



उ0प्र0 जल विद्युत निगम लि0

ई-निविदा सूचना

इस खण्ड के अन्तर्गत निम्नलिखित कार्य हेतु अनुभवी/प्रतिष्ठित ठेकेदारों, जो सम्बन्धित कार्य का अनुभव रखते हो, से निम्नलिखित ई-निविदाएं दो भाग में आमंत्रित की जाती हैं।

1.	निविदा सं0	:	T-09/EGD/Mzn/2022-23. चित्तौड़ा जल विद्युत गृह की मशीन सं0-02 के अनुरक्षण का कार्य। धरोहर राशि रु0 22000.00 (RTGS/NEFT के रुप में) निविदा शुल्क 1298.00 जी0एस0टी0 सम्मिलित (RTGS/NEFT के रुप में)
4.	निविदा सं0	:	T-10/EGD/Mzn/2022-23. सलावा जल विद्युत गृह की मशीन सं0-01 के अनुरक्षण का कार्य। धरोहर राशि रु0 18000.00 (RTGS/NEFT के रुप में) निविदा शुल्क 1062.00 जी0एस0टी0 सम्मिलित (RTGS/NEFT के रुप में).
8.	वेबसाईट पर ई-निविदा स्वीकार करने तथा डाउनलोड करने की अन्तिम तिथि/समय	:	29-10-2022 / 17:00 बजे तक।
9.	ई-निविदा का प्रथम भाग खुलने की तिथि/समय	:	31-10-2022 / 12:00 बजे से।

नोट:—निविदा सम्बन्धित समस्त जानकारी, [विवरण/डाउनलोड/निविदा](#) में प्रतिभागिता हेतु वेबसाईट www.etender.up.nic.in पर लागू इन करे। किसी भी प्रकार के संशोधन/विस्तार की सूचना उल्लिखित वेबसाईट पर दी जायेगी। सभी जानकारी उ0प्र0 जल विद्युत निगम लि0 की वेबसाईट www.upjvn.org पर भी उपलब्ध रहेगी। अधिशासी अभियन्ता, जल विद्युत उत्पादन खण्ड, मुजफ्फरनगर के भारतीय स्टेट बैंक, मैन मार्केट, मुजफ्फरनगर के खाता संख्या **33722690590** एवं **IFSC Code SBIN0002412** में RTGS/NEFT के द्वारा वाछित धरोहर राशि/निविदा शुल्क जमा कराना होगा। इच्छुक निविदाकार, निविदा खुलने की तिथि से पूर्व, किसी भी कार्य दिवस में अनुमति उपरान्त, विद्युत गृह में कराये जाने वाले सम्भावित कार्यों का निरीक्षण कर सकते हैं। निविदा के प्रथम भाग की विवेचना एवं अनुमोदन पश्चात्, निविदा का द्वितीय भाग खोलने की तिथि सूचित की जायेगी। अद्योहस्ताक्षरी द्वारा बिना कारण बताये निविदा को निरस्त करने का अधिकार सुरक्षित है।

अधिशासी अभियन्ता, विद्युत उत्पादन खण्ड, नई मण्डी, मुजफ्फरनगर।

“राष्ट्रहित में ऊर्जा बचायें”

ELECTRICITY GENERATION DIVISION, MUZAFFARNAGAR



E-TENDER SPECIFICATION NO. T- 09/EGD/Mzn/2022-23 FOR

Annual Overhauling of Machine No.-2 of Chitaura Power House, under EGD, Muzaffarnagar.

Tender cost : Rs. 1298/- (Inclusive GST)

**EXECUTIVE ENGINEER
ELECTRICITY GENERATION DIVISION
U.P. JAL VIDYUT NIGAM LTD.
MUZAFFARNAGAR. (U.P.)**

INSTRUCTIONS TO TENDERERS

For E-Tender specification No T- 09/EGD/Mzn/2022-23

- 1. General:-** The bidders are requested to make themselves fully conversant with the scope of work, seeing working site, technical specification, general terms and conditions as per terms and conditions for the work contract for UPJVNL, special terms and conditions etc. before submission of the tender and thereafter they should quote their rates in price schedule accordingly so that no ambiguity at later stage arises. For participation in this E-Tender bidder should be registered with U.P. Electronics Corporation, Ashok Marg, Lucknow.
- 2. Submission of Tender:-** The tender must be submitted in two parts, known as Part-I (Pre-requisites for opening of Part-II) and Part-II (Price bid). Part-I of the tender shall be opened electronically in the presence of bidder's representatives, who choose to attend, at the prescribed venue, date and time mentioned in tender notice. Part-II of tender shall be opened after the approval given by SE HGC Khara for only those bidders who have fulfilled the criteria as per pre-qualifying conditions of the tender on the basis of documents submitted in Part-I of the tender. Similarly part-II of the tender shall be opened electronically in the presence of bidder's representatives, who choose to attend, at the prescribed venue, date and time
- 3.**
 - a) E-bids (Technical and Financial) must be submitted by the bidders at e-procurement website <http://etender.up.nic.in> not later than as prescribed date and time in tender notice.
 - b) The purchaser may at his discretion, extend this deadline for submission of bids by amending the bid documents.
- 4. Late Bids:-** The server time indicated in the bid Management window on the e-procurement website <http://etender.up.nic.in> will be the time by which the bid submission activity will be allowed till the permissible date and time schedule in the bidding. Once the bid submission period is over, the bidder cannot submit their bid. Bidder has to start the bid submission well in advance so that submission process is completed within the scheduled period, failing which it shall be the bidder's responsibility.
- 5. Withdrawal and resubmission of E-bids:-**
 - a) At any point of time, a bidder may withdraw their bid submitted through NEFT/RTGS before the bid completion of bid submission period.
 - b) The bidder has to request the purchaser with a letter, attaching the proof of withdrawal and submission of bid security/EMD in the office of purchaser for taking back the bid security EMD through NEFT/RTGS.
 - c) The bidder can re-submit their bid as and when required till the scheduled bid submission end date and time. The bid submitted earlier will be replaced by the new one. The bid security submitted by the bidder earlier will be used for revised bid and the new bid submission summary generated after the successful submission of the revised bid will be considered for evaluation purposes.
 - d) The bidder can submit their revised bids as many times as possible by uploading their bid documents within the schedule period for submission of e-bids.
 - e) No bid can be re-submitted subsequently after the period for submission of bids is over.
- 6.** Bidders are advised to study the bid document carefully. Submission of bids against the tender notice shall be deemed to have been done after careful study and examination of the procedures, terms and conditions stipulated in the bid documents with full understanding of its implications.
- 7.** The bid document is available at e-procurement website <http://etender.up.nic.in>. Interested bidders may view, download the bidding document, seek clarification and submit their bid online up to the prescribed date and time through uploading on e-procurement website <http://etender.up.nic.in>.
- 8.** The bidders are required to submit the cost of tender documents as stated above only through NEFT/RTGS in the A/c No. 33722690590 of State Bank of India, Main Market, Muzaffarnagar IFSC Code SBIN0002412 in the favour of **"Executive Engineer, UPJVNL, Electricity Generation Division, Muzaffarnagar" (U.P.)**. NEFT/RTGS Deposit slip must be uploaded electronically along with all the bid documents, prior to the scheduled date & time of submission of bid, failing which bid shall not be considered/ opened. Any other form of deposition of tender fee and EMD will not be considered. Any other means of cost submission will be rejected.

9. All bids must be accompanied with a bid Earnest Money Deposited only through NEFT/RTGS in the A/c No. 33722690590 of State Bank of India, Main Market, Muzaffarnagar IFSC Code SBIN0002412 in the favour of “**Executive Engineer, UPJVNL, Electricity Generation Division, Muzaffarnagar**” (U.P.). NEFT/RTGS Deposited slip must be uploaded electronically along with all the bid documents. Any other means of cost submission will be rejected.
10. The bids shall be electronically opened in the presence of bidder’s representatives, who choose to attend, at the prescribed venue, date and time mentioned above.
11. The purchaser reserves the right to cancel any all the bids/annul the bidding process without assigning any reason thereof.
12. In the event of date specified for bids opening, being declared a holiday then bid shall be opened on next working day at schedule time.
13. All the required documents shall be submitted/ uploaded by the bidder electronically in the **.pdf format**. However, the financial bid should be submitted in the **.xls format**.
14. No deviation from the Technical specification & Technical Conditions shall be acceptable.
15. The price bid of only those firms shall be opened who shall fulfill specified pre qualifying conditions.
16. **Contract/ Agreement:-** All work covered under this specification shall be carried out in accordance with the general condition of form A \ B, attached herewith and contractor will have to enter into a written agreement with the Engineer-in-charge of work.
 - i) The tenderer to whom the work is awarded, shall execute a written agreement as specified above, with the department / UPJVNL, on 100/- Rupees non-judicial stamp paper, (purchased by the contractors in his own name / firm), after intimation by this office..
 - ii) If any tenderer’s rates are accepted and he does not turn up for agreement even after intimation the earnest money submitted by him will be forfeited.
17. **Security Deposit:-** The successful tenderer will have to deposit a security amounting to 2% of the tendered sum before entering into contract. Such security will be in the shape of NEFT/RTGS in the A/c No. 33722690590 of State Bank of India, Main Market, Muzaffarnagar IFSC Code SBIN0002412 in favour of the Executive Engineer, UPJVNL, Electricity Generation Division, Muzaffarnagar valid for a minimum period of 12 month. The said security shall be released after twelve months from the date of successful completion of work awarded to him. This security may be forfeited against the work carried out by him, if not found satisfactory.
18. **Subletting of Work Contract:-** The contractor will not be allowed to sublet the work contract under any circumstances. If does so, the work contract shall become liable for termination and balance work shall be got done through other agency on contractors account, which will be made good by deduction from contractors bills.
19. **Award of Contract:-** The UPJVNL / Department shall not be bound to accept the lowest or any other tender, and Executive Engineer, Electricity Generation Division, Muzaffarnagar, reserves the right to reject the whole or any portion of the tender, as he may think fit, without assigning any reason thereof. The contractor may be asked to immediately start the work keeping in the view the urgency of the work at site.
20. **Other Conditions**
 - The tender fee will not be refunded under any circumstances whatsoever.
 - After awarding the LOI, if any thing comes in to notice regarding false documents submitted for getting the tender or bidder involved in mafia activity or threatened other bidders or entrapped other bidder in participating in tender, the tender shall be cancelled and any loss to the Nigam on this account shall be responsibility of the contractor. In such cases action to be taken as deemed fit.
 - It may be noted that no request for extension in the due date of tender opening shall be entertained.
 - UPJVNL may revise or amend the specification, drawing or any other documents forming part of the tender documents prior to the date notified for opening of the tenders. Such revision or amendment, if any, will be communicated to all the tenderers as amendment to this invitation of tenders, in time.

- The successful tenderer who shall enter in agreement with engineer of contract shall fully responsible for any sort of accident or injury to his labour while on duty and he will take all possible measure to ensure that no such event is occurred. However, in case of any accident of any nature, during the execution of the work, the department will not be held responsible or liable to make any compensation to contractor's labour.
- The successful tenderer who shall enter in agreement with engineer of contract will observe all the rules and regulation of Factory Act; Workman compensation Act etc.
- In case of any loss or damage of Nigam's property during execution of work due to negligence on the part of contractor or his labours, the contractor has to bear the charges of these losses as assessed by the Engineer Contract, in this regard it will be final and binding on the part of the contractor.
- The entire dispute arising out of and touching or relating to the subject matter of this agreement shall be put up before higher authorities of the department i.e. S.E. / C.E. Their decision shall be binding on both parties. Any action taken or proceeding initiated on any of the terms of this agreement shall be only in the competent jurisdiction under the High Court of judicature at Allahabad.
- Only such firms / contractors should submit tenders who are having experience of such type of work and necessary resources to undertaking such work to the satisfaction of departmental Engineer In-charge of work. The tenderers must include testimonials of the experience from appropriate authority where they have executed the work of similar nature.

Executive Engineer
EGD Muzaffarnagar

SPECIFICATION IN REGARD TO TECHNICAL & FINANCIAL BID

E-bids (Technical and Financial) must be submitted by the bidders at e- procurement website <http://etender.up.nic.in> not later than as prescribed date and time in tender notice.

A Tender Bid Part-I (Technical Bid)

Pre-Qualifying Terms and Conditions

Tender bid Part-I of tender should be submitted in a cover-Ist against specified tender No “T- 09/EGD/Mzn/2022-23” containing the copies of following scanned documents duly signed & stamped by bidders.

- I. Earnest money (Rs. 22000/-) and tender fee (Rs. 1298.00) only in shape of NEFT/RTGS in the A/c No. 33722690590 of State Bank of India, Main Market, Muzaffarnagar IFSC Code SBIN0002412 in favour of the Executive Engineer, UPJVNL, Electricity Generation Division, Muzaffarnagar will be accepted any other means for money transfer will be rejected
- II. An agreement on non judicial stamp paper of Rs.100/- regarding validity of offer on prescribed Performa with the signature of two witnesses.
- III. Latest Copy of Income Tax clearance certificate /copy of return filed for last 03 financial year with the copy of PAN issued from Income Tax department.
- IV. Latest financial year turnover of the firm. Average annual financial turnover during the last 3 years should be at least Rs. 11,00,000.00.
- V. Similar nature of work(Electrical/ Mechanical maintenance work in Hydro Power House) executed in Government department which shall be:
Experience of having successfully completed similar nature of work (Electrical/ Mechanical maintenance work in Hydro Power House) during last 7 year ending August -2022, should be either of the following:-
 - 1) Three similar nature of work costing not less than the amount equal to Rs. 4,40,000.00.
OR
 - 2) Two similar nature of work costing not less than Rs. 5,50,000.00.
OR
 - 3) One similar nature of work costing not less than Rs. 8,80,000.00.
- VI. A copy of partnership deed in case tenderer is partnership firm. In case of limited company a copy of registration certificate issued by Registrar of Companies.
- VII. Copy of final Goods & Service Tax registration. Provisional certificate is not acceptable.
- VIII. Proof regarding group insurance.
- IX. Self-Attested copy of EPF Registration Certificate or undertaking if not applicable.
- X. Copy of Labour license/ registration issued by DLC, Muzaffarnagar/ Meerut valid for work in UGC Hydro Power Station.

OR

In case Labour license issued by any other DLC/DLC Muzaffarnagar/ Meerut valid for work other than Hydro Power Station, then the firm shall submit the following undertaking on non-judicial stamp paper of Rs. 10/- and shall comply with the same, incase LOI is issued in his favour:-

“We shall submit Labour license issued by DLC, Muzaffarnagar/ Meerut valid for Hydro Power Station within 30 days after issue of LOI, failing which LOI issued may be canceled and any penalty imposed by UPJVNL shall be acceptable.”

- XI.** Copy of character certificate issued by SP/DM, Muzaffarnagar/ Meerut / Distt. of Corporate Office or Works of firm.
- XII.** Latest No dues certificate regarding house rent and electricity charge from concerned Electricity Generation Division, Muzaffarnagar of Hydro Power Station, if the house is allotted to tenderer or undertaking of no dues in this regard on Rs 10/- Stamp paper.

Note:-

- a.** If at any stage during finalization of tender/execution of order, any documents, submitted by a contractor in his bid in support of pre-qualifying conditions, is found to be forged/false, his bid or order is liable to be rejected. EMD/Security deposit forfeited any other departmental action as deemed fit be initiated. For this purpose the contractor shall have to produce original documents, if required before opening of bid Part-II / afterward, as the case may be.
- b.** Any deviation in terms & condition must be enclosed with Part-I. Deviation in the terms & condition may be the cause of not opening of tenderer Part-II.
- c.** All the bidders will have to produce the original copy of all the scanned documents uploaded in cover-Ist, as & when required, for verification purpose.

B Tender Bid Part-II (Financial Bid)

- i.** This part of the tender will contain price bid only. Part-II of tender shall be opened after approval given by SE HGC Khara for only those bidders who have fulfilled the pre- qualifying conditions of the tender on the basis of documents submitted in Part-I of the tender. Opening date of the Part-II shall be intimated later, after scrutiny of tender part-I, & thereafter approval from Superintending Engineer, Hydel Generation Circle, Khara, Bhadshahibagh, Saharanpur. Part– II of the tender shall also be opened electronically in the presence of bidder’s representatives, who choose to attend, at the prescribed venue, date and time.
- ii.** Rate should be quoted in figure & words exclusive of goods & service tax in prescribed .xls Sheet (i.e B.O.Q sheet1 for works & sheet2 for scrap). If there is a discrepancy between words and figures, the amount in words will prevail. GST shall be paid extra at actual as legally applicable.
- iii.** The earnest money of un-successful bidders of the tender shall be returned to them after finalization of the tender. In case of successful bidders, the earnest money may be retained and may be adjusted towards in initial security deposit.
- iv.** All the terms and condition of Form ‘A’ and ‘B’ of erstwhile UPSEB will also be applicable.
- v.** Conditional offer will not be accepted in any case and will be rejected immediately.
- vi.** No request for consideration of earnest money from pending bills/security money/EMD shall be entertained. And no tenderer can exempted from submission of EMD.
- vii.** **Validity of Offer:-** The tender submitted by the bidders must valid for a period of at least 6 months from the date of opening of tender.
- viii.** If the opening date happened to be a holiday then the tender shall be opened on the next working day at the same time as mentioned in tender notice.

**Executive Engineer
EGD Muzaffarnagar**

TECHNICAL SPECIFICATIONS

**Annual Overhauling of Machine No.-2 of Chitaura Power House, under EGD,
Muzaffarnagar.**

AGAINST TENDER NO. T- 09/EGD/Mzn/2022-23

SCOPE OF WORK:-

The scope of works against this tender comprises of the following works for Overhauling, Repairing, Testing & Commissioning of Machine No.-2 (1500KW) at Chitaura Power House.

SL. NO.	ITEM	QTY.
1	Dismantling of Machine complete upto runner hub	1 Job
2	Runner assembly : Dismantling of blades for replacement of seals, replacement of piston oil seal & thereafter re-assembly & its pressure testing complete with filling of Servo Mesh oil in runner hub assembly	1 Job
3	Repair of guide vanes and replacement of pivot ring GM bushes including replacement of rubber cup seal .	1 Job
4	Repair/overhauling of governing system, clean water system & brake system.	1 Job
5	Restoration of template of Runner Blades	1 Job
6	Complete cleaning of stator and rotor and applying red gel paint	1 Job
7	Rebabbiting of UGB & LGB	1 Job
8	Rebabbiting of TGB	1 Job
9	Replacement of Flexible Cable of DC Exciter	1 Job
10	Repairing of TGB Oil Tank.	1 Job
11	Assembly, centering, Alignment, Leveling, Testing & commissioning of machine.	1 Job

DETAILED SCOPE OF WORK

1.0 DISMANTLING OF COMPLETE MACHINE

It shall include complete dismantling of the machine and safe storage of all the components. The contractor will ensure proper dismantling and lifting of the equipments by using 'D' Shackle, Steel rope, holding device etc. of appropriate size and capacity for safe loading and unloading works. All dismantled parts shall be match marked with proper documentation and shall be stacked properly on wooden sleeper blocks. The main activities shall be as under:

- (i) Lowering of Intake Gates and proper sealing of fore bay and its dewatering.
- (ii) Draining out lubrication oil from the various components and its proper storage.
- (iii) Dismantling of main Exciter and associated components after opening of connections carefully.
- (iv) Dismantling of various oil, grease, water pipe lines and valves etc.
- (v) Dismantling of Thrust bearing, UGB, LGB with its associate pipe lines / accessories carefully.
- (vi) Dismantling of servo system and brake system with its connecting accessories/pipelines etc.
- (vii) Safely lifting of Rotor and placing the same in erection bay on suitable stands / supports as per direction of Engineer-in-charge or his representative.
- (viii) Dismantling of Top & Bottom Brackets after removing dowel pins etc.
- (ix) Dismantling of Guide Vanes, Links and Bush Housings etc.
- (x) Dismantling of TGB and Shaft gland seal assembly.
- (xi) Lifting complete runner blades assembly.
- (xii) Any other work necessary to complete dismantling shall be done accordingly.
- (xiii) Replacement of Flexible Cable of DC Exciter.

DISMANTLING SHALL ALSO INCLUDE FOLLOWING NOTED WORKS:

- (i) All pipes shall be cleaned and their ends shall be blanked properly.
- (ii) All Nuts, Bolts and dowel etc. shall be cleaned and greased to avoid rusting.
- (iii) Thrust pads after rebabbiting shall be kept in suitable box duly greased.
- (iv) All Clearances and level shall be measured and recorded at each stage.
- (v) All the oil chamber and bearing housing shall be cleaned and painted with oil resistant paint.
- (vi) Rustoline will be used before opening of Nut & Bolts to avoid damages. In case some nuts and bolts are damaged, the same shall be replaced by the contractor free of cost.
- (vii) All machined surface of components will be preserved with rust preventive grease.
- (viii) The record of various readings shall be prepared during the repair works. The same will be handed over to the department.
- (ix) It will be prime responsibility of the contractor to make himself conversant with the dismantling and erection sequence before proceeding on the work.

2.0 RUNNER ASSEMBLY:-

- (i) Dismantling of 04 Nos. runner blades from runner hub to facilitate removal of seal, complete in all respect.
- (ii) Dismantling of cone from runner hub.
- (iii) Further dismantling of piston of servo-system with seal, complete in all respect.
- (iv) Replacement of old seal & packing of runner servo-system by new one.
- (v) Removal of scratches/indentations from bushes of servo-system by oil stone & cleaning of same. Checking the operation of servo-system for smooth movement.

- (vi) Assembly of runner servo-system along with runner hub.
- (vii) Replacement of 04 Nos. runner blade seals with new one, as per required size.
- (viii) The four number **restored** runner blades shall be fitted in the runner hub with proper care.
- (ix) Servo oil (SP-460) shall be filled in runner assembly after blocking all drain points. Runner assembly shall be tested for satisfactory working at operating pressure & with double pressure for oil leakage from blade seals. **Servo oil (SP-460) shall be provided by the department free of cost.**
- (x) Hydraulic pressure shall be continuously maintained for 24 hours.
- (xi) If there is any leakage the same is to be rectified by the contractor for satisfactory working of the machine.
- (xii) Necessary pipe line, valve, pressure gauge for above work shall be arranged by the contractor at his own cost.
- (xiii) The runner cone shall be fitted after satisfactory pressure testing and after removal of testing arrangement.
- (xiv) The nuts shall be Tack welded.
- (xv) Any other work required to be done for proper completion of work shall be done by the contractor free of cost.
- (xvi) All material shall be arranged by the contractor at his own cost.

3.0 GUIDE VANES:-

- (i) There is erosion on the Guide Vanes. Welding and grinding as per prescribed procedure is to be done by the Contractor at Power House site to bring Guide Vanes close to its original profile. Finish has to be made extremely smooth in the entire satisfaction of Engineer-In-charge or his representative.
- (ii) All the Guide Vanes are to be repaired on feather portion & Top & Bottom trunnions with S.S. electrode 309 MO, D&H make and grinded / Machined to achieve smooth surface maintaining Co-axiality of both trunnions
- (iii) 20 nos. G.M. Bushes in pivot ring were found damaged. The new bushes shall be fabricated and shrunk fitted. The material of bushes shall be Gun metal which shall be done accurately and outer / inner diameter shall be coaxial. The bushes shall be fitted in machined holes of pivot ring so as the guide vanes lower journal is push fit in it.
- (iv) The finished Guide Vanes will be subjected to dye - penetration and ultrasonic or any other tests which may be necessary as decided by the Engineer-in-charge and the cost of which shall be borne by the contractor. Any defect found in the test shall be removed by the contractor.
- (v) Perfect bedding of the guide vanes shall be achieved after assembly and feather height shall also be maintained accurately as well. Top and bottom clearances with tolerance shall also be achieved.
- (vi) Replacement of all cup seals by new one so as to arrest water leakage during operation of machine.
- (vii) Any other work required to be done for proper completion of work shall be done by the contractor free of cost.

4.0 REPAIR / OVERHAULING OF GOVERNING SYSTEM, CLEAN WATER SYSTEM & BRAKE SYSTEM:-

- (i) Cleaning of Oil sump.
- (ii) Repair of Governor Oil pump including replacement of old gears with new gears. The dimensions of new gears are to be customized as per sample of existing gears to attain perfect mating in order to develop adequate pressure. All the material for above shall be arranged by the contractor at his own cost.
- (iii) Oiling & Greasing of Governor Oil pump motor including replacement of damaged bearings, if any.
- (iv) Repair of Non Return Valves and safety valves etc. Cleaning of sump oil filters. Repair and overhauling of Governor Air Valve.
- (v) The Pilot valve has to be dismantled and defective parts shall have to be replaced with new one so that there is no oil leakage from the valve and its movement is smooth.
- (vi) Repair and overhauling of the Oil Header assembly properly with replacement of oil seals, gaskets, damaged bushes and other worn out parts for proper completion of work.
- (vii) Overhauling of cooling water system shall be done. Repair and overhauling of pipe line and valve replacement of broken pipes, elbows, unions, sockets, nipples etc. shall be done.
- (viii) Overhauling of Brake system shall be done. Damaged pipe line, elbows, unions, sockets, cup seal, nipples etc shall be replaced. Damaged brake pads shall be replaced with new one. Brake track/liner shall be cleaned & polished.
- (ix) All material shall be arranged by the contractor on his own cost.
- (x) Any work which is required for proper completion shall be done by the contractor at his own cost.

5.0 RESTORATION OF TEMPLATE OF RUNNER BLADES:-

Additional weight of 63 Kgs. is to be added on runner blades to restore the template of the blades. The procedure followed should be as:-

- (i) The blades are to be held firmly to avoid any twisting or distortion while welding.
- (ii) SS Electrodes 309-MO of D&H or equivalent make shall be used for complete repairing work.
- (iii) The electrode shall be kept in temperature controlled oven to avoid any moisture as per the instructions of the manufacturers and shall be transferred from oven to the site in vacuum flask in order to maintain desired temperature.
- (iv) Welding shall be done using proper polarity with just enough current required. Job shall be allowed to cool after welding and peening before next run by slow cooling such as covering asbestos cloth. After cooling considerable welding has to be done diagonally so as to minimize distortion.
- (v) Peening will be done during welding and cleaning will be done by Stainless Steel wire brush.
- (vi) After complete restoration, the grinding of blades is to be carried out to bring them nearest to the original profile. The finished surface has to be made extremely smooth. The blades shall be subjected to stress relieving process as per approved and standard procedures. They shall be heated to 600 degree Celsius and shall be kept for about 4 hrs. at this temperature in an oven. After which the blades shall be cooled down slowly up to the atmospheric temperature.

- (vii) AISI 304 Stainless Steel plate of required size shall be used wherever required.
- (viii) After restoration and grinding the blades tip shall be machined separately and shall be made round as per the instruction of Engineer-in- Charge or his representative.
- (ix) The restored blades will be subjected to dye penetration, ultrasonic test or any other test which may be necessary as decided by Engineer-in- Charge or his representative at Contractor's cost.
- (x) Cup grinders shall be used to achieve finishing on both sides of the blades.
- (xi) The finished weight of each blade shall be about 820 Kg after grinding and machining with a tolerance of ± 2 kg.

6.0 COMPLETE CLEANING OF STATOR AND ROTOR AND APPLYING RED GEL PAINT & ITS HV TESTING:-

- (i) Making of Platform for Painting work in side pit.
- (ii) Cleaning of various components shall be done thoroughly with CRC-2-26 / white spirit cleaning agent to remove the traces of oil, grease, carbon and dust etc.
- (iii) Dry compressed air / blower shall be used for cleaning of air duct of the core assembly.
- (iv) Cleaning of coils shall be done carefully so that coil insulation may not get damage. If any damage of insulation of the coils and connections is found the same shall be repaired.
- (v) After thorough cleaning, the complete stator winding shall be applied with Dr. Beck make insulating varnish.
- (vi) After thorough cleaning of stator & rotor, the generator stator & rotor shall be painted with Dr. Beck gray Back toll paint in stampings portion and red gel paint in overhanging portions.
- (vii) Second coat shall be applied at least after 24 hours. Sealed paint container shall be opened in presence of Engineer-in-Charge or his representative.
- (viii) All material shall be arranged by the contractor at his own cost.
- (ix) Any other work required for completion of above components shall be carried out by contractor free of cost.

7.0 & 8.0 REBABITTING OF UGB, LGB & TGB :-

- (i) Rebabitting of TGB, UGB, LGB shall be done as per prescribed procedure.
- (ii) Removal of old white metal from shell type bearings i.e. TGB, UGB, LGB.
- (iii) Cleaning of segments shall be done.
- (iv) Preparation of dove tail grooves in the bearing shall be done for good bonding of white metal.
- (v) Necessary fixture and mould shall be fabricated for rebabitting of above bearings/bearing pads.
- (vi) The complete surface required to be rebabitted shall be tined as per standard practice.
- (vii) The above bearings shall be preheated before rebabitting. The white metal (Anti frictional alloy) of grade 84 as per IS of 1966 shall be melted in closed vessel as per prescribed procedure and shall be poured between bearing shell and mould fixture for bonding. During this, appropriate temperature shall be maintained.
- (viii) Blow holes and Scratch on Babbitt surface shall be avoided.

- (ix) The chemical composition of Anti frictional Bearing Alloy (White metal) of 84 Grade IS 25-1966 shall be as follows :

<i>Allowed element %</i>			<i>Impurities allowed %</i>		
Sn	-	84	Fe	-	0.08
Sb	-	9 to 11	As	-	0.10
Pb	-	0.30 (max.)	Al	-	0.10
Cu	-	5 to 6	Bi	-	0.05
			Zn	-	0.008
			Cd	-	0.10

The total impurities shall not exceed 0.2%.

- (x) The rebabitted surface shall thereafter be machined roughly. Bonding less than 90% shall not be accepted. Dye penetration and ultrasonic test shall be carried out. If the test results are observed satisfactory, fine machining shall be done. The finish surface shall be up to accuracy of 0.01 mm. Necessary oil grooves and holes are to be provided as per requirement.
- (xi) Proper clearance between shaft journal and assembled bearings is to be achieved during final finish and assembly to the order of 0.15 to 0.20 mm.
- (xii) All guide bearings shall be subjected to Dye penetration and Ultrasonic Test at contractor's cost.
- (xiii) Damaged H.T. steel pin type bolts and nuts of the bearings shall be replaced.
- (xiv) Any other work required to be done for proper completion of works shall be done by the contractor free of cost.

9.0 REPLACEMENT OF FLEXIBLE CABLE OF DC EXCITER:-

Replacement of 10mm² Copper flexible cable from DC exciter to commutator & commutator to rotor as per direction of engineer in charge.

10.0 REPAIRING OF TGB OIL TANK:-

Repairing of TGB oil tank as per site requirement in direction of engineer in charge.

11.0 ASSEMBLY, CENTERING, ALIGNMENT, LEVELING, TESTING & COMMISSIONING OF THE MACHINE:-

The assembly of the machine shall be started immediately after various activities are completed. The work shall be carried out under the supervision of UPJVNL Engineers and as per the directions of Engineer in Charge. The main activities are as follows:

A. ASSEMBLY OF TURBINE

- Assembly of runner blade, fitting of runner hub, runner cone etc. shall be done.
- Arrangement for lowering of runner assembly shall be done and after approval the runner assembly shall be lowered.
- Lowering of Main Shaft and its coupling to runner.
- Lowering of Guide Vane in pivot ring holes.
- Lowering of Top Cover, Regulating ring, Shaft Gland Seal etc.
- Assembly of Servo Motor, Bushes housing, Link, Lever etc
- Assembly of TGB oil lifting pump to new fabricated shaft complete in all respect.
- Bedding of the Guide Vanes shall be done for proper completion of work.

B. ASSEMBLY OF BEARINGS

- Lowering of Turbine Guide Bearing and its associated parts and fitting the same.
- Lowering of Top and Bottom bracket with parts and assembly of the same.
- Lowering of Thrust Bearing plate, bearing coolers and other parts for complete Thrust Bearing assembly. Checking of thrust bearing mattress support is to be done and its replacement for achieving proper level, if required.
- Lowering the assembly of the UGB and LGB and its associated parts such as coolers and various pipe lines.

C. INSTALLATION OF ROTOR AND GOVERNOR SYSTEM :

- (i) Arrangement for lowering of main rotor shall be done and after approval the main rotor shall be lowered properly with adequate safety and to be assembled / coupled with the turbine shaft after fixing of rotor key, checking of rotor level etc. for proper completion of work.
- (ii) Fitting of oil pipe lines in Governor System and Bearing is to be done.
- (iii) Oil leakage from various points should be checked and shall be rectified for proper completion of works.
- (iv) Exciter assembly shall be fitted with proper alignment.
- (v) Any other work required for assembly shall also be done.

D. ALIGNMENT AND LEVELLING OF THE MACHINE

- Before assembly coaxiality and verticality of machine equipments shall be checked. Turbine Top Cover, Bottom Bracket and Top Bracket shall be lowered in position and all bolts, nuts, dowels shall be fully tightened.
- Piano wire shall be dropped from the centre of Top Cover and it shall be centered in Bottom Bracket Seats by shifting arrangement. The gapes with respect to piano wire shall be noted and kept equal all around the circumference.
- TGB, LGB and UGB housing shall be assembled in their respective position and the reading for centering and leveling shall be noted against original setting.
- The level on Top/Bottom brackets shall be recorded with water level Micro Meter and if necessary brass/stainless steel shims shall be provided to bring the job in horizontal position as per original setting.
- The level shall also be recorded at Thrust Bearing Base plate and if necessary brass/stainless steel shims shall be provided to bring it within required limits as per direction of Engineer in Charge with the help of precession level meter.
- The water level micro meter and other equipments shall be arranged by the Contractor for measurement purpose.
- Alignment, centering and leveling of the machine shall be carried out by the contractor with special care so that smooth operation of machine is achieved.

E. GENERAL :

- Any other works not covered above but necessary for Erection and Boxing up of machine completely shall also be done by the contractor.
- The oil seals of synthetic rubber and gaskets shall be arranged by the contractor for replacement in the various equipments of the machine.
- Servo motor oil seals, made of oil and petrol resistant neoprene rubber, Gland seals etc. are to be replaced by the contractor after arranging the same.
- Crane for Lowering and lifting of rotor and runner will be provided by the contractor at his own cost. Contractor will be fully responsible, If any damaged at the time of Lowering, Lifting of rotor and runner.

F. TESTING AND COMMISSIONING :

After complete repair and assembly, various under mentioned systems shall be tested & checked for any leakage/malfunctions.

- Compressed Air System for braking
- Cooling water system
- Grease lubrication system
- Oil Pipe line and lubrication system
- Synchronization system
- All other checks and tests required before spinning the machine shall have to be carried out by the contractor as per standard practice.
- Taking out of upstream intake gates of the machine.
- Machine is to be spun after all electrical checks. The machine shall be dry out properly & will be synchronized with grid and taken on load gradually as per available canal water discharge thereafter. The contractor will monitor the performance of machine till 24 hrs. after synchronization and shall rectify abnormalities, if any.
- Any other work, T&P and material not covered but necessary for proper completion of work shall be arranged by contractor at his own cost.

Executive Engineer

BILL OF QUANTITY SPECIMEN
Against Open Tender No. T- 09/EGD/Mzn/2022-23

Annual Overhauling of Machine No.-2 of Chitaura Power House, under EGD, Muzaffarnagar.

Sl. No.	Item	Qty.	Rate (Rs.)	Amount (Rs.)
1	Dismantling of Machine complete upto runner hub	1 Job		
2	Runner assembly : Dismantling of blades for replacement of seals, replacement of piston oil seal & thereafter re-assembly & its pressure testing complete with filling of Servo Mesh oil in runner hub assembly	1 Job		
3	Repair of guide vanes and replacement of pivot ring GM bushes including replacement of rubber cup seal .	1 Job		
4	Repair/overhauling of governing system, clean water system & brake system.	1 Job		
5	Restoration of template of Runner Blades	1 Job		
6	Complete cleaning of stator and rotor and applying red gel paint	1 Job		
7	Rebabbiting of UGB & LGB	1 Job		
8	Rebabbiting of TGB	1 Job		
9	Replacement of Flexible Cable of DC Exciter	1 Job		
10	Repairing of TGB Oil Tank.	1 Job		
11	Assembly, centering, Alignment, Leveling, Testing & commissioning of machine.	1 Job		
Total				

(Rs.....)

BILL OF QUANTITY SPECIMEN FOR SCRAP

Sl. No.	Item	Qty.	Rate	Amount
			(Rs.)	(Rs.)
1	Scrap of old pivot ring GM bushes (Approx. 20 Kg. Gun Metal)	01 No.		
2	Scrap of old UGB & LGB (Approx. 24 Kg. White Metal)	01 No.		
3	Scrap of old TGB (Approx. 15 Kg. White Metal)	01 No.		

Note:

- The firm shall submit separate rate for work & buy back of Scrap.*
- The lowest rate of the respective job will be considered after deduction of scrap, if any from the rate of services.*

Executive Engineer
EGD,Muzaffarnagar

Special Terms & Condition in General

1- GENERAL:-

These special condition of the contract shall be read and constructed along with the annexed general condition of the contract form 'A' as modified by the provision hereof, but if there is any conflict or inconsistency between the provision hereof and those contained in general condition, the special conditions shall prevail.

2- SCOPE OF WORK :-

The scope of work involved will be as per technical specification attached herewith.

3- DATE OF COMPLETION:-

The work covered under scope of work shall be completed by the contractor, within **45 days** from the date of the start of work.

4- DATE OF START:-

Date of start will be counted from the date execution of agreement or the date of agreement or issue of LOI whichever is later.

5- PENALTY:-

'Half per cent' per week penalty of the uncompleted work, subject to maximum 'Ten per cent', shall be deducted from the contractor's bill; in case the work are not completed within stipulated times as per 3 above.

6- VARIATION QUANTITY:-

The quantities are approximate & may vary 10% as per site requirement.

7- ACCIDENT / DEATH OF WORKER:-

The contractor shall be fully responsible for payment of accidental benefit and compensation in case of death of any worker engaged by him, as per provisions of rules / order of the Government under the compensation act. No liabilities whatsoever will be accepted by this office/ department/ U.P. JalVidyut Nigam Ltd.

8- INSURANCE:-

Contractor will be responsible for insurance as per para no.22 Form 'A' enclosed.

9- PERMISSION FOR ENTERING IN TO POWER STATIONS:-

The contractor shall obtain the permission for himself and for his Engineer/ staff/ workers etc. to enter into power station premises / area for execution of work. He shall take full responsibility for good conduct of his staff and worker engaged for execution of work / job.

10- TERMINATION OF THE CONTRACT:-

The contract can be terminated at any time, if it is found that the work is not being carried out to the satisfaction of the Engineer-in-charge or his representative. Under such condition the complete work will be got done through other agency and all such expenditure including extra if any, incurred will be chargeable from the contractor.

11- TRANSPORTATION OF MAN & MATERIALS:-

Contractor will make his own arrangement for transportation of his staff / workers & materials to be work sites and back. **Crane for lifting rotor and runner will be provided by the contractor free of cost.** Site storage facility will be provided by the department free of cost, as per availability.

12- INCOME TAX:-

Income tax & other Taxes, if any, shall be deducted from the bill of the contractor as per existing rules and regulations as legally applicable.

13- ELECTRICAL ENERGY:-

If the electricity power is required for execution of work at the site of power houses, the same shall be provided by the department free of cost at one point supply. Departmental Accommodation, if available near the site, the same will be provided to the staff/ workers of the contractor, along with electricity for lighting by the department.

14- PAYMENT:-

90% payment will be made after successful completion of the work. Remaining 10% shall be retained as performance guarantee, which shall be released after 12 months of successful completion of work. However 100% payment may be released on submitting the FDR/ CDR for the amount of the Ten per cent of contract value, valid for a period of 12 months after completion of work.

15- RATES:-

Rates quoted shall be firm & final, includes all legal taxes & duties, insurance, royalty & octroi etc. No extra payments shall be made on this account. No escalation of rates over the finally accepted shall be allowed. (However, the rates shall be exclusive of GST which shall be charged extra, as per rule, as legally applicable.).

16- OTHER TERMS:-

- (A) The contractor will be allowed to work normally during working hours only i.e. from 8 AM to 5 PM or as per direction of Engineer in Charge or his representative.
- (B) The contractor shall remain liable to remove the defects that may develop in the work arising solely from the faulty workmanship.
- (C) The Engineer-in-charge shall have the right to object employment or pressure of any person, labour engaged by the contractor; non-compliance, negligence, misconduct shall be considered undesirable. In the interest of work; contractor shall be bound to remove such person from the work area site at once.
- (D) No claim shall be accepted against point no.-16-C above.
- (E) Due to any reason, the department considered that the work is to be stopped, the contractor shall not be entitled for any claim arising out for such circumstances. However he shall be allowed time extension to the extent for such period, during which the work remained suspended.
- (F) Specification of work or items may be allotted as per written direction of the Engineer-in-charge, if any dispute in this regard, the decision of Ex.En, EGD, Mzn. shall be final & binding.

17- GENERAL:-

All the disputes arising out of and touching or relating to the subject or later on this agreement shall be subject to the jurisdiction of the local court of Muzaffarnagar and High Court of judicature at Allahabad.

- (A) Rate should be quoted in figure & words exclusive of goods & service tax in prescribed xls. Sheet (i.e B.O.Q sheet1 for works & sheet2 for scrap). If there is a discrepancy between words and figures, the amount in words will prevail. GST shall be paid extra at actual as legally applicable.
- (B) In case any loss or damage to Departmental property, during the execution of work due to negligence on the part of the contractor or his representative / workers ; The contractor have to bear the charges of that loss ,as assessed by the Executive Engineer, EGD, UPJVNL, Muzaffarnagar. In this regard his decision will be final and binding on the part of the contractor.
- (C) The contractor will observe all the rules and regulations of Factory Act, Workman Compensation Act etc.
- (D) Crane for Lowering and lifting of rotor and runner will be provided by the contractor at his own cost. Contractor will be fully responsible, If any damaged at the time of Lowering, Lifting of rotor and runner.

18- NOTICE TO THE CONTRACTOR:-

Any notice to be given to the contractor may if the UPJVNL Engineer thinks fit be posted to his address or handed over to his representative and such posting or acknowledgement shall be deemed to have been served such notice & the time mentioned and the general condition for doing any act after notice should reach him normally.

- 19- **AGREEMENT:-**
The successful tenderer will have to execute an agreement for completing the work according to these specifications on 100/- Rupee Stamp Paper. The said Stamp paper must be issued in his own / firms name by the authorized dealer/authority and original copy of validity will be submitted at the time of agreement.
- 20- **GUARANTEE:-**
The work under these specifications shall have to be guaranteed for satisfactory performance up to 12 months after the date of completion of work.
- 21- **GST:-**
GST shall be paid to contractor as per existing rules and regulations as legally applicable, on production of valid GST registration certificate. Any amendment as per government policies on tax structure shall be applicable. Any amendment as per government policies on tax structure shall be applicable.
- 22- *Apart from above all other Conditions of Form- 'A' & 'B' of erstwhile UPSEB shall be applicable.*

EXECUTIVE ENGINEER

TENDER SPECIFICATION NO. T- 09/EGD/Mzn/2022-23

Name of the Work :- Annual Overhauling of Machine No.-2 of Chitaura Power House, under EGD, Muzaffarnagar.

From:

To,

The Executive Engineer

Electricity Generation Division

U.P. Jal Vidyut Nigam Ltd.

Muzaffarnagar.(U.P.)

Dear Sir,

With reference to your invitation of tender for the above, I/We hereby offer to U.P. Jal Vidyut Nigam Ltd. the items in the schedule of price rate to the satisfaction of the purchaser or in default there-of forfeit to pay to U.P. Jal Vidyut Nigam Ltd., the sum of money mentioned against the said conditions. The rates quoted are net and firm and in full satisfaction of all claims. I/We agree to abide by this tender for a period of six months from the date fixed for opening of the same. A sum of Rs..... in the form of..... as earnest money in favour of the " Executive Engineer, Electricity Generation Division , U.P. Jal Vidyut Nigam Ltd, Muzaffarnagar." is enclosed.

I/We hereby undertake and agree to execute aforesaid tender as per the specification in accordance with the terms & conditions of tender document, if contract is awarded to me/ us.

Dated :

Your's Faithfully

Witness :

Signature of Tenderer in full
(with seal)

AGREEMENT OF VALIDITY

(On a non-judicial stamp paper of Rs.100/- only)

AGREEMENT

Tender invited by :- The Executive Engineer , Electricity Generation Division, Muzaffarnagar

Tender for :- Annual Overhauling of Machine No.-2 of Chitaura Power House, under EGD, Muzaffarnagar.

Tender no. & date :- T- 09/EGD/Mzn/2022-23; due date.....

Name of tenderer :-

In consideration of the Uttar Pradesh Jal Vidyut Nigam Ltd. treated the tender to be an eligible person whose tender may be considered the tenderer hereby agrees to the condition that the proposal in response to the above invitation shall not be withdrawn within six (6) month from the date of opening of the tender; also to the condition that if thereafter the tenderer does withdraw his proposal within in the said period, the Earnest money deposited by him may be forfeited to the UPJVNL in the discretion of the later.

WITNESS

1- _____

2- _____

Signature of Tenderer _____

Full Address _____

Seal _____

Date _____