



Odisha Power Generation Corporation Limited IB Thermal Power Station

AT/P.O: BANHARPALI,; DIST.: JHARSUGUDA, PIN:768234(ODISHA), INDIA

Tel. 06645-289354 / 289355 / 289356, Fax: 06645- 289355.

E mail: purchase@opgc.co.in; bkmishra@opgc.co.in; manoj.mahapatra@opgc.co.in ;

SAFE & CLEAN POWER IS OUR COMMITMENT

AN ISO-14001; OHSAS-18001 ORGANIZATION

Tender documents against

NIT No. ITPS/ (Purchase)/2021-22 /26 (P) dt.23.11.2021

For supply of Battery Bank for Switchyard to IB Thermal Power Station.

Date for Issue of Tender Paper	04.12.2021 to 20.12.2021
Last Date of receipt of Bid	20/12/2021 up to 15.00 hrs. at our office
Opening of techno commercial bid	20/12/2021 at 15.30 hrs
Opening of price bid	To be intimated later on
Cost of Tender Paper	Free of cost from the under mentioned office. May be downloaded from our website.
Earnest Money Deposit	Rs.8,000.00 (Eight thousand only)

Note: Before Submission of bid please ensure proper documentation is made as mentioned in the bid.

AGM (Purchase)

Issued to M/s

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Odisha Power Generation Corporation Limited IB Thermal Power Station



ODISHA POWER GENERATION CORPORATION LIMITED
IB THERMAL POWER STATION
At/PO: BANHARPALI, DIST: JHARSUGUDA – 768 234 (ODISHA)
Telephone; 06645-289354/356 . Telefax: (06645) 289 355 ,
Email: purchase@opgc.co.in; bn.das@opgc.co.in; bkmishra@opgc.co.in;

NOTICE INVITING TENDER

One bid system Sealed bids / Password Protected mail offer in the prescribed format are invited for supply of the following item to IB-Thermal Power Station, Banharpali as per the tender terms & conditions stipulated in the tender documents.

Tender No.	Description	Bid Sale / Issue date	Bid receipt / Opening	Bid Type
NIT No. ITPS/ (Purchase)/2021-22 /26 (P) dt.23.11.2021	Supply of Battery Bank for switchyard to IBTPS	04/12/2021 to 20/12/2021	04/12/2021/ 20/12/2021	Two Bid

NB: (i) Time of submission/Receipt of bids: Up to 15:00Hrs, (ii) Time of opening of bids: 15:30Hrs.

Tender Document will be available free of cost as per schedule mentioned up to 15:00 Hrs. from the office of the AGM (Purchase), ITPS, Banharpali, Jharsuguda. Detailed NIT is also available at our website www.opgc.co.in. Any amendment and corrigendum to this NIT shall be posted in OPGC web page only.

Intending Firms/Bidders are requested to visit our website regularly for any amendment of the present bid till finalization of bidding process and information for participation against various tenders. Tender documents can also be downloaded from our website.

M/s OPGC Ltd. reserves the right to accept/reject/split any tender without assigning any reason thereof and will not be responsible for any delay in postal/courier.

Sd/-, AGM(SCM),

Odisha Power Generation Corporation Limited IB

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NIT No. ITPS/ (Purchase)/2021-22 /25 (P) dt.23.11.2021

Odisha Power Generation Corporation Limited (an ISO-14001:OSHAS-18001 and a leading dividend paying company in the state of Odisha) invites Sealed bids in **Two parts (Techno-commercial Part-I & Price Bid Part-II)** in an envelope super scribing the tender No. from bonafide manufacturers/Authorised stockiest/dealers/distributor/ traders for supply of following items to 2 x 210 MW, IB Thermal Power Station.

THE BIDS COMPLETE IN ALL RESPECT MUST BE SUBMITTED IN A SEALED ENVELOPE **SUPER SCRIBED WITH TENDER ENQUIRY NUMBER, NAME OF THE WORK AND DUE DATE OF OPENING**. THE BID DOCUMENTS ARE NOT TRANSFERABLE. THE BIDDER MUST SUBMIT THE FOLLOWING ALONG WITH THE BID:

- a) EMD OF REQUISITE AMOUNT (Rs 8000.00) AS PER NIT SHALL BE PUT IN A SEALED ENVELOPE SEPARATELY. BID WITHOUT EMD WILL BE REJECTED OUTRIGHT. REFER EMD WAIVAL CLAUSE TO CLAIM FOR EMD WAIVAL.
- b) PHOTOCOPIES OF REGISTRATION CERTIFICATE, INCOME TAX PAN AND GSTN.
- c) BID DOCUMENTS DULY SIGNED & STAMPED IN ALL PAGES AS A TOKEN OF ACCEPTANCE.
- D) ORIGINAL PRICE BID DULY FILLED IN, SIGNED & STAMPED ON EACH PAGE SHALL BE SUBMITTED. ANY PRICE BREAKUP (IF REQUIRED) MUST BE SUBMITTED SEPARATELY. THE RATES OFFERED BY THE BIDDER SHALL BE CLEARLY WRITTEN IN ENGLISH (CLEARLY HAND WRITTEN OR TYPED) BOTH IN WORDS AND FIGURES AND SHALL BE FREE FROM ANY ABERRATIONS, DELETIONS, CORRECTIONS AND OVERWRITING. IN CASE OF ANY ILLEGIBILITY OF THE OFFER SUBMITTED BY BIDDER THE INTERPRETATION BY OPGC SHALL BE FINAL AND BINDING ON THE BIDDER. INSERTION, POSTSCRIPT, ADDITION AND ALTERATION SHALL NOT BE ACCEPTED AFTER SUBMISSION OF THE BID.

NOTE: TENDERS SUBMITTED WITHOUT THE ABOVE REQUIREMENTS SHALL BE LIABLE FOR REJECTION.

- 2) BIDDERS ARE ADVISED TO SUBMIT THE TENDER BASED STRICTLY ON THE TERMS AND CONDITIONS AND SPECIFICATIONS CONTAINED IN THE TENDER DOCUMENTS AND NOT STIPULATE ANY DEVIATIONS IN NORMAL CASE.
- 3) OPGC WILL AWARD THE CONTRACT TO THE SUCCESSFUL BIDDER WHOSE BID HAS BEEN FOUND THE EVALUATED LOWEST I.E. ON L-1 BASIS.
- 4) OPGC RESERVES THE RIGHT TO EVALUATE THE QUOTATION ON SUCH DEVIATIONS HAVING FINANCIAL IMPLICATIONS BY ADDING THE COST DETERMINED BY OPGC.

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- 5) WHEREVER IT IS MENTIONED IN THE SPECIFICATION THAT THE CONTRACTOR SHALL PERFORM CERTAIN WORK OR PROVIDE CERTAIN FACILITIES, IT IS UNDERSTOOD THAT THE CONTRACTOR SHALL DO SO AT HIS COST.
- 6) BEFORE QUOTING THE RATES, THE BIDDER SHOULD GO THROUGH THE SPECIFICATIONS, SCOPE OF WORK, AND SPECIAL CONDITION OF CONTRACTS ETC. AND GET HIMSELF FULLY CONVERSANT WITH THEM.
- 7) THE DETAILS OF ITEMS IN THE PRICE SCHEDULE SHALL BE READ IN CONJUNCTION WITH THE CORRESPONDING TECHNICAL SPECIFICATIONS. ITEMS OF WORK PROVIDED IN THE PRICE SCHEDULE BUT NOT COVERED IN THE TECHNICAL SPECIFICATIONS SHALL BE EXECUTED STRICTLY AS PER INSTRUCTIONS OF ENGINEER IN CHARGE.
- 8) THE BIDDERS SHALL QUOTE RATES INCLUSIVE OF THE COMPLETE COST TOWARDS CONSUMABLES, TOOLS AND TACKLES, EQUIPMENTS, LABOUR, LEVIES, TAXES AND DUTIES IF ANY, ALL SAFETY PPE'S AS PER OPGC NORMS TO ALL WORKMEN, RECTIFICATION, MAINTENANCE TILL HANDING OVER, SUPERVISION OVERHEADS, PROFITS AND ALL INCIDENTAL CHARGES NOT SPECIFICALLY MENTIONED BUT REASONABLY IMPLIED AND NECESSARY TO COMPLETE THE WORK ACCORDING TO CONTRACT.
- 9) OPGC RESERVES THE RIGHTS OF ACCEPTING THE WHOLE OR ANY PART OF THE TENDER AND BIDDER SHALL BE BOUND TO PERFORM THE SAME AT THEIR QUOTED RATES.

Note:

- Item wise HSN Code with GST rate applicable to be indicated in the offer
- Further please note to submit your offer considering GST provision and its related input tax credit benefits to be passed on to OPGC
- Dealer/ Distributor/Channel Partner should enclose valid authorization certificate from principal manufacturer.
- Vendors are requested to kindly furnish your PAN, GST No.

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- Tender Specification/Make for Supply of aforementioned items shall be as per the tender specification & BOQ.
- Bidders has to follow the general instruction while submitting the price bid.
- Bank Mandate form to be submitted to make your payment through RTGS/NET.
- Vendors are requested to send their **sealed offer** subscribing the tender number, date and due date on the envelope. Mail offer will not consider at the time of price opening.
- The Tender shall be accompanied by Earnest Money (EMD) @ Rs. 8,000.00. The Earnest Money offered shall be in shape of Demand Draft/Pay Order/Bank Guarantee (BG as per attached format & shall be valid for 06 months) in favor of ODISHA Power Generation Corporation Ltd. drawn on State Bank of India (Code-9510) / Union Bank of India (Code-UBIN0806625) / Central Bank of India (Code-283899).
- All Micro & Small Enterprises (MSEs) who are registered with DIC/KVIC/KVIB/Coir Board/NSIC/DHH/ Udyog Aadhar Memorandum are eligible to get the benefit of exemption from payment of EMD & Tender cost and to get the exemption, the participating bidders have to obtain/register as MSME for the specific service/supply of goods/both.
- To get the exemption of EMDs & tender fee, the party has to make an application to the head of supply chain management (SCM) who is conducting tendering process along with proof of documents regarding eligibility of the exemption at least 2 days before the last day of bid submission. The HOD after due examination will allow to participate without submission of EMD& tender fee & the same has to be communicated to bidder in writing.
- The Earnest Money of all unsuccessful Bidders will be returned within thirty (30) days after the award of the Contract.
- Any Tender not accompanied with Earnest Money in accordance with aforesaid provisions shall be rejected by the Owner as non-responsive Bid.
- No interest will be payable by the Owner on the said amount covered under Earnest Money / other security deposits.
- On finalization of Tender, Earnest Money deposited in form of DD of successful Bidder will be treated as part of the initial security at the option of the said Contractor or shall be returned to the successful bidder at his option.

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- A Bidder shall submit the Tender which satisfies each and every condition laid down in this notice and other tender documents, failing which the Tender will be liable to be rejected.
- The ODISHA Power Generation Corporation Ltd. do not bind themselves to accept the lowest or any tender or to give any reasons for their decision. The Owner reserves the right to allow the Public Sector Undertakings price preference facilities as admissible under existing Govt. policy. The prospective Bidders may apprise themselves of the relevant Govt. notification in this regard before submission of their bid. The ODISHA Power Generation Corporation Ltd. reserves the right of accepting the whole or any part of the Tender or split the total scope of work among eligible Bidders and Bidder (s) shall be bound to perform the same at his/their quoted rates.
- OPGC reserves the right to accept / reject any or all tenders, split up the scope among eligible bidders or cancel the tender altogether without assigning any reason thereof.
- Bidder has to submit the price bid as per the price bid format.
- Bid documents duly signed & stamped in all pages as a token of acceptance.
- Original price bid duly filled in, signed & stamped on each page shall be submitted. Any price breakup (if required) must be submitted separately. The rates offered by the bidder shall be clearly written in English (clearly hand written or typed) both in words and figures and shall be free from any aberrations, deletions, and corrections and overwriting. In case of any illegibility of the offer submitted by bidder the interpretation by OPGC shall be final and binding on the bidder. Insertion, postscript, addition and alteration shall not be accepted after submission of the bid.
- Bidders are advised to submit the tender based strictly on the terms and conditions and specifications contained in the tender documents and not stipulate any deviations in normal case.
- Vendors are requested to submit their seal offers at our office by sending through DTDC **COURIER / SPEED POST/REGISTER POST/By Person.**
- OPGC will award the contract to the successful bidder whose bid (offered/evaluated) has been found the lowest i.e., on L-1 basis.

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- OPGC reserves the right to evaluate the quotation on such deviations having financial implications by adding the cost determined by OPGC.
- Wherever it is mentioned in the specification that the contractor shall perform certain work or provide certain facilities, it is understood that the contractor shall do so at his own cost.
- Before quoting the rates, the Bidder should go through the specifications, scope of work, special condition of contracts etc. and get himself fully conversant with them.
- The details of items in the price schedule shall be read in conjunction with the corresponding technical specifications. Items of work provided in the price schedule but not covered in the technical specifications shall be executed strictly as per instructions of Engineer in charge.
- Rate will be valid for the 1 year from date of award of contract. Extension/Repeat order can be placed as per requirement of the OPGC for a period of 6 months for supply.
- Delivery: Material shall be required within 60 days on F.O.R. site Basis from the date of placement of purchase order on successful bidder.
- OPGC reserves the rights of accepting the whole or any part of the tender and bidder shall be bound to perform the same at their quoted rates.

Note: Tenders submitted without the above requirements shall be liable for rejection.

PRICE OFFERED SHOULD BE FOR DESTINATION (OUR SITE) INCLUDING FREIGHT CHARGE, IB THERMAL POWER STATION, P & F, INSURANCE EXCEPT GST WHICH IS TO BE EXTRA ARE TO BE INDICATED IN TERMS OF PERCENTAGE OF BASIC PRICE OR WILL BE LOADED MAXIMUM WHILE COMPARING. 100% PAYMENT WITHIN 30 DAYS OF RECEIPT & ACCEPTANCE OF MATERIALS. OFFER MAY NOT CONSIDER WITHOUT EMD. PLEASE ENCLOSE PRODUCT CATALOGUE & COMPANY PRICE LIST, OFFER WILL REMAIN VALID FOR A PERIOD OF 180 DAYS FROM THE DATE OF TENDER OPENING. TDS @20% SHOULD BE DEDUCTED FROM YOUR BILL IN CASE OF NON-SUBMISSION OF PAN DETAILS.



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BIDS RECEIVED AFTER STIPULATED DATE & TIME SHALL NOT BE ENTERTAINED. OPGC SHALL NOT TAKE ANY LIABILITY ON ACCOUNT OF ANY POSTAL/COURIER DELAY. OPGC RESERVES THE RIGHT TO ACCEPT / REJECT ANY OR ALL TENDERS, SEEK ADDITIONAL CLARIFICATIONS, SPLIT UP THE SCOPE AMONG ELIGIBLE BIDDERS OR CANCEL THE TENDER ALTOGETHER WITHOUT ASSIGNING ANY REASONS THEREOF.

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GENERAL INSTRUCTIONS

- 1.0 EACH QUOTATION SHOULD BE SENT IN PROPERLY SEALED ENVELOPE ADDRESSED TO THE GM-SCM (PROCUREMENT & CONTRCATS DEPT.)- UNIT 3&4, IB THERMAL POWER STATION, BANHARPALI, DIST. JHARSUGUDA, PIN: 768234. THE ENVELOPE SHOULD BEAR THE TENDERER'S DISTINCT RUBBER STAMP. TENDER NO. _____ DUE ON DT. _____ SHOULD INVARIABLY BE GIVEN ON THE COVER.
- 2.0 IN CASE OF ITEMS OF SPECIFIC MAKE, ONLY MANUFACTURERS AND THEIR ACCREDITED AGENTS/STOCKIEST/AUTHORIZED DEALERS ARE ENTITLED TO QUOTE. FOR THIS THEY SHOULD SUBMIT AN ATTESTED COPY OF THE PRINTED PRICE LIST ALONG WITH TENDER.
- 3.0 THE TENDERS SUBMITTED MUST BE FREE FROM OVER WRITINGS OR EROSIONS. CORRECTIONS & ADDITIONS IF ANY MUST BE ATTESTED. INCOMPLETE TENDER SHOULD NOT BE SUBMITTED. TENDERS RECEIVED AFTER DUE DATE OF OPENING WILL NOT BE ENTERTAINED.
- 4.0 THE REQUIRED EMD IN SHAPE OF DD DRAWN IN FAVOUR OF "ODISSA POWER GENERATION CORPORATION LIMITED" PAYABLE AT SBI, IB THERMAL POWER STATION, BANHARPALI, CODE NO.9510, / CENTRAL BANK OF INDIA, BELPAHAR (CODE-3899) / UNION BANK OF INDIA, ADHAPADA (CODE-UBIN0806625) SHOULD INVARIABLY BE ENCLOSED WITH THE TENDER.
- 5.0 NO INTEREST WILL BE PAYABLE BY THE OWNER ON THE SAID AMOUNT COVERED UNDER EARNEST MONEY / OTHER SECURITY DEPOSITS.
- 6.0 THE OFFER GIVEN MUST REMAIN VALID FOR A PERIOD OF 180 DAYS FROM THE DATE OF OPENING OF BID.
- 7.0 RATE WILL BE VALID FOR 1 YEAR FROM DATE OF AWARD OF CONTRACT.
- 8.0 MANUALS/PAMPHLETS/LEAFLETS AND DRAWINGS ILLUSTRATING TECHNICAL DETAILS/YEAR OF MANUFACTURE, MAKERS NAME, COUNTRY OF ORIGIN MUST BE ENCLOSED WITH THE TENDER, SAMPLE IF REQUIRED SHOULD BE SUBMITTED ALONG WITH TENDER.
- 9.0 THE PRICE QUOTED SHOULD BE FIRM AND DELIVERY F.O.R. DESTINATION INCLUSIVE OF PACKING, FORWARDING, TRANSPORTATION AND INSURANCE CHARGES EXCEPT GST WHICH IS TO BE EXTRA AS ACTUAL.

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- 10.0 ACTUAL/PERCENTAGE OF SALES TAX/EXCISE DUTY LEVIABLE AND DECLARED TO BE CHARGED SHOULD BE DISTINCTLY SHOWN ALONG WITH PRICE QUOTED. WHERE IT IS NOT MENTIONED CLAIMS FOR PAYMENT OF SALES TAX AND EXCISE DUTY SHALL NOT BE ENTERTAINED ON ANY GROUND. SALES TAX REGISTRATION NUMBER MUST BE INDICATED INVARIABLY.
- 11.0 THE TENDERER SHOULD BE ABLE TO COMPLETE DELIVERY WITHIN 60 days FROM THE DATE OF RECEIPT OF PURCHASE ORDER.
- 12.0 THE TENDERER SHOULD BE AGREEABLY TO OUR PAYMENT TERMS I.E 100% PAYMENT SHALL BE MADE WITHIN 30 DAYS FROM THE DATE OF FINAL ACCEPTANCE OF MATERIAL.
- 13.0 QUALITY OF MATERIALS TO BE SUPPLIED SHOULD BE BRAND NEW, FREE FROM ALL FLAWS, GOOD FINISH AND SHOULD BE AS PER TECHNICAL SPECIFICATION AND RELEVANT TO IS SPECIFICATION.
- 14.0 THE TENDER MUST ACCOMPANY PHOTO COPY OF LATEST & VALID INCOME TAX CLEARANCE CERTIFICATE & GST CERTIFICATE WITHOUT WHICH TENDER WILL BE REJECTED.
- 15.0 DESTINATION MEANS CENTRAL STORES, IB THERMAL POWER STATION, BANHARPALI.
- 16.0 WHENEVER TENDERERS HAVE ENTERED INTO RATE CONTRACT WITH DGS&D OR EPM, THE WILL INDICATE THE SAME IN THEIR TENDERS AND SUBMIT A COPY OF RATE CONTRACT AS A PROOF OF CLAIM.
- 17.0 THE QUANTITY INDICATED IN THIS ENQUIRY IS PROVISIONAL AND SUBJECT TO CHANGE AS PER PLANT REQUIREMENT, WHICH MAY INCREASE OR DECREASE DURING THE CONTRACT PERIOD. OPGC HAS NO OBLIGATION TO RECEIVE THE FULL ORDERED QUANTITY.
- 18.0 SUPPLIER HAVING PAST EXPERIENCE OF SUPPLYING SIMILAR ITEMS TO OTHER THERMAL POWER STATIONS MAY SUBMIT A PHOTO COPY OF THE P.O. ALONG WITH THE QUOTATION.
- 19.0 WARRANTY WILL BE MINIMUM OF 36 MONTHS FROM DATE OF DISPATCH. WARRANTY & TEST CERTIFICATE HAS TO BE PROVIDED ALONG WITH MATERIAL.
- 20.0 THE UNDERSIGNED RESERVES THE RIGHT TO ACCEPT/REJECT ANY OR ALL THE TENDER WITHOUT ASSIGNING ANY REASON THEREOF.

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21.0 PENALTY FOR DELAY IN DELIVERY: - THE VENDOR IS LIABLE TO PAY PENALTY AT THE RATE OF 0.5 % OF THE COST OF UNDELIVERED MATERIALS PER WEEK OR PART THEREOF SUBJECT TO MAXIMUM 05 % OF THE COST OF UNDELIVERED MATERIALS. IF DELAY IS BEYOND 10 WEEKS OR LESS DEPENDING UPON THE REQUIREMENT, THE BUYER RESERVE THE RIGHT TO CANCEL THE P.O. AND COLLECT THE MATERIALS FROM ANY OTHER SOURCE AT THE RISK OF ORIGINAL SUPPLIER WITHOUT MAKING ANY REFERENCE TO HIM. THE ADDITIONAL FINANCIAL INVOLVEMENT OCCURS IF ANY FROM PROCURING OTHER SOURCE SHALL BE RECOVERED FROM YOU.

22.0 (A) **PREPARATION OF COMPARATIVE STATEMENT**

VENDOR SHOULD NOTE FOLLOWING,LOADING FACTORS TO BE USED BY OPGC DURING EVALUATION PROCESS IN CASE THE SAME HAS NOT BEEN CONSIDERD DURING OFFER SUBMISSION.

P&F CHARGES	2%
FREIGHT LESS THAN 300 KMS	3%
300 KMS. TO 500 KMS.	4%
500 KMS. TO 1000 KMS.	5%
ABOVE 1000 KMS.	6%
INSURANCE	0.086%

(NOTE: PERCENTAGE LOADING WILL BE LIMITED TO FULL TRUCK/TRAILER LOAD RATE FOR EACH TRUCK LOAD).

(B) **PAYMENT TERMS LOADING**

1.5% PER MONTH (WHEREVER PARTIES HAVE QUOTED 100% THROUGH BANK/ADVANCE AGAINST OUR STANDARD AND PAYMENT TERMS OF BID DOCUMENTS)

IN CASE OF PAYMENT THROUGH BANK LOADING FOR A PERIOD 30 DAYS AND IN CASE OF ADVANCE PAYMENT ALONG WITH P.O. THE LOADING FOR THE PERIOD OF DELIVERY PERIOD PLUS 30 DAYS, MAY BE TAKEN. IN CASE OF 90% THROUGH BANK & BALANCE 10% WITHIN 30 DAYS AFTER RECEIPT AND ACCEPTANCE OF MATERIALS.

LOADING FACTOR WILL BE $1.5 \times 0.9 = 1.35\%$. ACCORDINGLY, FOR OTHER PAYMENT TERMS LOADING FACTORS WILL BE CALCULATED.

(C) **DELIVERY TERM LOADING:** IF THE DELIVERY PERIOD REQUIRED AS PER BID REQUIREMENT IS DEVIATED THE LOADING SHALL BE DONE @0.5% PER WEEK OR PART THEREOF FOR THE PERIOD OVER AND ABOVE THE STIPULATED DELIVERY PERIOD.

23.0 LOADING PROCEDURES

BASIC PRICE

PACKING & FORWARDING CHARGES (ON BASIC PRICE ONLY)

FREIGHT ON (BASIC + P&F)

INSURANCE ON (BASIC + P&F + FREIGHT)

GST (BASIC + P&F + FREIGHT+INSURANCE)

PAYMENT TERMS LOADING ON (BASIC + P&F + FREIGHT+GST)

24.0 WEIGHT/LENGTH VARIATION

IN CASE THE PAYMENT IS DONE ON WEIGHING THE CONSIGNMENT AT SITE, ALLOWABLE TOLERANCE OF +/- 0.25% SHALL BE APPLICABLE. THIS TOLERANCE SHALL BE ALLOWED AS WEIGH BRIDGE TOLERANCE DUE TO WEIGHMENT IN TWO DIFFERENT WEIGH BRIDGE (IF AVAILABLE). FOR ANY VARIATION BEYOND THIS ALLOWABLE TOLERANCE NECESSARY ADJUSTMENT SHALL BE MADE DURING RELEASING PAYMENT BY WAY OF SUBMISSION OF CREDIT NOTE BY THE VENDOR. IF THE WEIGHT VARIATION IS +/- 0.25% FROM THE INVOICED WEIGHT/CHALLAN WEIGHT THE INVOICED WEIGHT WILL BE ACCEPTED FOR THE PURPOSE OF ACCOUNTAL AS WELL AS PAYMENT. IF THERE IS THREE CONTINUOUS NEGATIVE TOLERANCE IS FOUND NO MORE TOLERANCE SHALL BE ALLOWED. VENDOR SHALL HAVE TO SUBMIT THE CREDIT AS PER WEIGHMENT BY OPGC.

25.0 FORCE MAJEURE

ANY DELAY OR FAILURE TO PERFORM THE CONTRACT BY EITHER PARTY CAUSED BY ACTS OF GOD OR ACTS OF GOVERNMENT OR ANY DIRECTION OR RESTRICTION IMPOSED BY GOVERNMENT OF INDIA WHICH MAY AFFECT THE CONTRACT OR THE PUBLIC ENEMY OR CONTINGENCIES LIKE STRIKES, RIOTS ETC. SHALL NOT BE CONSIDERED AS DEFAULT FOR THE PERFORMANCE OF THE CONTRACT OR GIVE RISE TO ANY CLAIM FOR DAMAGE. WITHIN 7 DAYS OF OCCURRENCE AND CESSATION OF THE EVENT(S), THE OTHER PARTY SHALL BE NOTIFIED. ONLY THOSE EVENTS OF FORCE MAJEURE WHICH IMPEDES THE EXECUTION OF THE CONTRACT AT THE TIME OF ITS OCCURRENCE SHALL BE TAKEN INTO COGNIZANCE.

26.0 PATENTS, ROYALTIES, SELLER'S LIABILITY AND COMPLIANCE OF REGULATIONS

VENDOR SHALL PROTECT AND FULLY INDEMNIFY THE PURCHASER FROM ANY CLAIMS FOR INFRINGEMENT OF PATENTS, COPY RIGHT, TRADE MARK OF THE LIKE. SELLER SHALL ALSO PROTECT AND FULLY INDEMNIFY THE PURCHASER FROM ANY CLAIMS FROM SELLERS WORKMAN/EMPLOYEES, THEIR HEIRS, DEPENDENTS, REPRESENTATIVES ETC. OR FROM ANY OTHER PERSON/PERSONS OR BODIES/COMPANIES ETC. FOR ANY ACT OF COMMISSION OR OMISSION WHILE EXECUTING THE ORDER. SELLER SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL REQUIREMENTS UNDER THE LAWS AND SHALL PROTECT AND INDEMNIFY COMPLETELY THE PURCHASER FROM ANY CLAIMS/PENALTIES ARISING OUT OF ANY INFRINGEMENT.

27.0 SECURITY DEPOSIT

THE BIDDER SHALL SUBMIT SECURITY DEPOSIT I.E. 05% OF THE P.O. BASIC VALUE IN SHAPE OF DD/IRREVOCABLE BANK GUARANTEE VALID FOR SIX MONTH/UP TO DELIVERY PERIOD WHICHEVER IS LATER PLUS 2-MONTH CLAIM PERIOD FROM A NATIONALIZED BANK EXECUTED ON NON- JUDICIAL STAMP PAPER OF APPROPRIATE VALUE TOWARDS EXECUTION OF THE CONTRACT. SECURITY DEPOSIT SHALL BE RELEASED AFTER SUPPLY IS COMPLETE. IF THE SUPPLIER FAILS OR REGRETS TO OBSERVE OR PERFORM ANY OF HIS OBLIGATIONS UNDER THE CONTRACT, IT SHALL BE LAWFUL FOR THE PURCHASER TO FORFEIT EITHER IN WHOLE OR PART, IN HIS ABSOLUTE DISCRETION, THE SECURITY-DEPOSIT FURNISHED BY THE SUPPLIER. THE FORFEITURE OF SECURITY DEPOSIT SHALL BE WITHOUT PREJUDICE TO THE RIGHT OF THE PURCHASER TO RECOVER ANY FURTHER AMOUNT OF ANY LIQUIDATED AND / OR OTHER DAMAGES, UNDUE PAYMENT OR OVER PAYMENT MADE TO THE SUPPLIER UNDER THIS CONTRACT OR ANY OTHER CONTRACT. NO CLAIM OF THE SUPPLIER SHALL BE ENTERTAINED AGAINST THE PURCHASER EITHER IN RESPECT OF INTEREST OR DEPRECIATION IN THE VALUE OF SECURITY DEPOSIT. SECURITY DEPOSIT IS TO BE SUBMITTED WITHIN 30 DAYS OF PLACEMENT OF LOI/PO.

28.0 PERFORMANCE BANK GUARANTEE: PERFORMANCE BANK GUARANTEE VALID FOR A PERIOD OF 15 MONTHS (12 MONTHS + 03 MONTHS GRACE PERIOD) FROM THE RECEIPT OF MATERIALS OR 12 MONTHS FROM THE DATE OF USE.

29.0 LANGUAGE

THE CONTRACT INCLUDING THE PURCHASE ORDER AND ALL SCHEDULES, ANNEXURES (IF ANY) AND RELATED DOCUMENTS AND COMMUNICATIONS AND NOTICES ISSUED PURSUANT TO OR IN CONNECTION WITH ITS PROVISIONS, SHALL BE IN ENGLISH. IN THE EVENT THE CONTRACT, ITS SCHEDULES, ANNEXURES (IF ANY) OR ANY RELATED DOCUMENT IS TRANSLATED INTO OR IS IN ANY OTHER LANGUAGE, THE ENGLISH VERSION THEREOF SHALL TAKE PRECEDENCE AND CONTROL THE INTERPRETATION THEREOF.

PREPARATION OF BID:

The bidder(s) shall submit the bid in two part, namely-

- I) Techno commercial Bid and
- II) Price bid
- III)

PART-I: TECHNO-COMMERCIAL BID

A complete set of original Tender documents as issued to the Bidder duly filled in as prescribed in different clauses of the Tender documents with signature & stamp in all pages as token of unconditional acceptance shall constitute Techno-commercial Bid.

The bidder shall enclose the following documents in this bid.

- Crossed demand draft for requisite amount drawn in favor of Odisha Power Generation Corporation Ltd. in the manner prescribed above towards the earnest money and tender cost without which the tender will be summarily rejected.
- Bidder must clearly specify whether they have quoted or Not Quoted & also indicate the make/brand quoted against each item unpriced bid format enclosed in the tender document.
- GST Certificate copy.
- PAN Certificate copy
- Supporting documents as mentioned in qualifying criteria.

Note: if required additional sheet may be used to furnish all above information but in the format provided in general conditions of contract.

The techno-commercial bid with all its enclosures as mentioned should be put in an envelope, sealed & super scribed as "techno-commercial bid". This envelope must contain name of the work, NIT no., due date of opening and name & address of the bidder on bottom left-hand corner of the cover.

PART-II: PRICE BID

Kindly submit the Price bid in a different envelope as mentioned in the table above.

Price bids of only those bidders will be opened who meet as per qualification criteria given below. The Owner shall not entertain any correspondence with any Bidder in relation to the acceptance or rejection of any Price Bid.

PART-I (TECHNO-COMMERCIAL BID)

QUALIFYING CRITERIA:

- (i) Vendor must be manufacturer/authorized stockiest/dealer/distributor/trader and shall submit valid documents in support of the same in the cases of stockiest/dealers/distributors/traders.
 - (ii) Vendor shall submit requisite EMD either in the shape of DD/PBG in the format as prescribed/ through NEFT or RTGS.
 - (iii) Bidder shall submit photo copy of PAN & GST registration certificate.
 - (iv) The bidder shall be Original Equipment Manufacturer (OEM) of the offered battery set (220V, 350AH, Plante/Tubular). The offered battery set has to be designed, manufactured and tested as per relevant IS/IEC with latest amendments.
 - (v) The minimum requirement of per annum manufacturing capacity of offered type, size and rating of equipment shall be 5 times tender / bid quantity. The bidder should indicate manufacturing capacity by submitting latest updated certificate of a Chartered Engineer (CE).
 - (vi) The bidder should have executed during last three years:
 - One single contract for the supply of offered battery set, amount equivalent to 8 Lakhs of the tender value.
 - OR
 - Two contracts for the supply of battery set, each contract equivalent to 5 lakhs of the tender value.
- The details of the executed contracts are to be submitted in the format as given in Annexure II.
- (vii) Equipment offered shall have Type Test Certificates from accredited laboratory (accredited based on ISO/IEC Guide 25 / 17025 or EN 45001 by the National accreditation body of the country where laboratory is located), as per IEC / IS / technical specifications not older than FIVE (5) years and valid till validity of offer.

SPECIAL INSTRUCTIONS TO BIDDER

The bidder has to comply with the following points during submission of the bid.

1. The party has to supply the 220V, 350AH, Plante/Tubular Type Battery set and its accessories as per the technical specifications given in Annexure I.
2. The bidder must fill up all the points of Guaranteed Technical Particular (GTP) for offered item/s as attached in Annexure III. Instead of indicating “refer drawing, or as per IS/IEC”, the exact value/s must be filled in.
3. In case if deviations are observed in the GTP with respect to Annexure I, OPGC reserves the right to cancel the bid.
4. The bidder shall bring out all the technical deviation/s only at the specified Annexure IV. However, acceptance of the deviation is prerogative to OPGC. Also, if required, financial loading will be done on the deviation taken for evaluation of the bid.
5. All the drawings, i.e. elevation, side view, plan, cross sectional view etc., in AutoCAD Format and manuals in PDF format, for offered item shall be submitted. Also the hard copies as per specification shall be submitted.
6. The bidder shall submit Quality Assurance Plan for manufacturing process and Field Quality Plan along with the technical bid.
7. The bidder shall have to submit all the required type test reports for the offered item.
In case of non-submission of the type test reports with the offer, the bid shall be liable to be rejected.
8. All the points other than Guaranteed Technical Particular (GTP), which are asked to confirm in technical specifications must be submitted separately with the bid.
9. Commissioning of the supplied battery set has to be done by the party awarded with the order to supply the battery set. The commissioning of the battery set has to be done as mentioned in clause (13) of Annexure I.
10. The bidder is required to impart training in view of manufacture, assembly, erection, Operation and maintenance for offered item, at his works, to the person/s identified by OPGC, in the event of an order, free of cost. OPGC will bear the cost of logistics.

11. Please note that the evaluation will be carried out on the strength of content of bid only. No further correspondence will be made.

Annexure-I

**TECHNICAL SPECIFICATIONS OF 220V, 350AH, PLANTE/TUBULAR TYPE
BATTERY SET**

1.0 SCOPE:

1.1 This specification covers the design, manufacture & testing of 220V, 350 AH, Plante/Tubular type battery set at the manufacturer's works and supply at site. It also includes supply of battery stand and all accessories mentioned in this specification.

2.0 APPLICABLE STANDARDS:

2.1 Unless otherwise specified in this specification, the lead acid batteries shall comply with the following standards and latest amendments revision thereof.

- | | |
|-----------------|--|
| a) IEC 60896-11 | General requirements & methods of tests for stationary lead acid batteries. |
| b) IS: 1885 | Electrical vocabulary – Stationary cells and batteries. |
| c) IS: 1651 | Specification for Lead Acid Batteries with High Discharge Performance Tubular Cells |
| d) IS: 1146 | Specification for hard rubber and plastic containers for lead acid storage batteries. |
| e) IS: 6071 | Specification for synthetic separators for lead acid batteries |
| f) IS: 266 | Specification for sulphuric acid |
| g) IS: 1069 | Specification for water for storage batteries |
| h) IS:8320 | General requirements for methods of tests for lead acid storage batteries. |
| i) IEEE - 485 | IEE recommended practice for sizing of large lead acid storage batteries for generating stations and sub stations. |
| j) IEEE-484 | Recommended practice for design and installation of storage batteries. |
| k) IS: 652 | Specification for wooden separators for lead acid batteries. |
| l) IS: 3116 | Specification for sealing compound for lead acid batteries. |

3.0 WEATHER CONDITION:

For the purpose of designing, following climatic conditions shall have to be considered:

- 3.1 Monsoon prevails generally from the months of June to October will showers sometimes heavy, smoky, industrial and foggy.

3.2 Elevation above Mean Sea Level: 218 M

3.3 Maximum Ambient Temperature: 47°C

3.4 Minimum Ambient Temperature: 7°C

3.5 Maximum Daily average Air Temperature in shade: 40°C

3.6 Average Relative Humidity: 63.9%

3.7 Average Rainfall per Annum: 144.5 cm

3.8 Seismic Consideration: The sites fall within Seismic Zones – II as classified in the IS :1983 (1984)

3.9 Pollution Level: Heavily Polluted

4.0 APPLICATION

The device shall be installed in indoor location within the Battery Room of Sub-stations to provide Auxiliary DC Power Supply for following applications:

- a) Emergency lighting
- b) Circuit breaker/ switchgear/ protective relay operations
- c) Equipment supervision indication
- d) Audio visual annunciation.

Under normal conditions, Auxiliary DC Power Supply for continuous load will be met from the Battery Charger and Storage batteries should be kept under float or boost charging condition.

But in case of Circuit Breaker/ Switchgear/ Protective Relay operation and/ or in the event of failure of incoming AC power supply to Battery Charger, required Auxiliary DC Power Supply shall be met from Storage Batteries.

5.0 CONSTRUCTIONAL FEATURES & GENERAL REQUIREMENT:

5.1 Cell Voltage

- a) The battery set shall be of the capacity 220V, 200 AH, Plante/Tubular type as per requirement of tender.
- b) Battery of 220V, 200 AH rating shall consist of 110 numbers of series connected Plante/Tubular cells of 2.0 Volts each, having 200 Ampere Hour capacity at 10 Hours discharge rate.

- c) The batteries shall be suitable for a long life under continuous float operations at 2.15 to 2.25 volts per cell and occasional discharges and shall be stationary lead acid type with high discharge performance (HDP) confirming to IS: 1651 (latest edition) suitable for Indoor operation.

5.2 Charging Rate

- a) Fully discharged batteries get recharged at 25/35 Amps rate for 10 hours at room temperature. The trickle charge rate shall be **50-100mA**.
- b) The nominal voltage of a single cell shall be not less than 2 Volts at the beginning of the charging.
- c) The trickle charging voltage per cell shall be within 2.25 Volts to 2.3 Volts.
- d) The boost charging voltage per cell shall be within 2.35 Volts to 2.75 Volts.
- e) At the end of the charging, cell shall be floated easily around 2.25 Volts without causing adverse corrosion or loss of water.

5.3 Positive Plates

The positive plate shall be of Tubular gauntlet type. Plates shall be made of high pressure cast special Lead Antimony alloy spines in complete contact with superior active material, effectively retained in multi-tube woven gauntlet of high tensile acid-resistant polyester & shall be free from any kind of manufacturing defects. It shall be electrochemically formed & shall be capable of operating under normal working condition without buckling or cracking. Welding together of smaller size lead casting/plates to form larger sizes will not be acceptable. It should be genuine Tubular type of plate only & not so called equivalent type. The plates shall be designed for maximum durability during all service condition including high rate of discharge and rapid fluctuation of load.

5.4 Negative Plates

The negative plates shall be of flat pasted type consisting of sturdy lead antimony alloy grid filled with active material. It should have adequate mechanical strength and should be so designed that active material is maintained in intimate contact with the grid under normal working conditions throughout the life of the battery.

5.5 Plate Connections

The plug of the plates of like polarity shall be connected to terminal post for external connections. Suitable plastic buffer, molded bottom plate support shall be used for holding plates in proper position.

5.6 Separators

The separators should be of High Porosity polyethylene envelope form permanent insulating diaphragms between the plates. It should be acid resistance, chemically inert & should have

excellent oxidation resistance & high degree of porosity to ensure low electrical resistance. It should not exhibit any tendency to swell or shrink at temperature encountered during operation.

5.7 Heavy Duty Terminal Posts & Polarity Marking

Positive and negative terminal posts of the cells shall be clearly and unmistakably identifiable. The polarity of the terminals shall be marked for identification. The positive terminals may be identified by “P” or a (+) sign of red colour mark and the negative terminals may be identified by “N” or (-) sign of blue colour mark. Marking shall be permanent and non-deteriorating. Terminal posts shall be designed to accommodate external bolted connections conveniently and positively. The terminal post size should be capable of carrying current so as to conform to BS 6290 Part II 1999. All metal parts of the terminals shall be of lead or lead coated type. Bolts, heads and nuts, except seal nuts, shall be hexagonal and shall be lead covered. Terminal posts shall be adequately fixed to prevent its turning or twisting when the connectors are being fixed or removed. The junction between terminal posts and cover shall be adequately sealed to prevent any seepage of the electrolyte. All terminals shall be provided with insulated covers (Shrouds).

5.8 Container

The containers should be moulded from transparent **Styrene Acrylonitrile (SAN)/PPSFM** giving excellent clarity, outstanding chemical resistance, rigidity and toughness with very high insulating qualities which eliminate the need for separate cell insulators. It should have adequate Mechanical strength to prevent bulging, cracking etc. during the life span of battery when operating under expected temperature range and due to action of static and dynamic loads and the action of electrolyte. The container shall provide permanent transparency to enable visual inspection of electrolyte level and internal condition of cell. Recommended electrolyte level shall be clearly and indelibly marked.

5.9 Cell Lid

Cell lid for covering cell container shall be made from high quality non-corrosive plastic materials and shall have provision for easy removal.

5.10 Vent Plug

The vent plugs should be specially designed incorporating a micro porous ceramic filter which effectively returns all acid spray to the cell, but allow free exit of oxygen and hydrogen which is generated at the end of boost charging. On removal, the plugs shall permit draining of the electrolyte sample for servicing and of checking of the electrolyte level.

5.11 Electrolyte

The electrolyte shall be battery grade sulphuric acid conforming to latest edition of IS 266-1977 diluted with distilled water to specific gravity 1.20 at 27°C. The lead acid cell batteries shall be supplied in dry and uncharged condition. Diluted sulphuric acid of approved quality and required quantity shall be supplied in separate non-returnable porcelain or any other acid & corrosive proof

jars. 10% extra quantity shall be supplied in non-returnable, non-degradable acid resistant strong plastic containers. Water used in preparation of electrolyte and also for periodic topping up during the course of operation or testing shall conform to the latest edition of IS-1069.

5.12 Cell Pillars and Connectors

Cell Pillars and Connectors should be adequately designed to offer minimum impedance and shall be made from highly conductive material of lead alloy having generous cross section ideally suited for high current duties.. The current carrying area of the connectors shall conform to the requirement of BS 6290 Part II 1999. While considering the terminal voltage of the cell at the time of testing for discharge, the voltage drop due to inter-row and inter-cell connectors shall be considered. Connectors shall be of lead plated copper.

The lead coating shall be adequate and tenacious. Minimum thickness of lead coating shall be 25 microns. Connectors shall be adequately designed to withstand various stress due to temperature changes, attack of acid and dynamic forces that could occur during the operation of the battery.

5.13 Battery Stand

The construction of the stand shall be suitable for mounting on a flat concrete floor. The stand shall be rigid, free standing type and free from warp and twist. The stand should be made up of MS channels/angles with FRP coating of min.5.0 mm or of pure FRP material. The FRP stand shall also be non reactant to acid. The stand should be designed considering all aspect of loading and safety, ***so as to withstand the loading of battery set throughout its life, which shall be supported by load bearing calculation.*** The lower tier of the stand will be at the height of 300 mm from the ground level. Support angle should be provided for each rack so as to safeguard each battery cell from falling or declining. There shall be sufficient space between two tiers of stand so that maintenance of battery cells of lower tier can be done easily. Necessary supports for power cable connected to end takeoff terminals shall be mounted on the stand. Number plate to designate each cell of battery shall be provided and shall be attached on the rack. Provision shall be made for clamping outgoing cable on the rack.

5.14 Important Design Consideration

Plate connectors and plate shall be designed to contribute maximum effective surface area, maximum electrical conductivity and superior voltage characteristics throughout service life. The plates shall be designed for maximum performance durability and shall not buckle during different service conditions, i.e. high rate of discharge and rapid fluctuation of load.

5.15 Accessories

The bidder shall supply the battery set with stand (as mentioned in clause 3.0 and its sub-clauses) with accessories and devices as stated here under:

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5.15.1 List of accessories as part of the battery set for installation and commissioning of the battery as mentioned in tender:

- i. One set of inter-cell, inter raw, inter-tier, inter rack, end take off connectors and lugs for termination of cables as required for the complete installation.
- ii. One set of stand insulators of hard rubber material.
- iii. Required quantity of Electrolyte which shall be prepared from **battery grade sulphuric acid confirming to IS: 226 and distilled water confirming to IS: 1069**
- iv. Electrolyte for first filling with 10% extra shall be supplied in nonreturnable containers. (Type of electrolyte, qty per cell, total first filling qty and total qty, no. of containers (Carboys) may please be specified in GTP).
- v. 110 Nos. of cell number plates (*No stickers*) and fixing pins / screws
- vi. Lead plated MS or acid proof stainless steel Bolt & nuts. (Size and quantity may please be mentioned in GTP).
- vii. Each cell shall be provided with ceramic type vent plug. It shall be anti-splash type, having more than one exit hole and shall allow the gases to escape freely but shall prevent acid from coming out.

S.No	Details	Qty
1	V2B Syringe type Hydrometer set	1 NO
2	Mercury in Glass Chemical Thermometer Range : 0-100°C having suitable scale representing 1°C temperature rise	1 NO
3	Wall mounting plastic holder for hydrometer & thermometer	1 Set
4	Insulated Spanner and other insulated special tools as required for Battery Maint.	1 Set
5	10 oz Plastic Syringe for battery maintenance	1 NO
6	Acid resistive Plastic funnel 150 mm dia	1 NO
7	Rubber Syphon, 12.7 mm dia, 2 meters long	1 NO
8	Rubber Apron for battery maintenance	1 NO
9	Rubber gloves for battery maintenance	1 Pair
10	Acid Resisting Plastic Jug, 2 liters capacity	1 NO
11	Rubber Boots knee height for battery maintenance	1 Pair

- viii. Nylon brushes with stout bristles for cleaning connections
- ix. Log book for

- x. Any item not specified above but which is needed for maintenance & efficient working of batteries may be indicated separately without extra cost.

5.15.2 List of accessories required to be supplied separately for routine maintenance of battery

5.16 QAP

Bidder shall submit the Manufacturing Quality Plan showing all the details along with the offer.

5.17 Spares

A separate **List of Spares** for each set as recommended by the supplier for 3 (three) years satisfactory operation **along with prices** shall be submitted with the tender.

6.0 Packing & Delivery:

Battery shall be supplied in dry and uncharged condition suitably packed, securely in wooden crates. Packing shall be suitable for handling during transit by Rail / Road and secured to avoid any loss or damage during transit.

7.0 PRICES

Prices shall be quoted separately for Plante/Tubular Battery (without Acid), Electrolyte, Inter-row/tier connector, battery stand and accessories. Prices shall be quoted separately also for recommended spares.

8.0 Tests & Reports:

The bidder shall submit the complete type, routine and acceptance test reports as stated hereunder for the offered item along with the offer otherwise ***the offer shall be liable to be rejected***. These tests must have been conducted in the Govt. approved laboratory ***as per IS 1651 & IEC 60896 – 11*** within last 5 years prior to date of validation of the offer from CPRI/NABL accredited/Govt. recognized Test House or Laboratory.

8.1 Type Tests:-

- a) Verification of constructional requirements (As per IS 1651).
- b) Verification of marking and packing (As per IS 1651).
- c) Verifications of dimensions (As per IS 1651).
- d) Capacity test (As per IEC 60896 – 11)
- e) Charge Retention Test (As per IEC 60896 – 11)
- f) Endurance in discharge – charge cycles (As per IEC 60896 – 11)
- g) Endurance in overcharge (As per IEC 60896 – 11)
- h) Test of suitability for floating battery operation (As per IEC 60896 – 11)
- i) Short circuit current and internal resistance Test (As per IEC 60896 – 11)
- j) Ampere- hour and watt-hour efficiency tests (As per IS 1651).
- k) Test for voltages during discharge (As per IS 1651).
- l) Any other recommended type tests not covered in the above list.

8.2 Routine & Acceptance Tests:-

Routine and Acceptance Tests shall have to be carried out in compliance with the provision made in the relevant standards at the works of the manufacturer. The Routine and Acceptance Tests shall have to be conducted in presence of authorized representatives of the purchaser before effecting delivery. The manufacturer shall have to arrange all facilities for such inspection and tests, free of cost.

- a) Visual inspection including marking and packing.
- b) Dimensional check.
- c) Capacity test.
- d) Test for voltage during discharge.
- e) **Battery Impedance Measurement Test.**
- f) All other routine and acceptance tests not covered in the above list.

Note: - Battery Impedance Measurement Test shall also be the routine test and Signature Value (Battery Impedance) of all the cells shall invariably be submitted with routine test reports.

8.3 Test Certificate

- a. Type Test Certificate(s) complete in all respect and **conducted on similar equipment** shall have to be submitted, in triplicate, along with the Tender.
- b. Six (6) copies of Routine and Acceptance Test Reports conducted on offered equipment shall be furnished to the purchaser by the successful Bidders for approval before effecting dispatch of equipment from the works.
- c. Type Tests (after issuance of order) :

Besides submission of Type Test Report(s), carried out within five years as per Tender Specification, Type Tests, at the discretion of Ordering authority, shall have to be arranged by the successful contractor from any lot offered for inspection, sample chosen at random after successful Routine Test by our Inspection Team, as per relevant ISS from CPRI/NABL accredited/Government recognized Test House or Laboratory in presence of OPGC'S representative.

9.0 DRAWINGS AND DATA:

9.1 All the bidders shall submit along with their offer the following drawings in Hard and soft copy.

- i. Set of GA Drawing for complete battery sets, battery stand and individual battery cell drawing with sectional view.
- ii. Technical literature/Manuals
- iii. Manufacturing Quality Plan
- iv. Quality Assurance Plan
- v. Field Quality Plan
- vi. Performance curves/write-up on working of battery. The Data submitted shall be adequate to evaluate the performance/quality of item offered.
- vii. General Arrangement drawing showing details of the size & qty of steel sections for FRP stands and placement of batteries in battery stand as well as layout of rack with details of components
- viii. Instruction, commissioning, operation and maintenance manual. The manual shall clearly indicate the installation and preservation methods, check-ups and tests to be carried out before during and after commissioning of the equipment.

- ix. Descriptive leaflets showing characteristics of battery.

9.2 The successful bidder shall submit three sets of following drawings in hard and soft copy for purchaser's approval before dispatch of.

- i. Set of GA Drawing for complete battery sets, battery stand and individual battery cell.
- ii. Complete bill of material of battery set and accessories indicating make, material, quantity, size & type wherever applicable.
- iii. Sectional view showing interior construction of the battery cell. It shall also include the information of C/S area of positive and negative plates, container dimensions, type/grade and quantity of electrolyte.
- iv. The detailed drawing showing the size & quantity of steel sections for FRP stand.
- v. Technical literature/Manuals covering manufacturer's instructions for filling and initial charging of the battery together with starting and finishing charging rate, maintenance instructions and storage conditions of electrolyte and battery cells.
- vi. In addition to above, every crate of complete set of equipments to be dispatched by the successful bidder shall also contain in water proof folder, necessary set of drawings, literatures, tests, manuals and leaflets for commissioning, operation and maintenance at site.

10.0 DEVIATION

All deviations from the specification shall be recorded in the "Schedule of Deviation Sheet" as given in Annexure-IV with reference to respective clause of the specification. Tenderer shall draw specification for such departure. Unless deviations are recorded in the "Deviation Sheet" and submitted with the offer, it will be taken for granted that the offer is made in conformity with the specification.

11.0 CREDENTIALS

Tenderer shall have to furnish documents in support of past supply, delivery and satisfactory performance of similar equipment as given in Annexure-II.

12.0 DOCUMENTS TO BE SUBMITTED AT THE TIME OF PHYSICAL DELIVERY TO THE CONSIGNEE STORES

The following documents to be submitted by the Vendors to the Consignee Stores at the time of physical delivery:-

- a) Copy of Purchase Order.
- b) Copy of Dispatch Instruction.
- c) Inspection Test Certificate.
- d) Guarantee Certificate.
- e) Proforma Invoice.
- f) Calculation Sheet for price Variation on the basis of IEEMA or CACMAI as applicable with base date of order.
- g) Seal list and packing list.
- h) Challan in triplicate.
- i) Way bill, if applicable.

13.0 COMMISSIONING:

The first commissioning of entire battery set at site shall be in the scope of the Bid. The successful Bidder/s shall have to carry out first commissioning of each battery set at site. The successful bidder shall arrange for all the necessary equipment, including the variable resistor, tools, tackles, and instruments along with mobilization of service engineer.

Scope of work and Terms and condition for Erection, testing and commissioning of 220 Volts, 350AH, Plante/Tubular Type battery set at 220KV Switchyard Battery Room of ITPS.

(A) Dismantling of existing 220 V DC battery set. Specifications of existing battery set are: 110 nos. of 2VDC, 350AH, YKP-29, M/s Exide make.

1. Contractor has to completely dismantle the existing 220 Volts D.C. battery set located at 220KV Switchyard Battery Room of ITPS.
2. Before starting of dismantling work, necessary clearance for carrying out said work will be given by EMD engineer after confirming proper isolation from system. However contractor has to confirm proper isolation from system and use of proper PPE's, acid proof apron, face visor, acid proof hand gloves, gum boots, etc prior to start of work.
3. Necessary power and control cables are to be disconnected. While disconnection, proper marking is to be carried out so that same can be re-commissioned with the new battery set.
4. All inter connection / links which are connected to existing 220 Volts battery set are to be disconnected safely.
5. After complete disconnection from the system, the battery set is to be dismantled from the foundation. Care has to be taken that there is no spillage of sulphuric acid from the old batteries while dismantling and shifting.
6. The dismantled battery set is to be taken by the vendor as per buyback scheme as mentioned in clause no. (14). Contractor has to arrange for the transport of the old dismantled battery from site to the workshop/factory of the contractor.
7. Contractor has to clean the site after complete dismantling of existing battery set so that work of erection of new battery set can be started without any delay.

(B) Erection, Testing and Commissioning of New 220 V DC battery set

1. Arrangement of supplied battery stand & locating cells on stand etc. work is to be arranged by party.
2. Shifting of cells, Electrolyte, standard accessories etc. and unpacking of cells, physical verification of cells etc. is to be carried out by party.
3. 1st Charging of cells is to be carried out as per standard procedure for installation and commissioning of OEM and taking reading thereof.
4. Checking of charger healthiness, connection of Nuts and bolts, filling of Electrolyte etc work is to be arranged by party.
5. Adjusting of Sp gravity/voltage and levels as per requirement.
6. Submission of record and report of charging-in duplicate.

7. Special end connector of suitable size to terminate cable at battery end is to be provided by the party without any extra cost.
8. Required man power and other materials are to be arranged by party at his own cost. No material will given by OPGC.
9. Electrical supply connection will be given for above work free of cost at one point.
10. Tools and special arrangement required for the job will be arranged by the contractor.
11. The work has to be done and completed as per full satisfaction of Engineer in Charge.

14. BUY BACK OF OLD BATTERY BANK

Vendor shall quote buy back price along with the offer for the old 220VDC battery bank with the following specification.

Make: M/s Exide

Type: Plante Type

Capacity: 350 AH

Voltage of Each Cell: 2VDC

Model: YKP-29

No. of Cell: 110

Vendor shall provide credit note for the buyback rates of old battery bank after completion of all the work.

Annexure-II

SCHEDULE OF MAJOR SUPPLIES EFFECTED DURING LAST THREE YEARS

Sr. No.	Name & Complete Address of the Purchaser	Purchase Order No.	Date on which equipment was supplied	Date on which the equipment was commissioned	Remarks.
1	2	3	4	5	6

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Annexure-III

SCHEDULE OF GUARANTEED TECHNICAL PARTICULAR FOR 220 V, 350AH Plante/Tubular TYPE BATTERY (To be filled up along with offer of Battery Set)

350 AH Battery Capacity

- | | | | | |
|---|---|----|----|------------------------|
| 1. Name of Manufacturer | : | | | |
| 2. Application Standards | : | | | |
| 3. Type and designation as per standards | : | | | |
| 4. Manufacturer's type & designation | : | | | |
| 5. Capacity and voltage at 27°C | : | AH | WH | Final Voltage in Volts |
| a. At 10 hrs rate of discharge | : | | | |
| b. At 5 hrs rate of discharge | : | | | |
| c. At 3 hrs rate of discharge | : | | | |
| d. At 1 hrs rate of discharge | : | | | |
| e. At 1 minute rate of discharge | : | | | |
| 6. Cell Details | | | | |
| a. No. of Cell per battery | : | | | |
| b. No. of positive plates per cell | : | | | |
| c. Total No. of plates per cell | : | | | |
| d. Type of positive plate | : | | | |
| e. Type of negative plate | : | | | |
| f. Surface area of plate in sqmm | : | | | |
| g. Construction details, cross sectional area,
Dimensions and material of | | | | |
| i. Positive Plates | : | | | |
| ii. Negative Plates | : | | | |
| h. Rated current of each positive plate | : | | | |
| i. Construction details of separators including
Thickness, type and material | : | | | |
| j. Cell Container Details | | | | |
| i. Length | : | | | |
| ii. Width | : | | | |
| iii. Height | : | | | |

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- iv. Material of the container :
 - k. Overall dimension of cell in mm
(Including cell height) :
 - l. Weight of each cell
 - i. Without acid :
 - ii. With acid :
 - m. Clearance in mm between
 - i. Top of plates and top of container :
 - ii. Bottom of plates and bottom of
Container :
 - iii. Edges of plates and inner surface
of container :
 - n. Cell Lid Details
 - i. Material :
 - ii. Type :
 - iii. Dimension in mm :
 - o. Vent Plug Details
 - i. Material :
 - ii. Type :
 - iii. Feature :
- 7. Details of electrolyte
 - a. Applicable standard of electrolyte :
 - b. Type and Grade of Electrolyte :
 - c. Quantity of electrolyte & specific gravity
at 27°C for first filling in each cell :
 - d. Quantity (ltr) of electrolyte required for 110
Nos. of Lead Acid Tubular HDP type cells :
 - e. Quantity of 10% extra electrolyte in Liters:
 - f. Grand total qty of electrolyte in Liters :
 - g. Specific gravity of electrolyte at 27°C
with all cells fully charged :
 - h. Specific gravity of electrolyte at 27°C
with all cells fully charged :
- 8. Voltage Rating of each cell when battery is
 - a. Floating :
 - b. Nominal charged :
 - c. Fully charged :
- 9. Ampere-hour capacity :
- 10. Charging Rate
 - a. Normal charging rate :
 - b. Starting charging rate :
 - c. Finishing charging rate :
 - d. Trickle charging rate :
 - e. Discharge rate on 3 Minutes
basis in Amp. at end voltage :

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1.85 V/Cell for lead acid Battery cell			
11. Recommended rate of first charging battery cells	:	Start	Finish
a. Current in Amps	:		
b. Voltage in volts	:		
c. Total minimum input during initial charging in AH	:		
12. Recommended float charge rate	:		
13. Recommended float charge voltage across the battery terminals	:		
14. Recommended boost charge voltage across the battery terminals	:		
15. Guaranteed AH efficiency at 10 hr. rate of discharge	:		
16. Guaranteed WH efficiency at 10 hr. rate of discharge	:		
17. Internal Resistance of charged cell in Milli ohm	:		
18. Resistance of the charged battery including inter connector between the cell in ohms	:		
19. Short Circuit Current for dead short circuit across they battery terminals when	:		
a. Battery in floating mode	:		
b. Battery in boost charge mode	:		
20. Cell voltage characteristics curves during charging at 0.5 1.0 and 1.5 times normal rate (to be furnished along with tender in triplicate)	:		
21. Battery layout arrangement (to be furnished along with the tender in triplicate)	:		
22. Average life of battery offered	:		
23. Battery Stand			
a. Material of stand	:		
b. Size of MS channel/angle	:		
c. Size of support angle	:		
d. Thickness of FRP (mm)	:		
e. Formation of row and tier details	:		
f. Dimension (H X W X L)	:		
g. Min. weight (Kg.)	:		
h. No .of rack per battery set	:		
i. No. of Cells per rack	:		
j. Particulars of anti-sulphuric paint to be Provided	:		
k. Type and number of stand insulator to to be provided	:		
24. Performance curve (State design values)			
a. % Ah after 5 yr.and 10yr.	:		
b. Discharge rate (end voltage) at 5 hr & 10 Hr	:		

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- c. Charging curve cell voltage
At 60 hrs and 100 hrs. :
- d. Discharge Amp v/s time curve
Amp for 1 Hr.and 10 Hr. :
- 25. Indicate quantity for all the following accessories per set.**
- a. Lead plated Cu connector
(Type, Material, Size and Quantity) :
 - i. Inter cell :
 - ii. Inter row :
 - iii. Inter tier :
 - iv. Inter rack :
- b. Details of Stand insulators
 - i. Material :
 - ii. Size :
 - iii. Quantity :
- c. Hydrometer with stand :
- d. Rubber Syphon, 12.7 mm dia, 2 Mtr long :
- e. Thermometer with stand :
- f. Details of Electrolyte
 - i. Type :
 - ii. Litres per cell :
 - iii. first filling + 10% extra in Ltr :
 - iv. No of carboys (35 ltr) :
- g. Acid filler (Rubber Syringe) :
- h. Acid Resistance plastic jug :
- i. Acid Resistance Funnels :
- j. Cell Number plate :
- k. Lead plated SS Nut-Bolts, washers
 - i. Size :
 - ii. Qty (Nos+ extra= Total) :
- l. Ceramic Vent plug :
- m. Spanner set (Size and Nos) :
- n. Level Indicator :
- o. Petroleum Jelly 250 grams :
- p. Rubber boot Knee Height & Rubber Gloves :
- q. Rubber apron :
- r. Log book :

SEAL OF THE FIRM

SIGNATURE OF BIDDER.



Odisha Power Generation Corporation Limited IB

Thermal Power Station

Name of the Company :

Date :

Place :

Annexure- IV

SCHEDULE OF DEVIATIONS

Sr. No.	Specification Clause	Details of deviations	Justification for deviation
(1)	(2)	(3)	(4)



Odisha Power Generation Corporation Limited IB

Thermal Power Station

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