



**PUNJAB STATE TRANSMISSION CORPORATION LIMITED,**

(Punjab Govt. Undertaking)

Regd Office: PSEB Head Office, The Mall, Patiala.147001.

Office of: Dy. Chief Engineer/TS(Design),

First Floor, Shakti Sadan, Opp. Kali Mata Mandir, Patiala-147001.

Telefax-0175-2207774 email: se-trd@pstcl.org

Corporate Identity No. U4010PB2010SGC033814

Website : www.pstcl.org

---

**TENDER SPECIFICATION NO. STQ-5064**

FOR THE MANUFACTURE , TESTING , SUPPLY AND DELIVERY OF 220V-200AH BATTERY CHARGERS .

LAST DATE OF RECEIPT OF TENDERS:	18.08.16 Upto 11.00 AM
DATE OF OPENING OF TENDER:	18.08.16 At 11.30 AM
COST OF SPECIFICATION:	RS. 500/- ( RS. Five Hundred Only)
TELEPHONE NO. DIRECT:	0175-2207774
FAX NO.	0175-2207774

---Sd---

**SE/ TS (DESIGN),  
PSTCL, PATIALA.**

NOTE: 1) ONLY FIRM PRICES MAY BE QUOTED. OFFER WITH VARIABLE PRICES WILL BE REJECTED.

**2) Cost of specification i.e. Rs. 500/- in the form of Demand draft in favour of AO/CPC, PSTCL, Patiala is to be submitted in a separate envelope along with the tender failing which tender of the firm shall not be accepted.**

## INDEX

1.	<u>SECTION-I</u>	
	General terms and conditions and Instructions to the tenderers.	page 3 to 18
2.	<u>SECTION-II</u>	
	Technical Specification	Page 19 to 23
3.	<u>SECTION-III</u>	
	Schedule of requirement	Page 24 to 27
3.	<u>ANNEXURE - A</u>	
	Schedule of Requirement and Prices	Page 28
4.	<u>ANNEXURE - B</u>	
	Schedule of Guaranteed technical Particulars	Page 29 to 31
5.	<u>ANNEXURE – C</u>	
	Schedule of Deviations	Page 32
6.	<u>ANNEXURE – D</u>	
	Undertaking Form for order preference	Page 33
7.	<u>ANNEXURE - E</u>	
	Performance Schedule	Page 34
8.	<u>ANNEXURE - F</u>	
	Performa for Self/Work Appraisal	Page 35 to 36

## **SECTION-I**

### **GENERAL TERMS AND CONDITIONS AND GENERAL INSTRUCTIONS TO THE TENDERERS**

#### **1.0 GENERAL INSTRUCTIONS TO BE OBSERVED BY THE TENDERERS**

##### **1.01 GENERAL:**

The following instructions must be carefully observed by all the Tenderers. Offer/Tender not strictly in accordance with these instructions will be liable to be rejected:

- i) The tenders must be complete in all respects. The following points should be carefully be studied in order to ensure submission of a complete and comprehensive tender. Failure to comply with any of these instructions or to offer brief explanation for non-compliance is likely to tender effective comparison of the tender as a whole, impossible and may lead to rejection of an other-wise competitively lowest offer.
- ii) Tender should be submitted in triplicate per registered post, each copy should be separately tagged and clearly marked as 'Original', 'Duplicate', 'Triplicate'.
- iii) Telegraphic quotations will not be accepted.
- iv) Offers/tenders should positively reach before the stipulated time and on the last date prescribed for their receipt. Those received late will not be considered/opened at all regardless of the date of posting of the tender.
- v) Offers/tenders should be enclosed in double covers. Both the inner and the outer covers should be sealed and super scribed with the tender/offer number together with the date on which the offer/tender is due and items of material covered and should also invariably contain the name of the bidding firm.
- vi) The Demand Draft/Cash receipt & other information concerning Earnest Money as per clause 2.02 shall be furnished in separately sealed envelope super scribed Earnest Money with the tender/offer number together with the name of tendering firm & the main tender in other envelope. The firm having permanent security deposit of Rs.10.00 lac ( Rs Ten Lacs) with the ENGINEER-IN- CHIEF / TS, PSTCL, PATIALA SHALL GIVE COMPLETE DETAILS OF THE DEPOSIT in the envelope meant for Earnest Money. The main tenders and Earnest Money in separate covers shall be received in the office of Engineer-In-Chief /TS, TS Design, 1<sup>st</sup> Floor, Shakti Sadan, PSTCL, Patiala-147001 up to 11.00 A.M. on the due date. While opening the tender the envelope containing Earnest Money will be opened first and if the Earnest Money is found to be in accordance with the terms of specification only then the sealed envelope containing the main tender will be opened, any tender /tenders received late shall also not be opened.
- vii) Offers/tenders will be opened on the date and time prescribed in the N.I.T. / Enquiry in the presence of authorized representatives of Tenderers, who actually submitted the tender, If they present themselves at the time of opening of tenders. In case the date of opening of tender falls on a holiday or holiday is subsequently declared on that date, the tenders will be opened on the next working day following the holiday.

- viii) The Purchaser reserves the right to modify the “Schedule of requirements”, Technical particulars and the specifications at any time and to place the order as a whole or in parts, and to reject any or all the tenders received without assigning any reason. He will not be responsible for and will not pay for expenses or losses that may be incurred by Tenderer in the preparation of the tenders.
- ix) The material offered should be strictly according to the specifications laid down in the Enquiry. The quotations should also indicate the make of the manufacturer, brand and company and accompanied with other descriptions, literature and sample, if any, at Tenderer’s own cost.
- x) No conditional offers shall be acceptable.
- xi) It has been decided by the PSTCL to accept Permanent Earnest Money of Rs.10.00 lac (Rs Ten Lacs) for Engineer-In-Chief /TS, PSTCL, Patiala.

### **1.02 PREPARATION OF TENDER:**

The tender shall be prepared in formal manner neatly typed or printed with all prices stated both in words and figures. There shall be no erasing and any corrections made should be neatly done and signed. A systematic form of totaling should be adopted to avoid any ambiguity with detailed description of the equipment offered.

### **1.03 SUBMISSION OF TENDERS:**

a) The tender should be submitted strictly as per NIT/ Tender specification complete in all respects. Alternate suggestions conforming to some British, American or other internationally recognized standards or practice, if any, must be clearly detailed out, explained and justified. These variations should be detailed out clause-wise in the same chronological order as given in this specification. No post tender development will be allowed regarding any change in terms of prices or technical specification.

### **THREE PART BIDS**

Tender shall be submitted in three parts i.e. Part-I, Part-II and Part-III. Each part will be enclosed in a separate envelope during super scribed on the envelope as under. All the three envelopes will be further enclosed in a larger envelope. The following procedure will be adopted for the opening of the tenders:-

#### **Part-I Earnest Money:**

The first part will consist of earnest money deposit in the form of demand draft in favour of AO/CPC, PSTCL, Patiala. In case of permanent EMD, the envelop must containing certificate to this effect as per clause 2.02 ii (b).

#### **Part-II Commercial bids/Technical:**

The second part will consist of technical specification, schedule of delivery and all other terms & conditions except the rates. All commercial terms including discount if any, ED, CST, Punjab Sale tax etc. should be specified in part-II of the bid, so that any ambiguities relating to general terms & conditions and technical details can be sorted out before the opening of Part-III i.e. price bid.

### **Part-III Price Bids:**

- a) The third part will consist of the rates quoted for each item as well as other related terms like freight, insurance, excise duty, CST etc. No correspondence/clarification shall be entertained after the opening of part-III.

Firstly the main envelope containing the bids will be opened in the presence of bidders representatives who choose to be present at the time, date and at the address named above. After opening the main envelopes, the envelope marked part-I (Earnest money) shall be opened first and if earnest money is found to be as per the requirements of the spec. only then the envelope marked Part-II shall be opened. The bids without earnest money shall be out rightly rejected.

- b) After opening Part-II of the bids (Technical/Commercial), the bids will be evaluated by PSTCL. The third part of the bids (Price Bids) shall be opened in case of only those firms whose Part-II of the bids after evaluation is found to be conforming to the specification. The date and time for opening Part-III of the bids will be intimated to the qualifying firms. The price bids (Part-III) will be opened in the presence of representatives of the qualifying bidders who choose to attend.
- c) If some new firm submits tender which has never supplied the tendered item to PSTCL. earlier, its works appraisal shall be carried out before opening of the Part-III "Price Bid" to ascertain whether the offer of the firm is technically/Commercially acceptable or not.

**Note: - *The offer of the firms is liable to be rejected in case works appraisal fee is not received along with tender. For the works appraisal, new firm shall have to deposit following charges along with tender itself in shape of DD In the name of AO/CPC, PSTCL, Patiala.***

**a) *Rs. 50,000/- for the firms located outside Punjab.***

**b) *Rs. 25,000/- for the firms located within Punjab.***

**Note: - *The above charges are non-refundable, and works appraisal of the firm does not entitle the firm for placement of order***

### **1.04 VALIDITY:**

The tender should be unconditionally valid for at least 120 days from the date of opening and any withdrawal or modification of the offer shall not be permitted after opening of Part-III of tender.

### **2.00 GENERAL TERMS & CONDITIONS:**

#### **2.01 PRICES:**

i) The unit rates should be quoted F.O.R. Destination at any Railway Station in Punjab/Punjab State Transmission Corporation Ltd. Railway siding, where-ever existing or delivery at PSTCL's stores, through road transportation which will be treated at par with F.O.R. Destination. The break up of the **F.O.R.** destination price should be given as under:-

The price of the material inclusive of packing and forwarding, part of production cost.

a) Packing cost not forming part of production cost, handling, cartage etc. freight charges and transit risk insurance covered in F.O.R. destination price.

- b) All taxes and duties livable on the price of finished goods as per sub-clause (i) (a) shall be paid extra and the same should be shown separately as prevalent on the date of opening of tender, to be paid at the rate as may be actually prevalent at the time of supply, otherwise these elements shall be deemed to be included in the quoted prices and will not be paid extra. No taxes & duties will be payable on the element of cost quoted under sub-clause (i) (b).
- c) In case of rates ex-works/ex-godown and for imported material, freight charges, transit risk insurance, handling and clearance charges, F.O.B. and C.I.F., commission of clearing agents at Ports, should also be indicated separately.
- d) Only FIRM prices may be quoted. Variable Prices will not be accepted.
- e) The rates quoted F.O.R. destination or ex-works should be given in both figures and words, and any overwriting, erasion, cutting etc. should be legibly signed or avoided. Offers/ tenders written in pencil shall be ignored.
- f) The prices tendered shall be such as to cover all the material destroyed under tests and no extra payment will be made for the material so destroyed.

**Note:-**

- a) *If the any firms intend to supply the material/equipment from different works, then the unit FOR rates should be the same for all the works so that there is only one merit position irrespective of location of works. The offer of the firm with different FOR rates for different works shall be rejected.*
- b) *There should be only one option relating to technical/commercial specification, so that FOR Destination rate is one. Any offer with multiple options shall be rejected.*

**2.02 EARNEST MONEY:**

- i) *The Tenderers shall be required to submit Earnest Money at the following rates in the form of Punjab State Transmission Corporation Ltd. Cash Receipt/Bank Draft in favour AO/CPC, PSTCL payable at Patiala exclusively for CE/TS, along with the tender:*

**FULL E.M.D**

**Rs 23,000 /-**

- a) Tender valuing up to Rs.50,000/- Nil
- b) Tender valuing above Rs.50,000/- @ 2% of tendered value rounded off to multiple of Rs.10/- on the higher side subject to minimum of Rs.5000/-and maximum of Rs.10.00 lac. In case of three part bids, a fixed amount of earnest money worked out @ 2 % may be got deposited from the prospective bidders depending upon the estimation done by the organizations of the PSTCL.
- ii) The following shall be exempted from depositing Earnest Money:-
- a) Suppliers having permanent Earnest Money of deposit Rs.10.00 Lac with the EIC/TS PSTCL. in respect of Engineer-In-Chief/TS: - A certificate to this effect issued by the concerned Accounts Officer of the during three months immediately preceding the due date of tender opening and showing the Serial Number/Account Number allotted in the Perma-

ment Earnest Money Deposit Register shall be submitted by the Tenderers in the envelope for Earnest Money.

- b) Sole Manufacturers/Suppliers of Proprietary items.
- iii) Earnest money may be accepted in the form of Bank Guarantee valid up to four months after the validity date of tenders as per NIT/Tender specification in the case of Public Sector Undertakings partly owned by Punjab Government/Central Govt. /other State Governments.
- iv) a) In case of tenders not accompanied by full amount of Earnest Money for the items tendered but not less than 25% of the entire amount due, the order/contract shall be awarded only for part of material/equipment services limited to a value corresponding to the actual amount of Earnest Money submitted with the tenders provided the placing of such part order is otherwise feasible and is in the interest of the PSTCL, otherwise such tenders shall be ignored.
  - b) The amount due as referred in (iv) a shall be calculated @ 2% of the tender value and shall not be taken as Rs. 10 lac i.e. Maximum amount payable as EMD. Therefore, 25% of the earnest money shall thus be worked out on the basis of entire amount so calculated, which shall of course be subject to maximum of Rs. 10.00 lac and minimum of Rs. 5,000/-.
- v) Earnest Money shall be forfeited in case of withdrawal/ modification of an offer within the validity period as required in the NIT/Tender Specification after opening of Tenders.
- vi) In case of successful tenderers, Earnest Money shall be converted as security deposit and short fall if any shall be got deposited for faithful execution of purchase order/contract.
- vii) In case of tenders not accepted, the earnest money shall be refunded within 30 days of the award of order/contract to successful tenderers.

### **2.03 SALES TAX:**

#### **a) Value Added Tax**

The VAT as applicable if inclusive in prices shall be paid against documentary proof on submission of following certificates:-

- i) Certified that the transaction on which tax has been claimed has been/will be included in the return submitted/to be submitted to the Sales tax authorities for the assessment of the tax and the amount claimed from the PSTCL has been/shall be paid for the Sales Tax Authorities.
- ii) Certified that the goods on which tax has been charged have not been exempted under the rules made there-under and charges on account of the Sales tax on these goods are correct under the provisions of the relevant act or rules made there-under.
- iii) Certified that we shall indemnify the PSTCL. in case it is found at a later stage, that wrong or incorrect payment had been made on account of tax paid by us.
- iv) Certified that we are registered dealer & our Regn. no. is.

#### **b) CENTRAL SALES TAX:**

The Punjab State Transmission Corporation Ltd., Patiala (PSTCL) has come into existence w.e.f. 16.04.2010. The process for getting PSTCL registered as a dealer under the Central Sales Tax act has been initiated.

When the Central Sales Tax is to be paid by the PSTCL, a declaration Certificate in form-‘C’ will be issued by the AO/CPC, PSTCL, Patiala on receipt of material. When the tax is to be paid by the Supplier a declaration certificate in form-‘C’ will be issued by the AO/CPC, PSTCL, Patiala, subject to submission of the following certificates:-

- i) Certified that the transaction on which tax has been claimed has been/will be included in the return submitted/to be submitted to the Sales Tax Authorities for the assessment of the Sales Tax and the amount claimed from the PSTCL has been/shall be paid to the Sales Tax Authorities.
- ii) Certified that the goods, on which Sales Tax has been charged have not been exempted under Central Sales Tax Act or the Rules made there-under and the charges on account of the Sales Tax on these goods are correct under the provisions of the relevant Act or rules made there under.
- iii) Certified that we shall indemnify the PSTCL in case it is found at a later stage, that wrong or incorrect payment had been made on account of the Sales Tax paid by us.
- iv) Certified that we are registered dealer under the Central/State Sales Tax act and our Registration No. is\_\_\_\_\_
- v) Certified that payment has been made under protest. The bills for the Sales Tax and insurance charges, if any, should be submitted separately. A declaration certificate in form ‘C’ will be issued by AO/CPC, PSTCL, PATIALA for all supplies received during a particular accounting year.

The firms indicating NIL or concessional rate of CST/ST in their tenders will have to absorb the CST/ST up to full rate applicable at the time of tendering. The firms which do not agree to this stipulation or indicate C.S.T. as extra without indicating applicable rate shall be loaded with maximum rate.

#### **2.04 EXCISE DUTY:**

If applicable will be paid at full rates prevailing during the scheduled delivery period subject to the production of the following certificates by the Manager/Senior Administrative Officer of the firm:

- i) Certified that the transaction on which the Central Excise Duty has been claimed has been/shall be included in the return submitted/to be submitted to the Central Excise Authorities and amount claimed from the PSTCL has been/shall be paid to the Central Excise Authorities.
- ii) Certified that the goods on which Excise Duty has been charged have not been exempted under Central Excise Duty rules and that the Central Excise charged on these goods is not more than what is payable under the provision of relevant Act or rules made there under.
- iii) Certified that we shall indemnify the PSTCL in case it is found at a later stage that wrong or incorrect payment has been received on account of Excise Duty. The benefit/credit of the CED under MODVAT Scheme duly authenticated by the authorities/representatives of the Central Excise Deptt. shall be allowed to the Purchaser in the invoice of concerned equipment. In case Central Excise staff refuses to issue a separate gate pass indicating the excise duty claimed from you, the original invoices raised for the supply of the equipment will bear a certificate from the Central Excise staff to the fact that Excise Duty has been charged from you and the amount so charged will be indicated.



**Note:** - The firm indicating NIL or concessional rate of E.D in their tender will have to absorb E.D. up to the final rate applicable at the time of tendering. The firms which do not agree to this stipulation or indicate E.D. as extra without indicating the applicable rate be loaded with maximum rate of excise duty.

## **2.05 OCTROI CHARGES:**

Octroi charges shall be paid extra on actual basis as applicable.

## **2.06 INSURANCE:**

i) The rates are required to be quoted on F.O.R. destination basis and it is the responsibility of the Supplier to deliver the goods in sound condition F.O.R. destination and for that purpose the Supplier may at his option insure the material against all risks at his own cost during transit for full delivered value of the material up to destination. All works in connection with making and settling of claims, if any, with Railway Authorities and/or Insurance Company shall be carried out by the Contractor for which no extra payment shall be made by the PSTCL.. However, necessary assistance required in connection with making and settling of such claims, if any, shall be provided by the consignees.

ii) All damages and/or shortages during transit as covered by the Insurance shall be made good immediately on receipt of such information from the consignees without waiting for settlement of claims. However, in case of apparent damages/shortages the consignees shall obtain the loss/damage certificate from the Railway Authorities and send the same to the Contractor within a period of thirty days from the date of receipt of material. A certificate shall be submitted by the Suppliers/Contractors with each bill to the effect that the material has been duly insured.

iii) The consignees shall report losses and damages to the firm within 30 days of the arrival of the equipment at the site. It will, however, be Supplier's responsibility to prefer timely claims on the insurance under-writers and to arrange replacement thereof to the consignees.

iv) The Suppliers shall be wholly responsible for the loss, shortages, damages etc. during transit. Such shortages and damages etc. will have to be replaced/repared by the Supplier/Contractor free of cost immediately without waiting for maturing of the Supplier's/Contractor's claims with the Road transport/Railway Authorities.

v) In case replacement/repair of defective material is not carried out within six months of intimation of damages, Supplier shall have to pay interest at the rate of 12% per annum on the advance payments made by the Punjab State Transmission Corporation Ltd. from the date of the payment up to the date of its re-commissioning of the equipment after replacement/repair or to the date the default is made good.

## **2.07 DELIVERY SCHEDULE:**

The offer should clearly indicate monthly/quarterly schedule of deliveries, date of commencement and completion of supply against that indicated in the Notice Inviting Tender/ Specification which should normally cover period for entire job of manufacture, testing, inspection and supply after acceptance and shall be reckoned from the date of dispatch in case of rail transport and Receipted Challan/Goods Receipt in case of road transportation by Goods Carriers. The Purchase Orders shall be placed strictly on the above understanding. Ex-stock and quicker deliveries may be sometimes preferred.

## **2.08 CONTRACT:**

The detailed order issued in accordance with agreed terms and conditions and accepted/acknowledged by the firm shall itself form valid contract along with subsequent amendment, if any, and shall be construed and operated as such in terms of Indian Contract Act-1872 as amended up to date.

It will be obligatory on the part of the successful Tenderer to execute within 30 days of the receipt of detailed order, a legal contract agreement on non-judicial stamp paper of the appropriate value. The detailed Purchase Order so issued shall be termed Purchase Order-Cum-Contract Agreement. The contract shall be made in duplicate and one copy will be retained by each party.

## **2.09 SECURITY DEPOSIT:**

- i) The successful Tenderers shall be required to submit security deposit for faithful execution of the Purchase Order/Contract of value exceeding Rs.50, 000/- at the rate of two percent (2%) of order value rounded off to a multiple of Rs.10/- on the higher side.
- ii) Ordinarily the Earnest Money received with tenders shall be converted into Security Deposit. If the amount of Earnest Money received with tender is more than the amount of security deposit required for the Purchase Order/Contract, the balance shall be refunded and in case of shortfall the Contractor/Supplier shall be required to deposit the additional amount.
- iii) The Tenderers having permanent deposit of Rs. 10.00 lac with CE/SS and hence exempted from depositing Earnest Money with Tenders, shall also be required to submit Security Deposit of 2% of order value in the form of Bank Guarantee within 30 days from the award of Order/Contract.
- iv) The following shall be exempted from depositing security against Orders/Contracts given to them:
  - a) Manufacturers/Suppliers of Proprietary items.
- v) On faithful execution of Purchase Order/Contract in all respects, including warranty period, if any, the security deposit of the Contractor/Supplier shall be released by the Contracting/Purchasing Agency.
- vi) In the event of default on the part of the Contractor/Supplier in the faithful execution of Purchase Order/Contract his security deposit shall be forfeited by an order of the contracting/purchasing agencies. The forfeiture of Security Deposit shall be without prejudice to any other rights arising or accruing to the PSTCL under relevant provisions of the Purchase Order/Contract, like penalty/damages for delay in delivery including suspension of business dealings with PSTCL for specific period.

## **2.10 INTIMATION TO THE AO/CPC, PSTCL AND CONSIGNEES:**

The Supplier will have to intimate the probable date of dispatch 15 days in advance followed by telegraphic advance intimation regarding the actual date of R.R./LR to AO/CPC, PSTCL, PATIALA to enable him to arrange payment, failing which demurrage, wharf age etc. will be to Supplier's account. A copy of such intimation should be sent to the consignee and Chief Engineer/TS, TS Design, 1<sup>st</sup> Floor , Shakti Sadan, PSTCL, Patiala-147001 also for reference, immediately.

## **2.11 INFORMATION REGARDING LIST OF THE BANKERS, THE PURCHASER DEALS WITH:**

- i) The Punjab State Transmission Corporation Ltd. deals with State Bank of Patiala, The Mall, Patiala.
- a) The Railway Receipt/Goods Receipt and invoices etc. should be sent to the authorities to be specified in the Purchase Order.
  - b) Any demurrage occurring as a result of sending Railway Receipts/Goods Receipts through a Bank other than the one with which the accounts of the Purchaser are operated will be to the account of the Supplier/Contractor.
  - c) No goods will be accepted by the consignees unless accompanied by priced challans or invoices.

## **2.12 TERMS OF PAYMENT:**

100% of the contract value pro-rata for each consignment of operationally complete equipment dispatched after approval of inspecting Authority/Test Certificates etc. along with 100% Sale Tax, Excise Duty and other statutory levies as per contract shall be paid within 30 days against receipted challans subject to furnishing a Bank Guarantee of 5% of the amount valid for a period of three months after receipt of the material/equipment in good condition against that consignment. **The payment shall be made through RTGS. For this purpose, following details/documents may be provided to AO/CPC(T), PSTCL, Patiala while entering contract agreement:-**

- i) **Name and address of the beneficiary**
- ii) **Name and address of the bank**
- iii) **Account No. of the beneficiary**
- iv) **IFSC code**
- v) **Cancelled cheque**

## **2.13 FORCE MAJEURE:**

During the pendency of the Contract/Purchase Order, if the performance in whole/part by either party or any obligation there under, is prevented/delayed by causes arising out of any war, hostility, civil commotion, acts of the public enemy, sabotage, fire, floods, explosions, epidemics or non-availability of Government controlled raw material under Orders/Instructions of Central/State Government regulations, strikes, lockouts, embargo, acts of Civil/Military authorities or any other causes beyond their reasonable control, neither of the two parties shall be made liable for loss or damages due to delay or failure to perform the contract during the currency of Force Majeure conditions, provided that the happening is notified in writing (with documentary proof) within 30 days from the date of the occurrence. The supplies shall be resumed under the contract as soon as practicable after the happening (event) ceases to exist.

## **2.14 PENALTY/DAMAGES FOR DELAY IN DELIVERY:**

"If the supplier fails to deliver the material/equipment within the stipulated delivery period of the Purchase Order/Contract, the same is liable to be rejected and if accepted, the supplier shall be liable to pay as penalty charges, a sum of 0.5% (half of one percent) of the cost

of undelivered supply/incomplete equipment per month of delay or part thereof, not exceeding maximum limit of 5% of the cost of complete unit of undelivered equipment so delayed. There will be a slack of one month that will not entail any penalty and will not involve any additional financial implication. Delay beyond slack period will attract penalty for the period of delay including slack period. However there will be no penalty/liquidated, damages in respect of purchase of proprietary items."

#### **2.15 NEGLIGENCE AND DEFAULT:**

In case of negligence on the part of Supplier/Contractor to execute the order/contract with due diligence and expedition and to comply with any reasonable orders given in writing by the Purchaser in connection with the Purchase Order/Contract or any contravention in the provisions of the Purchase Order/Contract, the Purchaser may give 21 days notice in writing to the Supplier/Contractor to make good the failure or neglect or contravention and if the Supplier/Contractor fails to comply with the notice within time considered to be reasonable by the Purchaser, the purchaser may black list or suspend business dealings with the supplier/contractor apart from forfeiture of security etc.

#### **2.16 WARRANTY:**

The Supplier/Contractor shall be responsible to replace free of cost with no transportation and insurance expenses to the Purchaser up to the destination of material/equipment, the whole or any part of the material, which under normal and proper use and maintenance proves defective in material or workmanship within **12 months from the date of commissioning or 18 months from the date of dispatch whichever expires earlier**, provided the Purchaser gives prompt written notice of such defects to the Supplier/Contractor. Such replacement shall be affected by the Supplier/Contractor within a reasonable time not exceeding six months of the intimation of defects. Supplier's/Contractor's responsibility arising out of supply of material or its use whether on warranties or otherwise shall not in any case exceed the cost of correcting the defects or replacing the defective part/material and upon the expiry of the warranty period stipulated above, all such liabilities shall terminate. However this clause shall not be applicable in case of metal halide lamp. The above provision shall equally apply to the material so replaced/repared by the Supplier/Contractor under this clause in case the same is again found to be defective within 12 months of its replacement/repair. In case the replacement/repair of defective material is not carried out within six months of intimation of defects, the Supplier/Contractor shall have to pay interest @ 12% per annum on the value of each complete operational unit of equipment beginning from the date of its becoming defective up to date of its recommissioning after replacement/repair.

#### **2.17 INSPECTION OF EQUIPMENT:**

- a) The PSTCL shall inspect, examine and test the equipment/material through its official(s) and/or through an out-side agency nominated by PSTCL at the manufacturer's/Supplier's works, during or after the manufacture of goods prior to dispatch, on receipt of a clear notice of minimum two weeks in advance, to be reckoned from the date of receipt by the Purchaser. The Supplier/Contractor shall provide all facilities as may be required to carry out the tests in accordance with approved standards, free of cost.
- b) CE/TS shall get stage inspection carried out at random at supplier works.

- c) The random testing of material in the stores irrespective of the fact whether or not it was inspected before dispatch shall be carried out by PSTCL and in case of any failure the entire lot shall be rejected at the risk & cost of the supplier.

**2.18 INTERCHANGEABILITY:**

Corresponding parts of a plant / equipment shall be made to gauge or jig and shall be inter-changeable in every respect.

**2.19 TRAINING FACILITIES:**

The successful tenderer will be required to impart training to up to 2 Engineers and two technicians so as to fully acquaint them with Design, Testing and commissioning, including fault detection of protection schemes covered in this tender, if so desired by the Purchaser. The period of training shall be mutually agreed upon and all expenses shall be borne by the Purchaser.

**2.20 CANCELLATION:**

The Purchaser reserves the right to cancel the Purchase order as a whole or in part at any time or in the event of default on the part of the Supplier prior to the receipt of intimation regarding taking in hand of the manufacture of material against the Purchase Order/dispatch of material to the consignee.

**2.21 RAW MATERIAL:**

The raw material to be used in the manufacture of the goods/equipment to be supplied against Purchase Order/Contract shall be of the best quality of its kind obtainable in the market. The Supplier shall be solely responsible for the procurement of raw material required for the purpose.

**2.22 MATERIAL & WORKMANSHIP:**

All the materials used in the manufacture of equipment shall be of the best quality obtainable of their respective kinds and whole of the work shall be of the highest class, well finished and of approved design and make.

**2.23 CHANGES:**

No variation or modification or waiver of any of the terms and provisions shall be deemed valid unless mutually agreed upon in writing by both the Purchaser and the Supplier.

**2.24 PACKING:**

All material should be suitably packed for transportation direct to the consignee and the Supplier shall be responsible for all damages/losses due to improper packing. All boxes shall be marked with the signs indicating up and down sides of the boxes and also unpacking instructions considered necessary by the Supplier. The contents of boxes shall have place marks corresponding to the number in the packing lists to enable easy identification. The prices quoted by the Tenderers shall be deemed to include the cost of packing.

## **2.25 TEST CERTIFICATES AND INSTRUCTION BOOK:**

The Supplier/Contractor shall be required to furnish to the Purchaser's office/consignees, where-ever necessary, the following documents along with the consignment:

- i) Printed pamphlets & catalogues. 5 copies
- ii) Instruction Books. 5 copies
- iii) Drawings. 5 copies
- iv) Any other relevant information 5 copies

(to be incorporated at the time of placing the Purchase Order)

In case the goods have not been inspected/tested at the manufacturer's works by the representative of the PSTCL, the Supplier/Contractor shall furnish the following certificates along with consignment for facility of the consignees:-

- a) Type Test Certificates
- b) Routine Test Certificates

## **2.26 CONSTITUTION, EXPERIENCE AND FINANCIAL STANDING:**

The Tenderers should invariably supply the following information with the tenders:

### **a) Constitution and composition of the firms:**

- i) If a joint stock company, copy of its Memorandum and Articles of Association and other particulars.
- ii) If partnership, a copy of the partnership deed, particulars of partners.
- iii) If a proprietary concern, the standing of the proprietor and if registered with the Registrar of Companies/Firms, their registration No.

### **b) In case of authorized representative:**

- i) Name & particulars of manufacturers.
- ii) Certified copy of the Instrument of Authorization of the Supplier/Manufacturers.

### **c) Experience and standing in the market.**

**d)** Particulars of Purchase Orders/Contracts executed with this PSTCL (Formerly PSEB) and other Boards/Government Department as per "Performance Schedule" attached herewith as 'Annexure-D'.

### **e) Financial Position:**

- i) Balance sheet for the last three years including Trading, Manufacturing, Profit and Loss Account.
- ii) Bank references.

## **2.27 DESPATCH INSTRUCTIONS:**

The material shall be required to be dispatched as per the dispatch instructions issued by the Purchaser.

## **2.28 EXTENSION IN DELIVERY PERIOD:**

Any genuine delay in approval of technical details, drawings, issuance of amendment of Purchase Order, conducting inspection and approval of Inspection Test Reports/Test Certificates for allowing dispatches etc., will count towards extension of the delivery period by corresponding period other than admissible under Force-Majeure conditions, if any, substantiated

by the Supplier and duly accepted by the Purchaser. No Extension in delivery shall be granted in case of delay in payment. However, for delayed payments beyond stipulated period as per terms of payment clause, compensation shall be credited @ 0.5% of the payment so delayed per month or part thereof to be adjusted against penalties levied or to be levied subject to a maximum of penalty leviable due to delay in deliveries under the contract.

### **2.29 CIVIL SUIT/JURISDICTION:**

All legal & Arbitration proceedings in connection with the Purchase Order/Contract shall be subject to the territorial jurisdiction of the local Civil Courts at Patiala only.

### **2.30 UNDERTAKING:**

All the Tenderers are required to give the following undertakings on their letter head with the tender documents:

- i) That they would not pay any commission etc. or engage any commission agent for dealing with PSTCL in any matter including purchase of equipment etc.
- ii) That no officer/official of the PSTCL will deal with any person who claims to be a commission agent or liaison agent of any company and that the officers/officials of the PSTCL must deal only with persons directly employed by the Suppliers.

### **2.31 PLACE(S) OF MANUFACTURE:**

The equipment shall be brand new. The tenderer shall state the make, place(s) of manufacture as well as the places of testing and inspection of the equipment offered in his tender. It shall also be stated whether the equipment offered carries ISI: certification mark or not. The material carrying ISI mark will be preferred.

### **2.32 SPECIAL INSTRUCTIONS:**

- i) Incomplete tenders not submitted on the lines indicated above are liable to be rejected without correspondence.
- ii) Request for extending the due date of tenders will be ignored.
- iii) The tenders from the direct manufacturers or their sole selling agents only will be considered.
- iv) No printed general conditions of Sale attached with the tender shall be accepted.
- v) Tenders shall be accepted only from those firms or their authorized agents who purchase a copy of this tender specification.
- vi) Only indigenous offers or such offers in which no import license is required would be considered.
- vii) Comments if any, on the clauses contained in the 'General Terms And Conditions' as well as in the Technical Specification should be offered, while submitting tenders, otherwise it will be presumed that all clauses stipulated therein are acceptable.
- viii) The tender must be accompanied by detailed and fully dimensioned drawings of the equipment, technical particulars and detailed literature.

- ix) Purchaser reserves the right to modify the schedule of requirement, technical particulars and the specifications at any time to place the order as a whole or in parts and to reject any or all the tenders received without assigning any reason. He will not be responsible for and will not pay for the expenses or losses that may be incurred by the tenderer in the preparation of the tenders.
- x) The material offered should be strictly according to the spec. laid down in this specification. The quotation should also indicate the make of the manufacturer, brand and company and should be accompanied with other technical literature, drawings etc. as required in the succeeding parts of this spec. at the cost of the supplier.

### **2.33 ARBITRATION:**

- a) If at any time any question, dispute or difference, what so-ever, shall arise between the Purchaser/PSTCL and the Contractor/Supplier, upon or in relation to, or in connection with the Purchase Order/Contract, either party may forthwith give to the other, notice in writing of the existence of such question, dispute or difference and the same shall be referred for sole arbitration by a nominee of the Purchaser/PSTCL, who shall give a reasoned/speaking awards. The award of the Sole Arbitrator shall be final and binding on the parties under the provision of the Indian Arbitration Act, 1996 and the rules there under. Any statutory amendment, modification or re-enactment thereof for the time being in force, shall be deemed to apply to and be incorporated in the Contract/Purchase Order. It will not be objectionable if the Sole Arbitrator is an officer of the PSTCL and he has expressed his views on all or any of the matters in question of dispute or difference.
- b) Upon every or any such reference, the cost of and incidental to the reference and award respectively shall be in the discretion of the Sole Arbitrator so appointed who may determine the amount thereof or direct the same to be taxed as between Solicitor and Client or as between party and party and shall direct by whom and to whom and in what manner the same is to be borne and paid.
- c) The work under the Contract shall, if reasonably possible, continue during the arbitration proceedings and no payment due or payable by the Purchaser/PSTCL shall be with-held on account of such proceedings.

### **2.34 REQUIREMENT:**

The quantity mentioned in this Specification can be increased or decreased at the time of actually placing the order.

### **2.35 ORDER PREFERENCE**

The PSTCL would allow an order preference to such tenderers whose works are situated within the State of Punjab as per the procedure laid down as under:-

- a) The rate of Punjab firms would be de-escalated by 15% for all the units. For Punjab based firms up to 20% of the total quantity can be reserved provided they fall in the consideration zone after application of price differential. For this purpose the merit position of the Punjab firms shall be prepared separately, however, where the, Punjab firms qualify amongst the lowest bidders on their own quoted rates, they shall form part of the original quoted list for the purposes of placing orders.



- b) The zone of consideration for placing of purchase order/contract would thereafter be demarcated taking into account the quantity of material required as per NIT and the quantities offered by the different tenderers.
- c) The purchase on the Punjab firm claiming order preference and falling within this Zone would be placed on the lowest rate of a firm not claiming order preference within the Zone of consideration or on the concerned Punjab firm's own quoted rate whichever may be lower.
- d) In the event of zone of consideration ending at the deescalated rate tendered by a firm claiming order preference, the rate to be allowed to such firms shall be the next quoted rate by the firm not claiming order preference or the concerned firm's own quoted rate, whichever may be lower.
- e) The Punjab based firms claiming order preference shall be required to furnish an undertaking in prescribed form (Annexure-D) on a non-judicial stamp paper of appropriate value to the effect that they shall execute the order if placed on them under 'Order preference' as per tender specification. Such undertaking should be submitted by the Punjab based tendering firms latest by the close of the day of opening of tenders. In case, no such undertaking is furnished by the Punjab based firms who are otherwise eligible for claiming 'Order Preference' as per the tender specification, their tender shall not be considered for placement of any order under Order Preference. In the event of refusal by the Punjab based firms to execute the purchase order/contract at their quoted rates or offers made under Order Preference as per 'c' and 'd' above as the case may be after having furnished the above undertaking, their Earnest Money shall be forfeited apart from initiating further administrative action, such as suspending business dealings, blacklisting etc.

### **2.36 QUALIFICATION REQUIREMENT:**

“ Either manufacturer or their authorized dealers can participate. Manufacturer/ authorized dealer should have supplied Battery Chargers of 220V/100AH or higher rating to at least three SEBs/Power utilities in the last three years for at least Rs. 5 (Five ) Crore and a performance certificates clearly specifying the period from the date of commissioning to the date of issue of such certificate for atleast two years from two govt. SEBs/utilities of INDIA issued by not below the rank of Executive Engineer are submitted along with tender documents.. The authorized dealer will furnish an undertaking from the manufacturer of FULL TECHNICAL SUPPORT including after sale service up to warranty period and authorization from the manufacturer to the effect that the authorized dealer is sole participant for their make of battery charger for this tender enquiry.”

Though no firm will be refused tender documents but pre-qualification & technical qualification conditions will be clubbed together and shall be considered for the purpose of technical evaluation.

### **2.37 FAKE INSPECTION CALL:-**

*If the firm does not get the material inspected when the inspecting officer visit their works after receipt of inspection call on one pretext or the other, it will have to bear TA/DA for the journey performed by such inspecting officer which shall be*

***Rs.15000/-(outside Punjab) & Rs.5000/-(within Punjab) per visit of each officer. Beside the recovery against each fake call, a letter of warning shall be issued and it shall be Rs.5000/- & Rs.15000/- per visit of each officer respectively in case the material fails during inspection.***

## SECTION-II

### TECHNICAL SPECIFICATION

1 **SCOPE:**

The specification covers the manufacture, testing, supply and delivery of battery charging equipment as listed below and in the schedule of requirement and technical specification. The terms testing includes testing at site after installation in addition to testing at manufacturer's works before dispatch.

The power cables whether for incoming AC supply or for outgoing DC circuits are not included in the scope of supply of tender specification.

2. **DUTY AND GENERAL ARRANGEMENT:**

The batteries shall be kept in a state of floating / trickle charge & provision made for rapid charging the batteries when so required.

The power for the charging apparatus shall be given through an independent 4 core cable connection from an AC 50 cycles , 3 phase , 415 +/- 10 % voltage switch board , which is being fed from a station transformer.

3. **CLIMATIC CONDITIONS:**

All the substations where this equipment is required to be used are located in plains of the Punjab ( altitude not exceeding 1000 meters ) where the climatic conditions are as given below:

i)	Max. Temp. of the air in shade	45 Deg. C
ii)	Min. Temp. of the air in shade	( - ) 3.5 Deg. C
iii)	Max. Temp. of the air in sun	50 Deg. C
iv)	Max. relative humidity	99-100%

Tropical monsoon rain conditions exist for about three months in the year & dust storm accomplished by the severe lightning occur at frequent intervals. The sites are vermin infected.

4 . **STANDARD:**

Unless otherwise specified, the equipment shall conform to the latest applicable Indian Standards. The tenderer shall state the standards to which the various components used in battery chargers conform to. The equipment complying with any other authorized standards will also be considered if it ensures performance at least equivalent to applicable Indian Standards & in such a case the salient features & comparison shall be brought out in the tender & copies of such standards shall be attached with the offer. Nothing in this specification shall be construed to relieve the supplier of his responsibility to supply the equipment as per applicable standards and safety codes.

5. **TEMPERATURE RISE:**

The reference ambient air temperature may be taken as 45 Deg. C. The temp. rise for the various equipment offered should be reduced where necessary so that maximum temperature under conditions of the operation does not exceed the permissible limits as specified in relevant Indian Standards.

6. **TYPE OF EQUIPMENT:**

All equipment shall be located indoor. The rectifier panels are to be mounted on the floor in the control room adjacent to the battery room . The battery charging equipment shall be of the panel type . The panels on which the equipment is to be mounted shall be steel fabricated with suitable angle / channel construction. Necessary doors and screen shall be provided where ever required . All equipments shall be dust and vermin proof . The overall design of the entire equipment should be adequate for the duty in view to ensure trouble free and dependable service. The various cables for AC supply to the battery charging equipment which are to be arranged by the purchaser shall have PVC insulation. The conductors shall be of Copper or of Aluminium. All panel wiring to be provided by the supplier shall consist of suitable coloured/marked PVC insulated cables with multistrand copper wire.

7. **BUS BARS & SUPPORTS :**

The bus bars shall be of copper having adequate cross-section. The bus bars shall be so designed and mounted that their expansion and contraction does not subject either the bus bars or their supports to any stresses . All bus bars and connections shall be duly marked and coloured for identification.

The tenderer shall furnish current density calculations for the selected bus bar size, to check its suitability.

8. **INSTRUMENTS :**

All the instruments shall have 144 Sq. mm. dials & flush mounted on panels . Moving coil spring controlled instruments shall be used except those for AC Supply which may be of moving iron type . The error of indication shall not exceed one percent throughout effective range of the meter.

**NOTE :** The voltmeter, the ammeter and thermometer of digital read out type of similar accuracy also can be used. Chart records shall be used for life cycle, testing.

9. **MATERIAL AND WORKMANSHIP :**

All material used in construction of the equipment shall be the best quality available of their respective trade & the whole of the work shall be of the highest class well finished & of approved design & make. Casting shall be free from blow holes, flaws, cracks or other defects and shall be smooth , close grained & of true form & dimensions.

All machined surfaces shall be true and smooth finished.

10. **INTERCHANGEABILITY:**

Corresponding parts of similar equipments shall be interchangeable in every respect.

11. **RESPONSIBILITY FOR DESIGNS:**

The supplier shall assume full responsibility for co-ordinated and adequate design and shall conform to the best engineering practice for the operating conditions specified. In case the equipment covered by this specification is to be co-ordinated with other equipment, the supplier shall furnish complete information & data as may be desired by the purchaser.

12. **TROPICAL TREATMENT AND POWDER COATING:**

All corrodible part and surfaces shall be of such material and shall be provided with powder coating finish so that no part of the installed equipment shall be injuriously effected by the atmospheric moisture , heat and fumes. The panels shall be provided with light grey powder coating having `Shade No. 631 of IS-5 .

13. **TESTS AND INSPECTION:**

The equipment shall be subjected to routine/acceptance tests as specified in the relevant I.S.S. All tests shall be made prior to dispatch & test results, in quadruplicate, shall be supplied to the Purchaser for his approval. No material shall be dispatched without prior inspection and approval of the test certificates unless otherwise agreed to in writing by the purchaser . The tenderer shall submit copies of the test results of the following tests carried out by an independent approved lab or an Electricity board/Govt. Utility on similar equipment alongwith the tender.

Following routine/acceptance tests shall be carried out on each of the charger :

- i) No Load test.
- ii) Load test / Heat Run Test at the rated output ( to be carried out on one charger of each rating).
- iii) High voltage test on 2KV for one minute.
- iv) Insulation resistance test.
- v) Ripple content test.
- vi) Voltage stability test in float mode and for constant voltage duty on Boost mode.
- vii) Voltage versus load current test from no load to 120% of full load float and boost chargers for constant voltage duty.
- viii) Efficiency test.

**14. GUARANTEED DATA AND OTHER PARTICULARS :**

Guaranteed data and other technical particulars of the main equipment as offered by the tenderer should be given in the tender in accordance with the applicable standards.

**15. PACKING :**

The supplier shall be responsible for suitable packing of all the equipment & marking of the consignments so as to avoid any damage during transit & storage & to ensure correct dispatch direct to the destination. The quoted prices shall be deemed to include the cost of suitable packing.

**16. DRAWINGS:**

The contractor shall within 15 days from the date of award submit for approval to the purchaser ,4 sets of the following drawings together with weight of the equipment & overall dimensions to enable the purchaser to finalize ultimate equipment installation drawings , schedule of power & control cables conduit layout and other layouts.

Schematic drawings of chargers giving all other layouts explained in the specification. must be supplied with the tender . These schematic should be supported with its write-up so that each feature include in the drawing is explained clearly . Tenders not accompanied with the schematic along with write-up are likely to be rejected.

**LIST OF DRAWINGS :**

- a) General arrangements.
- b) Plan Elevation and side view.
- c) Mounting details of equipment.
- d) Equipment outline drawings.
- e) Front and Rear views .
- f) Single line diagram .
- g) Schematic & wiring diagram including ferrule marking.

**17. INSTRUCTION PLATE AND MARKING:**

All gauge meters , instruments etc. shall have dials or scales calibrated in Metric system of units . All name plates, instruction plates , warning signs & any marking what so ever on the equipments and its parts & accessories shall be in English language using Idioms /words having meaning in currently use in India. In order to facilitate sorting & erection at site , every part of the equipment shall be suitably marked. The markings

shall correspond to similar marks on the assembly drawings. **Contact no. & e-mail id of the contact person for after sale service should be mentioned on the rating plate. Also the said details should be mentioned on the first page of the instruction manual.**

**18. ERECTION :**

The erection of the battery chargers will be carried out departmentally by the purchaser. The supplier shall furnish complete instructions regarding assembly, erection testing, commissioning and normal operations and maintenance of the equipment, to the purchaser so that there is no difficulty in erection , testing and normal operation .

**19. GROUNDING :**

All metal parts should be grounded accorded to Indian Elecy. Rules, Main ground bus shall be provided by the purchaser. Special grounding lugs of adequate size shall be provided by the supplier on charging equipment .

**20. FOUNDATION AND FIXING :**

The equipment shall be provided with a complete set of foundation holding down bolts, washers, nuts, plates and other fixtures as may be required and these shall be supplied by the supplier.

**21. SPARE PARTS :**

The tenderer shall quote separately in its tender for spare parts as he would recommend for the maintenance & operation of the equipment for a period of five years . A detailed list of such spare parts with item wise prices shall be given under schedule of requirements & prices . The purchaser may order spares subsequently as may be finally decided upon , at the rates given in the tender. All spare parts shall be interchangeable & shall be of same make, material & workmanship as the corresponding parts furnished with the main equipment.

**22. COMPLETENESS OF EQUIPMENT :**

All fittings, accessories or apparatus which may not have been specially mentioned in the specification but which are usually necessary in the completeness of equipment shall be deemed to be included in the contract and shall be supplied by contractor without extra cost .

### **SECTION-III**

#### **SCHEDULE OF REQUIREMENT**

##### **I. BATTERY CHARGER FOR 220V-200AH DC BATTERY :**

The battery charging equipment shall be housed in a sheet steel cubicle finished with powder coated grey colour conforming to shade 631 of IS-5 specification. The charger cubicle shall have thickness of 14 gauge (2mm) or better with adequate ventilation and it would be dust and vermin proof as far as possible. Louvers shall be provided for ventilation. Panel lighting and spare heater shall also be provided with toggle switch. The charging equipment shall be provided with a separate float charger and boost charger as per following specification :

##### **a) FLOAT CHARGER :**

The float charger shall be suitable for operation from a 3 phase AC supply of 415 V +/- 10 % volt, 50 cycles and suitable for floating 110 lead acid cells at 2.0 to 2.3 Volt per cell adjustable while simultaneously supplying a continuous load of 15 Amp. At an Ambient temp. of 45 Deg.C. The output of the float charger shall be stabilized within +/- 1 % of the floating voltage for AC input voltage variation of +/- 10 % frequency of +/- 5 % and simultaneously load variation of 0-100% . The ripple content on the output on the float charger shall be limited to 3 % with battery in circuit. The float shall comprise the following components :

- |     |   |       |
|-----|---|-------|
| 1.  | TPN MCB of suitable rating on input side  | 1 No. |
| 2.  | Indicating lamps LED type(A.C.)   | 3 No. |
| 3.  | AC Voltmeter (0-500V) with selector switch and fuses.   | 1 No. |
| 4.  | AC Contactor with suitable arrangement of automatic Run-Down circuit & relays etc. and over load  | 1 No. |
| 5.  | ON/OFF Push Button for AC input contactors.   | 1 No. |
| 6.  | Double wound impregnated natural air cooled 3 phase mains transformer of suitable Rating with adequate taps if necessary for the charger output voltage control.  | 1 No. |
| 7.  | Boost transformer, if required .  | 1 No. |
| 8.  | Silicon controlled rectification and silicon diodes having min. continuous current Rating of 15 Amps. connected in three phase half controlled full wave bridge complete with semi conductor HRC fuses and fuses fail detector circuit, auxiliary relay for fuse fail annunciation , line surge suppressors, cell surge suppressors and heat sinks etc. | 1 Set |
| 9.  | Automatic voltage regulator (solid state) unit suitable for controlling the output voltage within +/- 1 % for 0 to 100 % load variation and simultaneous AC supply Variation of +/- 10 % and frequency variation of +/- 5 % from 50 HZ.   | 1 Set |
| 10. | Free wheeling diodes having suitable current rating with heat sink and RC1 set surge suppressor.  |       |
| 11. | Suitable bleeder resistance   | 1 No. |
| 12. | Auto/manual control switch.   | 1 No. |



- |     |   |             |
|-----|---|-------------|
| 13. | Voltage adjust potentiometer of suitable rating for Auto and Manual Modes   | 1 No.       |
| 14. | Moving coil DC ammeter of 144 SQ.mm size and suitable range with shunt.   | 1 Set       |
| 15. | Indicating pilot lamp on DC output side for 'ON' indication (LED).  | 1 Set       |
| 16. | DC under voltage relay / circuit.   | 1 No.       |
| 17. | DC over voltage relay/circuit .   | 1 No.       |
| 18. | Suitable auxiliary contactors and control transformers  | As required |
| 19. | Two Nos. suitable continuous current rating silicon diodes with heat sink connected in series +ve bus of float charger.         | 1 set       |
| 20. | Current transformer for sensing the load limiting current and to make the float charger output drop down in case of over load . | 1 No.       |
| 21. | Double pole MCCB on DC output of load charger .   | 1 No.       |
| 22. | Filter circuit (choke , condenser & fuse etc.)  | 1 set       |
| 23. | Any other special features.   |             |

b) **Boost Charger :**

The boost charger shall operate at a 3 phase supply of 415 V +/- 10 % 50 cycles and shall be suitable for charging 110 Lead Acid Cell 1.80 V to 2.80V per cell ( i.e. 198 to 308 V ) at maximum charging current of 30 Amps. In an ambient temp. of 45 Deg.C Boost charger shall have the provision for operation on constant current and constant voltage modes. The boost charger shall comprise of the following components :

- |     |   |             |
|-----|---|-------------|
| 1.  | Suitable rating TPN / MCB on AC input of the charger  | 1 No.       |
| 2.  | Indicating lamps.(LEDs) A.C.  | 3 Nos.      |
| 3.  | AC Contactor with over load relays .  | 1 No.       |
| 4.  | ON/OFF push buttons.  | 2 Nos.      |
| 5.  | Double wound impregnated natural air cooled 3 phase main transformer with Adequate taps.  | 1 No.       |
| 6.  | Silicon controlled rectifier and silicon diodes having minimum continuous current rating of 30 Amps. connected in 3 phase half controlled, full wave Bridge complete with line surge suppressors , heat sinks and semi conductors HRC fuses with fuse fail detector circuit and auxiliary relay for fuse fail annunciation. | 1 set       |
| 7.  | Suitable solid state automatic controller unit for constant current of any value upto 30 Amps. +/- 2 % and constant voltage of any value in the range of 220 V to 253 V +/- 1 % .   | 1 set       |
| 8.  | Free wheeling diodes having suitable continuous current rating with heat sink and surge suppressors.  | 1 set       |
| 9.  | Auto/manual selector switch .   | 1 No.       |
| 10. | Constant current/Constant Voltage selector switch .   | 1 No.       |
| 11. | Potentiometer to adjust DC output voltage & current in auto / Manual modes.   | As required |
| 12. | Double pole MCCBs of suitable rating.   | 1 No.       |

- |  |             |
|--|-------------|
| 13. Indicating pilot lamp for DC 'ON' indication . (LED)                 | 1 No.       |
| 14. Suitable filter circuit complete with choke condenser and HRC fuses. | 1 No.       |
| 15. Suitable bleeder resistance.   | 1 No.       |
| 16. Suitable Auxiliary contactors and control transformers               | As required |
| 17. DC moving coil ammeter (0-60A) of size 144 Sq.mm with suitable shunt | 1 Set       |

c) **COMMON COMPONENTS :**

The charging equipment shall also be provided with following components :

- |   |        |
|---|--------|
| i) Suitable MCB for main AC supply of charger   | 1 No.  |
| ii) DC Contactor of suitable rating provided on the +ve bus bar automatic take over by the complete battery in case of AC failure /Float charger shunt down .                           | 1 No.  |
| iii) 2 Nos. silicon blocking diodes of adequate rating connected in series to 84th cell of Battery bank.  | 1 No.  |
| iv) Moving coil DC voltmeter of 144 Sq.mm. with a selector switch for measuring various DC voltages.  | 1 set. |
| v) Earth leakage relay .  |        |
| vi) Single phasing /phase reverse relay.  |        |
| vii) Suitable other provisions and components to comply with various specifications/ Lot requirements.  |        |
| viii) Annunciation scheme complete with relays ,windows , lamps , push buttons , bell etc. for giving visual indication and common audible alarm at incidence of the following faults : |        |
| a) DC under voltage   |        |
| b) AC under voltage.  |        |
| c) Battery Earth leakage.   |        |
| d) Float Charger Thermal over load trip.  |        |
| e) Boost Charger Thermal over load trip.  |        |
| f) DC Over Voltage .  |        |
| g) AC Over voltage.   |        |
| h) Float Charger converter fuse fail.   |        |
| i) Boost charger converter fuser fault  |        |
| ix) Battery isolating switch of proper rating be provided.  |        |
| x) Moving coil center Zero ammeter with shunt for battery CKT. (200-0-40 A) , 144 Sq.mm size.   |        |

NOTES :

1. The bidder shall positively indicate make , type, rating and quantity of each item .
2. Various components shall be so arranged to facilitate easy accessibility and necessary ventilation .

3. Normally float charger will float the complete battery and cater the continuous DC load requirements of the substation. During boost charging of the battery the float charger should automatically get disconnected from the battery and the boost voltage should not be reflected on the load bus bar i.e. DC load should get constant float voltage irrespective of charging mode of the battery. Current limiting features should be providing in the float charger so as to protect it from over loading in case it comes across the discharged battery.

4. A suitable device be provided to maintain power factor 0.88 lagging.

5. The charger cubicle shall be made out of sheet steel of thickness 14 gauge ( 2 mm ) with adequate ventilation and louvers will be provided with back up fine wire mesh to make the cubicle as vermin proof as possible. The panels on which the equipment is to be mounted will be of sheet steel fabrication with suitable channel construction and the same shall be completed with all internal wiring , input and output terminals , cable glands for the incoming /outgoing cables. All the instruments shall be flush mounting type HRC fuses together with the fittings shall be mounted in the front panel but within the chamber and the fuse shall be accessible by opening half fly door . Adequate space shall be provided in the charging equipment access to the components . The various components of the best quality and from reputed manufacturers. The layout of the components, wiring , workmanship, reliability etc. shall be of the best quality.

6. Normally the float charger will meet the requirements of the constant load. During boost charging the full battery voltage should not be reflected on the bus bars i.e. it should be ensured that the constant voltage is available on the DC bus bar irrespective of the fact whether the battery is on Float or on Boost charge. In the event of failure of the automatic features of the regulators , the regulator shall be capable of being operated manually . To prevent excessive current drawn from float charger when same comes across the discharged battery ,voltage drop down features shall be provided. Also due care with necessaries alternative provisions should be made whenever possible so that due to failure of any one component, the DC power to the Bus Bar is not interrupted .

7. The charging equipment should be completed with the various components listed above but not necessarily limited to the same . The charger shall also be complete with wiring, rating plates, glands and fixing bolts etc. Heat generating elements should be located on the charger panels so that they do not damage the heat sensitive parts such as diodes.

## II) **DELIVERY SCHEDULE :**

*“Complete Ordered quantity shall be supplied within two months from the date of issue of PO. Drawings shall be submitted for approval within 15 days of receipt of PO.”*

**ANNEXURE 'A'**

**SCHEDULE FO REQUIREMENT AND PRICES**

Tender Enquiry No. : \_\_\_\_\_

Validity : \_\_\_\_\_

<b>Sr. no.</b>	<b>Description</b>	<b>NIT Qty.</b>	<b>Offered Qty.</b>	<b>Ex-Works Prices</b>	<b>ED+ Cess @ ___%</b>	<b>CST @ ___ %</b>	<b>F &amp; I</b>	<b>Unit FOR Destination Price</b>
1	Battery Charging Equipment :- For charging 220V-200Ah lead acid Battery complete in all respects & as described under item I/Section III of Schedule of Requirement.	09 Nos.						

**ANNEXURE – B**

**SCHEDULE OF GUARANTEED TECHNICAL PARTICULARS OF 220V-300AH BATTERY CHARGERS**

- 1. Manufacturer's name
- 2. Type
- 3. Rating 200AH
- Float Boost
- Charger Charger
- 
- 
- 3.1 Input Voltage (Volts AC)
- 3.2 Output Voltage(Volts DC)
  - a) Minimum.
  - b) Maximum.
- 3.3 Output current(Amps.) DC
- 3.4 Rated out put ( KW)
- 3.5 Rated 2 hours overload capacity after 10 hours operation on rated load (A)
- 3.6 Rated 1 hour, over load capacity after 10 hours Operation on rated load (A).

4. **VOLTAGE REGULATION**

- 4.1 Inherent voltage regulation :
  - a) From no load to rated load (%)
  - b) From 20 % load to rated load (%)
- 4.2 Whether any safety device is provide to avoid voltage arise during no load .
- 4.3
  - a) Type of AVR
  - b) % age regulation with AVR (%)

5. **GUARANTEED EFFICIENCY :**

- a) At 20 % Load ( % )
- b) At rated load ( % )

6. **POWER FACTOR :**

- a) At 20 % Load (%)
- b) At rated load (%)

7. **MAXIMUM PERMISSIBLE TEMP. RISE OVER AMBIENT:**

- a) For rectifier transformer ( Deg.C)
- b) For rectifier cells (Deg.C)
- c) Smoothing reactor ( Deg.C)

8. **CLASS OF INSULATION :**

- a) Of rectifier transformer
- b) Of smoothing reactor
- c) Of rectifier cells

9. **METHOD OF COOLING:**

- a) Cooling of rectifier cells
- b) Cooling of transformer

10. Smoothing filter provided (YES/NO)

11. Ripple content (%) without battery

12. Detail of Diodes	For Float Charger	For Boost Charger	For Blocking Charger Float / Boost
----------------------	----------------------	----------------------	---------------------------------------

- a) Type
- b) RMS Current rating ( Amps. )
- c) One cycle surge current rating ( A )
- d) Repetitive surge current (Amp.)
- e) Peak inverse voltage continuous (volts)
- f) Quantity (Nos.)

13. Detail of Thyristors	For Float Charger	For Boost Charger
	-----	-----

- a) Type
- b) RMS current rating
- c) One cycle surge current ( A )
- d) Repetitive surge current (A)
- e) Peak Inverse voltage continuous (volts)

14. **CONTACTORS :**

Make	Type
-----	-----

- i) Main contactor (AC) for float charger
- ii) Main contactor (AC) for Boost Charger
- iii) DC Contactor for battery tap auto change over system
- iv) Auxiliary Contactors.

15. Overall dimensions of the charger cubicle (LXWXH) mm

16. Weight (KG)

17. Thickness of sheet steel (mm/SWG)

18. Deg. of protection ( Dust protect vermin proof )

19. **Colour :**

- a) Outside
- b) Inside

20. Space Heater Rating Watts.

21. Make / Ratings :

Sr.No.	Description of switch Range/Capacity (Indicating separately for Float/Boost Chargers)	Make	Type
--------	--	------	------

---

1. TPN MCBs
2. Double Wound Transformer
3. Ballast Chokes
4. SCRS / Diodes
5. Voltmeter
6. Double pole MCCBs
7. AC Contactors
8. Moving Coil Center Zero ammeter.
9. Rectifier fuses with fittings
10. DC Contactors
11. Indication Lamps(LED)
12. Push Buttons

**ANNEXURE - C**

**SCHEDULE OF DEVIATIONS :**

A) All the technical deviations from PSTCL specification must be given hereunder, if no technical deviations are given in this schedule then it will be presumed that there are no technical deviations from PSTCL's specification.

Sr.No.	Details of Technical Specification	Remarks
-----		

Signature of tenderer.

B) All the deviations from PSTCL's general Terms and Conditions must be mentioned hereunder otherwise it will be presumed that there are no such deviations and the material shall be supplied as per PSTCL specification and General Terms and Conditions .

Sr.No.	Details of deviations from General Terms & Conditions of specification .	Remarks
-----		

Signature of tenderer



**ANNEXURE – D**

**UNDERTAKING FORM**

( TO BE ENTERED ON A NON-JUDICIAL STAMPED PAPER OF  
RS. \_\_\_\_\_ ONLY).

We \_\_\_\_\_ state that our works are situated in the state of Punjab  
and we claim “Order Preference” as stipulated in the PSTCL tender specification No. \_\_\_\_\_  
Due on \_\_\_\_\_ against which we have submitted out tender No. \_\_\_\_\_  
Dt. \_\_\_\_\_.

We undertake to execute the order/contract if placed/awarded on to us even by counter  
offer at the rates worked out by Punjab State Transmission Corporation Ltd. in accordance with  
its Purchase Regulations. It is further understood that in the event of refusal by us or failure on  
our part to execute the order/contract(full or part) placed/awarded on to us under ‘Order  
preference’ on any account whatsoever, the Punjab State Transmission Corporation Ltd. shall  
have the right to forfeit the earnest money deposited by us and we shall have no claim for the  
refund thereof. The Punjab State Transmission Corporation Ltd. shall also have the right to  
suspend without prejudice to other rights accruing to the Punjab State Transmission Corporation  
Ltd. under the Purchase Order/ Contract if placed / awarded on to us .

Signature of Constituted Attorney.

**ANNEXURE - 'E'**

**PERFORMANCE SCHEDULE**

(SEPARATELY FOR BIDDER AND COLLABORATION)

Sr.No.	Size & brief Description of equipment	Order No. & date	Name of purchaser	Qty.(Nos.)	Value	Date since the equipment supplied Is in service.	Remarks
1	2	3	4	5	6	7	8

Date \_\_\_\_\_

Signature:  
Name:  
Status:  
Whether authorized  
Attorney of the  
Tendering Co.  
Name of the tendering  
Company:

**Annexure- F**

**PROFORMA FOR SELF APPRAISAL/WORKS APPRAISAL**

1.	A)	Name of Tendering firm.	
	i)	Complete address of the office.	
	ii)	Telegraphic address:	
	iii)	Telephone Number(S):	
	iv)	Fax No.	
	v)	Name of two responsible Officers with Designation: (Managing	
	B) i)	Director/Partner/Chief Engineer/Works Engineer etc.)	
	ii)	Day on which weekly holiday is observed.	
	C)	Complete address of the works:	
	i)	Telegraphic address:	
	ii)	Telephone Number(S):	
	iii)	Fax No.	
	iv)	Name of two responsible Officers with Designation: (Managing Director/Partner/Chief Engineer/Works Engineer etc.)	
	v)	Day on which weekly holiday is observed.	
	D)	Name, address & telephone numbers of two references having facilities of P&T Telephones.	
	a) i)	Name	b) i) Name
	ii)	Address	ii) Address
	iii)	Telephone No.	i) Telephone No.
2.		Year of Establishment.	
3.		Constitution of the firm.	
	a)	Private or Public Limited	
	b)	Registered under the companies Act or any other Act, give Registration No. & Date.	
4.		Financial Position.	
	i) a	Land (Area & Value)	
	b	Building (Covered Area and Value)	
	c	Plant & Machinery:	
	d	Total drawing Limit from Banks	
	ii)	Annual Financial Turnover (duly audited for the last two years):	
	iii)	Latest Income Tax clearance certificates:	
5.		Man Power:	
	a)	Graduate Engineer (s):	
	b)	Diploma Holder (s):	
	c)	Skilled Workers:	
	d)	Un-Skilled Workers:	
6.		Production capacity per month of the item covered in your quotation and justification for assessment.	

	a)	Details of Plant & machinery installed (Please attach separate sheets, if necessary).
	b)	Details of raw material required:
	c)	Source of raw material
	d)	Stock of raw material
	e)	In case, any raw materials are required to be imported, indicate arrangements of its procurement.
	f)	Quality Controls exercised in procurement of raw materials.
<b>7.</b>	a)	Details of manufacturing process:
	b)	Scheme of quality controls:
	i)	During manufacturing process:
	ii)	At the finished stage
	c)	Whether, any record is being maintained in respect of quality controls exercised.
<b>8.</b>		Details of testing facilities available with the firm.
<b>9.</b>		Details of orders executed/under execution during the last three years. Photo copies of Purchase orders of similar material supplied to other state utilities by them to the standard specified in this tender documents must be submitted.
	a)	With PSEB (Now PSTCL)
	b)	Other State Electricity Boards/State Govt./Govt. Of India & other Institutions/undertaking:
	c)	Other important customers.
<b>10.</b>	a)	Whether the item (s) are on Punjab Govt./DGS&D/Central Govt..Approved Rate Contracts (Attach copies of Rate contracts)
	b)	Whether item offered conforms to ISS or any other internationally recognized Standards, if so, give reference:
	c)	Whether the firm is licensed to use ISI Mark of any other Govt. Quality Mark (copies of latest Test Certificates issued by Govt. Laboratories/Any recognized Test House be attached.)

SIGNATURE OF AUTHORISED  
SIGNATORY OF THE FIRM  
WITH OFFICE STAMP

**NOTE:**

1. Please attach additional sheets, wherever required.
2. Copies of documents, attached with the Performa should be attested by the firm's authorized stamp mark of the firm.