

Tender Enquiry No- TPSODL/OT/2021-22/001

Work Description - Rate Contract for Battery Charger and Battery

1.3 Calendar of Events : Further Revised Calendar of Events shall be as mentioned below: -

(a)	Date of sale/ availability of tender documents from TPSODL Website	From 08.05.2021 onwards
(b)	Last Date of receipt of Tender Fee for getting ARIBA link for bid submission	09.06.2021, up to 15.00 Hrs.
(c)	Date & Time of Pre-Bid Meeting (If any)	Not planned due to COVID-19
(d)	Last Date of receipt of pre-bid queries through e-mail, if any	14.06.2021, up to 17:00 Hrs.
(e)	Last Date of Posting Consolidated replies to all the pre-bid queries as received	18.06.2021, up to 17:00 Hrs.
(f)	Last date and time of receipt of Bids through ARIBA	23.06.2021, up to 15:00 Hrs.
(g)	Date & Time of opening technical bids & EMD	23.06.2021 after 17:00 Hrs.
(h)	Date & Time of opening of Price of qualified bids	Shall be intimated via web-site / Ariba

ANNEXURE-I: Schedule of Items: Revised Schedule of Items is as follows.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sr. No.	Description	Qty. (Q)	UoM	Ex. Work (In Rs.) A	GST (In Rs.) B	Unit Price with GST (In Rs.) A+B	Amount (In Rs.) Q x (A+B)
1	Battery Charger – All 24V Rating	124	No.				
2	24V lead acid Battery (100 AH)	126	No.				
3	48V lead acid Battery (100 AH)	2	No.				
4	24 V DC Ni-Cd Alkaline Battery with Battery Management System (100 AH)	126	No.				
5	48V DC Ni-Cd Alkaline Battery with Battery Management System (100 AH)	2	No.				
6	Battery Charger Controller for 48 V System	70	No.				
7	Battery Charger Controller for 24 V System	20	No.				

8	Installation and Commissioning of Controller System & establish communication with existing RTU/SCADA System for 48 V System	70	No.				
9	Installation and Commissioning of Controller System & establish communication with existing RTU/SCADA System for 24 V System	20	No.				

All other terms & conditions of the original tender document shall remain same.

Regards

Ch. Netaji Subudhi | DGM- Procurement & Stores


Mob +91 9437959751 | Web www.tpsouthernodisha.com

TP SOUTHERN ODISHA DISTRIBUTION LIMITED
(A Tata Power and Odisha Government Joint Venture)

Courtpeta | Berhampur | Ganjam | Odisha - 760 004

Note-This document does not require signature.


Technical specification for battery charger controller (24V or 48V)is mentioned below.

	TATA POWER SOUTHERN ODHISHA DISTRIBUTION LIMITED, BERHAMPUR		
	TECHNICAL SPECIFICATION		
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Doc. No	ENG-EHV-70-A	Eff. Date:16/06/2021	
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Prepared by:	Reviewed By:	Approved By:	Issued By:

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1.0	SCOPE	<p>This specification covers the technical requirements of design, manufacture, testing at manufacturer's works, packaging, forwarding, supply, installation and commissioning of controller at TPSODL sites. The scope includes supply of hardware/software required for integration with existing Sub-Station Automation System for remote monitoring of existing chargers over RS485Modbus (RTU) at TPSODL Grid site. The Scope also covers point to point testing of each site with TPSODL SCADA System.</p> <p>The solution consists of hardware with built in software that will accepts in the inputs from the existing system. The hardware shall have facility to take 8 digital inputs, 3 voltage signals and 3 current signals and also provide 4 configurable digital output contact. Bidder to consider suitable transducers as per the site requirement for taking Voltage and Current signals from the existing battery charger.</p> <p>It is not the intent to specify completely herein all the details of tech design and construction of material. However, the material shall conform in all respects to high standards of engineering, design and workmanship and shall be capable of performing in continuous commercial operation in manner acceptable to TPSODL, who will interpret the meanings of drawings and specification and shall have the power to reject any work or material which, in his judgment is not in accordance therewith. The offered material shall be complete with all components necessary for their effective and trouble free operation. Such components shall be deemed to be within the scope of Bidder's supply irrespective of whether those are specifically brought out in this specification and/or the commercial order or not.</p>
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2.0	APPLICABLE STANDARDS	<p>The equipment covered by this specification shall unless otherwise stated, be designed, manufactured and tested in accordance with the latest editions of the Indian/International standards and shall conform to the regulations of the local statutory authorities.</p>																								
3.0	CLIMATIC CONDITIONS OF THE INSTALLATION	<p>The material shall be suitable for following climatic conditions,</p> <table><tr><td>1. Maximum altitude above sea level</td><td>1,000m</td></tr><tr><td>2. Maximum ambient air temperature</td><td>50°C</td></tr><tr><td>3. Maximum daily average ambient air temperature</td><td>35°C</td></tr><tr><td>4. Minimum ambient air temperature</td><td>0°C</td></tr><tr><td>5. Maximum relative humidity</td><td>95%</td></tr><tr><td>6. Average number of thunderstorm days per annum (isokeraunic level)</td><td>70</td></tr><tr><td>7. Average number of rainy days per annum</td><td>120</td></tr><tr><td>8. Average annual rainfall</td><td>150cm</td></tr><tr><td>9. Earthquakes of an intensity in horizontal direction - equivalent to seismic acceleration of</td><td>0.3g</td></tr><tr><td>10. Earthquakes of an intensity in vertical direction - equivalent to seismic acceleration of</td><td>0.15g</td></tr><tr><td>(g being acceleration due to gravity)</td><td></td></tr><tr><td>11. Wind velocity:</td><td>300 km/hr, 200 km/hr and 160 km/hr.</td></tr></table> <p>Environmentally, some of the regions, where the work will take place includes coastal areas, subject to high relative humidity, which can give rise to condensation. Onshore winds will frequently be salt laden. On occasions, the combination of salt and condensation may create pollution conditions for outdoor insulators. Some places are in heavily industrial polluted areas.</p> <p>Therefore, Outdoor material and equipment shall be designed and protected for use in exposed, heavily polluted, salty, corrosive and humid coastal atmosphere. The design of equipment and accessories shall be suitable to withstand seismic forces corresponding to an acceleration of 0.1 g.</p> <p>The controller module shall be with conformal coating.</p>	1. Maximum altitude above sea level	1,000m	2. Maximum ambient air temperature	50°C	3. Maximum daily average ambient air temperature	35°C	4. Minimum ambient air temperature	0°C	5. Maximum relative humidity	95%	6. Average number of thunderstorm days per annum (isokeraunic level)	70	7. Average number of rainy days per annum	120	8. Average annual rainfall	150cm	9. Earthquakes of an intensity in horizontal direction - equivalent to seismic acceleration of	0.3g	10. Earthquakes of an intensity in vertical direction - equivalent to seismic acceleration of	0.15g	(g being acceleration due to gravity)		11. Wind velocity:	300 km/hr, 200 km/hr and 160 km/hr.
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4.0	<p>GENERAL TECHNICAL REQUIREMENTS</p>	<p>The solution consists of hardware with built in software that will accepts the inputs from existing system. The hardware shall have facility to take 8 digital inputs, 3 voltage signals and 3 current signals and also provide 4 configurable digital output contacts. The details of hardware as below.</p> <p style="text-align: center;">-</p> <ol style="list-style-type: none"> 1) Input Supply voltage: 18-80V DC (Suitable for 24V & 48V system), 2) Digital Inputs: 8 Nos 3) Digital Outputs: 4 Nos 4) Voltage Measurements: 3 Nos (Charger voltage, Load voltage, Battery Voltage) 5) Current Measurement: 3 Nos (Charger current, Battery Current, Load Current) 6) Communication Interface for integration: RS485, Protocol: Modbus (RTU) <p>The current measurement shall be carried out using existing shunts. The following critical alarms will be configured depending on availability of potential free inputs from the existing charger.</p> <ol style="list-style-type: none"> 1. Rectifier Fuse fail 2. Filter Fuse fail 3. Charger fail 4. Mains fail 5. Charger under voltage 6. Charger over voltage 7. Earth fault <p>Bidder to consider RS485~RS232 converter for integration with existing RTU system if required. The same shall be offer as optional item.</p>
5.0	GENERAL	

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5.1	General	Controller should be robust and will be mounted on existing panel. If any mounting arrangement will be required for proper fixing will be in vendor scope. All the wiring inside charger and requirement of electrical accessories will be in scope of Vendor. Any Hardware/software part required for RS485 communication will be in scope of Vendor. Bidder has to supply RS485 armored twisted pair communication cable (4C X 0.36 mm ² , armored) (for communication to RTU) of required length as per site requirement.
5.2	Packing	Bidder shall ensure that all the equipment covered by this specification shall be prepared for rail/ road transport (local equipment) and be packed in such a manner as to protect it from any damage in transit.
6.0	NAME PLATE AND MARKINGS	<p>The unit shall be provided with a name plate clearly visible and effectively secured against removal. The name plate shall be indelibly and distinctly marked with all essential particulars as per relevant standards along with the following:</p> <ul style="list-style-type: none"> i) Manufacturer's name ii) Month and Year of manufacture iii) Serial number and Type designation iv) Wattage capacity v) Rated voltage vi) Guarantee period. vii) Reference standard viii) Property of TPSODL
7.0	TESTS	All routine, acceptance & type tests shall be carried out in accordance with the relevant standards All routine & acceptance tests shall be witnessed by the purchaser/his authorized representative. All the components shall also be type tested as per the relevant standards.
7.1	Type Test	All the type tests should be conducted as per the relevant standards of controller
7.2	Routine tests	All the routine tests should be conducted as per the relevant standards of equipment supplied under this contract.

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7.3	ACCEPTANCE TESTS	All the acceptance tests (FAT & SAT) procedure shall be submitted by the bidder for necessary approval from TPSODL. as per the standard design and functionality required and will be witnessed and approve by TPSODL officials. - -	
8.0	TYPE TEST CERTIFICATES	The bidder shall furnish the type test certificates for the tests as mentioned above as per the corresponding standards. All the tests shall be conducted at CPRI/ERDA or any NABL accredited laboratory Type tests should have been conducted in certified Test laboratories during the period not exceeding 5 years from the date of opening of the bid. In the event of any discrepancy in the test reports, i.e., any test report not acceptable, same shall be carried out without any cost implication to the purchaser.	
9.0	PRE-DISPATCH INSPECTION	<p>The successful bidder shall submit one prototype samples for further testing and compliance as per specifications and getting approval before mass manufacturing.</p> <p>Equipment shall be subject to inspection by a duly authorized representative of the TPSODL. Inspection may be made at any stage of manufacture at the option of the purchaser and the equipment if found unsatisfactory as to workmanship or material, the same is liable for rejection. Bidder shall grant free access to the places of manufacture to the TPSODL representatives at all times when the work is in progress. Inspection by the TPSODL or its authorized representatives shall not relieve the supplier of his obligation of furnishing equipment in accordance with the specifications. Material shall be dispatched after specific MDCC (Material Dispatch Clearance Certificate) is issued by the Purchaser. Following documents shall be sent along with material:</p> <ul style="list-style-type: none">a) Test reportsb) MDCC issued by Purchaserc) Invoice in duplicated) Packing liste) Drawings, Manual, Datasheet & Cataloguef) Guarantee / Warrantee cardg) Delivery Challanh) Other Documents (as applicable)	
10.0	INSPECTION AFTER RECEIPT AT STORE	The material received at Purchaser’s store shall be inspected for acceptance and shall be liable for rejection, if found different from	
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		the reports of the pre-dispatch inspection/Test report/Defective material. (Please be specific of the team, the report to be submitted, same shall be forwarded to Automation Team)-
11.0	GUARANTEE	<p>Bidder shall stand guarantee towards design, materials, workmanship & quality of process/manufacturing of items under the contract for due and intended performance of the same, as an integrated product delivered under this contract. In the event any defect is found by the Purchaser up to a period of 60 months from the date of acceptance and one-month trouble free operation. Bidder shall be liable to undertake to replace/rectify such defects at his own costs, within mutually agreed timeframe, and to the entire satisfaction of the Purchaser, failing which the Purchaser will be at liberty to get it replaced/rectified at Bidder's risks and costs and recover all such expenses plus the Purchaser's own charges (@ 20% of expenses incurred), from the Bidder or from the "Security cum performance Deposit" as the case may be. In case the Controller fails within the guarantee period, the purchaser will immediately inform the bidder who shall take back the failed/ faulty part within next working day from the date of intimation at his own cost and replace/repair it within four days of date of intimation with a roll over guarantee.</p> <p>Bidder shall further be responsible for 'free replacement' for another period of THREE years from the end of the guarantee period for any 'Latent Defects' if noticed and reported by the Purchaser.</p> <p>Under guarantee/warranty period bidder shall also ensure to update the patches, Firmware and application software released time to time in the installed system. Same shall be submitted to TPSODL before implementation of the same for approval.</p>
12.0	PACKING	Bidder shall ensure that all the equipment covered under this specification shall be prepared for rail/road transport in a manner so as to protect the equipment from damage in transit. The material used for packing shall be environmentally friendly.
13.0	TENDER SAMPLE	Not Applicable.
14.0	QUALITY CONTROL	The bidder shall submit the offer Quality assurance plan indicating the various stages of inspection, the tests and checks which will be carried out on the material of construction, components during

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		manufacture and bought out items and fully assembled component and equipment after finishing. As part of the plan, a schedule for stage and final inspection within the parameters of the delivery schedule shall be furnished. The Purchaser's engineer or its nominated representative shall have free access to the manufacturer's/sub-supplier's works to carry out inspections.
15.0	MINIMUM TESTING FACILITIES	Bidder shall have adequate in-house testing facilities for carrying out all routine tests, acceptance tests as per Indian/International standards
16.0	MANUFACTURING ACTIVITIES	The successful bidder will have to submit the bar chart for various manufacturing activities clearly elaborating each stage, with quantity. This bar chart should be in line with the Quality assurance plan submitted with the offer. This bar chart will have to be submitted within 15 days from the release of the order.
17.0	SPARES, ACCESSORIES AND TOOLS	Recommended and mandatory spares to be supplied by the bidder, without any cost implication to TPSODL. In addition to spares, 1 no. of controller (of the same configuration) as spare needs to be considered for each 10 nos of controller supplied
18.0	DRAWING, TOOLS AND DOCUMENTS	<p>Following drawings and documents shall be prepared based on Purchaser specifications and statutory requirements and shall be submitted with the bid:</p> <ul style="list-style-type: none"> a) Completely filled in General Technical Particulars b) Controller schematic drawing c) Interconnecting schedule (ICS) d) Manuals e) MODBUS Mapping details f) Configuration Tools of the Controller on secondary media g) Communication Interface and accessories required for configuration of the controller. h) General arrangement DRAWING for Controller with battery charger and its associated equipment. i) Experience List, Performance certificate from utilities j) Type test certificates <p>After the award of the contract, four (4) copies of following drawings, drawn to scale, describing the equipment in detail shall be forwarded for approval</p>
Initiator		Approver



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		Sr. No.	Description	For Approval	For Review Information	Final Submission
		1.	Technical Parameter s			
		2.	GA Drawing			
		3.	Installation Instruction			
		4.	Transport/ Shipping dimension drawing			
		5.	QA & QC Plan			
		6.	Test Certificate s			
		<p>Bidder shall subsequently provide Four (4) complete sets of final drawings, one of which shall be auto positive suitable for reproduction, before the dispatch of the equipment. Soft copy (Compact Disk CD) of all the drawing, GTP, Test certificates shall be submitted after the final approval of the same to purchaser. All the documents & drawings shall be in English language. Instruction Manual (in English language) covering erection and maintenance instructions and all relevant information and drawings pertaining to the main equipment as well as auxiliary devices.</p> <p>Bidder shall supply Four sets of Configuration tool along with interface accessories and cables.</p>				
19.0	SERVICE LEVEL AGREEMENT	Services to be included during guarantee period: 1. Guarantee shall be for 60 months from the date of acceptance and one month trouble free				

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		<p>2. In case of any failure vendor shall report to site, within 24 hours of receipt of reporting of failure occurrence.</p> <p>3. Vendor shall provide replacement of faulty part/ equipment within 4 days, after the confirmation of the fact that the part/ equipment cannot be repaired at site within 48 hours.</p> <p>4. Vendor shall provide detailed root cause analysis of the fault within 15 days from the date of occurrence of the fault/ failure.</p> <p>5. Any spare part replacement, testing and its commissioning to be done by the vendor only, without any price implication to the purchaser.</p> <p>6. Vendor needs to provide life-cycle support and supplies to ensure necessary support in terms of services and spares for 15 years from the date of PO.</p>						
20.0	SCHEDULE OF DEVIATION	<p>The bidders shall set out all deviations from this specification, Clause by Clause in this schedule. Unless specifically mentioned in this schedule, the tender shall be deemed to confirm the purchaser's specifications.</p> <p style="text-align: center;"><u>(TO BE ENCLOSED WITH THE BID)</u></p> <p>All deviations from this specification shall be set out by the bidders, clause by Clause in this schedule. Unless specifically mentioned in this Schedule, the tender shall be deemed to confirm the purchaser's specifications:</p> <table border="1" data-bbox="544 1503 1469 1648"> <thead> <tr> <th data-bbox="544 1503 852 1610">S.No.</th><th data-bbox="852 1503 1160 1610">Clause No.</th><th data-bbox="1160 1503 1469 1610">Details of deviation with justifications</th></tr> </thead> <tbody> <tr> <td data-bbox="544 1610 852 1648"></td><td data-bbox="852 1610 1160 1648"></td><td data-bbox="1160 1610 1469 1648"></td></tr> </tbody> </table> <p>We confirm that there are no deviations apart from those detailed above.</p> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div data-bbox="544 1711 807 1744">Seal of the Company</div> <div data-bbox="1150 1711 1278 1744">Signature:</div> </div> <div style="display: flex; justify-content: flex-end; margin-top: 20px;"> <div data-bbox="1150 1803 1299 1836">Designation</div> </div>	S.No.	Clause No.	Details of deviation with justifications			
S.No.	Clause No.	Details of deviation with justifications						

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