

BID NOTICE

Chief General Manager (IT), on behalf of Maharashtra State Electricity Distribution Company Limited (the Employer), hereby invites sealed bids from eligible bidders for **“Tender for Implementation of Substation Monitoring System for 33/22/11 kV substations and switching stations across MSEDCL”**. Entire bidding document is available on MSEDCL e-Tendering Website <http://etender.mahadiscom.in> as per date indicated below. Any changes in the Bid Schedule, corrigendum etc. shall also be notified via MSEDCL’s website. Prospective bidders are therefore requested to regularly check the website for any updates.

Calendar of Events Event	Date and Time
Tender Document Sale/ download	03.07.2019
Date and time of Pre-bid Meeting	18.07.2019 at 15:00 Hrs.
Due date and time of submission of Bids	02.08.2019 at 17:00 Hrs.
Date of Technical Bid Opening	02.08.2019 at 17:15 Hrs.

Tender Fee: Rs. 10,000/- Plus 18% GST via online payment only (Non-Refundable)

Bid Security: The bid must be accompanied with Bid Security (EMD) for an amount in Indian Rs.3,30,64,521 /- (Rupees Three Crore Thirty Lakh Sixty Four Thousand Five Hundred And Twenty One only) by way of **online payment** through e-tendering website or be **in the form of a demand draft or an unconditional Bank Guarantee** from any Nationalized / Scheduled Bank in favour of Maharashtra State Electricity Distribution Company Limited, payable at Mumbai, **if bidder bids for all 16 Zones**.

If bidder bids **for less than 16 Zones then EMD is to be submitted offline** in form of a Demand Draft or an Unconditional Bank Guarantee from any Nationalized / Scheduled Bank in favour of the Maharashtra State Electricity Distribution Co. Ltd., payable at Mumbai as mentioned in details in Tender Document.

Zone wise Bid Security:

Option is given to bidders for quoting Zone wise, accordingly Zone wise EMD will be accepted as per below table. For eg. if the bidder is opting for Kalyan & Pune Zone out of 16 Zones then the bidder has to submit the bid security of total Rs.7,85,172 + Rs.12,80,312 =Rs.20,65,484.

Zone Name	EMD (in Rs.)
AURANGABAD	22,25,386
JALGAON	30,08,363
LATUR	30,15,584
NANDED	21,08,530
BHANDUP (U)	18,84,767
KALYAN	7,85,172
KOKAN	6,53,944

NASHIK	41,39,216
AKOLA	18,40,340
AMARAVATI	17,08,298
CHANDRAPUR	9,30,524
GONDIA	6,38,864
NAGPUR	19,94,507
BARAMATI	43,40,925
KOLHAPUR	25,09,789
PUNE	12,80,312

Zone wise EMD is to be submitted offline in form of a Demand Draft or an Unconditional Bank Guarantee from any Nationalized / Scheduled Bank in favour of the Maharashtra State Electricity Distribution Co. Ltd., payable at Mumbai as mentioned in details in Tender Document.

QUALIFICATION CRITERIA:

The bidder (individual or members of Consortium collectively) should meet the Qualification Criteria as mentioned in below table:

Sr. No.	Type	Description	Evaluation
1	Definition of Bidder	<p>1] Bidder: The bidder can be an individual organization or a consortium of maximum two (2) organizations registered in India under companies Act 1956 or Companies Act 2013, or Firm registered with Registrar of firms in India who fulfils the eligibility criteria.</p> <p>Lead Bidder/ Lead Consortium Member: In case of consortium, one of the consortium members responsible for performing key components of the contract shall be designated as Lead Bidder. Evidence of this authorization shall be provided by submitting a power of attorney signed by legally authorized signatories of all consortium members along with the bid.</p> <p>The lead bidder shall have a registered office and operations in India for at least one year prior to submission of the bid. Also each member of consortium shall have registered office in India.</p> <p>2] The Bidder (individual/ all members of consortium) shall have a valid PAN and GSTIN Number if applicable.</p>	<p>1] Certificate of Incorporation issued by Registrar of Companies or Article of Association or certificate issued by Registrar of Firms</p> <p>2] Copy of relevant certificates indicating PAN number, GST registration number (GSTIN).</p>

		<p>3] The Bidder (individual/ all members of consortium) should not have been blacklisted or barred by any of the Government/Public Sector Undertaking (s) (PSUs), Regulatory Agencies and private organizations.</p>	<p>3] Undertaking signed by its Authorized Signatories that bidder (individual/ all members of consortium) is not blacklisted.</p> <p>In case of consortium, each member should submit separate undertaking.</p>
2	Experience in implementation	<p>The Substation monitoring system /SCADA system should have been implemented by bidder in at least as many number of sub-stations as mentioned in table-A for Zones for which the bidder has quoted. The experience should be of power distribution/transmission companies in India from Year 2012-13 and onwards up to the last date of tender submission.</p> <p>Experience of Projects implemented on commercial basis will only be considered. Free pilot projects experience will not be considered.</p>	<p>Documentary evidence such as LOA/PO/WO or work completion certificates from clients preferably with contact details of clients.</p> <p>The references should indicate client name, scope of work, project start date and date of completion in all respect.</p>
3	Financial Strength	<p>The bidder should have average annual financial turnover of at least the value (in Rs. Crore) as given in table- A for the Year 2015-16, 2016-17 and 2017-18 for Zones for which the bidder has quoted.</p> <p>Net Worth for the each of the last three Financial Years should be positive.</p> <p>Net worth means the sum total of the paid up capital and free reserves (excluding reserves created out of revaluation) reduced by aggregate value of accumulated losses (including debit balance in profit and loss account for current year) and intangible assets.</p>	<p>1. Copy of the Audited Annual financial statements, Balance Sheet and P&L Account for the respective financial years.</p> <p>2. Net worth certificate duly certified by Chartered Accountant to be submitted as a proof of net worth.</p>

4	Employee Capability	Power Sector Experts (2 nos.)- Degree in Electrical Engineering with minimum 10 years of experience in Power Sector having knowledge of substation monitoring system/SCADA system. The bidder should submit detailed resumes with contact information for all experts as above who are proposed to be deployed in this project	Self-Certification from Authorized Signatory along with names of the experts Signed resumes of the employees
5	Quality Certification	ISO 9001:2008 or its higher version certification.	Copy of relevant Certificate

Table-A

Sr. no.	Name of Zone	Average annual financial turnover (in Rs. Crores)	Substation monitoring system /SCADA system implemented in number of substations
1	AURANGABAD	6.68	11
2	JALGAON	9.03	15
3	LATUR	9.05	19
4	NANDED	6.33	13
5	BHANDUP (U)	5.65	5
6	KALYAN	2.36	3
7	KOKAN	1.96	4
8	NASHIK	12.42	19
9	AKOLA	5.52	9
10	AMARAVATI	5.12	9
11	CHANDRAPUR	2.79	5
12	GONDIA	1.92	4
13	NAGPUR	5.98	8
14	BARAMATI	13.02	21
15	KOLHAPUR	7.53	11
16	PUNE	3.84	9

Please note that to qualify for Experience in implementation (Appendix# 1 Qualification Criteria), highest nos. of substations amongst all the opted Zones and addition of Average annual Financial turnover of all the opted Zones will be considered as per above Table-A.

Please refer below examples for more clarity:

- 1) If the bidder is opting for Baramati Zone only out of 16 Zones then the bidder should have experience of implementing Substation monitoring system /SCADA system in total 21 nos. of substations and average annual financial turnover of the bidder should be Rs.13.02 Crore.
- 2) If the bidder is opting for Kalyan & Pune Zone out of 16 Zones then the bidder should have experience of implementing Substation monitoring system /SCADA system in total 9 nos. of substations and average annual financial turnover of the bidder should be Rs.6.2 Crore i.e. Rs.2.36 crore + Rs.3.84 crore.
- 3) If the bidder is opting for Aurangabad, Jalgaon, Latur & Nanded Zone out of 16 Zones then the bidder should have experience of implementing Substation monitoring system /SCADA system in total 19 nos. of substations and average annual financial turnover of the bidder should be Rs.31.09 Crore i.e. Rs.6.68 crore + Rs.9.03 crore +Rs.9.05 crore + Rs.6.33 crore.

BRIEF SCOPE OF WORK:

Supply, customization, installation, deployment and maintenance of necessary hardware and communication equipment at 3289 nos. of 33/22/11 kV Substations and switching stations across MSSEDCL to facilitate monitoring of Power Transformer, incoming and outgoing feeders, capacitor bank, station distribution transformer and substation DC auxiliary power supply in project area of MSSEDCL for the purpose of Monitoring, data logging and data analysis. Along with the monitoring of feeders, feeder control action is also required under ADMS (Automatic Demand management Scheme) for all feeders. One computer with required software, hardware, Table and Chair is to be supplied per sub-station compulsorily.

Proposed substation monitoring scheme shall monitor all parameters on real-time basis at the substation and feeder level, and provide the reports at the Substation, sub-Division, Division and Circle/Zone/Region/HO level.

Operations and Maintenance of the system for the period of 5 years. The required manpower to be deployed for Operations and Maintenance activity for smooth functioning of the system for the period of 5 years at Field and Data Centre/ Cloud at HO, Mumbai.

Following reports/monitoring is to be done.

- Daily Log sheets containing hourly and sub-hourly (user configurable intervals) Voltage, current, Demand, Power factor, energy, frequency etc.

Indicative List of electrical parameters to be captured are listed as below. Relevant additional parameters as per IS 15959 (Part 3): 2017 or as amended are also to be captured.

Analog Parameters	Symbol
Current R-Phase	I _r
Current Y-Phase	I _y
Current B-Phase	I _b
Current avg	I avg
Voltage Ph-Neutral (R-Phase)	V _{r-n}
Voltage Ph-Neutral (Y-Phase)	V _{y-n}
Voltage Ph-Neutral (B-Phase)	V _{b-n}
Voltage Avg	V avg
Voltage Ph-Ph (R-Phase - Y-Phase)	V _{r-y}
Voltage Ph-Ph (Y-Phase - B-Phase)	V _{y-b}
Voltage Ph-Ph (B-Phase - R-Phase)	V _{b-r}
Active Power	W
Reactive Power	VAR
Apparent Power	VA
Frequency	Freq
Power Factor	PF
Active Energy Import (Wh)	IWh
Reactive Energy Import-Lag (VARh)	IVARhI
Reactive Energy Import-Lead (VARh)	IVARhc
Apparent Energy Import(VAh)	VAhI
Active Energy Export (Wh)	EWh
Reactive Energy Export-Lag (VARh)	EVARhI
Reactive Energy Export-Lead (VARh)	EVARhc
Apparent Energy Export(VAh)	VAhE

The meters/ MFT/ MFM provided by the bidder should have accuracy class of 0.2S and should be of MSEDCL approved make.

- Energy Accounting
- Maximum and Minimum values of voltage, current and demand of feeders / sub-stations
- Computation of reliability indices such as SAIDI, SAIFI etc.
- Monitor Power transformer load, Oil Temperature , Oil level, Winding Temperature, OLTC position, differential relay and buchholz relay.
- For Monitoring of capacitor bank in sub-station following parameters are to be monitored:
 - Current, Voltage, Power Factor, Under Voltage indication, Over Voltage indication, Neutral current measurement (Healthiness of Neutral Displacement Relay)
 - Indication for taking bank in circuit depending on load condition.
 - Measurement of instantaneous values of MW,MVAR ,KV and Connected capacity of capacitor Bank.
- Change in circuit breaker (ON/OFF position) and relay status with time stamp along with “Fault” indication shown on SLD (with specific information about EF/OC/ differential relay/ buchholz relay).
- Status of substation DC auxiliary supply (including monitoring of voltage, current, power and energy)
- Facility to time synchronize the events and energy recordings with GPS clock
- Reporting of violations: Whether the feeders are tripped as per the planned outage schedule, Power transformer and feeder with load more than prescribed values, voltage variations etc. Violations, if any, should be tagged and report to be sent to the Control Centre with the reason (email and SMS alerts).
- To facilitate the concerned engineer-in-charge of the substations to view the status of their feeders and other vital parameters through web browser / mobile phone/ tablet.
- Integration with MSEDCL systems.
- Implement civil and electrical work required for all the supplied equipment including earthing
- Cyber Security-Bidder is required to take necessary cyber security measures.
- Bidder has to carry out all required work including supply and installation of necessary hardware/sensors for monitoring of above parameters. It is bidder's responsibility to replace/repair all existing sensors/ device required for monitoring of above parameters to meet the scope of work.

If SIM card based solution is proposed by bidder then Data enabled VPN SIM card will be provided by the MSEDCL monthly SIM charges will be borne by the MSEDCL.

Chief General Manager (IT),
MAHAVITARAN, Prakashgad, 4th Floor
Plot No G-9, A.K. Marg, Bandra (East),
Mumbai 400 051
Email : itprojects@mahadiscom.in