



**SURAT MUNICIPAL CORPORATION**  
**WEST ZONE (RANDER)**  
**QUOTATION/CONSENT FORM**

<b>QUOTATION NO. DEPUTY COMMISSIONER /WZ/ 11 /2024-25</b>		<b>DATE: 10 /07 /2024</b>
Conducting "Electrical Safety Audit (ESA)" As per The Indian Electricity Rules-1956 & CEAR-2010 / 17 Of India, along with Team Of Electrical Expert(s) for West Zone Different Property of Surat Municipal Corporation.		
<b>ESTIMATED AMOUNT:---</b>	<b>EMD AMOUNT: Rs.5000.00</b>	<b>Tender fee: -----</b>
<b>Validity period : 120 Days</b>	<b>Agency Category : Manufacturer/Experience</b>	
Required Documents		
1	Experience Certificate	Yes
2	GST Registration Certificate	Yes
<b>TENDER AVAILABILITY</b>		
ISSUING AUTHORITY	Executive Engineer, West Zone(Rander), Surat	
ISSUING OFFICE	Administrative office, West Zone(Rander), Balasaheb Devras Road, Tadwadi, Rander, Surat	
INVITING AUTHORITY	Executive Engineer, West Zone(Rander), Surat	
Submission Date	Last date: 22/07/2024	Time : 17.00 P.M.
SUBMITTED To,	EXECUTIVE ENGINEER ADMINISTRATIVE BUILDING, WEST ZONE (RANDER), BALASAHEB DEVRAS ROAD, TADWADI, RANDER, SURAT	
<b><u>GST CLAUSE FOR CONSTRUCTION/ ERECTION/ COMMISSIONING/ INSTALLATION/ REPAIRS/ MAINTENANCE/ RENOVATION/ FABRICATION OF STRUCTURE INCLUDING BUILDING (MEANS ALL WORKS CONTRACT/ TURN KEY PROJECT/SUPPLY OF MATERIAL/GOODS)</u></b>		
<p>GST (Goods and service tax has come in existence from 1st July, 2017. Contractor / Successful Bidder is bound to pay any amount of GST prescribed by the govt. of India as per the terms of contract agreed upon during the course of execution of this contract.</p> <p>During the course of execution of contract, if there is any change in rate if GST (Goods and Service Tax) by the Government, the same shall be reimbursed/recovered separately by SMC. subject to the submission of original receipt/proof for the amounts actually remitted by the contractor/ successful Tenderer to the competent Authority along with a certificate from Chartered Accountant of contractor/ successful Tenderer certifying that the amount of GST paid to the government and the same shall be intimated/submitted/claimed within 30 (Thirty) days from the date of payment. Remittance of GST within stipulated period shall be the sole responsibility of the successful contractor/Tenderer, failing which SMC may recover the amount due, from any other payable dues with SMC and decision of Municipal Commissioner shall be final and binding on the contractor/ successful Tenderer in this regard. Further, the non-payment of GST to the government may lead to the termination of contract and forfeiture of security Deposit/Performance Guarantee Amount.</p> <p>If imposition of any other new taxes/Duties/levies/Cess or any other incidentals etc. or any increase in the existing taxes/Duties/Levies/Cess or any other incidentals etc. (Excluding GST) are imposed during the course of the contract, the same shall be borne by the successful contractor/Tenderer only, in no case SMC shall be liable for the same.</p>		
SIGNATURE OF ISSUING AUTHORITY		
SD/- EXECUTIVE ENGINEER WEST ZONE(RANDER) SURAT MUNICIPAL CORPORATION		

Executive Engineer  
West(Rander) Zone



Surat Municipal Corporation,  
West(Rander) Zone,  
Balasaheb Devras Road,  
Tadwadi, Rander, Surat  
Ph.(o)0261-2786181-82-83

**QUOTATION**

West Zone/Out/No.  
Date: /07/2024

To,

Sub :- Quotation for Conducting “Electrical Safety Audit (ESA)” As per The Indian Electricity Rules-1956 & CEAR-2010 / 17 Of India, along With Team Of Electrical Expert(s) for West Zone Different Property of Surat Municipal Corporation.

Gentleman,

Sealed quotation duly super scribed and returnable on or before Dtd.22.07.2024 (before 05.00pm) to the office of “Executive Engineer, Surat Municipal Corporation, West Zone, Surat is invited to carry out the following.

Sr. No.	Description	Location	Quote in Rs.(incl. GST)
1	1.1 Conducting Electrical Safety Audit along with team of expert (s) / Technical Assistant cum helper as per the relevant Indian Electrical Rules	West Zone Office	
		Drainage(old Zone) Office	
		Suman School, Diwali bag, Adajan	
		Sport Complex, A.M.Road, Adajan	
		School Children Hall, Nr. Gangeshwar Temple, Adajan	
		Senior Citizen Hall & Library, Nr. Ishita park, Adajan	
		Pal Community Hall, Nr.Rameshwar Residency , Pal	
		Bhatpor Community Hall, Bhatpor	
		Diwali Bag Community Hall, Adajan	
		Jahangirpura Hall, Nr. Dabholi Bridge	
	1.2 Preparation, printing, binding and submission of Electrical Safety Audit Report in three copies containing procedure, data, analysis and suggestions	Adajan Civic Center, Nr. Bhulkabhavan School, Adajan	
		Vividlaxi Library, Nr. Bumi Complex, Palanpor patiya	
		Gangeshwar Mahadev Library ,Nr. Gangeshwar Temple,	
		Jahangirpura(Virndavan) Library, Nr. Dabholi Bridge,	
		Pal Sankalit Ward Office, Nr. Pal Gam	
		Palanpor Sankalit Ward Office, Canal Road	
		Adajan Ward Office, Adajan- Pal Road	
		Rander Health Centre, Nr. Rander Bus Stop, Rander	
		Adajan Health Centre, Nr. Patel Pragati Hall, Adajan	
		Palanpor Health Centre, Palanpor Jakatnaka	
Pal Health Centre, Pal			
Variyav Tadwadi Health Centre, Variyav			
lcchapor Health Centre, lcchapor			
<b>Total Amount in Rs. including GST</b>			

**GENERAL TERMS AND CONDITIONS:**

1. The agency must visit the site before quoting the Rates.
2. Quotation once offered shall not be withdrawn by Vendor.
3. Quotation once accepted shall be binding to the Vendor/Contractor.
4. The rates quoted must include all taxes, duties/ levies, GST, (Goods and Service Taxes) freight, insurance, transportation, delivery and Loading unloading at the site etc Complete.
5. The decision of **Deputy Commissioner, West Zone, SMC** shall be final in respect of disputes what so ever arise.
6. Right to accept any or to reject any or all the offers without assigning any reason thereof is reserved by the competent authority of Surat Municipal Corporation. Surat.
7. Accordingly the contractor shall have to quote and submit within stipulated time limit.

8. Overall lowest bidder shall be taken for consideration. Conditional offer shall not be accepted.
9. An EMD of **Rs.2,000/-** in form of DD or Pay Order issued in favor of '**Commissioner, Surat Municipal Corporation**' and payable at Surat must accompany the bid.
10. All necessary safety measures and precautions (including those laid down in the various relevant Indian Standards) shall be taken to ensure the safety of men, materials and machinery on the works as also of the work itself.
11. The contract shall be constituted according to and subject to laws in India and state of Gujarat and under the jurisdiction of courts of Gujarat at Surat City only.
12. Successful bidder shall have to submit a Security Deposit for amount equal to Two percent (2.00%) of the contract price by a demand draft issued in favor of "Commissioner, Surat Municipal Corporation" and payable at Surat. If security deposit is not submitted within **10 days** from the date of the work order, a delay penalty at a rate of 0.065% of SD amount shall be enforced. Security deposit will be returned to the contractor after successful completion of the work.
13. The successful contractor shall have to bind in an agreement with SMC for the stated work. The contractor shall have to submit 3 non judicial stamp papers each of Rs.300/- for agreement, surety and undertaking respectively.
14. All the payments and deductions shall be made as per prevailing rules of SMC.
15. Time limit of the work is **120 days** from the issuing date of the work order. If the contractor fails to complete the work within the stipulated completion date for the work or he shall pay liquidated damages 0.2% of contract value per day of delay in completion or part thereof as the case may however, be subjected to a maximum of ten (10) percent of the uncompleted work.
16. **The sealed cover containing the offer shall reach to "Executive Engineer, Surat Municipal Corporation, West Zone, Surat" on or before .07.2024, 18.00 Hrs. The offer shall be submitted to Govt. Regt. A.D. or Speed Post only.**
17. The cover shall contain the name of the work, last date of submission and name and address of the agency.

## TECHNICAL DETAILS- ELECTRICAL SAFETY AUDIT

### **METHODOLOGY & PROCESS:**

- Detailed questionnaire or checklist or requirement relevant to the study shall be provided by SMC.
- Agency's team shall visit the **West Zone Different Property** to gather necessary data, to check installations, to understand operations and to measure required quantities.
- SMC shall provide access to the various departments / installations across the **West Zone**.
- Discussions with various stack holders of **Light Department, West Zone** on major findings and issues.
- Preparation and submission of the report.

### **CONSULTANT QUALIFICATION(S) & EXPERIENCE CRITERIA:**

- Expert must be Diploma Electrical Engineer with minimum 20 year of industrial experience / Must be Degree Electrical Engineer with minimum 15 year of industrial experience
- Have conducted minimum 3 ESA of any ULB / Industries

### **SCOPE OF WORK FOR CONSULTANT:**

- As per The Indian Electricity Rules-1956 & CEA Rules 2010/17
- Physical inspection of the **different property** with reference to applicable Indian standards, Indian Electricity Rules and other relevant codes of Reviewing the role of electrical safety in the total safety system.
- Review of protection devices / system of the electrical installation.
- Review of adequacy of cables, motors, etc. based on actual load current measurements and cable current carrying capacities.
- Review of electrical accidents to identify root cause of the accidents.
- To evaluate the earthing system (installation and maintenance) in the plant based on IS 3043 and to suggest recommendations.
- To evaluate the wiring work / methodology of each **different Property** of West Zone.
- Review of the electrical test records, evaluating the test results and to suggest recommendations as per applicable standards.
- To evaluate the potential electrical fire hazards in the **different property** electrical installation and to suggest fire protection measures as per applicable standards and Indian Electricity Rules.
- Review of the existing electrical / fire safety system as per the requirement of the applicable statutes and suggest suitable preventive measures.
- Any other related activity to carry out the electrical safety audit.
- It is the responsibility of the contractor to inspect the site before submission of

- quotation documents to know the full implication of the contract.

#### **Electricity Supply and Distribution net work:**

- Detailed examination of the existing energy use of the facility with break up.
- Measurement and analysis of demand and power factor, suggestions to reduce the demand and improve the power factor.
- Performance evaluation of motors and pumps to identify under/over loading of motors.
- Study and examination of use of electric energy, cost balance with break up.
- Study on Metering system and suggestion for improvement.
- Energy distribution Break up on floor wise and department wise.
- Study on V, I, KW fluctuation and profiling, V & I imbalances in the network.
- Suggestion for reducing the network loss and to improve monitoring system.
- Performance evaluation of installed capacitors to ensure deliverance of desired output, level of losses, management of system power factor and operation of capacitors.

#### **Ductable, Split, Window and Cassette type Air Conditioners:**

- Evaluation of operating Coefficient of Performance of Precision Air Conditioner. Evaluation of specific energy consumption of precision Air Conditioner. Identification and suggestions for performance improvement and energy saving potential.
- Estimation of actual tonnage and comparison of actual parameters with the design values and corrective actions.
- Measurement and analysis of selected units (10% of units) 24 hours profile to suggest measures for energy conservation.
- Package Air Conditioners: Measurement of power consumption, temperature profile under different duct able units.
- Measurement of airflow, RH, Tin, T out, through cooling coil and energy consumption.
- Estimation of actual tonnage and Measurements of operating zone temperatures under each unit. Comparison of actual parameters with the design values.
- Feasibility of continuing with central Air-Conditioning system along with Split.

#### **Un-interrupted Power Supply (UPS) and Ventilation:**

- Measurement and analysis UPS loading, redundancy, operating efficiency, load pattern to suggest measures for energy cost reduction, Measurement and analysis of Harmonics(up to 30th ) as per standards (IEEE 519/IEC 61000 -3-2/3/4).
- Measurement and analysis of exhaust fan operating parameters. Usage pattern, suggest measures for energy conservation.

#### **Lighting (Internal and External):**

- Examination of the lighting system in all the areas, measurement of illumination levels, etc to improve lighting efficiency and optimizing lighting levels as per Standard and comparison published by Bureau of Energy Efficiency (BEE) Govt. of India Examination of the lighting system in all the areas.
- To look possibilities to reduce energy use by incorporating energy efficient lighting system, equipment's and lay out changes.
- Study of operating electrical parameters like voltage etc in the lightening circuits.
- Measurement of light intensity, lux levels at all locations study of type of lamps used; day time lighting, requirements and improvements etc.
- Collection of inventory data of fixtures/lux measurement and power consumption measurement at each location.
- Analysis and calculation of zone wise lux/lighting power consumption in term of KW /Fixture along with the diagrammatic representation.
- Recommendation for energy savings.

#### **Energy efficiency of the installed Diesel Generator Sets:**

- Review of operation & performance of DG sets through units generated, combustion Analysis and diesel consumption.
- Specific fuel consumption in terms of litre/kwh, litre/kvah and to suggest for energy conservation, Opportunity and suggestion for optimization.
- The entire recommendations would be backed up with techno economic calculation including the estimate investment period required for implementation of suggested measurements and simple

payback period. Measurement would be made using appropriate instrumentation support for lapses and continuous record of the operational parameters.

#### **Pumps and Motors:**

- Performance assessment of lift system, water pumping, storage and distribution systems.
- Measurement of Head/pressure, flow, power and determination of pump/motor loading based on measured parameters.
- Exploring the energy conservation option (ENCON) in water pumping system. All saving and recommendation will be backed by detail calculation providing the technical details of each recommendation.

#### **Others:**

- The power measurements (I, V, PF, KVA, and KW) of all motors will be studied for possible energy savings opportunities by the application of following items.
  - a. Possibility of on /off control
  - b. Interlocking
  - c. Downsizing motors
- Any other existing system not mentioned above.
- Any other Electrical system available will be under the scope of the Energy Audit and Energy Audit of the above system also to be carried out.
- Energy Conservation Measures having payback of less than 2 years will be given in the report.

#### **The scope of Safety Audit shall include but not limited to:**

- Study of existing safety measures, procedures and system for controlling electrical hazards as per standard and suggest for further measures in case of any gap.
- Preparation of Single Line Diagram (SLD) of electrical installation from Transformer / DG to load centre and to submit hard and soft copy.
- Preparation of earthing layout for substations and load centres. The earth resistance testing shall be carried out to measure the earth resistance on all earth pits and its compliance with respect to Indian electricity Rules shall be verified. The continuity of earth strip or conductor from the earth pit to the earth terminal of the respective electrical equipment shall be checked and verified.
- Identification of any unbalancing of loads in the load centers, transformers, HT & LT panels etc. shall be identified with the help of measuring equipment.
- Checking of lift for passenger movement and passenger safety testing including testing of door safety, alarms, Overload protection and Automatic Rescue Devices etc and gaps if any shall be identified and indicated in the report.
- Physical inspection of the sources of power supply like transformers, substation equipment, DG set, UPS, AC and associated equipments shall be done with reference to applicable Indian Standard, Indian Electricity Rules and other relevant code of practice.
- Identification of electrical hazards and checking of protection devices in upstream and downstream switch gears.
- Checking the lightning protection system and to ensure that lightning arrestors are connected to two isolated earth pits. These pits should not be connected to electrical system earth.
- Checking the illumination level in all areas and identify the gap if any as per standard.
- Checking the provision of danger sign boards indicating the voltage at a prominent location of electrical installation.
- Checking the provision of fire alarm systems.
- Check the provision of proper ventilation of electrical panel rooms, UPS and battery rooms etc.
- In addition to above, checking for any shortfalls in the existing electrical systems which impact on human and fire safety.

#### **Final Recommendations & Deliverables:**

- Full description and figures if required.
- Method of implementing the proposal like short term and long term recommendations.
- Cost benefits analysis and Economic Feasibility. Any other works required to complete the work successfully shall be done by the contractor at their cost.

SD/-  
Executive Engineer  
West Zone  
Surat Municipal Corporation

Seal & Signature of the Contractor