SWITCH GEAR SERVICE AND MAINTAINNANCE

SAFETY MEASURES AND REQUIREMENTS

i) A thorough site risk assessment to be done before commencement of work.

ii) All personnel involved in the job to be taken through safety induction for familiarization with the scope of work and the risks involved.

iii) A risk assessment board to be availed on site furnished with the permit to work, risk assessment form, hot work permit and job procedure.

iv) Ensure all electrical connections have been isolated and a lock out, try out and tag out procedures have to be followed before taking over the plant for the job.

v) A tool box talk to he held before commencement of every shift to highlight on the new risks encountered or expected and how to mitigate them.

vi) A person in charge of safety to be identified and be known to all the personnel during every shift.

vii) A first aid kit to be availed on site at all times and a shift first aider identified.

viii) All personnel shall wear the mandatory PPE at all times and ensure use of other relevant PPE depending on the nature of work and condition of the work site.

ix) Housekeeping to be done at every stage of work and thoroughly at every close of shift.

TOOLS REQUIRED

i) Vendor to provide his/her own tools during service

EQUIPMENT (TATA TO PROVIDE)

i) Trolley

CONSUMABLES REQUIRED (TATA TO PROVIDE)

i) Cotton rags

ii) Cable lugs

POWER STATION SWITCH GEARS SERVICE

I. INTRODUCTION:

TATA Chemicals Magadi (TCML) is seeking contractor proposals to perform preventive maintenance, inspections, testing, and training, on the facility's existing electrical distribution switchgear. This is a one-time service visit. Bidders are asked to schedule their visit within working hours 8.00a -5.00 pm week days within the period given. All proposals will be evaluated on the Lowest Priced and Technically Acceptable basis. Technical acceptance evaluation will be based on vendor credentials and work plan. Contractors must submit with their proposals a letter supporting the contractor experience with the associated electrical distribution system as noted in the equipment description within this work statement. Proposals must be presented in a firm fixed price, with itemized costs for all labour, equipment mobilization and travel expenses. The work plan must provide projected completion time and dates for all site work. All cost proposal packages are due to PROCUREMENT TATA CHEMICALS MAGADI.

II. **PROJECT REQUIREMENTS**:

i. Contractor shall provide all supervision, qualified labor, tools, test equipment, noted materials,

ii. . All personnel working in the vicinity of this electrical gear shall wear and /or use the appropriate Personal Protective Equipment (PPE) in performance of this work statement.

iii. Any questions or injuries shall be brought to the attention of the Safety Officer.

iv. Follow manufacturer specific maintenance and testing procedures, and general industry practices to ensure operational readiness of the buildings electrical switchgear.

v. Perform cleaning and testing on these systems following procedures and general operational requirements for this type of switchgear. The contractor shall include the TCML Engaged assigned electricians in all aspects of this site work.

vi. . This one-time service contract is for planned maintenance only.

vii. If any discrepancies are found that are not covered under this scope of work, then the contractor must provide the following: •

viii. Detailed report noting the discrepancy found • Bill of Materials (BOM) to include component name, quantity, part number etc.

ix. Contractor shall provide all supervision, qualified labor, tools, test equipment, etc.

III. DESCRIPTION OF EQUIPMENT TO BE SERVICED:

. Service includes inspection, testing and cleaning of the existing Automatic Transfer Switches (ATS). Switches are located at TCML power station and powered at 415/240 volts, 50 HZ.

. N/B For more information site visit is mandatory.

IV. SCOPE OF WORK:

i. Coordinate all the jobs on site.

ii. Prior to beginning any site work the contractor must follow TCML isolation Standard Operating Procedure (SOP) and schedule to reflect the planned work and sequence.

iii. The contractor must obtain written approval from the TCML facility Manager noting the planned servicing schedule.

iv. Correct any faulty, damaged, discolored, and worn components using site spares.

v. Provide a BOM to include part number for any noted deficiency found that cannot be corrected during this site visit.

vi. Note the faulty equipment or deficiency in a final service report.

vii. All follow-on repair action and material will be covered under a separate scope of work. At a minimum this service shall include the following:

A. Step-One, Visual Inspection:

1. Visual and Mechanical Inspection to ensure the proper operation of all factory and vender installed meters, breakers, remote power monitoring equipment associated with the switch gear.

2. Inspect physical, electrical, and mechanical condition including evidence of moisture or corona.

3. Inspect that all filters are in place, and the vents are clear.

4. Inspect that the working space is maintained in front of all the electrical gear per the IEE requirements.

5) Inspect that the electrical room is free from foreign articles not associated with the room.

B. Step-Two, Verify:

1. Compare the installed metering measurements with voltage and power readings from a True RMS meter. Make calibration corrections as necessary to ensure accurate voltage and power readings.

2. Verify the switchgear circuit breakers sizing match the drawings.

3. Verify the proper labeling of all the breakers in the switchgear.

4. Verify that the Post as-build drawings (electrical one-line) match the switchgear distribution.

C. Step-Three, Test/Clean/Correct:

1. Inspect anchorage, alignment, grounding for the equipment.

2. Test the system earth ground (25 ohms or less).

3. Perform infrared testing on all conductor connections, buss terminations. Only record found hot spots on a digital format for review.

4. Conduct an operational test of the system, observing automated transfer to and from generator power on each ATS unit, and automated opening and closing of the Bus-Tie breaker per design specifications.

5. Ensure that all components are operational, record noted discrepancies. Make the TCML aware of all components that are not functioning prior to shut down.

6) Perform Lock-out/Tag-out and ensure the system is de-energized before removing panel covers and exposing any electrical bus or cabling. Under no circumstances should the equipment be energized during the maintenance operation.

7. Rack-out breakers for inspection; perform function tests using external power, test trip units and settings. Replace any faulty battery, fuse, or switch.

8. Clean each compartment. Check for damage, excessive wear, or corrosion

9. Spot check and correct any loose components or connections.

10. Torque loose connections identified during the infrared test or during inspection. 11. Confirm correct operation and sequencing of electrical and mechanical interlock systems.

12. Use appropriate dielectric lubrication on moving current-carrying parts and on moving and sliding surfaces.

13. Correct any faulty, damaged, discolored, and worn components using site spares.

14. Exercise all active components. This includes racking the breakers out then back in. 15. Inspect mechanical indicating devices for correct operation.

16. Inspect power control transformers for physical damage, cracked insulation, broken leads, and tightness of connections, defective wiring, overload protection, and system condition.

17. Conduct a thorough safety inspection prior to removing locks/tags and re-energizing equipment. Upon restoration of power verify configuration and normal system operation.

18. Refer to the manufactures suggested recommendations for additional maintenance requirements, required or recommended. Conduct these accordingly.

19. Clean or replace any air filters present.

20. Make calibration corrections as necessary to ensure accurate voltage and power readings on permanently installed switchgear metering.

Deliverable Requirements:

i. The contractor shall provide one copy of a typed summary report within 30 days of site work statement completion.

ii. The report must be written in the English language. At a minimum the report must include the following:

A. Provide an executive narrative summary that provides an overview of work completed and immediate follow-up action required.

B. Provide a detailed report per equipment serviced that includes all findings, corrective measures taken, inspection/testing checklists.

C. Outline any discrepancies found and include photos of the problem and a narrative summary of the corrective action required

D. Provide a Bill of Materials (BOM) as necessary for any required repair parts

		TECHNICAL EVALUATION			
		Quantitative Technical Criteria Description	Tender Returnable Proof Format	Criteria Weighting	Criteria Sub Weighting
1	***Technical criteria***			**80%**	
	1	Your company must be certified and registered with the relevant authority.	Attach current Certificate	10%	
	2	The vendor MUST have done similar jobs (Installation, maintenance and servicing of switch gears	The bidder shall submit copy of completion certificates/ un-priced P.O. copies in support of above. If required purchaser may visit the one of bidder's client to verify the details submitted by the bidder in support of past experience as indicated above	30%	
	3	Show detailed preparation and execution work plan	Attach a detailed work schedule for the activities in scope (Gantt Chart with manning levels.	30%	
	4	Vendor site visit	Site visit by the vendor is mandatory	10%	
		Safety criteria		10%	
	4	Does your company have competent, trained, safety conscious, and insured personnel	Attach a valid WIBA for your staff	10%	

		Total	**100%**	

A minimum overall score of 70% will be used to deem the renderer technically acceptable and anything below 70% will deem the renderer technically unacceptable

FINANCIAL

DESCRIPTION	**QTY**	**UNIT**	**PRICE (KES) @**
TENDER FOR POWER HOUSE HV SWITCH GEAR SERVICE	1	LUMP SUM	
Mobilization and Demobilization cost	1	LUMPSUM	
SUB TOTALS			
VAT			
TOTAL			
Payment Terms			

Mandatory Site Visit on 19th July, 2017