

**MINUTES OF THE PRE BID MEETING HELD ON 05-03-2019 AT 11.00 A.M.
CONDUCTED BY THE CHIEF ENGINEER, TWAD BOARD, VELLORE – AT CHIEF
ENGINEER's CHAMBER.**

Name of work: Providing SCADA arrangements for CWSS to Cuddalore Municipality, Bhuvanagiri & Parangipettai Town Panchayats and 812 Rural Habitations in Cuddalore District – **Phase - I** including maintenance for a Period of one year at free of cost and further 4 years on paid maintenance. **(Period of completion : 6 months)** Tender called for – Minutes of Pre Bid Meeting conducted - Regarding.

Ref : This office Invitation of Bid NO.14 /F.SCADA – Cudd. CWSS/ SDO/ CW/VLR /2019/ dt:14.02.2019.

Officers Present :

1. Er. K.Pandiaraj, B.E.,
Chief Engineer(i/c), TWAD Board,
Vellore.
2. Er.P,Sermuga Pandi., B.E.,
Superintending Engineer,TWAD Board,
Cuddalore – Villupuram Circle,
Cuddalore
3. Er. R. Vaithianathan M.E.,
Executive Engineer (M&B),
O/o the Chief Engineer, TWAD Board, Vellore.6
4. Er. Palanivelu, B.E.,
Executive Engineer, TWAD Board ,
Project Division, Cuddalore,
5. Er. S.K. Vadivazahan., B.E.,
Assistant Executive Engineer, TWAD Board,
Project Division, Cuddalore
6. Thiru. R.Manivannan , M.Sc.,
Accounts Officer,(i/c)
Internal Audit Wing,
Vellore.6.

Bidders Present:

1. Thiru. K. Sridharan, Director – Marketing
For M/s Trend Electric Co.Pvt.Ltd, 3/297, Foundry Road, off
RajivGandhi Salai,(OMR) Okkiyam, Thoraipakkam, Chennai –
600097
2. For M/s LRVi Engineering Solutions Private Limited, 103,
P.S.Sivasamy Salai, Mylapore, Chennai -60004,
3. Thiru. S. Venkatesan Representative
For M/s.GSV Micro Tech Pvt Ltd, 3/531, Kundrathur Road,
Mandanadapuram, Porur, Chennai – 600116,
4. Thiru. P.Marimuthu Assistant Manager
For M/s Eco Protection Engineers Pvt Ltd., Plat No:943,54th Street,
TVS Colony, AnnaNagar, West Extn, Chennai – 600101,

The Chief Engineer, TWAD Board, Vellore has conducted the Pre Bid meeting for the above scheme, welcomed all the participants who have attended the Pre- Bid Meeting. The queries raised by two bidders of (1) M/s Trend Electric Co.Pvt.Ltd, 3/297, Foundry Road, off Rajiv Gandhi Salai,(OMR) Okkiyam, Thoraipakkam, Chennai – 600097 and (2) M/s LRVi Engineering Solutions Private Limited, 103, P.S.Sivasamy Salai, Mylapore, Chennai - 60004 and the corresponding replies are furnished below.

S. No	BID Document / BoQ	Queries raised by the Firms / Contractor	Reply
1.		Level measurements at ELSR & Sumps using Ultrasonic level sensor & Transmitter shall to be changed to Hydrostatic level sensor & transmitters for the following technical reasons.	
a)	BOQ	The Ultrasonic Level Transmitter gives false signals on account of echo. When the water level reaches a certain height - ultrasonic sensor signal is not linear to the water level because of the resonance in the transmitted signal as long as a water flow into the tanks are turbulent.	BOQ prevails
b)	BOQ	The Water Supply distribution system pipe lines are normally laid below the ground level. During summer the water in the sumps, OHTs / ELSRs gets heated up and the water evaporates. The Sensitive transmitter hybrid electronics quiet often gets damaged because of condensation. Water vapour settles down on the electronics over a period of time resulting in short circuit & failure of the sensors as well. Even the chlorination of water sumps results in corrosive water vapours influencing the electronics failure and the Ultrasonic Level Transmitter goes faulty within a span of 6 - 8 months and the main purpose of measurement of water level is defeated.	BOQ prevails
c)	BOQ	c) The Ultrasonic Level Transmitters are normally mounted on the top of the tanks surface. The sensor is exposed to the open atmosphere and excessive heat accumulation in the electronic component compartment aggravates the failures.	BOQ prevails
d)	BOQ	Hydrostatic level sensors & transmitters immersed in the water tanks does not have the above hazards and shall provide stable readings over a longer period with less maintenance cost.	BOQ prevails
e)	BOQ	Cost impact – Hydrostatic level sensor & transmitter prices are on par with ultrasonic level sensor & transmitter and hence the cost impact is nil.	BOQ prevails

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2.	CI Sluice Valves & Butterfly valves operation using electric actuators shall be changed to Pressure & flow control diaphragm type valves for the following technical reasons.		
a)	BOQ	The Tender Specified Electric Actuators are required to control the flow rate & pressure according to the water line distribution requirements.	BOQ prevails
b)	BOQ	The electric actuators requires single phase power for control of smaller valve sizes and three phase power for control of large size valves. The 24 x 7 CWSS system requires un-interrupted quality power supply and is not made available in the water distribution network locations all the times.	BOQ prevails
c)	BOQ	The tender specified UPS supply is meant only for the RTU/PLC Panels and field instruments like pressure/level & flow meters. It is not possible to operate the Electric valve actuator during power failures. Due to this the very purpose of establishing continuous water distribution -monitoring and control function is defeated.	BOQ prevails
d)	BOQ	Diaphragm type Pressure / Flow control valves can easily be operated via 24Volts DC operated solenoid valves consuming very low power and uninterrupted operation.	BOQ prevails
e)	BOQ	The 20 years life cycle cost of the diaphragm type pressure / flow control valve is negligible compared to very high cost of electric valve actuators added to the power bill.	BOQ prevails
f)	BOQ	Cost Impact: Pressure / flow control diaphragm type valve can be adopted as per TWAD schedule of rates for flexible and economical water distribution.	BOQ prevails

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3.	Online UPS with 4Hours of power backup for all the RTU Locations shall be changed to solar photovoltaic panels of 1KW capacity with charge controller of 40Amps rating & 12V/75AH solar batteries 4Nos to provide 24Hrs back up with a life span of more than 5 years. The following are the draw backs in the UPS based backup system.		
a)	BOQ	The SCADA components require stable & quality power supply and is not guaranteed out of standard EB power supply in most of the rural remote locations resulting in component failures.	BOQ prevails
b)	BOQ	During power failure the self-dissipation of the inverter electronics consumes most of the back-up battery power.	BOQ prevails
c)	BOQ	Within four to six months the battery back-up time is reduced to less than 60 minutes due to very high discharge percentage level of the battery. The battery life shall be reduced from Three years to less than One year period.	BOQ prevails
d)	BOQ	The solar based power supply is more suited for the sensitive SCADA components and there by increases the life span with very less components failures	BOQ prevails
e)	BOQ	Cost Impact: Only the cost of the solar panels with standard accessories get added up marginally thereby aiding a stable and reliable power supply for the sensitive SCADA components.	BOQ prevails
4.	GSM – GPRS SIM modules using MQTT communication system specified in the tender shall be charged to redundant GSM – GPRS modem communication for the following technical reasons.		
a)	BOQ	In the MQTT technology the battery backup shall be drained rapidly and in case of communication failure SCADA controls & operation needs to be suspended.	BOQ prevails
b)	BOQ	By adopting redundant GSM – GPRS modems with two different network service providers the Communication failure problem is addressed and battery power is utilized only upon data transfers and enabling control features.	BOQ prevails
c)	BOQ	Cost Impact: Is negligible compared to the implementation cost of MQTT technology modems.	BOQ prevails
	The above mentioned four components if adopted shall drastically improve the SCADA system performance over the span of 5 years period with less maintenance cost for effective water distribution / Monitoring.		

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5.		With regard to qualification criteria the tender conditions specify financial turnover in all classes of civil engineering construction works only.	
a)	Bid document	Please be noted the tender is for SCADA works and not many tenders have been floated in the past of this nature and value (Rs.12.10 Crores). It would be fair to ask if the tenderer has completed 2 or more works of similar nature with the value of each works to the tune of 25% of the present tender value when equated to the 2018-19 price level for fair participation of competent Tenderers in this line of activity and no other financial condition shall be imposed.	Refer Section 1 - ITB under clause 4.5 Bid Conditions prevails
b)	Bid document	Civil contractors may not have the expertise and qualifications for carrying out this contract and SCADA specialist contractors may not have the civil engineering works qualifications as given in the tender. It would be even more appropriate if joint bidding clause is included in this tender.	Refer Section 3 - Conditions of Contract under F. Special Conditions of Contract under clause - 3 Bid Conditions prevails
6.	Bid document	The delivery and work completion time of 6 months specified in the tender shall be adequate only for the supply part and another 6 months time shall be required for erection and commissioning work. We request the chief engineer may extend the time period for work completion as 12 months as against 6 months mentioned in the tender. We request the chief engineer to extend the work completion time by another 4 to 5 Months as the time of 6 months for supply, erection and commissioning shall not be feasible	 Bid Conditions prevails

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7.		The power supply conditions in the rural areas where the SCADA system is being implemented is prone to voltage spikes, surges and fluctuations resulting in failure of sensitive SCADA components	
	BOQ	The UPS back up power shall be charged to solar based power back up system for clean power supply	BOQ prevails
8.		The electric valve actuators shall not work in case of power failures and have a high maintenance cost	
	BOQ	We purpose that the diaphragm type valve actuators can serve the purpose of both flow & pressure regulation and is operable using the solar based power backup system for effective water distribution and management	BOQ prevails
9	BOQ	Hydrostatic level sensor & transmitter shall be implemented in place of Ultrasonic level sensor & transmitter for error free display of water level in the sumps, ELSRs and OHTs. The Ultrasonic level sensors & transmitter are prone to frequency failures because of environmental conditions prevailing at the Sites.	BOQ prevails

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15/3/19
Chief Engineer, (I/c)
TWAD Board, Vellore - 6.

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