



## ***Standard Bidding Document***

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## ***Technical Specifications***

**Name of Work** : Supply, Installation, Testing & Commissioning of dry type Transformers with earthing as per latest IEC standard at New Legislature Complex, Jammu

**Unit** : Electric Unit-Jammu, JKPCCLtd. Rail Head Complex, Jammu

**Time of Completion** : 120 days.

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# J&K PROJECTS CONSTRUCTION CORPORATION LTD.

(A J&K State Govt. Undertaking)

## NOTICE INVITING TENDER

### **E-NIT No: EJ/NIT/08/ASSEMBLY/ 2017-18**

On behalf of Managing Director, Jammu & Kashmir Projects Construction Corporation Ltd., the Deputy General Manager, Unit Electric, JKPC Ltd., Jammu invites e-tenders from OEM'S(Original Equipment Manufacturers) Authorized representative of company for the following work:

S. No	Name of Work	Estimated Cost (Rs. in lacs)	Cost of document	Earnest Money (Rs. in Lacs)	Time of completion	Class of Contractor
1.	Supply, Installation, Testing & Commissioning of Dry type Transformers with earthing as per latest IEC standard at New Legislature Complex, Jammu.	Rs. 37.50 Lacs	2000.00	0.75	In tandem with Civil Works.	"A "

Qualification criteria, scope of work, tender documents, BOQ and all other terms & conditions can be seen and downloaded from [www.jktenders.gov.in](http://www.jktenders.gov.in).

#### Critical Dates:

1.	Period of downloading of NIT	15.03.2018 from 1600 Hrs. to 16.04.2018 upto 1600 Hrs.
2.	Pre-Bid Meeting	20.03.2018 at 1200 Hrs. in Office of General Manager, JKPC Ltd., Rail Head Complex, Jammu
3.	Bid submission dates	20.03.2018 from 1300 Hrs. to 16.04.2018 upto 1600 Hrs.
4.	Last date for receiving Hard Copies	17.04.2018 upto 1500 Hrs. in Office of General Manager, JKPC Ltd., Rail Head Complex, Jammu
5.	Date of opening of Technical Bid	19.04.2018 at 1230 Hrs. in Office of General Manager, JKPC Ltd., Rail Head Complex, Jammu

Any other information regarding e-tendering process can be had from the office of Deputy General Manager, Unit-Electric, JKPC Ltd. Rail Head Complex, Jammu or e-tendering Cell, Jammu.

**Deputy General Manager,  
Unit Electric, JKPC Ltd.  
Jammu.**

No: DGM/E/J/

Dated:

#### Copy to the: -

1. Managing Director JKPC Ltd, Srinagar for information.
2. General Manager (J), JKPC Ltd Jammu for information.
3. Deputy Director Information Jammu for information. It is requested that the notice may please be published in two leading English daily newspapers of State preferably Greater Kashmir & Daily Excelsior for its wide publicity.
4. E-Tendering Cell for uploading the Tender on [www.jktenders.gov.in](http://www.jktenders.gov.in) and [www.jkpc.com](http://www.jkpc.com)

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**OFFICE OF THE DEPUTY GENERAL MANAGER UNIT-ELECTRIC, JKPCCLtd- JAMMU.**  
**NOTICE INVITING TENDER**

**E-NIT No: EJ/NIT/08/ASSEMBLY/ 2017-18**

**INVITATION:**

On behalf of Managing Director, Jammu & Kashmir Projects Construction Corporation Ltd., the Deputy General Manager, Unit Electric, JKPCCLtd., Jammu invites e-tenders from OEM's for Supply, Installation, Testing & Commissioning of Transformers with earthing as per latest IEC standard at New Legislature Complex, Jammu

**NAME OF WORK:**

**Supply, Installation, Testing & Commissioning of Dry type Transformers with earthing as per latest IEC standard at New Legislature Complex, Jammu**

***Instruction to Bidders (ITB)***

**GENERAL INSTRUCTIONS:**

1. The bidding documents can be downloaded from the website <http://jktenders.gov.in> from **15-03-2018 (1000 Hrs) to 16-04-2018(1600Hrs)**. Bid documents contain qualifying criteria for bidders, specifications, bill of quantities, terms & conditions and other details.
2. A pre-bid meeting will be held on **20-03-2018 at 1200 Hrs** in the office of General Manager, JKPCCLtd., Jammu to clarify the issues pertaining to the tender. No further queries shall be entertained after this meeting.
3. The bids shall be deposited in electronic format on the website <http://jktenders.gov.in> from 1000 Hrs from **20-03-2018 (1300 Hrs) to 16-04-2018 (1600Hrs)**.
4. The original instruments in respect of cost of bid documents, EMD must be delivered to the **General Manager, JKPCCLtd., Rail Head Complex, Jammu** on or before **17-04-2018 up to 1500 Hrs** by **Registered Post / Courier / by hand**.  
(If the office happens to be closed on the date of receipt of the bids as specified, the bids will be received on the next working day at the same time and venue).
5. Technical bids of bidders shall be opened online in the office of **General Manager, JKPCCLtd., Jammu** on **19-04-2018 at 1230 Hrs** or on any other date to be specified separately.
6. Financial bids shall be opened online in the office of General Manager, JKPCCLtd., Jammu.
7. The date and time of opening of Financial-Bids shall be notified on Web Site [www.jktenders.gov.in](http://www.jktenders.gov.in) conveyed, to the bidders automatically through an e-mail message on their e-mail address.
8. The **Financial-bids of Responsive bidders** shall be opened online in the Office of the General Manager JKPCCLtd. (J) Jammu.
9. Bids must be accompanied by bid security in the shape of **CDR/FDR** payable at Jammu pledged in favour of A.O JKPCCLtd. Jammu and shall be valid for 1 year and **cost of tender documents in shape of Demand Draft (Non-refundable) in the name of Dy. General Manager Unit Electric, JKPCCLtd., Jammu** payable at Jammu..
10. The bid for the work shall remain open for acceptance for a period of **90 days** from the date of opening of financial bid. If any bidder/ tenderer withdraws his bid/ tender before the said period or makes any modifications in the terms and conditions of the bid, the said earnest money shall stand forfeited.
11. A bidder shall not be permitted to bid for works in the jurisdiction of officer responsible for award and execution of contract in which his or his spouse's near relative ( defined as first blood relations, and their spouses) is posted as unit Accountant or as an officer in any capacity between the grades of General Manager and Manager (both inclusive).
12. No engineer of Gazetted rank or other Gazetted officer employed in Engineering or Administrative duties in an Engineering department of the State Government is allowed to work as a supplier for a period of two

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years after his retirement from Government service, without Government permission. This contract is liable to be cancelled if either the supplier or any of his employees is found any time to be such a person who had not obtained the permission of the government as aforesaid before submission of the tender or engagement in the contractor's service.

13. Other details can be seen in the bidding documents.
14. Any other information regarding e-tendering process can be had from the Office of the **Deputy General Manager, JKPCCLtd., Unit Electric, Jammu** on mobile No. **9419188801**.
15. To qualify for award of the Contract, each bidder should meet the Technical/ Financial Criteria.
16. The original instruments in respect of cost of bid Documents & EMD must be submitted to the Tender Accepting Authority by Registered Post/Courier/ by hand as per time schedule specified otherwise bid shall be treated non responsive out rightly.
17. The details of hard copies of original instruments in respect of cost of bid Documents & EMD specified in the tender documents should be the same as submitted online otherwise tender will summarily be rejected.
18. The bidder shall provide only the original instruments of cost of tender document, EMD, Form of Bid and affidavits in the hardcopy.
19. All the documents along-with scanned copies of cost of tender document, EMD and affidavit shall be uploaded on the website.
20. Bidders are advised to visit the site before quoting for the tender.
21. All documents relating to the bid shall be in the English Language.
22. **If the bidder does not quote rate for any item** of the rate list/quantity schedule, cost of such item/ items shall be deemed to be part of the overall/total contract value. No rate shall be allowed for such item / items in the allotment of contract.

**General Work-Experience:**

The Applicant should have the Experience of Supply Installation, testing and commissioning of One or more similar type of works in preceding five (5) years. The reference date for considering the period of preceding three years for experience is 31-03-2017.

**Turnover:**

The Applicant should have achieved an annual financial turnover of 50% of the advertised amount during any 3 years of proceeding 5 years. Further,

**Selection Criteria:**

The bidder should have successfully completed 1(One) work of 80% of total Value of the Estimated Cost.

Or

The bidder should have successfully completed 2(Two) work of 60% of total Value of the Estimated Cost.

Or

The bidder should have successfully completed 3(Three) work of 50% of total Value of the Estimated Cost.

**Note:**

- a. Other income shall not be considered for arriving at Annual Turnover.
- b. As a proof of turnover, audited Profit & Loss account along with Statutory Auditor's report for last three years is required to be submitted. In case where audited profit and loss account for the immediately preceding year is not available, then a statement of profit and loss account duly certified by the statutory auditors with his comments shall be enclosed with the application along with the copy of appointment letter of the statutory auditor.
- c. Each bidder must produce:
  - The current income-tax challan, PAN No. valid Electrical Contractor License and EPF Registration No.

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- A declaration that the information furnished with the bid documents is correct in all respects; and
- Such other certificates as defined in the ITB. Failure to produce the certificates shall make the bid non-responsive.
- d. Each bidder must demonstrate:  
Availability of technical personnel for Erection/ work
- e. Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have :
  - Made misleading or false representations in the forms, statements, declarations and attachments submitted in proof of the qualification requirements; and/or
  - Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.

### **23. Instruction regarding e-tendering process**

- a) The interested bidder can download the bid from the website <http://jktenders.gov.in>  
Bidders are advised to download bid submission manual for the help of bid submission process from the Downloads option as well as from Bidders **Manual Kit** on website <http://jktenders.gov.in>
- b) To participate in bidding process, bidders have to get digital signature certificate card as per Information Technology Act- 2000, to participate in online bidding. This certificate will be required for digitally signing the bid. Bidders can get above mentioned digital signature certificate card from any approved vendors. The bidders who already possess valid digital signature certificates card, need not to procure new digital signature certificate card.
- c) **The bidders have to submit their bids online in electronic format with digital signature. The bids proposed without digital signature will not be accepted.**
- d) Bids will be opened online as per time schedule.
- e) Before submission of online bids, bidders must ensure that scanned copy of all the necessary documents have been attached with bid.
- f) The department will not be responsible for delay in online submission due to any reasons.
- g) All required information for bid must be filled and submitted online. The bidder should recheck his online document before submission on line otherwise damaged/ corrupt document shall not be considered in any case.
- h) The original instruments in respect of cost of bid documents & EMD must be submitted to Tender Inviting Authority as per time schedule specified otherwise bid shall be treated non responsive out rightly.
- i) The details of hard copies of original instruments in respect of cost of bid Documents & EMD specified in the tender documents should be the same as submitted online otherwise tender will summarily be rejected.
- j) Bidders are advised to use My Documents area in their user on e-tendering portal to store important documents which are used in all tenders like GST Certificate, Sales Tax clearance Certificate etc. and attach these certificates as Non Statutory Documents while submitting their bids.
- k) Bidders are advised not to make any change in BOQ (Bill of Quantities) contents/ specifications or its name. In no case they should attempt to create similar BOQ manually. The BOQ downloaded should be used for filling the net item rate inclusive of all taxes and it should be saved with the same with the same name as it contains.
- l) Bidders are advised to scan their documents at 100 DPI (Dots per inch) resolutions with Black and white, JPEG scan properly. Convert scanned images to PDF.

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- m) The guidelines for bidders to submit bid online can be downloaded from website <http://jktenders.gov.in>(**Download option**).
- n) All the required information for bid must be filled and submitted online. The bidder should recheck his online document before submission online otherwise damaged/corrupt file/corrupt document shall not be considered in any case.

**24. Scope of Work:**

The scope of work shall include but not limited to Supply, Installation, Testing & Commissioning 2 nos. 2000 KVA Transformer, As per drawing provided by the consultant and BOQ enclosed with the document) and leading to successful performance as per Technical Specifications and providing all inclusive service during warranty period including cost of all construction equipment, men, materials etc to complete in all respects, commissioning and subsequent operation and Maintenance for the specified period.

The scope includes the cost of all activities including but not limited to providing, fixing, testing and commissioning of internal electrification at site etc including storage. After successful completion, testing and commissioning, the Electric system is to be handed over to the Owner **with completion certificate for required electric supply connection to the building from State Power Development Department Inspection wing Jammu (TTIC).**

**Note:**

Bids not covering the entire scope of Works shall be treated as incomplete and hence liable to be rejected.

## Essential Document for opening Technical Bid

### **A. Cost of tender document & EMD.**

Bids must be accompanied by bid security in the shape of **CDR/FDR** payable at Jammu pledged in favour of **Accounts Officer, JKPCC Ltd., Jammu** and shall be valid for 1 year and **cost of tender documents in shape of Demand Draft (Non-refundable) in the name of Dy. General Manager Unit Electric, JKPCC Ltd., Jammu** payable at Jammu

### **B. Affidavit & Certificates.**

1. **Copies** of original documents defining constitution/ legal status, place of registration and principal place of Business.
2. **Copies** of original Valid TIN. & PAN.
3. **Copy** of original valid Electrical Contractor License.
4. **Copy** of valid EPF Registration No.
5. The bidders shall provide **Affidavit** along with the bid document with the following undertakings:
  - a. That JKPCC Ltd. is authorized to seek references from Bidders bankers.
  - b. That the bidder would be able to invest a minimum of 25% of Contract Value.
  - c. That the bidder is not black listed/debarred by any Govt. or Semi-Govt. Departments from participation in tendering.
  - d. That bid will remain valid for a period of ninety (90) days from the date of opening of Technical bids.
  - e. Affirming that the information submitted by the bidder with the bid / supporting documents is true & correct to the best of his knowledge and belief.
  6. The Applicant should have achieved an annual financial turnover of 50% of the advertised amount during any 3 years of proceeding 5 years, duly attested by a Chartered Accountant. The Applicant should have the Experience of executing one or more similar type of work of Supply, Installation, Testing & Commissioning of Transformers with earthing as per latest IEC standard in preceding five (5) years. Experience Certificate issued by an engineer not below the rank of **Executive Engineer/s (Electrical)** from J&K State/CPWD/ Railways and other State/ Central Govt. Undertaking certify that:
    - The bidder have successfully completed 1(One) work of 80% of total Value of the Estimated Cost. – or-
    - The bidder have successfully completed 2(Two) work of 60% of total Value of the Estimated Cost. –or-
    - The bidder have successfully completed 3(Three) work of 50% of total Value of the Estimated Cost.

**Note:-** *Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have made misleading or false representation in the forms, statements and attachments submitted in proof of the qualification requirement and/or record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc and/or participated in the previous bidding for the same work and has quoted unreasonably high bid prices and could not furnish rational justification to the employer.*

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## General Conditions of Contract

### 1 TIME FOR COMPLETION

The TIME FOR COMPLETION of the Work, including time required for creation of construction facilities etc, shall be in tandem with civil works.

### 2 CONSTRUCTION PROGRAMME:

The Bidder shall include in his Bid, the detailed construction programme for executing the work, describing broad Components, Methodology for Supply, Installation, Testing & Commissioning of dry type Transformers with earthing as per latest IEC standard at New Legislature Complex, Jammu

### 3 SITE VISIT

The bidder at his own cost/expenses is advised to visit and examine the Site of Works and its surroundings and obtain for himself on his own responsibility, all information that may be necessary for preparing the bid and entering into a Contract .

Bidders shall familiarize themselves especially with the rules and regulations, local Laws applicable to carry out such Work in J&K. The Owner shall not entertain any request for clarifications from the Bidders, regarding such statutory provisions.

### 4 BID DOCUMENTS

4.1 The Bid Documents shall comprise Instruction to Bidders (ITB), General Conditions of Contract and Special Conditions of Contract (GCC, SCC), Technical Specifications, BoQ and Appendix Forms.

4.2 Amendment to Bid Documents

(a) At any time prior to the deadline for submission of bids, the Owner may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the Bid Documents by issuance of an Addendum .

(b) The Addendum will be sent in writing or by fax/e-mail to all prospective bidders who have been issued the Bid Documents and will be binding upon them. Prospective bidders shall promptly acknowledge receipt thereof to the Owner.

(c) In order to afford prospective bidders reasonable time sufficient to take an Addendum into account in preparing their bids, the Owner may, at its discretion, extend the deadline for the submission of bids .

4.3 Preparation of Bids

(a) The bid shall be in English language only Failure to comply with this shall disqualify a bid .

(b) The Bid must contain the name and places of business of the person or persons making the bid and must be signed by the duly authorized representative with his usual signature and sealed by the Bidder the name(s) and designation(s) of persons signing should also be typed or printed below the signature.

(c) Bid by Companies/Firms/Parties must be furnished with full names of Companies/Firms and be signed by their legally authorised representative(s)

(d) Satisfactory evidence of authority of the person(s) signing on behalf of the Bidder shall be furnished with the bid.

(e) The Bidder's name stated on the proposal shall be the exact legal name of the firm/Company/Parties.

(f) Erasures or other changes in the Bid Document including the proposal documents shall be over the initials of the persons signing the bid.

**Bids not conforming to the above requirements of signing are liable to be rejected.**

4.4 Specific Issues

(a) A prospective bidder is expected to examine all instructions, terms & conditions, forms and Owner's Specifications/Requirements in the Bid Document and fully inform himself as to all the conditions and matters which may in any way affect the Works, his bid or the cost thereof Further, failure to furnish all information required by the Bid Document or submission of incomplete offers, conditional bids and proposals containing deviations from the Bid Document shall be rejected as non-responsive .

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- (b) It will be imperative for each Bidder to fully inform himself of all local conditions and factors which may have any effect on the execution of the Works covered under Scope of Works and these Documents .

It would be understood and deemed that such factors have been properly considered by the bidder while submitting the bids Owner accepts no liability for the lack of such clear information or its effect on the cost of the Works to the Bidder .

- 4.5 Bidders shall assess their requirement of infrastructure and construction facilities to suit their methodology for successful implementation of the work .

Thus, while working out their bid price, the bidders are required to take into account entire scope of the work defined in Bid Documents.

#### 5. **PRICE BASES, CURRENCIES**

Bidders shall quote their Prices in Indian Rupees in the Performa as given for Schedule of Prices/Bill of Quantity Bidders shall quote for the entire package on a single source responsibility basis. Bidders shall give "Bill of Quantities" and rates covering entire scope of the Works. The prices are fixed No price variation/adjustment shall be allowed in the currency of contract.

The Bidder shall quote his prices logically in bid form. The Bidder is advised to avoid offering of rebate/discount/loading. However, in case of exceptional circumstances, the rebate/discount/loading offered by the Bidder should be only in the Performa of Bill of Quantity. The bidder should offer the rebate on a percentage basis applied uniformly to all the Prices in the Performa given in BoQ.

**The quoted rates should be inclusive of all duties, levies, taxes, costs like transportation, handling, insurance etc.**

#### 6. **SUBMISSION OF BIDS AND BID GUARANTEE**

Bid shall be submitted in sealed Envelope. In the Envelope only Techno-commercial Bid shall be submitted along with cost of tender & Earnest money. After Techno-commercial evaluation, price bid of only those Bidders shall be decrypted who meet the qualification criteria and whose Techno-commercial proposals are found responsive.

Bidders are requested to submit their Bid in the Office of General Manager Jammu JKPC Ltd JKPC Building, Rail Head Complex, Panama Chowk, Jammu, on or before the date indicated in the NIT in a single sealed Envelope superscribed "Bid for Supply, Installation, Testing & Commissioning of dry type Transformers with earthing as per latest IEC standard at New Legislature Complex, Jammu

#### 6.1 **Sealing and Marking of Bids**

- a) **Bid must be** super scribed as " Technical Bids for(Original + Copy I) and shall contain the following material:

- Bid Security and Techno-commercial Bid" (Original + Copy-I).
- All Application Forms and Technical Particulars (Technical Data & Catalogues) duly completed including Proof of meeting the qualifying criteria as stipulated in the NIT. All information as per Application Forms and Technical Information/Particulars/Methodology and schedule excluding Bill of Quantities and other data required to be submitted by Bidders in accordance with the Instructions to Bidders and the Addenda, including all supporting documentation, which the Bidder wishes to, submit as part of his Techno-commercial Bid .

- Copies of all documents specified under Bill of Quantities without indicating any prices therein.

Declaration confirming that the Techno-Commercial Bids are without any deviations and are strictly in conformity to the Bid Documents issued by the Owner .The declaration is to be submitted as per form for **TENDER PROFORMA OF BID .**

- All bidding forms relating to prices or having other financial implications shall be left blank, which must also contain no other information, data and details relating to prices. All pages and corrections, if any, in the document submitted shall be signed by the Bidder.

#### 6.2 **The priced Bill of Quantities/ Schedule of Prices to be submitted online only.**

- 6.3 All instructions in this respect contained in ITB (Instructions to Bidders) and Addenda, if any, shall be followed.

- 6.4 The Bids shall be submitted at any time on working days and working hours and up to the deadline stipulated in NIT at the Owner's office in, Jammu, India. Bids will be opened in the presence of those representatives of the Bidders who choose to remain present.

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- 6.5 The inner and outer envelopes shall;
- a) Bear the name and address of the Bidder;
  - b) Be addressed to the Owner at the address provided in the document;
  - c) Provide a warning not to open before the time and date for bid opening
- 6.6 If all the envelopes are not sealed and marked as above, the Owner will assume no responsibility for the misplacement or premature opening of the bid.
- 6.7 **Deadline for Submission of Bids**
- 6.7.1 Bids shall be received by the Owner at the address specified not later than the last date and time for submission of bids.
- 6.7.2 The Owner may, in exceptional circumstances and at its discretion, extend the deadline for submission of bids by issuing an Addendum, in which case all rights and obligations of the Owner and the bidders previously subject to the original deadline will thereafter be subject to the deadline as extended.
- 6.8 **Late Bids**
- 6.8.1 Any bid received by the Owner after the deadline for submission of bids prescribed in ITB will be returned unopened to the bidder.
- 6.9 **Modification, Substitution and Withdrawal of Bids**
- 6.9.1 The bidder may modify, substitute, or withdraw his original bid after its submission but in any case before the official deadline for submission, if a corresponding written notice of the modification, substitution or withdrawal is received by the Owner prior to the deadline for submission of bids .
- 6.9.2 The bidder's modification, substitution, or withdrawal shall be prepared, sealed, marked, and delivered in with the outer and inner envelopes additionally marked "MODIFICATION", "SUBSTITUTION" or "WITHDRAWAL", as appropriate.
- 6.9.3 No bid shall be modified, substituted or withdrawn by the bidder after deadline for submission of bids.
- 6.9.4 Withdrawal of the Bid during the interval between the deadline for submission of Bids and expiration of the period of bid validity shall result in the forfeiture of the bid security .
- 6.10 **Bid Guarantee/ Security/EMD**
- i) The bid shall be accompanied by a bid security for an amount indicated.  
The bid security shall be in the form of FDR/CDR and shall be issued by an Indian Nationalized / Scheduled Bank or a Foreign Bank notified as a Scheduled Bank under the provisions of the 'Reserve Bank of India Act' through any of its Branches in India .  
Bank Guarantee for Bid Security in original shall be submitted along with the bid. However, the issuing Bank shall submit an unstamped duplicate copy of Bank Guarantees directly by Registered post to the Owner with a forwarding letter
  - ii) The Bid Security of the successful Bidder to whom a Contract is awarded will be returned after the said Bidder provides the Contract Performance Guarantee as per stipulations elsewhere in the Bid Documents The successful Bidder shall be required to extend the validity of the Bid Security till the Contract Performance Guarantee is accepted by the Owner .
  - iii) The Bid Security may be forfeited:
    - a) If the bidder withdraws or modifies its bid.
    - b) If the bidder is found to have indulged in corrupt or fraudulent or collusive or coercive practice(s).
    - c) In the case of a successful bidder, if he fails within the specified time limit to;
      - i) Sign the Agreement, or
      - ii) Furnish the required performance security
      - iii) Bid Security of all the unsuccessful Bidders will be returned as promptly as possible after Notification of Award in terms of this ITB but not later than 30 days after the expiry of the bid validity.
      - iv) Any bid not accompanied by the bid security in accordance with above provisions will be rejected by the Owner as 'non-responsive'
      - v) Interest or any other charges, whatsoever, will not be payable by the Owner on the above Bid Security amount.

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**7. GST REGISTRATION NUMBER:**

The successful Bidder shall furnish to the Owner his GST number obtained from commercial taxes department under GST Act. No payment shall be made to the Contractor unless he submits his GST Number

**8. VALIDITY OF BID**

The bid should be kept valid for acceptance for a period of 90 days from the date of opening of Bids. In exceptional circumstances the Owner may solicit the bidder's consent to an extension of the period of the validity .The request and the response thereto shall be made in writing (including telefax). The Bid Security shall also be extended by the same period as the extension in the validity of the bid. A bidder accepting the request will not be permitted to modify its bid.

**9. OPENING AND EVALUATION OF BIDS****i) Bid Opening**

The Owner will open the bids, including WITHDRAWALS, SUBSTITUTIONS and MODIFICATIONS made hereof, in the presence of bidders' designated representatives who choose to attend, at the time, date, and location stipulated in the hereof. The bidders' representatives who are present shall sign a register evidencing their attendance. No Bid shall be rejected at the Bid opening except for the late Bids pursuant.

**ii) Envelopes will be opened in the following order;**

- a. Withdrawal notices
  - b. Substitution
  - c. Original bid along with modifications, if any
  - d. Original bids for which an acceptable notice of withdrawal has been submitted shall not be opened.
- All important information and any such other details as the Owner may consider appropriate, will be announced by the Owner at the Bid opening. This shall include but may not be limited to the Bidders' names, the Bid Prices including deviations, any discounts, withdrawals, substitutions and bid modifications, and the presence (or absence) of Bid Security .

Bids not opened and read out at bid opening shall not be considered further for evaluation, irrespective of the circumstances.

**iii) Bid Evaluation****General**

The Bids will be evaluated by the Owner to ascertain the lowest evaluated technically and commercially responsive bid for the complete scope of the proposal, as covered under these Bid Documents. The evaluation of techno-commercial bids shall be carried out on the techno-commercial submission of the bidder for the entire Scope of Work meeting Owner's Specifications/Requirements and Qualification Criteria as detailed in these Bid Documents.

**Preliminary Examination:**

The Owner will examine the bids to determine whether the documents have been properly signed, whether required sureties have been furnished, whether computational errors for price bids have been made and whether the bids are generally in order.

Prior to detailed evaluation, the Owner will determine the substantial responsiveness of each bid to the Bid Documents. A substantially responsive bid is one, which conforms to all the terms and conditions of the bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works or inconsistent with the Bidding Documents; (b) which limits in any substantial way, the Owner's rights or the Bidder's obligations under the Contract; or (c) Technical proposal is such, as if the bidder has not understood the work implementation (d) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids . The Owner's determination of bid's responsiveness is to be based on the contents of the bid itself without recourse to extraneous evidence.

A bid determined as not substantially responsive will be rejected by the Owner and may not subsequently be made responsive by the bidder by correction of the non-conformity.

The Owner may waive any minor non-conformity or irregularity in a bid which does not constitute a material deviation provided such waiver does not prejudice or effect the relative ranking of bidder .

**Correction of Errors**

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In the Bill of Quantities the rates shall be written both in words and in figures. Bidder shall also show the total on each page and the Grand Total of the whole Contract. Corrections, if any, shall be made by crossing out, initialing, dating and rewriting.

If on check, found differences between the rates given by the contractor in words and figures or in the amount worked out by him in the Bill of Quantities and General Summary, the same shall be adjusted in accordance with the following rules:

- a) In the event of a discrepancy between description in words and figures quoted by a tenderer, the description in words shall prevail.
- b) In the event of an error occurring in the amount column of Bill of Quantities as a result of wrong multiplication of unit price and quantity, the unit price shall be regarded as firm and multiplication shall be amended on the basis of the price.
- c) All errors in totaling in the amount column and in carrying forward totals shall be corrected.
- d) The General Summary and the tendered sum shall be amended accordingly. The tendered sum so altered shall, for the purpose of tender, be substituted for the sum originally tendered and considered for acceptance instead of the original sum quoted by the Bidder.

**10. COMPARISON OF BIDS**

**Prices quoted by the Bidder for Complete Scope of Work including defect liability period shall be Considered for Comparison of Bids .**

**Taxes and duties**

The Bid Prices shall be inclusive of all taxes and duties .The effect of all applicable taxes, duties, other levies and charges etc should be ascertained by the bidder and included in his Bid Price.

**11. AWARDS**

The Owner will award the Works to the bidder whose bid has been determined to be substantially responsive to the Bidding Documents and who has offered the lowest Evaluated Bid Price .

**12. NOTIFICATION OF AWARD (LETTER OF ACCEPTANCE)**

Prior to expiration of the period of bid validity, the Owner will notify the successful bidder by tele fax confirmed by registered letter or courier that its bid has been accepted. This letter (hereinafter and in the Conditions of the Contract called the "Letter of Acceptance") shall specify the sum which the Owner will pay the Contractor in consideration of the execution and completion of the Works and the remedying of any defects therein by the Contractor as prescribed by the Contract.

The notification of award will constitute the formation of a contract until the contract has been formally signed pursuant to Clause 19 hereunder

**13. PERMANENT ACCOUNT NUMBER (PAN):**

Within 28 days from the date of issue of the Letter of Acceptance, the successful Bidder shall furnish to the Owner his Permanent Account Number issued by the Income Tax Authorities in India .No payment shall be made to the Contractor unless he submits his Permanent Account Number.

**14. PERFORMANCE SECURITY:**

Within a period of 21 days from the date of issue of Letter of Acceptance, the successful bidder shall furnish to the Owner, Bank Guarantee for amounts equal to 10 per cent (%) of the Contract Price in the form Bid Security annexed in the List of Forms.

Failure of the successful bidder to comply with the requirement of Clause 15 shall constitute a breach of contract, cause for annulment of the award, forfeiture of the Bid Security, and any such other remedy the Owner may take under the provisions of the Contract.

**15. CORRUPT OR FRAUDULENT PRACTICES**

It is expected from the Bidders that they will observe the high standard of ethics during the procurement and execution of such Contracts. In pursuance of this policy:

(a) For the purpose of this provision, the terms set-forth below shall mean as under:

- (i) **"corrupt practice"** means the offering, giving, receiving or soliciting, directly or indirectly of anything of value to influence the action of a public official in the procurement process or in Contract execution;

**Sig. Of Bidder**

- (ii) **"Fraudulent practice"** means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a Contract
  - (iii) **"Collusive practices"** means a scheme or arrangement between two or more bidders with or without the knowledge of the Borrower, designed to establish bid prices at artificial, non-competitive levels;
  - (iv) **"Coercive practice"** means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a contract;
- (b) A bid may be rejected by the Owner if it is determined at any stage that respective bidder has engaged in corrupt or fraudulent or collusive or coercive practices in competing for the Contract in question; The Owner may declare a firm/Party ineligible, either indefinitely or for a stated period of time, to be awarded a Contract if it at any time determines that the firm /Party has engaged in corrupt or fraudulent or collusive or coercive practices in competing for, or in executing a Contract. Representative of vendors, suppliers, contractors, consultants, service providers or any other agency (ies) doing any type of business with JKPCCLtd is expected and shall be responsible to ensure that there is no fraudulent act being committed in their areas of responsibility/ control. As soon as he/ she comes to know of any fraud or suspected fraud or any other fraudulent activity must report such incident(s) Such reporting shall be made to the designated Nodal Officer(s), nominated in Project/ Corporate Centre The reporting of the fraud normally should be in writing In case the reporter is not willing to furnish a written statement of fraud but is in a position to give sequential and specific transaction of fraud/ suspected fraud, then the officer receiving the information/ Nodal Officer shall record such details in writing as narrated by the reporter.

## 16 Contract:

- 16.1 Following documents shall be attached/annexed to the Agreement and thus form part of the Contract;
- a) General Conditions of Contract.
  - b) Bill of Quantities.
  - c) Special Conditions of Contract.
  - d) Technical Specifications
  - e) Letter of Award.
  - f) Critical conditions of the contract.
  - g) Any other document forming part of the Contract.
- 16.2 In case of any discrepancy between the documents mentioned in Clause 16.1 above the order of documents shall be as follows:
- i. Letter of Award
  - ii. Special Conditions of Contract.
  - iii. General Conditions of Contract.
  - iv. Technical Specifications
  - v. Bill of Quantities.
  - vi. Critical conditions of the contract.
  - vii. Any other document forming part of the Contract.

## 17. PRICES:

- 17.1 The prices to be quoted by the intending tenderer shall include the supply, installation, testing and commissioning of works at the site, of all component, ancillary material and other items whatsoever required for carrying out the job to fulfill the intent and purposes as laid down in the Technical specifications.
- 17.2 The tenderer's price shall be deemed to include all components. The contractor shall also include, in his price, all taxes duties or other levies (viz. Excise duty, customs duty, works contract tax, sales tax, entry tax, octroi etc..) which are legally livable on supply of equipments& material and its Installation. Failure to include all livable taxes and duties will not entitle the contractor to any extra claims from the Engineer-Incharge. The contractor's rate shall remain firm and fixed during the currency of the contract.

**Sig. Of Bidder**

- 17.3 The prices and unit rates quoted by the bidder in the bid shall be firm and deemed to be adequate to cover the entire responsibility involved in the execution and completion of work. No Price Variation/adjustment is payable during the currency of Contract. The price shall not be subject to exchange rate variations. No increase due to change in daily wages of labour be paid, due to any reasons whatsoever.
- 17.4 The rates quoted by the Contractor shall be net so as to include all the requirements described in the contract agreement and no claim whatsoever due to fluctuations in the price of materials and labour will be entertained.
- 17.5 The contractor shall provide all equipments, instruments, labour and such other assistance required by the Engineer-in-charge for measurement of the works, materials etc.

## **18. Temporary Works**

Before any temporary works is commenced the contractor shall submit at least 7 days in advance to the Engineer-in-charge for approval of complete drawings of all temporary works he may require for the execution of the works. The contractor shall carry out the modifications relating to strength, if required by the JKPC/Engineer-in-charge in accordance with the conditions of contract at his own cost. The contractor shall be solely responsible for the stability and safety of all temporary works and unfinished works and for the quality of the permanent works resulting from the arrangement eventually adopted for their execution. For the Civil works like cutting of walls for conduit works or any other job requirement with necessary repairs as per requirements at site including making well the same, the expenditure shall be borne by the agency/contractor. Contractor shall quote rates accordingly. Nothing extra shall be paid on this account.

## **19. Water, Power and Other Facilities:**

- a) Raw water supply is available at site which the contractor can use for any constructional needs. However for drinking water Contractor shall have to make their own arrangement at their own cost.
- b) Metered JKPC power supply shall be made available to the contractor who shall have to pay the JKPC/Engineer-in-charge for energy consumed on per month basis. Generator back up if required shall have to be arranged by the contractor at their own cost.

## **20. Accommodation:**

- a) The contractor shall provide and maintain all necessary offices, workshops, stores, shelters, sanitary facilities, canteens and other temporary structures for themselves in connection with the work at the site at their own cost after getting the approval from the JKPC.
- b) All temporary buildings and facilities as mentioned above shall be removed on completion of the work or at any other earlier date as directed by the JKPC.
- c) Watch & ward shall be responsibility of the contractor till the completion of job.

## **21. Facilities for contractor's employees**

The contractor shall make his own arrangement for the housing and welfare of his staff and workmen including adequate drinking water facilities. The contractor shall also make the arrangements at his own cost for transport where necessary for his staff and workmen to and from site of work at his own cost.

## **22. Liquidation of damages**

0.25% of contract value for every week of the delay after the schedule date of completion of work to the contractor will be charged. Total recovery amount shall be maximum upto 5%.

## **23. Disposal of Refuse**

The contractor shall cart away all debris, refuse etc arising from the work from the site and deposit the same as directed by the Engineer-in-charge at his own cost. It is the responsibility of the contractor to obtain from the local authorities concerned to the effect that all rubbish arising out of contractor's activities at the construction site or any other off-site activities borrow pits has been properly disposed off.

## **24. Tools, Storage of Materials, Protective Works and Site Office Requirements**

The contractor shall provide, fix up and maintain in an approved position proper office accommodation for the contractor's representative and staff which offices shall be open at all reasonable hours to receive instruction notices or communications and for storage of tools, etc and clear away the same on completion of the works and make good all work disturbed.

**Sig. Of Bidder**

All drawings maintained on the site are to be carefully mounted on boards of appropriate size and covered with a coat of approved varnish. They are to be protected from ravages of termites, ants, and other insects and made available to the JKPC for inspection or such other purposes they may require. The contractor shall provide at his own cost all artificial light required to complete the work within the specified time.

The contractor shall provide a suitable temporary hut for the watchmen and clear away the same when no longer required and to provide all necessary attendance, lights etc required.

The contractor shall arrange for temporary latrines for the use of workers and field staff and keep the same in a clean and sanitary condition to the satisfaction of the Public Health Authorities and shall cause such latrines and soil to be cleared away whenever necessary and shall make good all the works disturbed by these conveniences.

Every precaution shall be taken by the contractor to prevent the breeding of mosquitoes on the works during the construction, and all receptacles, cistern, water tanks etc used for the storage of water must be suitably protected against breeding of mosquitoes. The contractor shall indemnify the JKPC against any breach of rules in respect of anti-malarial measures.

The contractor shall not fix or place any placards or advertisement of any description or permit the same to be fixed or placed or upon any boarding gantry, building structures other than those approved by the JKPC.

Protective Measures: The contractor from time to time of being placed possession of the site must make suitable arrangements for watching, lighting and protecting the work, the site and surrounding property by day, by night, on Sundays and other holidays.

Contractor shall indemnify the JKPC against any possible damage to the building, roads, or members of the public in course of execution of the work.

The contractor shall provide necessary temporary enclosures, gates, entrances etc for the protection of the work and materials and for altering and adopting the same as may be required and removing on completion of the works and making good all works disturbed.

Storage of Materials: The contractor shall provide and maintain proper sheds for the proper storage and adequate protection of materials etc and other work that may be executed on the site including the tools and materials of nominated sub-contractors and remove same on completion.

So also, steel materials are to be stored above the ground level to prevent the same from getting rusted.

**25. Tools:**

All measuring tapes shall be of steel. Suitable scaffolding and ladders that may be required for safe working and taking measurement shall be supplied by the contractor.

Supervisors on the works shall always carry with them a one metre or two meter steel tape, a measuring tape of 30 meters, a spirit level and shall check the work to see that the work is being done according to the drawing and specifications. Supervisors shall also carry one test lamp with leads and one neon tester and necessary working instruments. The Site Engineer will use any or all measuring instruments or tools belonging to the contractors as he chooses for checking the works executed or being executed on the contract. The contractor should cover in his rates for making provisions for all reasonable facilities for the use of his scaffolding, tools and plant etc for their work.

**26. Idle Labour:**

Whatever the reasons may be no claim for idle labour, additional establishment cost of hire and labour charges of tools and plants would be entertained under any circumstances.

**27. Variation in quantities:**

The quantities for ancillary works given in the schedule and / or in drawings are for the guidance of the tenderer. The contractor shall be paid on the basis of actual quantities of works carried out. However the contractor shall check these quantities before quoting and will bring to the notice of Consultants / Engineer-In charge for any major variation. The contract shall be on works contract basis and the Client reserves the right to add / delete any items of work during the currency of contract.

When there is likelihood of major variation in the quantity of any item after the finalization of design/drawings, the Contractor shall submit the details of such variation with proper Justification for approval of Engineer-in-charge. Payment of such deviated quantities shall only be made after approval of Engineer-in-charge.

**Sig. Of Bidder**

**28. Excise Duty, Taxes, Levies etc**

The contractor shall pay and be responsible for payment of all taxes, including GST & other taxes as applicable, duties, levies, royalties, fees, cess or charges in respect of the works including but not limited to GST, works contract tax, customs duty, excise duty and octroi, payable in respect of materials, equipment plant and other things required for the contractor. All of the aforesaid taxes, duties, levies, fees and charges shall be to the contractor's account and the JKPC shall not be required to pay any additional or extra amount on this account. If there occurs any Variation of taxes, duties, fees, levies etc or introduction of new Tax or duty or levy or cess imposed under any Statute or Law, after 15 days prior to last date of submission of Bids, during the currency of contract which causes additional or reduced cost to the contractor, the same shall be intimated by the contractor to the owner and shall be paid/recovered to/from the contractor.

**29. Approved Make:**

The Material/Equipment/Machinery to be supplied and installed for Electric system Works shall be of Approved make as specified in Technical Specifications. The List of Approved makes and manufacturers is Annexed to Technical Specifications.

**30. Working Drawings, Maintenance Manuals etc.:**

On the award of the work, the contractor shall immediately proceed with the preparation of detailed shop drawings prepared on the computer through the Auto CAD system based on the architectural drawings and site measurement, detailing the components that are to be installed and the ancillary works that are to be carried out. Three sets of all such schematic drawings shall be submitted to the Engineer-In-charge, for their approval as provided in General Conditions of Contract to ensure that the works will be carried out in accordance with the specifications and drawings, including such changes as may have been mutually agreed upon. All the drawings shall be received by the Engineer incharge for their approval, within two weeks of the award of work. The approval of the drawings by the Engineer-In-charge shall in no way relieve the contractor from his obligations to provide a complete and satisfactory System and installation as per intent and purpose as laid down in the specifications. Any omissions and/or errors shall be made good or rectified whether or not the drawings are approved.

Prior to the completion of the work, the contractor shall furnish (4) four sets of a comprehensive manual, describing all components, furnishing a list of instructions for the operations and maintenance of the system.

When the Engineer-In-charge makes any amendments in the above drawings, the contractor shall supply two fresh sets of drawings with the amendments duly incorporated along with check prints for approval.

Within four weeks of approval of all the relevant shop drawings, the contractor shall submit four copies of a comprehensive variation in the quantity statement. The contractor shall also fix in the control room neatly typed and framed, instruction in details, for the starting and running of the system. Any special tools required for the operation or the maintenance of the system shall be supplied free.

**31. Supply, Installation, Testing and Commissioning:**

The contractor shall carry out the complete supply, installation, testing and commissioning. All work shall commence on previously prepared locations for the main and sub systems. All the materials shall be moved from their place of storage into the system by the contractor. The contractor shall make his own arrangement to off load materials received at respective Air/Rail/Road transport terminal points, dispatch to site and to store all material received at site. The Engineer-Incharge shall provide clear storage and installation space only. All installation tools and tackles as and when required to suit the installation programme shall be provided by the contractor. All consumables required for installations such scaffolding etc. shall be provided by the contractor. Protective and finish painting shall be carried out by the contractor. The contractor shall indicate the electricity requirements during installation. The contractor shall remove all the waste material or rubbish from and about the work site and leave the job thoroughly cleaned up and ready for use.

**32. Testing:**

**Sig. Of Bidder**



- 32.1 All types of routines and type tests as required shall be carried out at the works of the contractor or the manufacturers of the components. The routine tests will be carried out in presence of third party inspection viz. CEIL or CPRI in presence of Engineer in charge or his representatives. The inspection Certificate/Release note of the third party inspection agency should be finalized by Dy. General Manager (Electrical) Jammu. The inspection charges should be borne by the Manufacture.
- 32.2 On the completion of the installation, the contractors shall arrange to carry out various initial tests as detailed in below, in the presence of and to the complete satisfaction of the Engineer-In-charge or their representatives. Any defects or shortcomings found during the tests shall be speedily rectified or made good by the contractor at his own expenses.
- 32.3 The initial tests shall include but not be limited to the following:
- 32.4 To operate and check the proper functioning of all electrically operated components.
- 32.5 On the satisfactory completion of all 'Initial' tests the work shall be considered to be 'virtually complete' for the purpose of taking over by the Engineer-Incharge.
- 33. Rejection of Defective System:**  
If on test any portion of the system or components are found to be defective or not fulfilling the intent or the meaning of the specifications, the same shall be replaced or repaired to the entire satisfaction of the Engineer In-charge.  
In case the contractor fails to remove the defects, within a period considered reasonable, the Engineer In-charge reserves the right to take necessary remedial measures through other agencies and all expenses thus incurred would be recovered from the contractor.  
The Engineer In-charge reserves the right to operate all the equipment and complete system whether or not the Equipment is taken over after the initial test and commissioning. Any defects found during the initial or running tests shall be removed at a suitable time as decided upon by the Engineer In-charge.
- 34. Maintenance of the system and training of personnel:**  
The contractor shall arrange to provide at no extra cost operation and comprehensive maintenance of the entire electrical system of the building, regularly for a period of 36 Months (Thirty-six ) from the date of commissioning i.e defect liability period.
- 35. Completeness of the Works:**  
The contractor shall provide all the required materials, equipment, ancillary items etc. whether or not each and every item is mentioned in the specifications. Any shortcomings noticed at any stage shall be made good at no extra cost.
- 36. Warranty and Guarantee:**  
The contractor shall guarantee that all the material, machinery and components supplied, installed, fabricated, by him shall be free from defects due to faulty design material and/or workmanship, that the system shall perform satisfactorily and the efficiency and functioning system of the system and all the components shall not be less than the parameters laid down in the specifications and the performance shall be within the specified design limits. In case of any shortcoming the contractor shall replace the necessary components/items at no extra cost or alternately the Engineer In-charge shall be entitled to deduct a proportionate amount from payments due to the contractor.  
The period of the guarantee shall be minimum of 36 Months/manufacturer's warranty (whichever is more) from the date of commissioning during which period any or all components found to be defective shall be replaced or repaired free of charge and any shortcomings found in the system functioning as specified shall be removed at no extra cost. The contractor shall provide the necessary personnel and tools for fulfilling the above guarantee.  
If for any reason the commissioning of the system cannot be carried out due to reasons attributable solely to the Engineer In-charge, then the system shall carry a guarantee for a period of 36 Months from the date of 'virtual completion' - a date which shall be certified by Engineer In-charge.  
If the defects are not removed within a reasonable time the Engineer In-charge may arrange to do so at the contractor's risk and cost, without prejudice to any other rights.
- 37. Safe custody and storage:**  
Safe custody of all equipments/items supplied by the contractor shall be his own responsibility till the final taking over by the Engineer In-charge. He should, therefore, employ sufficient staff for watch and

**Sig. Of Bidder**

ward at his own expenses. The Engineer In-charge may, however, allow the contractor to use the Equipment room/rooms etc. for temporary storage of his equipment if such spaces are ready and available.

**38. Spares:**

The Contractor guarantees to the Owner the supply of spares during defect liability period.

**39. Operation and Maintenance (O&M):**

The Contractor shall provide all inclusive Operation and Maintenance (O&M) of installed electric system during the defect liability period inclusive of all material, labour and any other costs, as specified in the Contract, after commissioning of Plant/system at no extra cost to the Owner.

**40. Site Visit:**

The bidders are strongly advised to visit and examine the existing infrastructure and obtain, on their own responsibility, all information that may be necessary for preparing the Bid and entering into a Contract. The costs of visiting the sites shall be at bidders own expenses. JKPCC Ltd will assist for site visit in working days (Monday – Friday) between 9.30 AM to 4.00 PM.

**41. Labour laws and safety regulations:**

The Contractor will be required to make good for any damage caused during the awarded work. Any injury / casualty to any skilled / unskilled worker during the work execution will be the entire responsibility of the Supplier / Vendor and your labour should be duly insured. Contractor will be responsible for the compliance of the provisions of the various central & State enacted labour laws whichever is applicable to workmen deployed by the contractor party in relation with the subject services. Following rules / regulations may be concerned in particular.

- Employees Provident Fund and Miscellaneous Provisions Act, 1952.
- Employees State Insurance Act, 1948.
- Payment of Wages Act, 1936.
- Minimum Wages Act, 1948.
- Equal Remuneration Act, 1965.
- Contractor Labour (Regulation and Abolition Act), 1970.
- Payment of Bonus Act, 1965.
- The Employee's Compensation Act, 1923.

## Special Condition of the Contract

**1. Penalty for delay in completion:-**

0.25% of contract value for every week of the delay after the schedule date of completion of work to the contractor will be charged. Total recovery amount shall be maximum upto 5%.

**2. Time extension:-**

Suitable time extension shall be granted in case of increase in scope of work and in the event of delay beyond control of contractor to be determined by the department. The tender receiving authority reserves the right to accept or reject any tender or all tenders without assigning any reason thereof.

**3. Restoration of work: -**

On completion of contract the contractor shall be responsible to remove all un-used material and restore the site in its original position at his own cost.

**4. Defect Liability period:-**

The DLP shall be calculated from date of certified completion of work and period shall be 36 months from the certified date of completion by JKPCCLtd.

**5. Safety**

The contractor shall be responsible for safety of all men, material and machinery at site of work. He shall submit the insurance certificates in this regard within One month of date of allotment.

**6. Discoveries**

Anything of historical or other interest or of significant value unexpectedly discovered on the site shall be the property of the Govt.

**7. Tests**

The contractor shall be solely responsible for carrying out the mandatory tests required for the quality control at his own cost and shall submit a test report regarding the physical/ chemical properties as well as structural strength of material.

**8. Termination**

The employer may terminate the contract if the contractor causes a fundamental breach of the contract. Fundamental breach of contract will include:-

- i. Continuous stoppage of Work for a period of 15 days without authorization of Engineer in-charge.
- ii. Contractor is declared bankrupt.
- iii. Any evidence of involvement of contractor in corrupt practices.
- iv. Contractor delays the completion of work beyond stipulated time of completion.
- v. If In case contractor fails to start /complete the work, within the stipulated time period, his CDR/Earnest Money shall be forfeited after termination of the contract. Besides, defaulting contractor shall be debarred from taking works in JKPCCLtd., at least for two years and shall be recommended for blacklisting as well.

Pursuant to the process of termination of defaulted contract, the employer reserves the right to invite fresh tender for the balance work at the risk and cost of defaulter contractor

The date of start of the work shall be reckoned within 07 Days from the date of issuance of LOI/Contract allotment as the case may be.

**9. MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENT ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK:-**

- a) Compliance with Labour Regulation Laws of J&K State.

**10. Specification/Quality Control:-** All items of works shall conform to specifications as per BOQ

**11. Insurance:-** Insurance cover to Labour / Machinery / Work / Plant material / Equipment by the contractor shall be mandatory.

**12. Laws Governing the Contract:-**The contract shall be governed by Laws of the land.

**Sig. Of Bidder**

**13. Court's Jurisdiction:**-In case of any disputes/differences between contractor and Department the jurisdiction shall be J&K State

**14. All other terms and conditions are as same as are in vogue in JKPCCLtd.**

**15. Other conditions:**

- i. The contractor/ agency failing to execute the work in part or in full. Action will be taken against him according to the following conditions:-
  - a. A registered notice or notices sent through special messenger by the Engineer I/c to the contractor for non-start of work will amount to breach of contract.
  - b. The corporation may execute the work left by the contractor at his risk and cost. Any additional amount involved for execution of work will be recovered from other claims/resources of the contractor available with the corporation.
  - c. In case contractor evades the receipt of notice or deliberately gives wrong address for the communication where it is not possible to deliver registered letter, the notice will be pasted on the entry gate of his premises in presence of a witness. This will be treated as notice being served upon the contractor.
- ii. Tenderer shall not be entitled for any claim what so ever on account of expenses incurred by him on submission of the tender.
- iii. All terms and conditions of NIT/ Agreement to be drawn by the contractor/ agencies shall be binding upon the contractor/ agencies as soon as the allotment of contract is awarded in favour of contractor/ agency. The terms and conditions contained in other similar nature of contracts of this corporation shall also be applicable.
- iv. Misconduct/ Misbehavior observed during the tender opening process, during the execution of work with any officer / official shall be dealt under rules. He shall be disqualified in the tendering process / his contract shall be liable for termination.
- v. The accepting authority reserves the right to accept or reject any or all the tender before or after their opening after assigning reason thereof. The allotting authority in view of exceptional circumstances reserves the right of granting the contract to any of the tenderer it deems proper in the interest of the work.
- vi. The successful tenderer will abide by all labour laws and will be personally responsible for any casualty/ eventuality/ accident during the period of contract. For such eventualities he will have to insure his all workmen and machinery deployed on the work.
- vii. The watch & ward of the material during execution shall be sole responsibility of the successful tenderer.

**16. Performance security (unbalanced bids)**

If the bid of the successful bidder is seriously unbalanced in relation to the Engineer's estimate of the cost of work to be performed under the contract the employer may require the bidder to produce detailed price analysis for any or all items of the bill of quantities to demonstrate the internal consistency of these prices with the construction methods.

In case the bid of the lowest bidder is found unbalance the successful bidder shall have to produce additional performance security in the shape of CDR /FDR /BG within 21 days of opening of price bid as per the following break-up:

S.No	%-age of unbalanced bid with advertised cost	Additional performance security to be deposited
1	Upto & including 15% below	NIL
2	Greater than 15% below upto 30% below	3%
3	Greater than 30% below	5%

**17. Deviation items:**

No deviation items shall be executed by the contractor unless until it is approved in writing by the engineer-in-charge (i.e., Dy. General Manager).

**18. Security Deposit**

**Sig. Of Bidder**

- a) The earnest money of the successful tenderer shall be retained and released after the successful completion of work.
- b) Up-to 10% security deposit deductions shall be made from all interim bills including final bill.
- c) The security deposit at the credit of the contractor shall be refunded to the contractor after the date of expiry of defect liability period of 36 months from the date of taking over of the work and removal of defects after conducting necessary repair to the entire satisfaction of the Engineer-in-charge.
- d) The security deposit shall not bear any interest.
- e) The security deposit shall be liable to forfeit as per the discretion of the Engineer-in-charge if the contractor fails to carry out work or perform/ observe any of the conditions of the contract.

#### **19. Time of completion**

The time being essence of any contract, the work is to be completed in tandem with Civil works.

#### **20. Replacement of defective work and material**

The contractor shall also be personally liable for civil and criminal prosecution under law if the specifications of the materials used are found in contravention to the specification prescribed during execution of the work even after completion and finalization of the contract i.e., at any stage during the prescribed life of the structure.

The tenderers shall in their own interest examine the conditions of the contract and specifications of the work. They shall also inspect the site and satisfy themselves (on their own) as to the climate and other conditions prevailing at the site. The nature and extent of the work, all existing and required roads and other mean of communication and access to site, availability of housing and other facilities, availability of different material, labour and probable sites, for labour camps, stores and godowns etc. They shall themselves obtain all necessary information as to the risks, contingencies and other circumstances which may effect of influence their tender, No extra charges consequent to any misunderstanding or otherwise no on this account shall be allowed.

#### **21. Fundamental breach of contract will include:-**

- a. Continuous stoppage of Work for a period of 15 days without authorization of Engineer in-charge.
- b. Contractor is declared bankrupt.
- c. Any evidence of involvement of contractor in corrupt practices.
- d. Contractor delays the completion of work beyond stipulated time of completion.
- e. Pursuant to the process of termination of defaulted contract, the employer reserves the right to invite fresh tender for the balance work at the risk and cost of defaulting contractor.
- f. If in case contractor failed to start /complete the work, within the stipulated time period, his CDR/Earnest Money shall be forfeited after termination of the contract. Besides, defaulting contractor shall be debarred from taking works in JKPCC Ltd. at least for two years.
- g. **Major Labour Laws applicable to establishment engaged in building and other construction Work:-**
  - i. Workmen compensation act 1923.
  - ii. Payment of Gratuity Act 1972.
  - iii. Employees P.F. and Miscellaneous Provision Act 1952.
  - iv. Maternity Benefits Act 1951.
  - v. Contract Labour (Regulation & Abolition) Act 1970.
  - vi. Minimum Wages Act 1948.
  - vii. Payment of Wages Act 1936.
  - viii. Equal remuneration Act 1979.
  - ix. Payment of bonus Act 1965.
  - x. Industrial disputes Act 1947.
  - xi. Industrial employment standing orders Act 1946.
  - xii. Trade Union Act 1926.
  - xiii. Child Labour (Prohibition & Regulation) Act 1986.

**Sig. Of Bidder**

- xiv. Inter State Migrant workmen's (Regulation of employment & Conditions of service) Act 1979.
- xv. The Building and other Construction workers (Regulation of employment and Condition of service) Act 1996 and the Census Act of 1996.
- xvi. Factories Act 1948. & Compliance with Labour Regulation Laws of J&K State.

## 22. PAYMENTS SCHEDULE.

All the payments during execution of work shall be based on the actual measurement.

### Note:

- a) The cost of works already executed shall be deducted from the bill.
- b) Any item of work not included BoQ but found necessary shall be paid as per OEM rate list or LMR whichever applicable and the decision of Engineer I/C regarding rates shall be binding upon the Bidder.

## 23. DRAWINGS AND PHOTOGRAPHS OF THE WORKS

The contractor shall do photograph /video photograph of the site firstly before the start of the work, secondly mid-way in the execution of different stages of work and lastly after the completion of the work. No separate payment will be made to the contractor for this and shall submit a Hard copy and soft copy of the same to the Engineer-in-charge for record and reference.

The contractor shall not disclose details of drawings furnished to him and works on which he is engaged without the prior approval of the Engineer-in-Charge in writing. No photograph of the works or any part thereof or plant employed therein, except those permitted shall be taken or permitted by the contractor to be taken by any of his employees or any employees of his sub-contractors without the prior approval of the Engineer-in-Charge in writing. No Photographs /Video photography shall be published or otherwise circulated without the approval of the Engineer-in-Charge in writing.

## 24. The key equipment required at site:

S.No	Name of the Equipment	Quantity Reqd.
1	Electrical Cutters	4 No.
2	Hammer drills	2 No.
3	Crimping Tools	1 No.
4	Multimeter/hook on meter	1 No.
5	Megger	1 No.
6	Earth resistance measuring Tool	1 No.
7	Hand Tools	1 complete set

## 25. The Number of Technical personnel Required at site:

Technical personnel with required Qualifications and Experience will be as follows:

Technical Personnel	Number	Experience in Internal Electrification of building
Elect. Work Supervisor	2	5

**Sig. Of Bidder**



## **TECHNICAL SPECIFICATION FOR DRY TYPE DISTRIBUTION TRANSFORMERS OF RATINGS**

### **2000kVA 11/0.433 kV(INDOOR/ UNDERGROUND)**

#### **1.0 SCOPE :**

- 1.1 The specification covers design manufacture, testing, packing and delivery of 3 phase 50 Hz, Dry Type (Vacuum cast resin (encapsulated)) distribution transformer of ratings 2000kVA, 11/0.433 kV (Indoor/Underground) AN conforming to IS: 2026 1981 Part ( I TO V), IS: 11171 1985 and IEC 60076.
- 1.2 The equipment offered shall be complete with all necessary parts for effective and trouble-free operation in the distribution system. Such parts will be deemed to be within the scope of the supply irrespective of whether they are specifically indicated in the commercial order or not.
- 1.3 It is not the intent to specify herein complete details of design and construction. The equipment offered shall conform to all relevant standards and be of high quality, sturdy, robust and of good workmanship and complete design in all respects. The equipment shall be capable to perform continuous and satisfactory operations in the actual service conditions at site and shall have sufficiently long life in service as per statutory requirement

#### **2.0 SYSTEM PARTICULARS:**

- 2.1 The transformers shall be suitable for indoor installation with following system particulars and should be suitable for service under fluctuations in supply voltage as permissible under Indian Electricity Act & Rules there under.
- 2.2 Nominal System Voltage : 11kV
- 2.3 Corresponding Highest System Voltage : 12kV
- 2.4 Neutral earthing : Solidly earthed
- 2.5 Frequency : 50 Hz with  $\pm 3$  % Tolerance



#### 4. APPLICABLE STANDARDS:

- i The design, manufacture and performance of the equipment shall comply with all currently applicable statutes, regulations and safety codes.
- ii The Distribution Transformers shall conform to IS: 2026 as amended up to date or other International Standards for equal or better performance.
- iii Unless otherwise specified, the equipment offered shall conform to the latest applicable Indian, IEC, British or U.S.A. Standards and in particular, to the following:-

a.	IS 2026 (Part 1 to V)	Distribution Transformer
B	IS 11171	Dry Type Transformers
c	IS 12063	Degree of protection provided by enclosures
d	IEC 60076	Power Transformers
e.	IS:3347	Dimensions for porcelain transformer bushing for use in normally and lightly polluted atmospheres
f.	IS: 5	Colours for ready mixed paints and enamels.
g	IEEE C57.12.01-1988	Dry type transformer
h.	IEC 60076-11	Dry Type Transformers

In case of conflict arising out due to variations between the applicable standard and the standards specified herein the provisions of this specification should prevail.

The equipment shall also conform to the provisions of Indian Electricity rules and other statutory regulations currently in force in the country.

**5.0 SPECIFIC TECHNICAL REQUIREMENT:**

**5.1 Standard kVA Ratings:-**

5.1.1. The standard ratings of transformers shall be 2000kVA

**5.2 Nominal voltage ratings**

i Primary voltage - 11 kV

ii Secondary voltage - 0.433 kV

5.3 The windings of the transformers shall be connected to Delta ( $\Delta$ ) on the primary side and star (Y) on the secondary side. The neutral of the LT winding shall be brought out to a separate terminal. The vector group shall be Dyn-11.

5.4 Percentage Impedance: 5% for rating 2000 KVA at 75deg C (subject to IS tolerance)

**5.5 Temperature Rise;**

i. Average winding temperature rise shall be as per Table-2, IEC 60076-11:2004

ii Core, metallic parts and adjacent material shall in no case reach a value that may damage these material or reduce their life expectancies.

**5.6 Fire behavior classes:**

i. Transformer shall be F1 class as per IEC 60076-11:2004

**6.0 DESIGN & CONSTRUCTION:**

**6.1 CORE:**

i. The core shall be of high grade cold rolled grain oriented (C.R.G.O) annealed steel lamination, having low loss and good grain properties, coated with insulation on both sides, bolted together to the frames firmly to prevent vibration or noise. All core clamping bolts shall be effectively insulated. The complete design of core must ensure permanency of the core losses with continuous working of the transformers. The entire core assembly shall be covered with heat retardant resin based varnish for corrosion protection before the coils are mounted.

ii Core insulation –C-Class grade insulation paper of thickness 20 mils (0.5 mm) shall be used and make should be clearly stated in the offer along with test certificates or manufacturer may use any other better method of core insulation after approval of engineering in charge. The above approval shall be given only after production of design and documentary support establishing superiority of proposed method better than C-Class grade insulation paper of thickness 20 mils.

iii The successful bidder shall be required to submit the manufacturer's test report showing the Watt Loss per kg and the thickness of the core plate, to ascertain the quality of Core materials.

- iv The purchaser reserves the right to get tested at any Government recognized laboratory.
- v The flux density in any part of the core and yoke at rated voltage & frequency shall be 1.69 Tesla. However, the maximum flux density in any part of the core and yoke with +12.5 percent combined voltage & frequency variation from rated voltage and frequency shall not exceed 1.9 Tesla. The bidder shall furnish necessary design data in support of this situation.

**6.2 FLUX DENSITY:**

Flux density should not be more than 1.69 Tesla at the rated voltage and frequency. The value of the flux density allowed in the design shall be clearly stated in the offer along with graph.

- 6.3 The No load current shall not exceed 1.5 % of the full load current. The no load current shall not exceed 3 % of the full load current in L. V. Winding when the applied voltage is 112.5%

**6.4 CORE CLAMPING:**

As per manufacturer standard practice

**6.5 TIE BOLTS:**

As per manufacturer standard practice

**6.6 WINDING:**

H. V. & L. V. Coils should be fully encapsulated type.

i. Material – Electrolytic copper.

ii LV Winding -Conventional spiral winding should be in even layers so that the neutral formation will be at top.

iii Coil Insulation (HV/LV) — Insulated with class ‘C’ class insulation paper. Winding design shall be adequate to allow for full encapsulation with filled resin conforming to class ‘H’, under vacuum. The resin system shall be two components epoxy filled with a mixture of inorganic fillers improving its thermal, mechanical and fire behavior properties. The single resin components and filler will be carefully stirred and degassed under vacuum in order to eliminate all air bubbles and then mixes together throughout a static mixer just before to pour them, under vacuum, into the mould that contains the coil (winding). The position of this mould shall be horizontal during the casting process that shall assure the total elimination of air bubbles that could create air cavities and critical points of partial discharges. The surface of the encapsulated winding shall be smooth and completely closed and impervious to moisture and common industrial contaminants.

iv Coil spacers and duct – For sectional winding high temperature Epoxy fiberglass or porcelain and for disc winding epoxy fiberglass (Minimum class F insulation & above) shall be used

**6.7 CURRENT DENSITY:**

As per manufacturer’s standard practices.To be got approved from JKPCC.

**6.8 LOSSES :**

6.8.1 The losses at rated voltage for various ratings of transformers of 11 kV class shall be as shown below subject to tolerance as per relevant IS and shall be calculated at 75 deg .C as per limits specified in IS 2026.

TABLE - 1

<b>Voltage Ratio In volts</b>	<b>KVA Rating</b>	<b>Max losses at 50% loading in watts</b>	<b>Max losses at 100% loading In watts</b>
11000/433	400	2380	6040
11000/433	500	2800	7250
11000/433	630	3340	8820
11000/433	2000	4500	12000

6.8.2 The values given in G.T.P. for flux density, no load current at rated voltage, no load current at 112.5% of rated voltage and no load loss at rated voltage shall be individually met.

**6.9 CLEARANCES :**

a. The minimum electrical clearance between the winding and body of the enclosure (between inside surface of the enclosure and outside edge of the winding) should be 100 mm. in case of 11 kV class transformers.

b. Tap lead shall be insulated.

Inspection of winding prior to assembly and connection shall be carried out . Manufacturing drawing for the transformer showing various clearances will have to be got approved from the JKPCC

c. Minimum Clearance

External Clearance of HV	PH to PH	255 mm
	PH to E	205mm
LV Bushing	PH to PH	75 mm
LV Terminals	PH to E	50 mm

**6.10 TRANSFORMER ENCLOSURE:**

The T/F enclosure shall be of robust construction and shall be built of electrically welded MS sheet wire mesh or perforated sheet for ventilation. The core is to be securely clamped with heavy structural angle and should hold the entire core and coil assembly in place to ensure most efficient magnet circuit and quiet functioning of the transformer. All joints of enclosure and fitting shall be tight. The enclosure design shall be such that the core and winding can be lifted freely. The enclosure plates shall be of such strength that the complete transformer may be lifted bodily by means of the lifting lugs provided. The top cover shall have no cut at point of lifting lug. The shape of the enclosure shall be rectangular only. No other shape will be accepted. The enclosure will be fabricated by welding at corners. The enclosure should comply with IP 43 protection as per relevant IEC/IS. The door shall be provided with a mechanical interlocking system, to ensure that it is possible to open the door only when the protection circuit breakers on HV and LV side of the transformer are in 'open' position. Also transformer should trip if somebody tries to open the door with its key without opening the HV & LV side breakers. Horizontal or vertical joints in the enclosure side walls or its bottom or top cover will be allowed. The bottom plate of the enclosure shall be 2.5mm thick min and holes of 2.5 mm of diameter punched sheet for free air circulation.

A	Side wall thickness	2.5 mm.
B	Top and bottom plate Thickness	2.5 mm
C	Lifting lugs	4 Nos. of heavy-duty eye bolt/lifting lugs suitable reinforces by vertical support shall be provided. 2 Nos. of heavy-duty eye bolt/lifting lugs for top cover of adequate size shall be provided.
D	Pulling lugs	4 Nos. of heavy duty pulling lugs shall be provided to pull the transformer horizontally.
E	Top cover-fixing bolts	As per manufacturer standard practices.
F	Rollers	As manufacturer standard practice

G	Enclosure base Channel	As per manufacturer standard practice

**6.11 SURFACE PREPARATION AND PAINTING**

6.11.1 The painting procedure shall be in line with the JKPC requirement.

- i) All paints shall be applied in accordance with the paint manufacturer's recommendations. Particular attention shall be paid to the following:
  - a) Proper storage to avoid exposure as well as extremes of temperature and shelf life for storage
  - b) Surface preparation prior to painting.
  - c) Mixing and thinning
  - d) Application of paints and the recommended limit on time intervals between coats.
- ii) All paints, when applied in normal full coat, shall be free from runs, sags, Wrinkles, patchiness or other defects.
- iii) All primers shall be well marked into the surface, particularly in areas where painting is evident, and the first priming coat shall be applied as soon as possible after cleaning. The paint shall be applied by airless spray according to the manufacturer's recommendations. However, wherever airless spray is not possible, conventional spray be used with prior approval of purchaser.
- iv) The supplier shall, prior to painting, protect nameplates, lettering gauges, sight glasses, light fittings and similar such items.

**6.11.2 Cleaning and Surface Preparation:**

- i) All machining, forming, welding and other manufacturing activities shall be completed before surface preparation. All steel work surfaces shall be thoroughly cleaned of rust, scale, welding slag or spatter and other contamination by sand / shot blast cleaning or chemical cleaning by seven tank process including Phosphating to the appropriate quality in accordance with IS 6005.
- ii) The Pressure and Volume of the compressed air supply for the blast cleaning shall meet the work requirements and shall be sufficiently free from all water contamination.
- iii) All rough surfaces shall be filled with approved two pack filler and then rubbed down to a smooth finish.

**6.11.3 Protective Coating**

As soon as all items have been cleaned and phosphated within four hours of the subsequent drying, they shall be given suitable anticorrosion protection of Zinc chromate primer.

**6.11.4 Paint Material**

Followings are the type of paints that may be suitably used for the transformer to be painted at shop and supply of matching paint to site:

- i) Heat resistant paint (Hot oil proof) for inside surface.
- ii) For external surfaces one coat of Thermo Setting Paint or 2 coats of Zinc chromate followed by 2 coats of polyurethane paint minimum dry film thickness 80 microns. The color of the finishing coats shall be light admiral gray conforming to No. 697 of IS: 5:1961

#### 6.11.5 **Painting Procedure**

- i) All paints in anyone particular system, whether shop or site applied, shall originate from one paint manufacturer.
- ii) The paint shall only be applied in the manner detailed by the manufacturer e.g. conventional or airless spray and shall be applied under the manufacturer's recommended conditions.
- iii) Where the quality of film is impaired by excess film thickness (wrinkling, mud cracking or general softness) the supplier shall remove the unsatisfactory paint coatings and apply another. As a general rule, dry film thickness should not exceed the specified minimum dry film thickness by more than 25 %. In all instances, where two or more coats of the same paints are applied, such coatings should be of slightly contrasting colors.
- iv) Paint applied to items that are not being painted, shall be removed at supplier's expense, leaving the surface clean, un-stained and undamaged.

#### 6.11.6 **Damaged Paint Work**

- i) Any damage occurring to any part of the painting scheme shall be made good to the same standard of corrosion protection and appearance as that originally employed.
- ii) Any damaged paint work shall be made good as follows:
- iii) The damaged area, together with an area extending 25 mm around its boundary, shall be cleaned down to bare metal.
  - a) A priming coat shall immediately applied, followed by a full paint finish equal to that originally applied and extending 50 mm around the perimeter of the originally damaged.
  - b) The repainted surface shall present a smooth surface. This shall be obtained by carefully chamfering the paint edges before & after priming.

#### 6.11.7 **Dry Film Thickness**

- i) To the maximum extent practicable, the coats shall be applied as a continuous film of uniform thickness and free of pores. Over-spray, skips, runs, sags and drips should be avoided.
- ii) Each coat of paint shall be allowed to hardened before the next is applied as per manufacturer's recommendations.
- iii) Particular attention must be paid to full film thickness at edges.
- iv) The requirement for the dry film thickness (DFT) of paint and the material is to be used shall be as given below:-

Sr No.	Paint Type	Area to be painted	No. of Coats	Total Dry Film thickness (Min)
1.	Powder Paint	Inside	01	20 Micron
	a) Thermo setting powder.	Outside	01	60 Micron
2.	Liquid paint	Out side	02	45 microns
	a) Zinc Chromate (Primer)			
	b) Polyurethane paint (Finish Coat)	Outside	02	80 micron
	c) Hot Oil paint	Inside		3.5 micron

## 7.0 H. T. & L. T. BUSHING :

7.1 For 11 kV, 12 kV Bushing will be used and for 433 volts, 1 kV Bushing shall be used. Bushing of the same voltage class shall be interchangeable. Bushing with same plain shades as per IS 347 amended up to date shall be mounted on the side of the enclosure and not on the top cover. Only sheet metal pocket shall be provided for mounting of HV bushing and the same shall not be fixed on pipes. Sheet metal pocket shall be designed in such a way that all HT bushing shall be remain parallel and equidistance throughout. Bushing having type tested as per IS 3347 amended up to date shall only be acceptable.

7.2 Minimum creepage distance for all the bushings shall not be less than 25 mm per kV

## 8.0 A. HT/LT CABLE BOXES FOR INDOOR TYPE TRANSFORMER:

- a. H. T. & L. T. terminal for cable connection shall be brought out through sidewall mounted bushing to a cable end box.
- b. Cable end box shall be self-supporting, weatherproof, air filled type with sufficient space inside for termination and connection of cables.
- c. Cable end box shall be furnished complete with removable gland plate, double compression brass glands.
- d. In general, the arrangement shall be such as to permit of core & coil assembly without dismantling the cable installation.
  - i Suitable arrangement for HV side box and LV side box Shall be provided. The LV cable box shall be suitable for terminating the cable, which will approach the boxes vertically from the bottom. The cable box shall be suitable for being detached from the main body with suitable mounting arrangement.
  - ii The H. T. and L. T. cable box shall be fixed on the opposite sides.

8.1 In the case of indoor transformers, the enclosure shall be fitted with cable boxes on HV/LV sides :

### 8.2 HV side cable box:

The HV side cable box shall be provided with glands, suitable for termination of 11 kV XLPE Armoured aluminium cables of sizes upto 3CX 400 mm<sup>2</sup>. The cable holding clamp shall be provided. Necessary drawing is to be provided in the this regard for approval before supply.



### 8.3 LV Side cable box:

The LV side cable box with gland shall be provided, suitable for termination of one or more runs of 1C or 3.5/4C XLPE armoured cables of sizes upto 1CX630 mm<sup>2</sup> and 3.5/4CX400 mm<sup>2</sup>. The cable holding clamp is to be provided. Necessary drawing is to be furnished in this regard for approval before supply.

#### B. Internal Connection

H.V. Winding.

- i. In case of H. V. winding all jumpers from winding to bushing shall have cross-section larger than winding conductor.
- ii. Inter coil connection shall be by crimping and brazing.
- iii. In case of Copper Winding Delta joints shall be with Brazing only.
- iv. Lead from delta join shall be connected to bushing bus by brazing only.
- v. Lead from bushing bus bar to cable box bushing rod shall be bolted.
- vi. H. T. Line Bus shall be of EC grade copper flat having a cross – section of 25 X 6 sq. mm

L. V. Winding

- i L. T. Star point shall be formed of Copper. Flat of sufficient length and cross section. Lead from winding shall be connected to the copper flat by brazing. Any other arrangement shall be subject to the approval of the Chief Engineer.
- ii Transformer L. T. winding connection to bus bar shall be by brazing.
- iii L. T. Bus Bar used shall be suitable size & rating of bushing / insulator.
- iv Lead from L. T. bus bar to cable box bushing shall be bolted. Use copper jumper of appropriate size of copper jumper. L. T. Line Bus Bar current density shall be 2.0 A /Sq. mm maximum.

### 9. TERMINALS :

- a Brass rods 12 mm. dia. for HT with necessary nuts, check nuts and plain thick tinned washers.
- b. Tinned copper rods 30 mm. dia. for 400,500,630&1000 KVA transformer for LT extension for cable lug connections, with necessary nuts, check nuts and plain thick tinned washers.

**10. Tap Changing Arrangement.**

Link Type Off Circuit Tap Changing Arrangement should be provided in the Transformers ranging from + 5% to -7.5% in steps of 2.5% on HV winding for H.V. variation. The Tap link shall be located in a convenient position so that it can

operated/changed from ground level. The link connections should be properly marked. The link connection diagram in separate metal sheet shall have to be provided nearby. The same should also be mentioned in Rating & Diagram plate.

**11. FITTINGS:** The Fittings on the transformers shall be as under:

1	Rating and diagram plate	1 No.
2	Earthing terminals with lugs	2 No.
3	Lifting lugs	2 Nos (for enclosure)
4	Platform mounting channel (With holes suitable for axle of roller)	2 Nos.
5	HT & LT bushing	3 Nos of porcelain bushing & 4 Nos of L.T bushing shall be provided with P.G. clamps as per relevant IS 3347 amended up to date.
6	Rollers	4 Nos.
7	Arcing horns for HT bushings	In case of outdoor type T/F.
8	Pulling lugs	4 Nos.
9	Cable Box	1Nos each for HV & LV as per drawing in case of indoor type T/F with glands and connecting sockets.

**12.0 TESTS:**

**12.1 ROUTINE TESTS/ ACCEPTANCE TESTS:**

i) All transformers shall be subjected to the following routine tests at the manufacturer's works in accordance with the details specified in IS 2026 and IS 11171.

1. Measurement of winding resistance.
2. Measurement of voltage Ratio and check of voltage vector relationship.

3. Measurement of Impedance voltage (principal tapping), short circuit impedance and load loss.
  4. Measurement of No-load losses and current.
  5. Separate source voltages withstand test.
  6. Induced over voltage withstand test.
- ii. All the routine tests shall be conducted in the suppliers' laboratory at their cost during acceptance tests.
  - iii. Heat run test may also be carried out by the manufacturer in the presence of employer's Representative during acceptance testing.
  - iv. The calculations to confirm the thermal ability as per Clause no. 9.1 of latest IS:

2026 Part-I or equivalent International Standard shall be submitted to Inspecting Engineer.

### **13.0 TYPE TESTS :**

The following shall constitute the type tests:-

1. Measurement of winding resistance
2. Measurement of voltage Ratio and check of voltage vector relationship.
3. Measurement of Impedance voltage (principal tapping), short circuit impedance and load loss.
4. Measurement of No-load losses and current.
5. Separate source voltages withstand test.
6. Induced over voltage withstand test.
7. Lightning impulse test .
8. Temperature rise test

The following special tests shall also be carried out:

1. Partial discharge measurement
2. Measurement of acoustic sound level
3. Short-circuit test.
4. IP test on enclosure

The type test report(s) submitted by the bidder/supplier from any NABL accredited laboratory shall be acceptable for participation of the bidder in the procurement/empanelment process.

Type test certificates for the tests carried out on prototype of same specifications shall be submitted along with the bid.

The purchaser may select the transformer for type tests randomly

The supplier shall furnish calculations in accordance with IS: 2026 to demonstrate the thermal ability of the transformers to withstand short-circuit

**14. Test Voltages:**

Transformers shall be capable of withstanding the power frequency and impulse test voltage prescribed below:

Nominal system voltage	Highest voltage	Impulse test voltage	Power frequency voltage
433 V (rms)	-	-	3 kV
11 kV (rms)	12 kV (rms)	95 kV (Peak)	28 kV (rms)

**15. INSPECTION & TESTING**

All tests and inspection shall be made at the place of manufacturer unless otherwise especially agreed upon by the manufacturer and the purchaser. The manufacturer shall afford the inspector representing the purchaser all reasonable testing facilities, without charge to satisfy him that the material offered for inspection is in accordance with the requisite specifications.

The bidder shall give three weeks advance information to enable the purchaser to depute his representative for witnessing routine tests and acceptance thereof.

The manufacturer shall provide all services to establish and maintain quality of workmanship at his works and that of his sub-contractors to ensure the mechanical / electrical performance of components, compliance with drawings, identification and acceptability of all materials, parts and equipment as per latest quality standards of ISO 9001:2000.

JKPCC intends to purchase only High Quality material. For this purpose Stringent testing of the material shall be done as per procedure given below:-

- 1- On offer of inspection for distribution transformers by the firm, a team of JKPCC officials may go to the Works site of the Manufacturer to pick up samples from offered lot and may send the same for testing as per JKPCC Technical Specifications at some Central Govt. Testing Lab.

- 2- At the same time after receipt of offer for inspection, Inspection Agency will be deput ed to inspect 100% of the offered lot.
- 3 The checking inspection reports received from both the agencies i.e. sample checking report from Central Govt. Testing Lab. and inspection report of inspecting agency will be scrutinized by Office of DGM and, if both the reports are found O.K. the dispatch authorization will be issued to the firm.
- 4- After the receipt of material in the Stores, the tests for no load and full load losses shall be carried out on each *TIF* through post receipt inspection Committee constituted for the purpose.
- 5- (i) **NO LOAD LOSSES AND FULL LOAD LOSSES ARE FIXED.**  
(ii) During post receipt inspection if the losses of any transformer are found more than the prescribed limit given in the technical specification, the transformer(s) shall be got replaced and in addition the penalty equivalent to the cost of the transformer supplied will be charged from the firm for supplying inferior quality material.
- 6- If during the post receipt inspection the failure rate of Transformer is more than 50% (fifty percent) of the lot supplied then the entire lot will be rejected and firm will not be entitle for any payment. The payment, if any, made will have to be refunded back within 10 days of giving such notice of failure to the supplier.

#### 16. **STAGE INSPECTION**

The purchaser's representative may carry out stage inspection of the transformers during manufacturing / assembling stage. The purchaser shall have absolute right to reject the raw material/component / sub assemblies or complete equipment not found to be conforming to the

requirement of specification or being of poor quality / workmanship. The stage inspection will particularly include

following tests / check besides the general Routine tests to be conducted during manufacturing stages as per manufacturer's standard practice.

- a) Physical inspection / checking of winding insulating material, core material for annealing and prime quality and other accessories /fitting of Transformer.
  - b) Measurement of Core area and flux density.
  - c) Verification of HV & L.V coils, conductor's size, I.D., O.D., Axial length, Weight, Insulation covering etc.
- 
- d) Measurement of thickness of enclosure plates (Top, bottom and sides).
  - e) Sample testing of core material for checking specific loss and thickness of core plates.
  - f) Visual and dimensional check during assembly stage of core.
  - g) Check for proper provisions of spacers and bracing outline drawing, provision for all fittings, finishing etc. The purchaser at his option may collect the sample of the following raw material / component for independent testing:
    - a) **CRGO Lamination** - One specimen sheet of 300- 500 mm length and 50-75 mm width ( for each lot)
    - b) **HV Winding wire**- 1250 mm length specimen for each type
    - c) **LV Winding wire**- 1250 mm length specimen for each type
  - a) The manufacturing program shall not be interrupted in case purchaser's representative does not reach within seven days of the date of intimation.

## 17. WARRANTY PERIOD

The supplier shall be responsible to replace, free of cost, with no transportation or insurance cost to the Purchaser, up to destination, the whole or any part of the material which in normal and proper use proves the defective in quality or workmanship, subject to the condition that the defect is noticed within 36 months from the date of commissioning and shall be for entire duration of the warranty period. The consignee or any other officer of JKPCCL actually using the material will give prompt notice of each such defect to the supplier. The replacement shall be effected by the supplier within a reasonable time, but not, in any case, exceeding 45 days. The supplier shall, also, arrange to remove the defective within a reasonable period, but not exceeding 45 days from the date of issue of notice in respect thereof, failing which, the purchaser reserve the right to dispose of defective material in any manner considered fit by him (Purchaser), at the sole risk and cost of the supplier. Any sale proceeds of the defective material

after meeting the expenses incurred on its custody, disposal handling etc., shall however be credited to the supplier's account and set off against any outstanding dues of the purchaser against the supplier. The warranty for 72 months shall be for entire duration of warranty period.

#### **18. DOCUMENTATION:**

All drawings shall conform to International Standards Organization (ISO) 'A' series of drawings sheet/ Indian Standards Specification IS-656. All drawings shall be in ink and suitable for microfilming. All dimensions and data shall be in SI Units

#### **19. LIST OF DRAWINGS AND DOCUMENTS:**

The tenderer shall furnish four sets of following drawings along with his offer:-

- a. General outline and assembly drawings of the equipment.
- b) Graphs showing the performance of equipment in regard to magnetization characteristics.
- c) Sectional views showing:
  - a. General constructional features.
    - i) The materials used.
    - ii) The Insulation, the winding arrangements, method of connection of the primary / secondary winding to the primary / secondary terminals etc.
    - iii) Porcelain used and its dimensions along with the mechanical and electrical characteristics.
  - d) Arrangement of terminals and details of connection studs provided.
  - e) Name Plate.
  - f) Schematic drawing.
  - g) Type test reports in case the equipment has already been type tested.
  - h) Test reports, literature, pamphlets of the bought out items and raw material.
- b. The successful tenderer's shall within 15 days of placement of order, submit three sets of final versions of all the above said drawings for purchaser's approval. The purchaser shall communicate his comments / approval on the drawings to the supplier within 30 days. The supplier shall, if necessary, modify the drawings and submit three copies of the modified drawings for purchaser's comments. After receipt of purchaser's approval, the suppliers shall within 15 days, submit 12 prints and two good qualities reproducible of the approved drawings for purchaser's use.

- c. Six sets of the type test reports, duly approved by the purchaser, shall be submitted by the supplier for distribution before commencement of supply. Adequate copies acceptance and routine test certificates, duly approved by the purchaser, shall accompany the dispatched consignment.
- d. The manufacturing of the equipment shall be strictly in accordance with the approved drawings and no deviation shall be permitted without the written approval of the purchaser. All manufacturing and fabrication work in connection with the equipment prior to the approval of the drawing shall be at the supplier's risk.
- e. 16 sets of nicely printed and bound volumes of operation, maintenance and erection manuals in English Language, for each type and rating of equipment supplied shall be submitted by the supplier for distribution, prior to the dispatch of the equipment. The manual shall contain all the drawings and information required for erection, operation and maintenance of the distribution transformer. The manual shall also contain a set of all the approved drawings, type test reports etc.
- f. Approval of drawings / work by purchaser shall not relieve the supplier of his responsibility and liability for ensuring correctness and correct interpretation of the drawings for meeting the requirement of the latest version of applicable standards, rules and codes of practices. The equipment shall conform in all respects to high standards engineering, design workmanship and latest revisions of relevant standards at the time to ordering and purchaser shall have the power to reject any work or materials which, in his judgement is not in full accordance therewith.

## **20. PACKING**

Transformer shall be suitably packed as per the standard practice while dispatching from the works. Although the method of packing is left to the discretion of the manufacturer it should be robust enough for handling normally encountered during transportation by road/rail.

All accessories shall be dispatched in suitable boxes or crates. They shall be securely bound with wire and shall have all descriptive marking stamped thereon.

## **21. INSTRUCTIONS MANUAL**

Eight sets of the instruction manuals shall be supplied at least four (4) weeks before the actual dispatch of equipment. The manuals shall be in bound volumes and shall contain all the drawings and information required for erection, operation and maintenance of the transformer. The manuals include amongst others, the following particulars:

- a) Marked erection prints identifying the components, parts of the transformer as dispatched with assembly drawings.



- b) Salient technical particulars of the transformer..
- c) Copies of all final approved drawings.
- d) Detailed O&M instructions with periodical check lists and Performa etc.

## **22. COMPLETENESS OF EQUIPMENT**

- i) All fittings and accessories, which may not be specifically mentioned in the specification but which are necessary for the satisfactory operation of the plant, shall be deemed to be included in the specification and shall be furnished by the contractor without extra charges. The equipment shall be complete in all details, whether such details are mentioned in the specification or not, without any financial liability to the Purchaser under any circumstances.
- ii) All deviations from this specification shall be separately listed under the requisite schedules, in the absence of which it will be presumed that all the provisions of the specification are complied with by the bidder.

## **23. INSPECTION:**

All tests and inspection shall be made at the place of manufacturer and unless otherwise especially agreed upon the manufacturer and the purchaser at the time of purchase. The manufacturer shall afford the inspector representing the purchaser all reasonable facilities, without charge to satisfy him that the material is being furnished in accordance with specification.

The bidder shall give 15 days (for local supplies) and 30 days (in case of foreign bidders) advance information to enable the purchaser to deput his representative for witnessing acceptance routine tests.

The manufacturer shall provide all services to establish and maintain quality of workmanship in his works and that of his sub-contractors to ensure the mechanical/electrical performance of components, compliance with drawings, identification and acceptability of all materials, parts and equipment as per JKPC intends to purchase only High Quality material. For this purpose stringent testing of the material can be done. Inspection can be got done from third party Inspection agency or's own JKPC'S. JKPC reserves the right of 100% testing of the transformers. The details of source of material shall be supplied.

## **24. QUALITY ASSURANCE PLAN:**

- a. The Bidder shall furnish following information along with his bid. Information shall be separately given for individual type of material offered.
- b. Statement giving list of important raw materials, names of sub-supplies for the raw materials, list of standards according to which the raw materials are tested. List of

tests normally carried out on raw materials in the presence of Bidder's representative, copies of test certificates.

- c. Information and copies of test certificates as in (1) above in respect of bought out accessories.
  - d. List of manufacturing facilities available.
  - e. Level of automation achieved and list of areas where manual processing exists.
  - f. List of areas in manufacturing process, where stage inspections are normally carried out for quality control and details of such test and inspection.
  - g. List of testing equipment available with the bidder for final testing of equipment along with valid calibration reports shall be furnished with the bid. Manufacturer shall possess 0.1 class instruments for measurement of losses.
25. ~~Manufacturer~~ **Manufacturer Quality Specification (MQP)** to be provided at the time of GTP/Drg/Type test
- a. The successful Bidder shall within 30 days of placement of order submit following information regarding list of new materials as well as bought out accessories and the names of sub-suppliers selected from those furnished along with offer.

**25. DOCUMENTATION:**

The Bidder shall furnish along with the bid the dimensional drawings of the stems offered indicating all the fittings.

- a. Dimension's tolerances
- b. Weight of individual components and total weight.

**26. PACKING & FORWARDING:**

- a. The packing shall be done as per the manufacturer's standard practice. However, it should be ensured that the packing is such that, the material would not get damaged during by Rail/ Road/ Sea.
- b. The marking on each package shall be as per the relevant IS.

**27. MANDATORY SPARES:**

Mandatory spares shall be supplied as per the purchaser's requirement.

**28. Transformer & Metallic box Sealing facility**

The transformer should have facility to seal the transformers enclosure & its body and also the Metal box, housing the other equipment(s) The metal box shall have pad-lock arrangement & complete protection from dirt, rain-water & other pollutants & shall comply to IP:53 protection or better.

## **29. RATING AND TERMINAL MARKING PLATES:**

There shall be rating plates on the transformer containing the information specified of IS: 2026-1977 (part-i). No load & full load losses of the transformer should also be mentioned on the rating plate. The following additional information must also be punched on the plate and imposed two opposite sides of the body of T/F.

- i) Purchase Order No & Date.
- ii) Date of inspection.
- iii) Property of J&K Govt.
- iv) Make
- v) Guarantee period

## **30. PENALTY FOR NON PERFORMANCE:**

- 30.1 Purchaser reserves the right to reject any transformer during the test at supplier's works, if it is found that actual measured losses are more than the values quoted by the bidder
- 30.2 Transformer with temperature rise and impedance beyond the Guaranteed values.
- 30.3 Purchaser reserves the right to reject any transformer during the test at supplier's works, if the temperature rise exceeds the guaranteed values.
- 30.4 Purchaser reserves the right to reject any transformer during the test at supplier's works, if the impedance values differ from the guaranteed values including tolerance.
- 30.5 Purchaser also reserves the right to retain the rejected transformer and take it into service until the Bidder replaces it with a new transformer at no extra cost. The delivery as per contract will be counted when the new transformer as per specification is provided by the manufacture.
- 30.6 During post inspection if the losses of any DT are found more than the prescribed limit the DT shall be got replaced and in addition the penalty equivalent to cost of DT will be charged from the supplier.
- 30.7 If the DT rejection rate exceeds 50% of the total supply the firm will be blacklisted

The prototype transformer on which type test got conducted shall be supplied to JKPCCC duly sealed after completion of type testing in the beginning itself before commencement of supply. The bidder shall furnish an affidavit that all his balance transformers shall meet with prototype in all respects (internal & external). The JKPCCC can randomly select any transformer and verify the internal/external details with the prototype sample at any time during warranty period.

Type test certificates for the tests carried out on protocol of same specifications shall be submitted along with the bid.

The purchase may select any transformer from the offered lot for inspection during subsequent lots for carrying out temperature rise test from any Govt. approved lab.

### **32 CHALLENGE CLAUSE**

The material offered/received after the inspection by the authorized inspecting officer may again be subjected to the test for losses or any other parameters from any testing house /in house technique of the JKPCCC having requisite capabilities and facilities. The results if found deviating/unacceptable or in non compliance with the approved GTP's, the lot shall be rejected and bidder shall arrange to supply the within thirty ( 30) days of such detection at his cost including to & from transportation. In addition to this penalty@10% of cost of the rejected lot of material shall be imposed.

### **33 JKPCCC Quality Assurance Plan:-**

The JKPCCC Quality assurance plan for the inspection of material at manufacturer's factory, post receipt inspection at JKPCCC's stores/ turnkey contractor's site stores , dispatch of material, supply lots, counter checking etc is in force for the procurement and turnkey works which shall be applicable, as the case may be, alongwith up-to-date amendments, if any.

### **34 GUARANTEED TECHNICAL PARTICULARS**

The guaranteed technical particulars of the transformer shall be given by the tenderer (Annexure-A) along with the tender. Tenders without GTP'S shall be outrightly rejected.

35. PREFERRED MAKES: ABB/AREVA/ANDREW YULE/CROMPTON/VOLTAMP/Any make type tested by CPRI for the same capacity.

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ANNEXURE-A

Sr.No.	Particulars		
1.	Name and address of the manufacturer	:	
2.	Country of origin	:	
3.	a) Applicable standard	:	
	b) Service	:	
4.	Maximum continuous rating (in KVA)	:	
5.	No load voltage ratio at Principal (Nominal) tap (in KV/KV)	:	
6.	Rated frequency (in Hz)	:	
7.	Number of phases	:	
8.	Type of Cooling	:	
9.	Connections	:	
	(i) H.V. Winding	:	
	(ii) L.V. Winding	:	
10.	Vector Symbol	:	
11.	Tapings	:	
	(a) Range	:	
	(b) Number of steps		
	(c) Variation of voltage in each step (in KV)		

	(d) No load voltage ratio in each tap (in KV/KV).			
	Tap Number	Voltage ratio in KV/KV		Tap Number Voltage ratio in KV/KV
	1.			4.
	2.			5.
	3.			6.
				---
12.	(i) Temperature rise under normal operating condition above ambient temperature		:	
	(a) Windings (in Degree C)		:	
	(b) Maximum hot spot temperature of Copper windings (in Degree C)		:	
13.	Magnetizing current referred to H.V. at rated frequency		:	
	(a) at 90% rated voltage : (in Amps)		:	
	(b) at 100% rated voltage : (in Amps)		:	
	© at 110% rated voltage (in Amps)		:	
14.	Power factor of magnetizing current at 100% rated voltage & frequency		:	
15.	No load current at rated voltage and Rated frequency (in Arms)		:	
16.	No load loss in KW at rated frequency and voltage		:	
	(a) at Lowest tap		:	
	(b) at principal tap		:	
	© at highest tap		:	
17.	Load loss in KW at 75 Deg. C. at Rated output and frequency		:	
	(a) at Lowest tap		:	
	(b) at principal tap		:	
	© at highest tap		:	

18.	Percentage Regulation at full load at 75 Deg.C	:	
	(a) at unity power factor	:	
	(b) at 0.8 power factor lagging	:	
19.	Efficiencies at 75 Deg.C (in percentage)	:	
	a) at full load (i) at unity power factor	:	
	(ii) at 0.8 power factor lagging	:	
	(b) at $\frac{3}{4}$ full load (i) at unity power factor	:	
	(ii) at 0.8 power factor lagging	:	
	(c) at 1/2 full load (i) at unity power factor	:	
	(ii) at 0.8 power factor lagging	:	
20.	Impedance voltage on rated KVA base at rated current and frequency for the Principal tapping 75 <sup>0</sup> C. (in percentage)	:	
21.	a) Reactance voltage at rated current and frequency for the principal tapping at 75 <sup>0</sup> C. (in percentage)	:	
	b) Resistance voltage at rated current and frequency for the principal tapping at 75 <sup>0</sup> C. (in percentage)	:	
22.	Resistance at H.V. base at 75 <sup>0</sup> C		
	(a) at Lowest tap	:	
	(b) at principal tap	:	
	(c) at highest tap	:	
23.	Reactance at H.V. base at 75 <sup>0</sup> C.		
	(a) at Lowest tap	:	
	(b) at principal tap	:	

	(c) at highest tap	:	
24.	Withstand time without injury for three phase dead short circuit at terminal (in seconds)	:	
25.	Short time current rating for short circuit with duration	:	
	a) H.V. winding (in K. Amps)	:	
	b) L.V. winding (in K Amps)	:	
	c) Duration (in seconds)	:	
26.	Permissible overloading with time	:	
27.	Core :		
	i) Type	:	
	ii) Flux density of Core and yoke at principal tap	:	
	a) at rated voltage at 50 Hz (in lines/sq.cm	:	
	b) at 112.50% rated voltage at 50 Hz (in lines/sq.cm.)	:	
	iii) Thickness of Stamping (in mm)	:	
	iv) Type of insulation between core laminations	:	
	v) Core bolt withstand Insulation (in KV rms for 1 min)	:	
	vi) Approximate area of Cross Section of Core and yoke (in sq.mm.)	:	
	vii) Material of Core clamping plate	:	
	viii) Thickness of Core clamping plate (in mm)	:	
	ix) Insulation of Core clamping plate	:	
	x) Describe location/Method of Core grounding	:	
28	Terminal Arrangement	:	
	i) High Voltage	:	
	ii) Low Voltage	:	
29	Positive Sequence Impedance between	:	



	HV & L.V. winding on rated MVA base at rated Current and frequency at 75 Deg.C. winding temperature			
	i) AT principal tapping (in percent)	:		
	ii) At lowest tapping (in percent)	:		
	iii) At highest tapping (in percent)	:		
30	Zero Sequence Impedance at reference temperature of 75 <sup>0</sup> C at principal tap (in percent)	:		
31	Details of windings	:		
	i) Type of Winding	:		
	(a) High Voltage	:		
	(b) Low Voltage	:		
32	Winding conductor	:		
	i) Material of the winding conductor			
	(a) High Voltage	:		
	(b) Low Voltage	:		
	ii) Conductor Area :			
	(a) High Voltage (in sq.cm)	:		
	(b) Low Voltage (in sq.cm)	:		
	iii) Current density of windings at rated KVA	At principal tapping 1	At lowest tapping 2	At highest tapping 3
	(a) High voltage (Amp. per sq.cm)			
	(b) Low voltage (Amp. per sq.mm)			
	iv) Insulating material used for	:		
	(a) High voltage winding	:		

	(b) Low voltage winding	:			
v)	Insulating material used between	:			
	(a) High voltage and low voltage winding	:			
	(b) Low voltage winding and core	:			
vi)	Whether adjustable coil clamps are provided for H.V. & L.V. winding (if yes, details may be given) :	:			
vii)	Type of Axial Coil Supports	:			
	(a) H.V. winding	:			
	(b) L.V. winding	:			
vii)	Type of Radial Coil Supports	:			
	(a) H.V. winding	:			
	(b) L.V. winding	:			
33	Insulation withstand Test voltages	:	H.V.	L.V.	
	i) Lightning Impulse withstand test voltage 95 kV Peak)	:			
	(ii) Power frequency withstand test voltage (in KV rms for 1 min)	:			
	(iii) Induced over voltage withstand test voltage (in KV rms)	:			
34	Current in the winding at rated KVA	:	At principal tapping	At lowest tapping	AT highest tapping
	(i) Low voltage (in Amps)	:			
	(ii) High voltage (in Amps)	:			
35	Voltage per turn (KV per turn)	:			
36	Ampere turn	:			
37	Number of turns	:	At	At	AT

			principal tapping	lowest tapping	highest tapping
	(i) Low Voltage	:			
	(ii) High Voltage	:			
38.	Details of Tap changer	:			
	i) Number of steps	:			
	ii) Number of Plus taps	:			
	iii) Number of minus taps	:			
	iv) Position of taps on HV	:			
	v) Type of tap changing arrangement	:			
39.	Bushing :		<u>High voltage</u>	<u>Low voltage</u>	
	i) Make	:			
	ii) Type	:			
	iii) Applicable standard	:			
	iv) Insulation withstand test Voltage	:			
	a) Lightning Impulse withstand test voltage (1.2 x 50 micro seconds in KV peak)	:			
	b) Power frequency withstand test voltage (in KV rms for 1 min)	:			
	1) Dry	:			
	2) Wet	:			
	v) Creepage distance	:			
	a) Total (in mm)	:			
	b) Protected (in mm)	:			
	vi) Minimum height of the bushing	:			
40.	Minimum clearance (in mm)	:			

				<u>In Air</u>
			Between Phases	Phase to Ground
	i) H.V.			
	ii) L.V.			
41.	Particulars of Enclosures & Fitment			
	i) CRCA Steel Thickness	:		
	ii) No of Louvers provided in side enclosures	:		
	iii) Covering of Louvers – Fine Steel Mesh	:		
	iv) Proper ventilation is provided	:		
	v) Structure of Enclosure along with Dimension			
	a) Whether the Hinged Door are lockable	:		
	b) The IP of Enclosure	:		
	vi) No of Cowl type inspection Cover provided	:		
	vii) No of Drain Plug Provided	:	:	
	viii) No of Lifting Hooks provided in the main tank	:		
	ix) No of Lifting Lug	:		
	X) No of Earthing terminal Provided	:		
	i) Skid Chanel with Round Corner provided	:		
	ii) No of Explosion Vent provided	:		
	iii) The area of Each Vent	:		
	iv) Thickness of LT cable End Box Metal Sheet			
	v) Thickness of LV Door leaf Sheet Metal			
	vi) Thickness of HT cable End Box Metal Sheet			

	Vii) Thickness of HV Door leaf Sheet Metal		
42.	Weight of Transformer, Enclosure and fitting with accessories	:	
	i) Untanking weight	:	
	ii) Total weight with Core, Winding, Fittings.	:	
iv)	Detail of Thermometer embedded in winding	:	
v)	Current rating of each contact of Temp meter	:	
43.	Approximate overall Dimensions (in mm)	:	
	a) Length	:	
	b) Breadth	:	
	c) Height	:	
	d) Minimum height of bottom most portion of bushing from bottom of base channel	:	
44.	Minimum clearance height for lifting Enclosures (in mm)	:	
45.	Whether agreeable to carry out Type Tests, in line with specification at your Cost?	:	
46.	Category	:	
47.	Whether all particulars against sl. No. 1 to 46 furnished?		

# **QUALIFICATION FORMS**

**APPLICATION FORM - 1**  
**General Information**

PAGE \_\_\_\_ OF \_\_\_\_ PAGES

1.	Name of firm	
2.	Head office address	
3.	Telephone Fax Email	
4.	Contact Person(s) Name Title/Position	
5.	Place of incorporation / registration Date	
6.	Legal status of firm	
7.	Field of specialty in business	
8.	Number of persons	

Date \_\_\_\_\_

Signature \_\_\_\_\_

Name of the Applicant
-----------------------

**General Work-Experience:**

**1. Annual Turnover**

*The information supplied should be the annual turnover of the Applicant (separately for each partner of a joint venture/ each member of a consortium), in terms of the amounts paid by the clients for each year in the last five (5) years. Unless specifically asked for, Applicants need not to enclose testimonials, certificates, and publicity material with their applications; they will not be taken into account in the evaluation of qualifications.*

Fiscal Year	Turnover (unit )
1.	
2.	
3.	

Fiscal year begins on \_\_\_\_\_ in each calendar year.

**2. Selection Criteria:**

*Experience as Contractor ( relevant categories of works) completed in the last Five(5) years to demonstrate the Applicant's business experience should be listed in separate sheets in a form as shown below:*

No.	Name of Project	Role of the Applicant (sole contractor, or partner in JV/Consortium)
1		
2		
3		

Date \_\_\_\_\_ Signature \_\_\_\_\_

NB : To please attach detailed data sheet wherever possible.



**Current Contract Commitments/ Works in Progress**

Name of Applicant

*Applicants shall provide detail about current List of projects on which he is working*

Name of contract	Description of works	Stipulated date of completion
1.		
2.		
3.		
4		
5		
6.		
7.		
8.		
9.		
10.		

Date \_\_\_\_\_

Signature -----

**AFFIDAVIT**

1. I, the undersigned, do hereby certify that all the statements made in the required statements are true & correct.
2. The undersigned also hereby certifies that neither our firms M/s \_\_\_\_\_ have abandoned any work in JKPCCLtd. or any other Department nor any contract awarded to us for such works have been rescinded, during last five years prior to the date of this bid.
3. The undersigned hereby authorizes (s) and request (s) any bank, person, firm or corporation to furnish pertinent information deemed necessary & requested by the department to verify this statement or regarding any (our) competence and general reputation.
4. The undersigned understands and agrees that further qualifying information may be requested and agrees to furnish any such information at the request of the department/project implementing authority.

\_\_\_\_\_  
(Signed by an Authorized Officer of firm)

\_\_\_\_\_  
Title of Officer

\_\_\_\_\_  
(Name Firm)

\_\_\_\_\_  
(Date)

## TENDER PROFORMA OF BID

Managing Director,  
JKPCC Ltd.,  
Jammu.

**Sub:** Supply , Installation , Testing and commissioning of Dry type 11/0.433 KV, 2000 KVA dry type Transformer

Sir,

This has reference to above mentioned NIT and our offer against the same is as under:

1. I/We hereby affirm that I/We have read and have fully understood all terms, conditions and technical specifications of tender document.
2. I/We hereby offer to supply genuine goods and material at the rates and quantities as described in our subject offer and shall execute the work(s) truly and faithfully within the time specified and set forth in the aforesaid offer. The goods and material to be supplied will be of the quality answerable in every respect with our offer / tender quoted above.
3. I/We shall be responsible for all complaints as regard the quality of material and all material and equipment shall comply in all respects with the requirement of quoted standard specifications.
4. I/We do hereby certify that the material and equipment offered are free from legal encumbrances and any claim regarding infringement and any patent of country of origin or India and shall be defended by us at our own cost and damages/ cost, if forwarded against purchaser in such a suits shall be borne by us.
5. I/We shall be hereby responsible for all complaints as regards quality of the material/ bad workmanship and for all such complaints the decision of the Corporation will be final and binding on us.
6. I/we enclosed a DD No. : \_\_\_\_\_ dt: \_\_\_\_\_ for the prescribed amount of Rs: \_\_\_\_\_ (Rs: \_\_\_\_\_) drawn in favour of " \_\_\_\_\_ " as Cost of Tender Document and CDR/FDR: \_\_\_\_\_ dt: \_\_\_\_\_ for the prescribed amount of Rs: \_\_\_\_\_ (Rs: \_\_\_\_\_) drawn in favour of " \_\_\_\_\_ " as earnest money and as required in terms of tender specification. I/we fully understand that in the event of my / our tender being accepted, the earnest money shall be returned back to me after successful completion of the work.
7. I/we shall have no claims to the refund of the earnest money prescribed against this tender in the event of my / our non-compliance of the work order, provided such order is placed within the period of validity of my / our tender as indicated in paragraph 10 below.
8. I/we further understand that my earnest money will stand forfeited even if I withdraw my tender at any stage during the currency of the period of validity.
9. My/our tender shall remain valid for a period of 90 days from the date of opening of the tender against the **NIT No:-EJ/NIT/01/ASSEMBLY/ 2018-19 .**
10. My/our tender along with the terms and conditions with relevant columns and annexure duly filled in under my / our attestation and with each page of the tender papers including the enclosed terms and conditions signed by me / us (in the capacity of sole owner / general or special / attorney, in proof of which power of attorney is attached) is submitted for your favorable consideration.
11. I/we have read the enclosed terms and conditions carefully and have signed the same in token of their absolute and unqualified acceptance. My/our tender constitute a "firm" offer under the J&K contract Act and is open to an acceptance, in whole or in part. My/our offer, if accepted on the attached terms and conditions will constitute a legal binding contract and shall operate as contract as defined in the J&K Contract Act and the Sales of Goods Act.
12. I/We understand that Managing Director, JKPCC Ltd., reserves the right to accept or reject the tender without giving any reason thereof.

Thanking you,

Yours faithfully

Signature

Name & Full address of tenderer with stamp

Place .....

Date.....

**Bid Security Forms  
Bank Guarantee**

Date:\_\_\_\_\_

**(Name of Contract)**

To: (Name and address of Employer)

WHEREAS (name of Bidder) (hereinafter called "the Bidder") has submitted its Bid dated (date of bid) for the performance of the above-named Contract (hereinafter called "the Bid")

KNOW ALL PERSONS by these present that WE (name of Bank) of (address of bank) (hereinafter called "the Bank"), are bound unto (name of Employer)(hereinafter called "the Employer") for the sum of: (amount), for which payment well and truly to be made to the said Employer, the Bank binds itself, its successors and assigns by these presents.

THE CONDITIONS of this obligation are as follows:

1. If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder in the Bid Form, or adopts corrupt and fraudulent practices.
2. If the Bidder, having been notified of the acceptance of its Bid by the Employer during the period of bid validity
  - a) Fails or refuses to sign the Contract Agreement when required, or
  - b) Fails or refuses to submit the performance security in accordance with the bidding documents or.
  - c) Adopts corrupt or fraudulent practices.

WE undertake to pay to the Employer up to the above amount upon receipt of its first written demand, without the Employer having to substantiate its demand, provided that in its demand the Employer will mention that the amount claimed by it is due , owing to the occurrence of one or both of the two above-named CONDITIONS, and specifying the occurred condition or conditions.

This guarantee will remain in force up to and including (date 90 days after the period of bid validity), and any demand in respect thereof must reach the Bank not later than the above date.

For and on behalf of the Bank

\_\_\_\_\_  
in the capacity of Common Seal of the Bank  
\_\_\_\_\_