validity should be clearly stated on the quotation.

***NB** Suppliers must be Tax Compliant on National Treasury Central Supplier Database at the time of the submission .**Non- Tax compliant suppliers will not be considered**

GENERAL TERMS AND CONDITIONS OF PURCHASE FOR DIRECT PURCHASE ORDERS

1. Magalies Water must be notified in writing immediately if part or the whole of the order cannot be executed by the date stated in the order or any agreed variation thereof.
2. Delivery/Advice Notes quoting the relevant Magalies Water order number must accompany the goods/services.
3. An invoice in accordance with the order shall be delivered/posted to the address indicated in the order.
4. The word "Order" and the number allocated to the order 45……..by Magalies Water shall be quoted by the supplier on all correspondence, documents and packaging.
5. The risk of the goods shall remain with the supplier and shall only pass to Magalies Water after official written Magalies Water acceptance of the relevant Delivery Note.
6. Goods will only be received as regards to number and condition of packages. Inspection for compliance with Magalies Water requirements of the goods will take place within ten (10) days of delivery after which it will be accepted or rejected the risk and expense of the supplier until removal thereof.
7. Payment will be made within 30 days of date of statement and the acceptance of the goods by Magalies Water.
8. If the supplier fails to deliver the goods or render the service on or before the dates stated in the order, Magalies Water may reject such goods or service provided that ten (10) days' notice by telephone (to be confirmed in writing) has been given to the supplier.
9. Should the supplier fail to remedy the defective goods or service within ten (10) days Magalies Water may elect to cancel the order, return the defective goods and purchase the goods or acquire the service from another source. The supplier shall be liable for any additional cost
10. Only change in Value- Added Tax subsequent to the order date shall be for Magalies Water's account. No other variation in cost shall be for Magalies Water's account unless provided for in the quotation or tender and accepted by Magalies Water in writing
11. The order shall in all respect be construed in accordance with the laws of the Republic of South Africa and any competent South African court shall have jurisdiction in all disputes arising between the parties in regards thereto.
12. The supplier shall not assign or cede the order or any part thereof to any other person/organization without the written agreement of Magalies Water
13. The supplier undertakes to comply with the provisions of Section 10and 22 of the Occupational Health and Safety Act. 85 of 1993, insofar as they may be applicable.

14. **THESE CONDITIONS OF PURCHASE ARE THE ONLY CONDITIONS APPLICABLE TO THIS ORDER UNLESS OTHERWISE STATED AND REDUCED TO WRITING**