Volume – I

Tender Notification for

Supply of 630 kVA Dry Type Distribution Transformer in BRPL

CMC/BR/22-23/RB/PR/RJ/0979

Due Date for Submission of Bids: 25.02.2022

BSES RAJDHANI POWER LTD (BRPL)
BSES Bhawan, Nehru Place, New Delhi-110019
Corporate Identification Number: U74899DL2001PLC111527
Telephone Number: +91 11 3009 9999
Fax Number: +91 11 2641 9833
Website: www.bsesdelhi.com

BSES
RAJDHANI POWER LIMITED

SECTION – I

REQUEST FOR QUOTATION

Tender Notification: CMC/BR/22-23/RB/PR/RJ/0979

Supply of 630 kVA Dry Type Distribution Transformer in BRPL

BSES
RAJDHANI POWER LIMITED

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BSES
RAJDHANI POWER LIMITED

SECTION – I: REQUEST FOR QUOTATION

1.0 Event Information

BRPL invites sealed tenders against Supply of 630 kVA Dry Type Distribution Transformers in BRPL from the manufacturers. The bidder must qualify the technical requirements as specified in Clause 2.0 stated below. The sealed envelopes shall be duly super scribed as — **"BID FOR SUPPLY 630 KVA DRY TYPE DISTRIBUTION TRANSFORMER IN BRPL, TENDER NOTICE/CMC/BR/22-23/RB/PR/RJ/0979 DUE FOR SUBMISSION ON DT. 25.02.2022"**.

Sl. No.	Item Description	Specification	Requirement	Estimated Cost
			Total Qty.	
BRPL, DELHI				
1	Supply of 630 KVA Dry Type Distribution Transformers in BRPL	SECTION V	37 Nos	7.30 Cr

Note: Quantity may vary to any extent of +/- 30% of above mentioned total quantity.

The schedule of specifications with detail terms & conditions can be obtained from address given below against demand draft/ Pay Order of **Rs.1180/- with GST**-, drawn in favour of **BSES RAJDHANI POWER LTD**, payable at New Delhi. The sale of tender documents will be issued from **04.02.2022** onwards on all working days upto **20.02.2022**. The tender documents can also be downloaded from the website "**www.bsesdelhi.com**".

In case tender papers are downloaded from the above website, then the bidder has to enclose a demand draft covering the cost of bid documents as stated above in a separate envelope with suitable superscription —"Cost of Bid Documents: Tender **Notice Ref: CMC/BR/22-23/RB/PR/RJ/0979"**. This envelope should accompany the Bid Documents.

Offers will be received upto **1530 Hrs. on dt. 25.02.2022** as indicated earlier and will be opened at the address given below dt. **25.02.2022 at 1600 Hrs.** in the presence of authorized representatives of the bidders. The schedule of specifications with detail terms & conditions are enclosed. It is the sole responsibility of the bidder to ensure that the bid documents reach this office on or before the due date.

HEAD OF THE DEPARTMENT, 1st FLOOR, 'C' BLOCK,
CONTRACTS & MATERIALS DEPARTMENT, BSES RAJDHANI POWER LTD,
BSES BHAWAN,
NEHRU PLACE, NEW DELHI-110019.

BRPL reserves the right to accept/ reject any or all Tenders without assigning any reason thereof and alter the quantity of materials mentioned in the Tender documents at the time of placing purchase orders. Tender will be summarily rejected if:

i) Earnest Money Deposit (EMD) @ 1% (One percent) of the Tender value i.e. **Rs. 7,30,000/-** is not deposited in shape of Bank Draft in favour of BSES RAJDHANI POWER LTD, payable at New Delhi or Bank Guarantee executed on favour of BSES RAJDHANI POWER LTD.

ii) The offer does not contain "FOR, NEW DELHI price indicating break-up towards all taxes & duties".

iii) Complete Technical details are not enclosed.

iv) Tender is received after due time due to any reason.

BRPL reserves the right to reject any or all bids or cancel/ withdraw the invitation for bids without assigning any reason whatsoever and in such case no bidder/ intending bidder shall have any claim arising out of such action time of placing purchase orders.

Qualification Criteria:-

QUALIFICATION CRITERIA FOR 630 KVA DRY TYPE DT'S-

The prospective bidder must qualify all of the following requirements to participate in the bidding process. Bidder who meet following requirements will be considered as successful bidder and management has the right to disqualify those bidders who do not meet these requirements.

1. The bidders must have the manufacturing/Assembly base/Workshop/Repairing Base in India for Distribution Transformers (dry Type DT).The bidders must be a manufacturer of 630 kva Dry Type Distribution transformer or higher Capacity transformers and must possess valid Type test report carried out at ERDA/CPRI/Other reputed international lab with in last 5 Years from the date of bid opening. In case type test reports are older than five (5) years from the date of bid opening, bidder shall submit the undertaking that there is "since the last type test, the product has not undergone any change in design and the materiel used and the dimensions of the product are the same as the one on which the type test was conducted". Non submission of type test reports will lead to rejection of the offer. Type test older than ten (10) years shall not be acceptable and bid is liable for rejection.

2. The bidder shall have servicing , repairing, testing & refurbishment facility in INDIA with necessary spares and testing equipment for providing prompt after sales service for Dry type Distribution Transformer. Details of the set-up available shall be brought out in the offer, failing which the offer will be rejected. The bidder shall submit undertaking along with the bid confirming compliance to the

qualifying criteria for bidder.

3. The bidder should have qualified technical and dedicated QA personnel at various stages of manufacture & testing, documentary proof –Quality Mannual,Charts and Undertaking shall be furnished.

4. The bidder should have plant installed capacity to supply of minimum 15-20 nos of transformer per month.

5. The Bidder should have supplied at least 100 Nos of 630 kVA transformer or higher rating to any utilities/SEB's/PSU's or end user shall be Utility/SEB's/PSU's for developing distribution Network in last 5 years

   Total supplied in last 5 years-- 100nos
   Total supplied in last 2 years-- 50 nos

   For above Two (02) Performance for last 2 years shall be furnished by bidder

6. Bidder should have Average Annual Sales Turnover of Rs 20 Crores or more in last 3 financial Years . Balance sheet shall be submit by Vendor.

7.

8. **Incase bidder is 100% owned subsidiary of their parent organization, credential of the parent organization shall be considered as a compliance to the QR requirements as listed , subjected to the fulfillment of the conditions as specified as (a) and (b) :**

   a) The submission of Additional 5% contract performance bank Guarantee (CPBG) from the parent company (whose credential has been submitted against the QR requirement) This bank Guarantee shall be over and above the 10% CPBG as per NIT conditions.

   • Parent organization shall submit the additional BG from Indian Bank only.

   • Additional BG shall be given by Parent company on behalf of the 100% Indian subsidiary company to M/s. BRPL against the said tender , against which Parent company credential have been submitted to BRPL for the purpose of vendor qualification of 100% Indian subsidiary Company.

   • Incase of any default in the performance of the contract in terms of supplies/timely execution/ performance of the equipment /contract, BRPL shall raise the invocation notice to Indian subsidiary company only for both BGs i.e one submitted by the bidder (Indian Subsidiary) and the other submitted by the parent company and parent company shall have “NO Objection " in this regard.

   b) Extended warranty of two (2) years from the bidding Company for the supplied transformers .

In case bidder is a 100% owned subsidiary of their parent company then the

credentials of the parent organization shall be considered as compliance to the QR requirement as listed below. The QR parameters against which the bidder can submit the credential of their parent company are as below:

7.1 The Bidder should have supplied at least 100 Nos of 630 kVA transformer or higher rating to any utilities/SEB's/PSU's or end user shall be Utility/SEB's/PSU's for developing distribution Network in last 5 years

Total supplied in last 5 years-- 100nos
Total supplied in last 2 years-- 50 nos

For above Two (02) Performance for last 2 years shall be furnished by bidder

7.2 Bidder should have Average Annual Sales Turnover of Rs 20 Crores or more in last 3 financial Years . Balance sheet shall be submit by Vendor

9. The Bidder must posses valid ISO 9001:2015 certification.

10. In case of new bidders (not enlisted in BSES) , Factory Inspection & evaluation shall be carried out to ascertain bidders manufacturing capabilities and quality procedures. BRPL reserves the right to assess the capabilities /installed capacity

11. The Bidder shall submit an undertaking "No Litigation" is pending with the BRPL and other Group Company.

12. An undertaking (self-certificate) that the bidder has not been blacklisted/debarred by any major utilities/SEB's/other reputed companies (National/International).

13. The bidder must have valid PAN No., GST Registration Number, in addition to other statutory compliances. The bidder must submit the copy of registrations and submit an undertaking that the bidder shall comply all the statutory compliances as per the applicable laws/rules etc. before the start of the work.

Bidding and Award Process

Bidders are requested to submit their questions regarding the RFQ or the bidding process after review of this RFQ. BRPL response to the questions raised by various bidders will be distributed to all participating bidders through website.

a. Time schedule of the bidding process

The bidders on this RFQ package should complete the following within the dates specified as under:

S.No.	Steps	Activity description	Due date
1	Technical Queries	All Queries related to RFQ	On or before 20.02.2022 1500 Hrs.
2	Technical Offer	Documentary evidence in support of qualifying criteria. Technical Literature/ GTP/ Drawings/ Type test report, if any, etc., Testing facilities, any other relevant document, acceptance to commercial terms & conditions viz. delivery Schedule/ Period, Payment terms, PBG etc. Quality assurance plan, Deviation from the specification, list of plant & machinery and testing equipments Unpriced items.	2.5.02.2022, 1530 HRS
3	Commercial Offer	Prices for DT and Break up regarding basic price and taxes. Delivery commitment	25.02.2022, 1530 HRS
4	Opening of technical bid	As per RFQ	25.02.2022, 1600 HRS

This is a two part bid process. Bidders are to submit the bids (a) Technical Bid (b) Price Bid. Both these parts should be furnished in separate sealed covers superscribing with specification no., validity etc, with particulars as **Part-I "Technical Particulars & Commercial Terms & Conditions"** and **Part-II "Financial bid"** and these sealed envelopes should again be placed in another sealed cover which shall be submitted before the due date & time specified.

Bidders are requested to submit the bid in one original plus one copy in duplicate.

- **The Part-I (Technical Bid) - Technical Bid should not contain any cost information whatsoever. In case of Bids where the qualification requirements, technical suitability and other requirements are found to be inadequate, Part-II "Financial Bid" will be returned unopened.**

- **The Part-II (Financial Bid) -** Qualified bidders will be intimated after technical evaluation of all the bids is completed. The date and time of same shall be intimated in due course to the qualified bidders. Notwithstanding anything stated above, the Purchaser reserves the right to assess bidder's capability to perform the contract, should the circumstances warrant such assessment in the overall interest of the purchaser. In this regard the decision of the purchaser is final.

Award Decision

Purchaser intends to award the business on a lowest bid basis, so suppliers are encouraged to bid competitively. The decision to place Purchase Order / Letter of acceptance solely depends on purchaser on the cost competitiveness across multiple lots, quality, delivery and bidder's capacity, in addition to other factors that Purchaser may deem relevant.

The purchaser reserves all the rights to award the contract to one or more bidders so as to meet the delivery requirement or nullify the award decision without any reason.

BSES reserves the right to split the tender quantity amongst techno commercially qualified bidders on account of delivery requirement in tender, quantity under procurement etc.

Splitting of tender quantity amongst more than one bidder shall be governed by below mentioned guidelines:

- If the quantity is to be split among 2 bidders, it will be done in the ratio of 70:30 on L1 price.
- If the quantity is to be split among 3 bidders, it will be done in the ratio of 60:25:15 on L1 price.
- In case quantity needs to be distributed and order splitting is required, distribution of quantity shall be maximum among three (03) bidders.

In the event of your bid being selected by purchaser (and / or its affiliates) and your subsequent DEFAULT on your bid; you will be required to pay purchaser (and / or its affiliates) an amount equal to the difference in your bid and the next lowest bid on the quantity declared in RFQ.

In case any supplier is found unsatisfactory during the delivery process, the award will be cancelled and BRPL reserves the right to award other suppliers who are found fit.

Quantity Variation: The purchaser reserves the rights to vary the quantity by **+/- 30%** of the tender quantity.

Repeat Order: BRPL reserves the right to place repeat order at the same rates & terms and conditions as per this tender against additional requirement subject to mutual agreement between BRPL & supplier.

Market Integrity:
We have a fair and competitive marketplace. The rules for bidders are outlined in the Terms & Conditions. Bidders must agree to these rules prior to participating. In addition to other remedies available, we reserves the right to exclude a bidder from participating in future markets due to the bidder's violation of any of the rules or obligations contained in the Terms & Condition. Bidders who violate the marketplace rules or engage in behavior that disrupts the fair execution of the marketplace restricts a bidder to length of time, depending upon the seriousness of the violation. Examples of violations include, but are not limited to:

- Failure to honor prices submitted to the marketplace.
- Breach of the terms of the published in Request For Quotation.

6.0 Supplier Confidentiality

All information contained in this RFQ is confidential and may not be disclosed, published or advertised in any manner without written authorization from BRPL. This includes all bidding information submitted.

All RFQ documents remain the property of BRPL and all suppliers are required to return these documents to BRPL upon request.

Suppliers who do not honor these confidentiality provisions will be excluded from participating in future bidding events.

7.0 Contact Information

All communication as regards this RFQ shall be made (i) in English, (ii) in writing and (iii) sent by mail, facsimile to:

	Technical	Commercial
Contact Name	Mr. Amit Tomar Copy to Mr. Sheshadri Krishnapura	Ms Rachna Jain Copy to Mr. Pankaj Goyal
Address	BSES RAJDHANI POWER LTD, 2nd Floor, B Block, Nehru Place, New Delhi – 110019	C&M Deptt. 1st floor, D- Block, BSES Rajhdhani Power Limited, BSES Bhawan, Nehru Place, New Delhi -110019
Email-ID	amit.as.tomar@relianceada.com sheshadri.krishnapura@relianceada.com	rachna.jain@relianceada.com pankaj.goyal@relianceada.com

SECTION – II

INSTRUCTION TO BIDDERS (ITB)

SUPPLY OF 630 KVA DRY TYPE DISTRIBUTION TRANSFORMER IN BRPL

CMC/BR/22-23/RB/PR/RJ/0979

A. GENERAL

1.0 BSES Rajdhani power Ltd, hereinafter referred to as the Purchaser are desirous of implementing the various Systems Improvement/ Repair & Maintenance works at their respective licensed area in Delhi The Purchaser has now floated this tender for procurement of 1600 kVA DT's as notified earlier in this bid document.

2.0 SCOPE OF WORK

The scope shall include Design, Manufacture, Testing at works conforming to the Technical Specifications enclosed along with Packing, Forwarding, Freight and Unloading and proper stacking at Purchaser's stores.

3.0 DISCLAIMER

This Document includes statements, which reflect various assumptions, which may or may not be correct. Each Bidder/ Bidding Consortium should conduct its own estimation and analysis and should check the accuracy, reliability and completeness of the information in this Document and obtain independent advice from appropriate sources in their own interest.

Neither Purchaser nor its employees will have any liability whatsoever to any Bidder or any other person under the law or contract, the principles of restitution or unjust enrichment or otherwise for any loss, expense or damage whatsoever which may arise from or be incurred or suffered in connection with anything contained in this Document, any matter deemed to form part of this Document, provision of Services and any other information supplied by or on behalf of Purchaser or its employees, or otherwise a rising in any way from the selection process for the Supply.

Though adequate care has been taken while issuing the Bid document, the Bidder should satisfy itself that Documents are complete in all respects. Intimation of any discrepancy shall be given to this office immediately.

This Document and the information contained herein are Strictly Confidential and are for the use of only the person(s) to whom it is issued. It may not be copied or distributed by the recipient to third parties (other than in confidence to the recipient's professional advisors).

4.0 COST OF BIDDING

The Bidder shall bear all cost associated with the preparation and submission of its Bid and Purchaser will in no case be responsible or liable for those costs. Further the purchaser has the right to get sample of Panel tested by any reputed independent test lab (approved by BRPL) at the cost of bidder.

B. BIDDING DOCUMENT

5.0 BIDDING DOCUMENTS

The Scope of Work, Bidding Procedures and Contract Terms are described in the Bidding Documents. In addition to the covering letter accompanying Bidding Documents, the Bidding Documents include:

Volume –I

a)	Request for Quotation (RFQ)	- Section – I
b)	Instructions to Bidders (ITB)	- Section – II
c)	General Conditions of Contract	- Section - III
d)	Quantity and delivery requirement	- Section –IV
e)	Technical Specifications (TS)	- Section –V

Volume – II

a)	Bid Form	- Annexure – I
b)	Bid Format	- Annexure – II
c)	Price Schedule	- Annexure – III
d)	Commercial Terms & Conditions	- Annexure - IV
e)	No Deviation Sheet	- Annexure - V
f)	Qualification Criterion	- Annexure - VI

The Bidder is expected to examine the Bidding Documents, including all Instructions, Forms, Terms and specifications. Failure to furnish all information required by the Bidding documents or submission of a Bid not substantially responsive to the Bidding Documents in every respect will may result in the rejection of the Bid.

6.0 AMENDMENT OF BIDDING DOCUMENTS

At any time prior to the deadline for submission of Bids, the Purchaser may for any reasons, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding Documents by Amendment.

The Amendment shall be part of the Bidding Documents, pursuant to Clause 5.01, and it will be notified in writing by Fax/e-mail to all the Bidders who have received the Bidding Documents and confirmed their participation to Bid, and will be binding on them.

In order to afford prospective Bidders reasonable time in which to take the Amendment into account in preparing their Bids, the Purchaser may, at its discretion, extend the deadline for the submission of Bids.

C PREPARATION OF BIDS

7.0 LANGUAGE OF BID

The Bid prepared by the Bidder, and all correspondence and documents relating to the Bid exchanged by the Bidder and the Purchaser, shall be written in the English Language. Any printed literature furnished by the Bidder may be written in another Language, provided that this literature is accompanied by an English translation, in which case, for purposes of interpretation of the Bid, the English translation shall govern.

8.0 DOCUMENTS COMPRISING THE BID

The Bid prepared and submitted by the Bidder shall comprise the following components:

a) Bid Form ,Price & other Schedules (STRICTLY AS PER FORMAT) and Technical Data Sheets completed in accordance with Clause 9.0, 10.0, 11.0 and Technical Specification;

b) All the Bids must be accompanied with the required EMD as mentioned in the Section-I against each tender.

c) Power of Attorney or Authorization letter indicating that the person(s) signing the Bid have the authority to sign the Bid and thus that the Bid is binding upon the Bidder during the full period of its validity, in accordance with clause 12.0.

9.0 BID FORM

The Bidder shall complete an "Original" and another one "Copy" of the Bid Form and the appropriate Price & Other Schedules and Technical Data Sheets.

EMD

Pursuant to Clause 8.0 (b) above, the bidder shall furnish, as part of its bid, a EMD amounting to 1% of the total bid value (FOR Destination) i.e. Rs. **7,30,000/-**. The EMD is required to protect the Purchaser against the risk of Bidder's conduct which would warrant the security's forfeiture.

The EMD shall be denominated in the currency of the bid, and shall be in the following form:

a) A bank guarantee issued by any scheduled bank strictly as per the form at enclosed and shall be valid for a period of thirty (30) days beyond the validity of the bid.

b) Bank Draft in favour of BSES RAJDHANI POWER LTD, payable at New Delhi.

Unsuccessful bidders' EMD will be discharged or returned as promptly as possible as but not later than thirty (30) days after the expiration of the period of bid validity.

The successful bidder's EMD will be discharged upon furnishing the performance security. The EMD may be forfeited:

a) If the Bidder:

i) withdraws its bid during the period of bid validity specified by the Bidder in the Bid Form ; or

b) in the case of a successful Bidder, if the Bidder fails:

i) to sign the Contract, or

ii) to furnish the required performance security.

10.0 BID PRICES

Bidders shall quote for the entire Scope of Supply with a break-up of prices for individual items. The total Bid Price shall also cover all the Supplier's obligations mentioned in or reasonably to be inferred from the Bidding Documents in respect of Design, Supply, Transportation to site, all in accordance with the requirement of Bidding Documents The Bidder shall complete the appropriate Price Schedules included herein , stating the Unit Price for each item & total Price.

The prices offered shall be inclusive of all costs as well as Duties, Taxes and Levies paid or payable during execution of the supply work, breakup of price constituents, should be there. Prices quoted by the Bidder shall be—Firm "and not subject to any price adjustment during the performance of the Contract. A Bid submitted with an adjustable price quotation will be treated as non -responsive and rejected.

11.0 BID CURRENCIES

Prices shall be quoted in **Indian Rupees (INR) only**.

12.0 PERIOD OF VALIDITY OF BIDS

Bids shall remain valid for **120 days** post bid date.

Notwithstanding Clause12.01 above, the Purchaser may solicit the Bidder's consent to an extension of the Period of Bid Validity. The request and the responses thereto shall be made in writing by Fax/e-mail.

13.0 ALTERNATIVE BIDS

Bidders shall submit Bids, which comply with the Bidding Documents. Alternative Bids will not be considered. The attention of Bidders is drawn to the provisions of Clause 22.03 & 22.04 regarding the rejection of Bids, which are not substantially responsive to the requirements of the Bidding Documents.

14.0 FORMAT AND SIGNING OF BID

The original Bid Form and accompanying documents (as specified in Clause9.0),clearly marked "Original Bid", plus one copy must be received by the Purchaser at the date, time and place specified pursuant to Clauses15.0 and16.0. In the event of any discrepancy between the original and the copies, the original shall govern.

The original and copy of the Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to sign on behalf of the Bidder. Such authorization shall be indicated by written Power-of-Attorney accompanying the Bid.

The Bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Bidder, in which case such corrections shall be initialed by the person or persons signing the Bid.

D SUBMISSION OF BIDS

15.0 SEALING AND MARKING OF BIDS

Bid submission: One original & one Copy (hard copies) of all the Bid Documents shall be sealed and submitted to the Purchaser before the closing time for submission of the bid.

The Technical Documents and the EMD shall be enclosed in a sealed envelope and the said envelope shall be superscribed with **—Technical & EMD**. The Financial bid shall be inside another sealed envelope with superscription — **Financial Bid**. Both these envelopes shall be sealed inside another big envelope. All the envelopes should bear the Name and Address of the Bidder and marking for the Original and Copy. The envelopes should be superscribed with —**"Tender Notice No, Due date of submission, Tender opening date"**.

The Bidder has the option of sending the Bids in person. Bids submitted by Telex/ Telegram/ Fax will not be accepted. No request from any Bidder to the Purchaser to collect the proposals from Airlines/Cargo Agents etc shall be entertained by the Purchaser.

16.0 DEADLINE FOR SUBMISSION OF BIDS

The original Bid, together with the required copies, must be received by the Purchaser at the address specified not later than **1530 HRS on 05.10.2021**.

The Purchaser may, at its discretion, extend the deadline for the submission of Bids by amending the Bidding Documents in accordance with Clause9.0, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

17.0 ONE BID PER BIDDER

Each Bidder shall submit only one Bid either by itself, or as a partner in a Joint Venture. A Bidder who submits or participates in more than one Bid will cause all those Bids to be rejected.

18.0 LATE BIDS

Any Bid received by the Purchaser after the deadline for submission of Bids prescribed by the Purchaser, pursuant to Clause 16.0, will be declared "Late" and rejected and returned unopened to the Bidder.

19.0 MODIFICATIONS AND WITHDRAWAL OF BIDS

19.01 The Bidder is not allowed to modify or withdraw its Bid after the Bid‘s submission.

E. EVALUATION OF BID

20.0 PROCESS TO BE CONFIDENTIAL

Information relating to the examination, clarification, evaluation and comparison of Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process. Any effort by a Bidder to influence the Purchaser's processing of Bids or award decisions may result in the rejection of the Bidder's Bid.

21.0 CLARIFICATION OF BIDS

To assist in the examination, evaluation and comparison of Bids, the Purchaser may, at its discretion, ask the bidder for a clarification of its Bid. All responses to requests for clarification shall be in writing and no change in the price or substance of the Bid shall be sought, offered or permitted.

22.0 PRELIMINARY EXAMINATION OF BIDS / RESPONSIVENESS

Purchaser will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the Bids are generally in order.

Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price per item that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price per item will be corrected. If there is a discrepancy between the Total Amount and the sum of the total price per item, the sum of the total price per item shall prevail and the Total Amount will be corrected.

Prior to the detailed evaluation, Purchaser will determine the substantial responsiveness of each Bid to the Bidding Documents including production capability and acceptable quality of the Goods offered. A substantially responsive Bid is one, which conforms to all the terms and conditions of the Bidding Documents without material deviation.

Bid determined as not substantially responsive will be rejected by the Purchaser and/or the Purchaser and may not subsequently be made responsive by the Bidder by correction of the non -conformity.

23.0 EVALUATION AND COMPARISON OF BIDS

The evaluation of Bids shall be done based on the delivered cost competitiveness basis.

The evaluation of the Bids shall be a stage-wise procedure. The following stages are identified for evaluation purposes: In the first stage, the Bids would be subjected to a responsiveness check. The Technical Proposals and the Conditional ties of the Bidders would be evaluated. Subsequently, the Financial Proposals along with supplementary Financial Proposals, if any, of Bidders with Techno-commercially Acceptable Bids shall be considered for final evaluation.

The Purchaser's evaluation of a Bid will take into account, in addition to the Bid price, the following factors, in the manner and to the extent indicated in this Clause:

(a) Supply Schedule
(b) Deviations from Bidding Documents

Bidders shall base their Bid price on the terms and conditions specified in the Bidding Documents. The cost of all quantifiable deviations and omissions from the specification, terms and conditions specified in Bidding Documents shall be evaluated. The Purchaser will make its own assessment of the cost of any deviation for the purpose of ensuring fair comparison of Bids.

Any adjustment in price, which results from the above procedure, shall be added for the purposes of comparative evaluation only to arrive at an "Evaluated Bid Price". Bid Prices quoted by Bidders shall remain unaltered.

F. AWARD OF CONTRACT

24.0 CONTACTING THE PURCHASER

From the time of Bid submission to the time of contract award, if any Bidder wishes to contact the Purchaser on any matter related to the Bid, it should do so in writing.

Any effort by a Bidder to influence the Purchaser and/or in the Purchaser‘s decisions in respect of Bid evaluation, Bid comparison or Contract Award, will result in the rejection of the Bidder‘s Bid.

25.0 THE PURCHASER ’S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

The Purchaser reserves the right to accept or reject any Bid and to annul the Bidding process and reject all Bids at anytime prior toward of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Purchaser‘s action.

26.0 AWARD OF CONTRACT

The Purchaser will award the Contract to the successful Bidder whose Bid has been Determined to be the lowest-evaluated responsive Bid, provided further that the Bidder has been determined to be qualified to satisfactorily perform the Contract. Purchaser reserves the right to award order other bidders in the tender, provided it is required for progress of project & provided he agrees to come to the lowest rate.

27.0 THE PURCHASER'S RIGHT TO VARY QUANTITIES

The Purchaser reserves the right to vary the quantity i.e. increase or decrease the numbers/quantities without any change in terms and conditions during the execution of the Order.

28.0 LETTER OF INTENT/ NOTIFICATION OF AWARD

The letter of intent/ Notification of Award shall be issued to the successful Bidder whose bids have been considered responsive, techno-commercially acceptable and evaluated to be the lowest (L1). The successful Bidder shall be required to furnish a letter of acceptance within 7 days of issue of the letter of intent /Notification of Award by Purchaser.

29.0 PERFORMANCE BANK GUARANTEE

The successful Bidder shall furnish the Performance Bank Guarantee for an amount of 10% (Ten percent) of the Contract Price in accordance with the format provided. The Performance Bond shall be valid for a period of twenty four months (24) from the date of the commissioning or thirty months (30) from the date of receipt of material (last consignment) at site/stores whichever is earlier plus 3 months towards claim period. Upon submission of the performance security, the EMD shall be released.

30.0 CORRUPT OR FRADULENT PRACTICES

The Purchaser requires that the Bidders observe the highest standard of ethics during the procurement and execution of the Project. In pursuance of this policy, the Purchaser:

(a) Defines, for the purposes of this provision, the terms set forth below as follows:

i) "Corrupt practice" means behavior on the part of officials in the public or private sectors by which they improperly and unlawfully enrich themselves and/or those close to them ,or induce others to do so, by misusing the position in which they are placed, and it includes the offering, giving, receiving, or soliciting of anything of value to influence the action of any such official in the procurement process or in contract execution; and

ii) "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Purchaser, and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial non-competitive levels and to deprive the Purchaser of the benefits of free and open competition.

(b) Will reject a proposal forward if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question ;

(c) Will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a contract.

Furthermore, Bidders shall be aware of the provision stated in the General Conditions of Contract.

SECTION – III

GENERAL CONDITIONS OF CONTRACT (GCC)

SUPPLY OF 630 KVA DRY TYPE DISTRBUTION TRANFORMER IN BRPL

CMC/BR/22-23/RB/PR/RJ/0979

GENERAL TERMS AND CONDITIONS

1.0 General Instructions

All the Bids shall be prepared and submitted in accordance with these instructions.

Bidder shall bear all costs associated with the preparation and delivery of its Bid, and the Purchaser will in no case shall be responsible or liable for these costs.

The Bid should be submitted by the Bidder in whose name the bid document has been issued and under no circumstances it shall be transferred/ sold to the other party.

The Purchaser reserves the right to request for any additional information and also reserves the right to reject the proposal of any Bidder, if in the opinion of the Purchaser, the data in support of RFQ requirement is incomplete.

The Bidder is expected to examine all instructions, forms, terms & conditions and specifications in the Bid Documents. Failure to furnish all information required in the Bid Documents or submission of a Bid not substantially responsive to the Bid Documents in every respect may result in rejection of the Bid. However, the Purchaser's decision in regard to the responsiveness and rejection of bids shall be final and binding without any obligation, financial or otherwise, on the Purchaser.

2.0 Definition of Terms

"Purchaser" shall mean BRPL Limited, on whose behalf this bid enquiry is issued by its authorized representative / officers.

"Bidder" shall mean the firm who quotes against this bid enquiry issued by the Purchaser. "Supplier" or "Supplier" shall mean the successful Bidder and/or Bidders whose bid has been accepted by the Purchaser and on whom the "Letter of Acceptance" is placed by the Purchaser and shall include his heirs, legal representatives, successors and permitted assigns wherever the context so admits.

"Supply" shall mean the Scope of Contract as described.

"Specification" shall mean collectively all the terms and stipulations contained in those portions of this bid document known as RFQ, Commercial Terms & Condition, Instructions to Bidders, Technical Specifications and the Amendments, Revisions, Deletions or Additions, as may be made by the Purchaser from time to time.

"Letter of Acceptance" shall mean the official notice issued by the Purchaser notifying the Supplier that his proposal has been accepted and it shall include amendments thereto, if any, issued by the Purchaser. The "Letter of Acceptance" issued by the Purchaser shall be binding on the "Supplier" The date of Letter of Acceptance shall be taken as the effective date of the commencement of contract.

"Month" shall mean the calendar month and "Day" shall mean the calendar day.

"Codes and Standards" shall mean all the applicable codes and standards as indicated in the Specification.

"Offer Sheet" shall mean Bidder's firm offer submitted to BRPL in accordance with the specification.

"Contract" shall mean the "Letter of Acceptance" issued by the Purchaser.

"Contract Price" shall mean the price referred to in the "Letter of Acceptance".

"Contract Period" shall mean the period during which the "Contract" shall be executed as agreed between the Supplier and the Purchaser in the Contract inclusive of extended contract period for reason beyond the control of the Supplier and/or Purchaser due to force majeure.

"Acceptance" shall mean and deemed to include one or more of the following as will be stipulated in the specification:

a) The written acceptance of material by the inspector at suppliers works to ship the materials.

b) Acceptance of material at Purchaser site stores after its receipt and due inspection/ testing and release of material acceptance voucher.

c) Where the scope of the contract includes supply, acceptance shall mean issue of necessary equipment / material takeover receipt after installation & commissioning and final acceptance.

3.0 Contract Documents & Priority

Contract Documents: The terms and conditions of the contract shall consist solely of these RFQ conditions and the offer sheet.

Priority: Should there be any discrepancy between any term hereof and any term of the Offer Sheet, the terms of these RFQ shall prevail.

4.0 Scope of Supply - General

The "Scope of Supply" shall be on the basis of Bidder's responsibility, completely covering the obligations, responsibility and supplies provided in this Bid enquiry whether implicit or explicit.

Bidder shall have to quote for the Bill of quantities as listed in Section – IV of this RFQ.

Quantity variation and additional requirement if any shall be communicated to successful bidder during project execution.

All relevant drawings, data and instruction manuals.

5.0 Quality Assurance and Inspection

Immediately on award of contract, the bidder shall prepare detailed quality assurance plan / test procedure identifying the various stages of manufacture, quality checks performed at each stage, raw material inspection and the Customer hold points. The document shall also furnish details of method of checking, inspection and acceptance standards / values and get the approval of Purchaser before proceeding with manufacturing. However, Purchaser shall have right to review the inspection reports, quality checks and results of suppliers in house inspection department which are not Customer hold points and the supplier shall comply with the remarks made by purchaser or his representative on such reviews with regards to further testing, rectification or rejection, etc.

Witness and Hold points are critical steps in manufacturing, inspection and testing where the supplier is obliged to notify the Purchaser in advance so that it may be witnessed by the Purchaser. Final inspection is a mandatory hold point. The supplier needs to proceed with the work past a hold point only after clearance by purchaser or a witness waiver letter from BRPL.

The performance of waiver of QA activity by Purchaser at any stage of manufacturing does not relieve the supplier of any obligation to perform in accordance with and meet all the requirements of the procurement documents and also all the codes & reference documents mentioned in the procurement document nor shall it preclude subsequent rejection by the purchaser.

On completion of manufacturing the items can be dispatched only after issue of shipping release by the Purchaser.

All testing and inspection shall be done without any extra cost.

Purchaser reserve the right to send any material out of the supply to any recognized laboratory for testing and the cost of testing shall be borne by the Purchaser. In case the material is found not in order with the technical requirement / specification, the charges along with any other penalty which may be levied is to be borne by the bidder. To avoid any complaint the supplier is advised to send his representative to the stores to see that the material sent for testing is being sealed in the presence of bidders representative.

Bidder has to sign quality agreement before supply of the material.

6.0 Packing, Packing List & Marking

Packing: Supplier shall pack or shall cause to be packed all Commodities in boxes and containers and otherwise in such a manner as shall be reasonably suitable for shipment by road or rail to BRPL without undue risk of damage in transit.

Packing List: The contents of each package shall be itemized on a detailed list showing the exact weight and the extreme outside dimensions (length, width and eight) of each container or box. One copy of the packing list shall be enclosed in each package delivered. There shall

also be enclosed in one package a master packing list identifying each individual package, which is part of the shipment. On any packaging where it is not feasible to place the packing list inside the container, all pertinent information shall be stenciled on the outside and will thus constitute a packing list.

7.0 Prices basis for supply of materials

Bidders require quoting their prices on Landed Cost Basis and separate price for each item. For Supply to BRPL Delhi the price shall be inclusive of packing, forwarding, GST and freights. The above supply prices shall also include unloading at site stores. Transit and storage insurance will be arranged by BRPL; however bidder to furnish required details in advance for arranging the same by BRPL.

8.0 Variation in taxes, duties & levies:

The total order value shall be adjusted on account of any variations in Statutory Levies imposed by Competent Authorities by way of fresh notification(s) within the stipulated delivery period only. However, in case of reduction in taxes, duties and levies, the benefits of the same shall be passed on to BUYER.

No other Taxes, Duties & Levies other than those specified above will be payable by BUYER except in case of new Levies, Taxes & Duties imposed by the Competent Authorities by way of fresh notification(s) subsequent to the issue of PURCHASE ORDER but within the stipulated delivery period.

Notwithstanding what is stated above, changes in Taxes, Duties & Levies shall apply only to that portion of PURCHASE ORDER not executed on the date of notification by Competent Authority. Further, changes in Taxes, Duties & Levies after due date of Delivery shall not affect PURCHASE ORDER Terms and Value.

PURCHASE ORDER value shall not be subject to any variation on account of variation in Exchange rate(s).

9.0 Taxes & Duties on raw materials & bought out components:

Taxes & Duties on raw materials & bought out components are included in Order Value and are not subject to any escalation or variation for any reason whatsoever.

Taxes & Duties on raw materials & bought out components procured indigenously are included in Order Value and are not subject to any escalation or variation for any reason whatsoever.

10.0 Terms of payment and billing

For Supply of Equipments:

- 100% payment shall be made within 45 days from the date of receipt of material at store/ site against submission of 10 % performance bank guarantee. (Refer 10.01)

Bidder to submit the following documents against dispatch of each consignment:

i) Consignee copy of LR

ii) Supplier detailed invoice showing commodity description, quantity, unit price, total price and basis of delivery.

iii) Original certificate issued by BRPL confirming receipt of material at site and acceptance of the same.

iv) Dispatch clearance / inspection report in original issued by the inspection authority

v) Packing List.

vi) Test Reports

vii) Guarantee Certificate.

viii) Insurance policy to be obtained by supplier

11.0 Price Validity

11.01 All bids submitted shall remain valid, firm and subject to unconditional acceptance by BRPL Delhi for 120 days post bid-date. For awarded suppliers, the prices shall remain valid and firm till contract completion.

12.0 Performance Guarantee

12.01 Supplier shall establish a performance bond in favor of BRPL in an amount not less than Ten percent (10%) of the total price of the Contract (the "Performance Bond"). The Performance Bond shall be valid for a period of twenty four months (24) from the date of the commissioning or thirty months (30) from the date of receipt of material (last consignment) at site/stores whichever is earlier plus 3 months towards claim period. It shall be in accordance with one of the following terms:

a) Depositing pay order /demand draft of the relevant amount directly with BRPL at the address listed above or as otherwise specified by BRPL, either of which shall constitute the Performance Bond hereunder; or

b) Bank guarantee from any nationalized bank in favour of BSES RAJDHANI POWER LTD (BRPL). The performance Bank guarantee shall be in the format as specified by BRPL.

13.0 Forfeiture

Each Performance Bond established under Clause 10.0 shall contain a statement that it shall be automatically and unconditionally forfeited without recourse and payable against the presentation by BRPL of this Performance Bond to the ICICI Bank at Mumbai, or to the relevant company/ correspondent bank referred to above, as the case may be, together with a simple statement that supplier has failed to comply with any term or condition set forth in the Contract.

Each Performance Bond established under will be automatically and unconditionally forfeited without recourse if BRPL in its sole discretion determines that supplier has failed to comply with any term or condition set forth in the contract.

14.0 Release

All Performance Bonds will be released without interest within seven (7) days from the last date up to which the Performance Bond has to be kept valid (as defined in Clause 10.0) except for the case set forth in Clause 21.0.

15.0 Defects Liability Period

15.01 The bidder to Guarantee the materials / items supplied against any defect of failure, which arise due to faulty materials, workmanship or design for the entire defects liability period. The Defect liability period shall be 60 months from the date of commissioning or 66 months from the date of delivery whichever is earlier. If during the defects liability period any materials / items are found to be defective, these shall be replaced or rectified by the bidder at his own cost within 30 days from the date of receipt of intimation.

16.0 Return, Replacement or Substitution.

BRPL shall give Supplier notice of any defective Commodity promptly after becoming aware thereof. BRPL may in its discretion elect to return defective Commodities to Supplier for replacement, free of charge to BRPL, or may reject such Commodities and purchase the same or similar Commodities from any third party. In the latter case BRPL shall furnish proof to Supplier of the cost of such substitute purchase. In either case, all costs of any replacement, substitution, shipping, labour and other related expenses incurred in connection with the return and replacement or for the substitute purchase of a Commodity hereunder should be for the account of Supplier. BRPL may set off such costs against any amounts payable by BRPL to Supplier. Supplier shall reimburse BRPL for the amount, if any, by which the price of a substitute Commodity exceeds the price for such Commodity as quoted in the Bid.

17.0 Effective Date of Commencement of Contract:

17.01 The date of the issue of the Letter of Acceptance shall be treated as the effective date of the commencement of Contract.

18.0 Time – The Essence of Contract

18.01 The time and the date of completion of the "Supply"" as stipulated in the Letter Of Acceptance / Purchase order issued to the Supplier shall be deemed to be the essence of the "Contract". The Supply has to be completed not later than the aforesaid Schedule and date of completion of supply.

19.0 The Laws and Jurisdiction of Contract:

The laws applicable to this Contract shall be the Laws in force in India.

All disputes arising in connection with the present Contract shall be settled amicably by mutual consultation failing which shall be finally settled as per the rules of Arbitration and Conciliation Act, 1996 at the discretion of Purchaser. The venue of arbitration shall be at Mumbai in India

20.0 Events of Default

20.01 Events of Default. Each of the following events or occurrences shall constitute an event of default ("Event of Default") under the Contract:

a) Supplier fails or refuses to pay any amounts due under the Contract;

b) Supplier fails or refuses to deliver Commodities conforming to this RFQ/ specifications, or fails to deliver Commodities within the period specified in P.O. or any extension thereof

c) Supplier becomes insolvent or unable to pay its debts when due, or commits any act of bankruptcy, such as filing any petition in any bankruptcy, winding-up or reorganization proceeding, or acknowledges in writing its insolvency or inability to pay its debts; or the Supplier's creditors file any petition relating to bankruptcy of Supplier;

d) Supplier otherwise fails or refuses to perform or observe any term or condition of the Contract and such failure is not remediable or, if remediable, continues for a period of 30 days after receipt by the Supplier of notice of such failure from BRPL.

21.0 Consequences of Default.

a) If an Event of Default shall occur and be continuing, BRPL may forthwith terminate the Contract by written notice.

b) In the event of an Event of Default, BRPL may, without prejudice to any other right granted to it by law, or the Contract, take any or all of the following actions;

i) present for payment to the relevant bank the Performance Bond;

ii) purchase the same or similar Commodities from any third party; and/or

iii) recover any losses and/or additional expenses BRPL may incur as a result of Supplier's default.

22.0 Penalty for Delay

If supply of items / equipments is delayed beyond the supply schedule as stipulated in purchase order then the Supplier shall be liable to pay to the Purchaser as penalty for delay, a sum of 1% (one percent) of the contract price for every week delay or part thereof for undelivered quantities.

The total amount of penalty for delay under the contract will be subject to a maximum of ten percent (10%) of the contract price for undelivered quantities.

The Purchaser may, without prejudice to any method of recovery, deduct the amount for such damages from any amount due or which may become due to the Supplier or from the Performance Bond or file a claim against the supplier.

23.0 Force Majeure

General

An "Event of Force Majeure" shall mean any event or circumstance not within the reasonable control directly or indirectly, of the Party affected, but only if and to the extent that:

i) Such event or circumstance materially and adversely affects the ability of the affected Party to perform its obligations under this Contract, and the affected Party has taken all reasonable precautions, due care and reasonable alternative measures in order to prevent or avoid the effect of such event on the affected party's ability to perform its obligations under this Contract and to mitigate the consequences thereof.

ii) For the avoidance of doubt, if such event or circumstance would not have materially and adversely affected the performance of the affected party had such affected party followed good industry practice, such event or circumstance shall not constitute force majeure.

iii) Such vent is not the direct or indirect result of the failure of such Party to perform any of its obligations under this Contract.

iv) Such Party has given the other Party prompt notice describing such events, the effect thereof and the actions being taken in order to comply with above clause.

Specific Events of Force Majeure subject to the provisions of above clause, Events of Force Majeure shall include only the following to the extent that they or their consequences satisfy the above requirements:

Mitigation of Events of Force Majeure Each Party shall:

i) Make all reasonable efforts to prevent and reduce to a minimum and mitigate the effect of any delay occasioned by an Event of Force Majeure including recourse to alternate methods of satisfying its obligations under the Contract;

ii) Use its best efforts to ensure resumption of normal performance after the termination of any Event of Force Majeure and shall perform its obligations to the maximum extent practicable as agreed between the Parties; and

iii) Keep the other Party informed at regular intervals of the circumstances concerning the event of Force Majeure, with best estimates as to its likely continuation and what measures or contingency planning it is taking to mitigate and or terminate the Event of Force Majeure.

Burden of Proof In the event that the Parties are unable in good faith to agree that a Force Majeure event has occurred to an affected party, the parties shall resolve their dispute in accordance with the provisions of this Agreement. The burden of proof as to whether or not a force majeure event has occurred shall be upon the party claiming that the force majeure event has occurred and that it is the affected party.

Termination for Certain Events of Force Majeure. If any obligation of any Party under the Contract is or is reasonably expected to be delayed or prevented by a Force Majeure event for a continuous period of more than 3 months, the Parties shall promptly discuss in good faith how to proceed with a view to reaching a solution on mutually agreed basis. If a solution on mutually agreed basis cannot be arrived at within a period of 30 days after the expiry of the period of three months, the Contract shall be terminated after the said period of 30 days and neither Party shall be liable to the other for any consequences arising on account of such termination.

Limitation of Force Majeure event. The Supplier shall not be relieved of any obligation under the Contract solely because cost of performance is increased, whether as a consequence of adverse economic consequences or otherwise.

Extension of Contract Period due to Force Majeure event The Contract period may be extended by mutual agreement of Parties by way of an adjustment on account of any period during which an obligation of either Party is suspended due to a Force Majeure event.

Effect of Events of Force Majeure. Except as otherwise provided herein or may further be agreed between the Parties, either Party shall be excused from performance and neither Party shall be construed to be in default in respect of any obligations hereunder, for so long as failure to perform such obligations shall be due to and event of Force Majeure."

24.0 Transfer And Sub-Letting

24.01 The Supplier shall not sublet, transfer, assign or otherwise part with the Contract or any part thereof, either directly or indirectly, without prior written permission of the Purchaser.

25.0 Recoveries

25.01 Whenever under this contract any money is recoverable from and payable by the bidder, the purchaser shall be entitled to recover such sum by appropriating in part or in whole by detecting any sum due to which any time thereafter may become due from the supplier in this or any other contract. Should the sum be not sufficient to cover the full amount recoverable the bidder shall pay to the purchaser on demand the remaining balance.

26.0 Waiver

26.01 Failure to enforce any condition herein contained shall not operate as a waiver of the condition itself or any subsequent breach thereof.

27.0 Indemnification

27.01 Notwithstanding contrary to anything contained in this RFQ, Supplier shall at his costs and risks make good any loss or damage to the property of the Purchaser and/or the other Supplier engaged by the Purchaser and/or the employees of the Purchaser and/or employees of the other Supplier engaged by the Purchaser whatsoever arising out of the negligence of the Supplier while performing the obligations under this contract.

SECTION – IV: QUANTITY AND DELIVERY REQUIREMENT

Sl. No.	Item Description	Specification	Requirement	Delivery Schedule	Location
BRPL,DELHI					
1	Supply of 630 kVA Dry Type Distribution Transformer in BRPL	SECTION V	37 Nos	**As per Requirement**	Stores BRPL Delhi

Annexure –I

BID FORM

Supply of 630 kVA Dry Type Distribution Transformer for Various Sites In BRPL

To
Head of the Department Contracts & Materials BSES Rajdhani Power Ltd BSES Bhawan, Nehru Place New Delhi– 110019
Sir,

We understand that BRPL is desirous of procuring "Supply of 630 kVA Dry Type Distribution Transformers for Various Sites In BRPL" in its licensed distribution network area in Delhi. Having examined the Bidding Documents for the above named works, we the undersigned, offer to deliver the goods in full conformity with the Drawings, Conditions of Contract and specifications for the sum of AS PER RICE BID ENCLOSED or such other sums as may be determined in accordance with the terms and conditions of the contract .The above amounts are in accordance with the Price Schedules attached herewith and are made part of this bid.

If our Bid is accepted, we undertake to deliver the entire goods as per delivery schedule given by you from the date of award of purchase order/letter of intent.

If our Bid is accepted, we will furnish a performance bank guarantee for an amount of 10% (Ten) percent of the total contract value for due performance of the Contract in accordance with the General Conditions of Contract.

We agree to abide by this Bid for a period of 120 days from the date fixed for bid opening under clause 9.0 of GCC, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

We declare that we have studied the provision of Indian Income Tax Law and other Indian Laws for supply of equipments/materials and the prices have been quoted accordingly.

Unless and until Letter of Intent is issued, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.

We understand that you are not bound to accept the lowest, or any bid you may receive.

There is provision for Resolution of Disputes under this Contract, in accordance with the Laws and Jurisdiction of Contract, Clause 19 of GCC .

Dated this.....day of.....20.....
Signature..... In the capacity of……
.....duly authorized to sign for and on behalf of (IN BLOCK CAPITALS)……

Annexure -II

FORMAT FOR EMD BANK GUARANTEE

(To be issued in a Non Judicial Stamp Paper of Rs.50/-purchased in the name of the bank)
Whereas [name of the Bidder] (hereinafter called the "Bidder") has submitted its bid dated [date of submission of bid] for the supply of [name and/or description of the goods] (hereafter called ''the Bid"). KNOW ALL PEOPLE by these presents that WE [name of bank]at[Branch Name and address],having our registered office at[address of the registered office of the bank](herein after called —"the Bank"),are bound unto BSES Rajdhani Power Ltd., with its Corporate Office at BSES Bhawan Nehru Place, New Delhi -110019, (herein after called —the "Purchaser") in the sum of_____for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this____day of__20_.

THE CONDITIONS of this obligation are:

If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form; or

If the Bidder, having been notified of the acceptance of its Bid by the Purchaser during the period of bid validity:

fails or refuses to execute the Contract Form ,if required; or
fails or refuses to furnish the performance security, In accordance with the Instructions to Bidders/GENERAL CONDITIONS.;

We undertake to pay to the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that is its demand the purchaser will note that amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including thirty (30) days after the period of bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

(Signature of the bank)

Signature of the witness

Annexure III

FORM FOR PARTICIPATION IN REVERSE AUCTION EVENT

(To be signed & stamped by the bidder along-with bid)

BSES Rajdhani Power Ltd (BRPL) intends to use reverse auction through SAP-SRM tool as an integral part of entire tendering process. All bidders who are techno-commercially qualified on the basis of tender requirements shall participate in the reverse auction.

The following terms and conditions are deemed as accepted by the bidder on participation in the bid:-

1. In case of bidding through Internet medium, bidders are advised to ensure availability of all associated infrastructure as required to participate in the reverse auction event. Inability to bid due to telephone glitch, internet response issues, software & hardware hangs/failures, power failures or any other reason shall not be the responsibility of BRPL.

2. In case bidder fails to participate in the reverse auction event due to any reason whatsoever, it shall be presumed that the bidder has no further discounts to offer and the initial bid submitted by them as a part of tender shall be considered as bidder's Final .No Regret offer.Any off-line price bids received from a bidder in lieu of non-participation in the reverse auction event shall be rejected by BRPL.

3. The bidder is advised to understand the auto bid process t safeguard themselves against any possibility of non-participation in the reverse auction event.

4. The bidder shall be prepared with competitive price quotes during the day of reverse auction event.

5. The prices quoted by bidder in reverse auction event shall be on FOR Landed cost BRPL Store/site basis inclusive of all relevant taxes, duties, levies, transportation charges etc.

6. The prices submitted by the bidder during reverse auction event shall be binding on the bidder.

7. The bidder agrees to non-disclosure of trade information regarding bid details e.g.purchase, identity, bid process/technology, bid documentation etc.

8. BRPL will make every effort to make the bid process transparent. However award decision of BRPL will be final and binding on the bidder.

9. The prices submitted during reverse auction event shall be binding on the bidder.

10. No request for Time extension of the reverse auction event shall be considered by BRPL.

Seal & Signature of Bidder

Annexure-IV

PRICE FORMAT

ENQUIRY NO & DATE: NIT: CMC/BR/22-23/RB/PR/RJ/0979

PRICE SCHEDULE

ITEM DESCRIPTION	QTY AS PER RFQ	UOM	EX-WORKS RATE/ UNIT	CGST (%)	CGST AMT	SGST (%)	SGST AMT	IGST (%)	IGST AMT	FRT	LANDED RATE/ UNIT	TOTAL LANDED COST (INR)
Supply of 630 kVA Dry Type Distribution Transformers	37	Nos										

Note: 1.The prices received without break up of ex works, Freight, GST are liable for rejection
2. Pls. Indicate the exact percentage of taxes in figures and words.
3. If there is a discrepancy between the unit price and the total price THE UNIT PRICE shall prevail.
4. Bidders are requested to attach the covering letter head along with the price bid indicating reference no and date.

Bidders seal & signature

Annexure – V

Enquiry No. : CMC/BR/22-23/RB/PR/RJ/0979

COMMERCIAL TERMS AND CONDITIONS

S/NO	ITEM DESCIPTION	AS PER BRPL	CONFIRMATION OF BIDDER
1	Validity of prices	120 days from date of offer	
2	Price basis	Firm, FOR Delhi store basis, Prices shall be inclusive of all taxes & duties, freight upto Delhi stores. Unloading at stores be in vendor's scope Transit insurance in BRPL scope	
3	Payment Terms	100% payment within 45 days after receipt of material at stores	
4	Delivery schedule	As per Section IV	
5	Defect Liability Period	60 months after commissioning or 66 months from the last date of supply, whichever is earlier.	
6	Penalty for delay	1% per week of delay of undelivered units or part thereof subject to maximum of 10% of total PO value of undelivered units	
7	Performance Bank Guarantee	10% of total PO value for 24 months after commissioning or 30 months from date of supply, whichever is earlier plus 3 months towards claim period	

ANNEXURE - VI

ENQUIRY NO: CMC/BR/22-23/RB/PR/RJ/0979

NO DEVIATION SHEET

SL NO	SL NO OF TECHNICAL SPECIFICATION	DEVIATION, IF ANY

SIGNATURE & SEAL OF BIDDER

NAME OF BIDDER

CHECK LIST

Sl No	Item Description	YES/NO
1	INDEX	YES/NO
2	COVERING LETTER	YES/NO
3	BID FORM (UNPRICED) DULY SIGNED	YES/NO
4	BILL OF MATERIAL (UNPRICED)	YES/NO
5	TECHNICAL BID	YES/NO
6	ACCEPTANCE TO COMMERCILAL TERMS & CONDITIONS	YES/NO
7	FINANCIAL BIDS (IN SEALED ENVELOPE)	YES/NO
8	EMD IN PRESCRIBED FORMAT	YES/NO
9	DEMANT DRAFT OF RS 1180/- DRAWN IN FAVOUR OF	BSES RAJDHANI POWER LTD
10	POWER OF ATTORNEY/ AUTHORISATION LETTER FOR SIGNING THE BID	YES/NO

BSES

Technical Specification

for

Dry Type Distribution Transformers

Specification no — GN101-03-SP-79-03

Prepared by:		Checked by :		Approved by:		Rev	Date
Name	Sign	Name	Sign	Name	Sign		
Seema		Amit Tomar		Vijay Panpalia		R0	19.05.2017
Seema		Amit Tomar		Vijay Panpalia		R1	10.01.2018
Vani Sood/ Pronab Bairagi		Amit Tomar		K Sheshadri		R2	19.03.2021
Vani Sood/ Pronab Bairagi		Amit Tomar		K Sheshadri		R3	28.10.2021

Contents

Record of Revision

S.No.	Revision No.	Clause/ Annexure No.	Item descriptions	As per old Technical Specification (GN101-01-SP-08-01)	As per Revised Technical Specification (GN101-01-SP-08-02)	Nature of change	Date of approval	Approved by
1	R2	6.1.5	Name plate details	Not available	xxii) weight of coil xxiv) Weight of enclosure xxv) Weight of fittings	Name plate details revised	19.03.2021	KS
2	R2	10.6	Routine tests	Not available	Temperature rise test added	Routine test revised	19.03.2021	KS
3	R2	10.6	Routine tests	IP Test on one transformer form each lot	IP Test removed	Routine test revised	19.03.2021	KS
4	R2	10.7	Type tests	--On one transformer of each rating and type (In Govt. recognized independent test laboratory / Internationally accredited test lab or at manufacturer's facility if it is approved by competent authority) --In case of award of P.O., bidder need to conduct type tests from CPRI/ERDA lab (on one transformer of each rating and type) without any cost implication to BRPL, same type test report shall be valid for next 5 years	On one transformer of each rating and type at CPRI/ERDA lab.	Type test and Testing laboratory revised	19.03.2021	KS
5	R2	10.8	Special Tests	Short circuit test as per IS	Dynamic & Thermal (3 sec) Short Circuit Test as per IS 2026	IS No. & time for thermal short circuit test specified	19.03.2021	KS
6	R2	10.8	Special Tests	On one transformer of each rating and type.	On one transformer of each rating and type at Inhouse testing laboratory/CPRI/ERDA lab.	Testing laboratory added	19.03.2021	KS
7	R2	10.8.1	Notification to bidders	The product offered must be of type tested quality. In case the product offered is never type tested the same as per above list to be conducted by bidder at his own cost at Govt. recognized independent test laboratory / Internationally accredited test lab or at manufacturer's facility if it is approved by competent authority.	The product offered must be of type tested quality. In case the product offered is never type tested the same as per above list to be conducted by bidder at his own cost at CPRI/ERDA lab.	Type of Testing laboratory revised	19.03.2021	KS
8	R2	10.9	Temperature rise test & IP Test	Temperature rise test & IP Test	IP Test	Temperature rise test removed	19.03.2021	KS
9	R2	10.9	IP Test	It shall be carried out as acceptance test per lot on request and as per discretion of the purchaser. Cost of such tests, if extra, shall be quoted separately by the Bidder.	On one transformer of each rating and type at CPRI/ERDA lab.	Type of Testing laboratory revised	19.03.2021	KS
10	R2	Annexure-G	CRGO & TESTING POINTS	Not available	Tests to be conducted on core sample added	Tests to be conducted on core sample added	19.03.2021	KS
11	R2	10.8 (vii)	Special Tests	Not available	Total losses (No load and Load losses) may be verified(if required) at BRPL transformer workshop on received Transformers (randomly selected samples)	Testing at BRPL transformer workshop added	19.03.2021	KS

19/03/21 23/03/21
Vani Sood/Pronab Bairagi

23/03/21
Amit Tomar

23/03/21
K Sheshadri

Record of Revision

SNo.	Revision No	Clause/ Annexure No.	Item descriptions	As per old Technical Specification (GN101-01-SP-79-02)	As per Revised Technical Specification (GN101-01-SP-79-03)	Nature of change	Date of approval	Approved by
1	R3	2.5, Annexure-D	CRGO & TESTING POINTS	Bidder should have hydraulic core lifting facility to avoid any jerk at the time of core building	Bidder should have hydraulic core lifting facility to avoid any jerk at the time of core building. Up to & equal to 1000kVA—Not required {R3} Higher than 1000kVA-- Required {R3} (Undertaking need to be provided that they shall have hydraulic core lifting facilities before commencement of manufacturing and same shall be validated by BRPL before giving manufacturing clearance) {R3}	Clause revised as per transformer raing	27-10-2021	KS
1	R3	2.7, Annexure-D	CRGO & TESTING POINTS	Bidder should have in-house NABL accredited testing facility	Bidder should have in-house NABL accredited testing facility. 1. Prospective bidders whose NABL accreditation is in process, Team of BRPL(NABL certified Engineers) may visit prospective bidder's works and may give their inputs to take NABL accreditation {R3} 2. Based on bidder's status of NABL accreditation ongoing process, it may be qualified (by submission of undertaking that in defined time bidder shall get NABL accreditation certification) {R3}	Clause revised as per	27-10-2021	KS

Vani Sood / Pronab Bairagi

Amit Tomar

K Sheshadri

1.0 Scope of supply

For scope of supply, refer annexure – A

2.0 Codes &standards

The Dry Type distribution transformers shall be designed, manufactured & tested in accordance with the following IEC & Indian standards--

IEC Standards

IEC 60076	Power Transformer Part 1 to Part 10
IEC 60616	Terminal and Tapping Markings for Power Transformers
IEC 60726	Dry-Type Power Transformers.
IEC 529	Degrees of Protection Provided by Enclosures (IP Code).

Indian Standards

IS 2026	Power Transformers (Part 1 to Part 4)
IS 11171	Dry Type Power Transformer
IS 1271	Thermal Evaluation & Classification Of Electrical Insulation
IS 2099	Bushing for Alternating voltage above 1000V
IS 10028	Code Of Practice For Installation And Maintenance of Transformers
IS 5	Ready Mixed Paint, Air Drying, Red-Oxide Zinc Chrome, Priming
IS 2932	Enamel, Synthetic, Exterior : A)Undercoating B) Finishing
IS 3347	Dimensions For Porcelain Transformer Bushings (For Use In Very Heavily Polluted Atmosphere)
Publication no. 275	CBIP Manual – Manual on transformers
IS 6600	Guide For Loading Of Oil-Immersed Transformers
	ECBC guideline: - Energy conservation building guidelines

In the event of direct conflict between various order documents, the precedence of authority of documents shall be as follows:

i. Guaranteed Technical Particulars(GTP)

ii. This Specification

iii Referenced Standards

iv Approved Vendor drawings

v. Other documents

3.0 Major Design Criteria & Parameters of the Transformer

3.1	Location of equipment	Generally Outdoor but may be located indoor also with poor ventilation
3.2	Reference design ambient temperature	50 deg C
3.3	Type	Dry, core type, step down
3.4	Type of cooling	AN
3.5	Reference Standard	IS: 11171
3.6	No. of phases	3
3.7	No. of windings per phase	2
3.8	Rated frequency (Hz)	50 Hz
3.9	Highest system voltage HV side	12 kV
3.10	Highest system voltage LV side	460 V
3.11	Lightning Impulse withstand voltage	
3.11.1	For nominal system voltage of 11 kV	75 kV peak
3.12	Power Frequency Withstand Voltage	
3.12.1	For nominal system voltage of 11 kV	28 kV rms
3.12.2	For nominal system voltage of 415 V	3 kV rms
3.13	Major Design criteria	
3.13.1	Voltage variation on supply side	+ / - 10 %
3.13.2	Frequency variation on supply side	+/ - 5 %
3.13.3	Transient condition	- 20 % or + 10 % combined variation of voltage and frequency
3.13.4	Service Condition	The transformer enclosure is to be designed for outdoor location with service condition as Specified, but its full rating shall be available if located indoor in poorly ventilated atmosphere
3.13.5	Insulation level	
3.13.6	Short Circuit withstand level	As per rating & impedance of transformer.
3.13.7	Overload capability	As per IEC 60076 Part 10

3.13.8	Noise level	Shall not exceed limits as per NEMA TR-1 with all accessories running measured as per IEC 551 / NEMA standard
3.13.9	Radio Influence Voltage	Maximum 250 microvolt
3.13.10	Harmonic currents	Transformer to be designed for suppression of 3rd, 5th 7th harmonic voltages and high frequency disturbances.
3.13.11	Partial Discharges	10 Pico C (max)
3.13.12	Parallel operation	Shall be designed to operate in parallel with existing transformer. Details of existing transformers shall be forwarded to the bidder on request.
3.14	Major Parameters	
3.14.1	Rating in KVA	250/400/630/1000/1500/2000/2500
3.14.2	Voltage Ratio	11000/433 Volts
3.14.3	Vector Group	Dyn11
3.14.4	Percentage Impedance at 130 deg C	
3.14.4.1	250 KVA	5 % with IS tolerance
3.14.4.2	400 KVA	5 % with IS tolerance
3.14.4.3	630 KVA	5 % with IS tolerance
3.14.4.4	750 KVA	5 % with IS tolerance
3.14.4.5	1000 KVA	5 % with IS tolerance
3.14.4.6	1500 KVA	6 % with IS tolerance
3.14.4.7	2000 KVA	6 % with IS tolerance
3.14.4.8	2500 KVA	6 % with IS tolerance
3.14.5	No Load Losses, KW	
3.14.5.1	250 KVA	0.7 KW
3.14.5.2	400 KVA	0.9 KW
3.14.5.3	630 KVA	1.2 KW
3.14.5.4	750 KVA	1.4 KW

3.14.5.5	1000 KVA	1.78 KW
3.14.5.6	1500 KVA	3.2 KW
3.14.5.7	2000 KVA	3.56 KW
3.14.5.8	2500 KVA	4.05 KW
3.14.6	Max. full load losses at 130 deg. C, kW	
3.14.6.1	250 KVA	2.2 KW
3.14.6.2	400 KVA	3.4 KW
3.14.6.3	630 KVA	5.4 KW
3.14.6.4	750 KVA	6.0 KW
3.14.6.5	1000 KVA	7.5 KW
3.14.6.6	1500 KVA	11.5 KW
3.14.6.7	2000 KVA	15.25 KW
3.14.6.8	2500 KVA	17.0 KW
3.14.7	Winding Temperature Rise above ambient deg C	90 deg C
3.14.8	Flux Density	1.6 T at rated voltage & 1.73 T max at 110% rated voltage.
3.14.9	Tapping on HV winding	Off Circuit taps on HV winding , + / - 5 % in steps of 2.5 % , change of taps by link
3.14.10	Design Clearance phase to phase (between bare	
3.14.10.1	For nominal system voltage of 11KV	180 mm min.
3.14.10.2	For nominal system voltage of 415 V	25 mm min.
3.14.11	Design clearance phase to earth	
3.14.11.1	For nominal system voltage of 11KV	120 mm min.
3.14.11.2	For nominal system voltage of 415 V	25 mm min.

3.14.12	System Fault Level , HV side	350 MVA
3.14.13	System Fault Level , LV side	35 MVA
3.15	System Earthling	
3.15.1	HV	Not Required
3.15.2	LV	Solidly earthed
3.16	Fire Protection Class	Class F1 shall be required
3.17	Climate Class	C2 shall be required
3.18	Environment Class	E2 shall be required
3.19	IP Class requirement	IP 23 shall be required for Indoor**[R1]** IP 44 shall be required for Outdoor**[R1]**
3.20	Partial Discharge	Shall not be more than 10 pC
4.0	Construction & Design	
4.1	Enclosure (Housing)	
4.1.1	Material	Galvanized sheet steel for all members with outer finish painting. GI thickness shall be minimum 275 grams/sqmtr. and sprangle free
4.1.2	Sheet thickness	
4.1.2.1	Side, doors, covers	2 mm minimum
4.1.2.2	Top & Bottom sheet	3 mm minimum
4.1.2.3	Frames	3 mm minimum
4.1.3	Perforation on bottom sheet	As per manufacturers standard
4.1.4	Finish of perforated bottom sheet if	Hot dipped Galvanized
4.1.5	Fixing of perforated bottom sheet if	By nut bolt arrangement with the frame
4.1.6	Canopy at top	Required minimum 3 mm thick with slope to prevent water retention. Slope of canopy shall be kept away from cable termination side.
4.1.7	Degree of protection	IP 44, Wire mesh (6 x 6 mm) shall have powder coated water blocking plates behind the wire mesh fixed on structure, plates behind wire mesh on top side of the enclosure shall have pipe routed suitably up to bottom of enclosure to drain the water accumulated in the plate , necessary slope to facilitate draining to be provided in both top and bottom water blocking plate**[R1]**
4.1.8	Design of door	
4.1.8.1	Minimum no of doors on HV/ LV side	Minimum 3 on each of HV / LV side

4.1.8.2	Hinges for doors of a) HV & LV side, b) for CT box c) for Winding temperature scanner box	a) Antitheft design (to make the door Non-removable type & shall not be visible from outside) b) Minimum three hinges per door from top to bottom, Door suitable to be opened from outside c) Door shall be earthed by flexible PVC insulated multistranded copper wire of minimum 2.5 sqmm size.
4.1.8.3	Padlock Facility	Required at each HV /LV side door, CT box and WTI scanner box
4.1.8.4	Fixing of doors with the frame (applicable for CT box and Winding temperature scanner box too)	By M6 size stainless steel Allen key screws.
4.1.8.5	Accessories	Welded Door handle , Danger plate on HV and LV side doors, caution plate for tap links for HT doors, Door limit switch on both HV and LV side doors to be wired up to WTI box terminal for tripping the transformer in case door is opened with the transformer energized, Phase marking plates on HV and LV doors
4.1.9	Design of covers on side other than	
4.1.9.1	Minimum no of covers on each side	Minimum 3 mm on each side
4.1.9.2	Hinges	None
4.1.9.3	Fixing of covers with the frame	With M6 size stainless steel Allen key screws and locking pin from inside so that the covers can be removed from inside only accessing the allen screw after opening door on HV or LV side only.
4.1.9.4	Accessories	Welded cover handle to be provided for handling while removing the cover minimum two nos per cover Covers shall be earthed by flexible PVC insulated multistranded copper wire of minimum 2.5 sqmm size.
4.2	Core	
4.2.1	Material	High grade , non-ageing, low loss, high permeability, grain oriented, cold rolled silicon steel lamination
4.2.2	Grade	Premium grade minimum M3 or better**[R1]**
4.2.3	Lamination Thickness with insulation	0.23 mm (max.)

4.2.4	Construction	The core shall be stack / wound-type annealed steel lamination having low loss and good grain properties, coated with high temperature insulation, bolted together and to the frames firmly to prevent vibration or noise. The core shall be properly stress relieved by annealing under inert atmosphere. The complete design of core must ensure permanency of the core losses with continuous working of the transformers. Vibration dampening pads provided to isolate the core and coil assembly from the base structure. The magnetic flux density is kept below the saturation point giving the better stability of the transformer in the long run.
4.2.5	Maximum Flux Density at 10 % over excitation / over fluxing	1.73 Tesla minimum allowed
4.2.6	Core Design Features	i) All steel sections used for supporting the core shall be thoroughly sand blasted after cutting , drilling, welding ii) Provision of lifting lugs for core coil assembly
4.3	Winding	
4.3.1	Material	Electrolytic Aluminium
4.3.1.1	Type	For HV shall be layer type & LV shall be with foil type.
4.3.2	Maximum current density allowed	1.5 Amp per sqmm (Max.) at all taps
4.3.3	Winding insulating material	Conductor insulation shall be Class H whereas overall insulation class must be class F, free from compounds liable to ooze out, shrink or collapse. Uniform insulation shall be applied to the windings and overall winding shall be cast resin.
4.3.4	Tapings	Off Circuit taps on HV winding , + / - 5 % in steps of 2.5 % , change of taps by link
4.3.4.1	Essential provisions for tap link	Shall be shrouded with cover made from insulating material. To prevent deposit of dust. Tap link inspection transparent window shall not be provided on the HV side door

4.3.5	Design Features	i) Stacks of winding to receive adequate shrinkage treatment ii) Connections braced to withstand shock during transport, switching, short circuit, or other transients. iii) Minimum out of balance force in the transformer winding at all voltage ratios. iv) Conductor width on edge exceeding six times its thickness v) The termination bus-bar coming out from winding shall be tinned Copper vi) Transposed at sufficient intervals. vii) Threaded connection with locking facility. viii) Winding leads rigidly supported , using guide tubes if practicable ix) Provision of taps as indicated in the technical particulars
4.3.6	Essential provision of HV and LV winding leads	Phase marking required near termination on both HV and LV side. Phase colour coding required on insulating sleeves on both HV and LV side. Phase sequence 1U, 1V, 1W from left to right looking inside from the HV side door. Phase sequence 2n, 2u, 2v, 2w from right to left looking inside from LV side door. Adequate HV termination clearance. Provision of check nut in all HV and LV winding lead connection.
4.4	Vibration Isolator	Vibration isolation pads shall be installed between core and coil assembly and enclosure base assembly to prevent the transmission of structure borne vibrations.
4.5	Bushing/Support Insulator/ Terminations	
4.5.1	Type of HV and LV Bushings, support	Epoxy Resin Cast
4.5.2	Minimum creepage of bushing & support insulators	31mm/KV
4.5.3	Arcing Horns	Not Required
4.5.4	Termination on HV side	By cable within main enclosure
4.5.4.1	HV side cable size	11KV(E) grade, A2XCEWY 3CX150 sqmm
4.5.4.2	HV side cable entry	At bottom of enclosure through detachable gland plate
4.5.4.3	Gland plate material	Hot dipped Galvanized Steel 3 mm thick
4.5.4.4	Gland	Nickel plated brass double compression weatherproof cable gland

4.5.4.5	Cable Lugs	
4.5.4.6	HV side cable terminating busbar	Aluminum with size of 50X10 mm
4.5.4.7	Support of HT cable with enclosure	By MS flat of minimum size 50X10 mm
4.5.5	Termination on LV side	By cable with main enclosure / By Bus Duct as per enquiry. In case of bus duct termination, there shall be separate box on LV side. The same box shall be suitable for cable termination & for bus duct arrangement also i.e. bus duct flange on the top & gland plate at the bottom/ as per enquiry.
4.5.5.1	LV side cable size	LV cable size, 650/1100 V grade, A2XY cable single core 630 sqmm unarmoured (appx. cable dia. is 40mm) **[R1]**
4.5.5.2	LV side cable entry	At bottom of enclosure through detachable gland plate.
4.5.5.3	No. of cables on LV side	
4.5.5.3.1	250 KVA	2 runs per phase + 1 run in Neutral
4.5.5.3.2	400 KVA	2 runs per phase + 2 runs in Neutral
4.5.5.3.3	630 KVA	3 runs per phase + 2 runs in Neutral
4.5.5.3.4	750 KVA	3 runs per phase + 2 runs in Neutral
4.5.5.3.5	1000 KVA	4 runs per phase + 2 runs in Neutral
4.5.5.3.6	1500 KVA	6 runs per phase + 3 runs in Neutral
4.5.5.3.7	2000 KVA	7 runs per phase + 4 runs in Neutral
4.5.5.3.8	2500 KVA	9 runs per phase + 5 runs in Neutral
4.5.5.3	Gland plate material & type	Aluminium of 5 mm thick and gland plate should be single piece with “Knock Out” holes of dia. 40 mm.
4.5.5.4	Gland	Nickel plated brass double compression weatherproof cable gland
4.5.5.5	Cable Lugs	Shall be double hole lug with lug suitable dia. **[R1]**
4.5.5.6	LV side cable terminating busbar	Aluminium of size as follows **[R1]**

4.5.5.6.1	250 kVA	
	Phase	100 x 10 mm
	Neutral	100 x 10 mm
4.5.5.6.2	400 kVA	
	Phase	2 Nos 100 x 10 mm
	Neutral	2 Nos 100 x 10 mm
4.5.5.6.3	630 kVA	
	Phase	2 Nos 100 x 10 mm
	Neutral	2 Nos 100 x 10 mm
4.5.5.6.4	750 kVA	
	Phase	2 Nos 100 x 10 mm
	Neutral	2 Nos 100 x 10 mm
4.5.5.6.5	1000 kVA	
	Phase	2 Nos 100 x 10 mm
	Neutral	2 Nos 100 x 10 mm
4.5.5.6.6	1500 kVA	
	Phase	2 Nos 130 x 12 mm
	Neutral	2 Nos 130 x 12 mm
4.5.5.6.7	2000 kVA	
	Phase	2 Nos 160 x 12mm
	Neutral	2 Nos 160 x 12mm
4.5.5.6.8	2500 kVA	
	Phase	2 Nos 200 x 12mm
	Neutral	2 Nos 200 x 12mm
4.5.5.7	Support of LV cable with enclosure	By Aluminium (non magnetic) clamp size 50 x 3 mm fixed on MS bracket of size 50 x 10 mm supported from enclosure wall inside
4.5.5.8	Maximum Overall Dimension Acceptable	
	250 kVA	1600 x 1650 x 1850
	400 kVA	1700 x 1750 x 1850
	630 kVA	1900 x 1750 x 1850
	1000 kVA	2200 x 2100 x 2400
	1500 kVA	2460 x 2200 x 2600
	2000 kVA	2750 x 2250 x 2600

	2500 kVA	3000 x 2300 x 2650
4.5.5.9	Short Circuit withstand Capacity of the	
4.5.5.9.1	Three phase dead short circuit at secondary terminal with rated voltage maintained on the other side	As per IEC 60076-5
4.5.6	Partial Discharge	Transformer shall be free from partial discharge.
4.5.7	Tappings	Off Circuit taps on HV winding,+/-5% in steps of 2.5% , change of taps by link
4.5.8	Tap link current rating, Amp	
	250/400 / 630/ 750 kVA	60 A
	630/ 750 kVA	100 A
	1000/1500/2000 kVA	125 A
	2500 kVA	150 A
4.6	Current Transformer	
4.6.1	Mounting	On LV side terminal busbars on all three phases with the help of fibre glass mounting plate
4.6.2	Maintenance requirements	Replacement should be possible without dismantling LV side support insulators
4.6.3	Accuracy Class	0.5
4.6.4	Burden	15 VA
4.6.5	Type	Resin Cast of Class F, Ring type suitable for outdoor use
4.6.6	CT Ratio	
4.6.6.1	250 KVA	400/5
4.6.6.2	400 KVA	600/5
4.6.6.3	630 KVA	1000/5
4.6.6.4	750 KVA	1200/5
4.6.6.5	1000 KVA	1500/5
4.6.6.6	1500 KVA	2500/5
4.6.6.7	2000 KVA	3000/5
4.6.6.8	2500 KVA	3500/5
4.6.7	CT Terminal Box	
4.6.7.1	Size	650 mm height x 450 mm width x 275 mm depth.
4.6.7.2	Fixing of instruments/meters within box	On slotted channel 40 x 12 mm size, channel fixed on vertical slotted angle 40 x 40 mm size at two ends

4.6.7.3	No of horizontal channels to be provided	Four
4.6.7.4	Fixing of terminals within box	On horizontal slotted channel with the help of C channel available with the terminals
4.6.7.5	Location	Within enclosure frame such that box door comes in line with enclosure surface
4.6.7.6	Box Door design	
4.6.7.7	Terminal strip	Nylon 66 material, minimum 4 sq mm, screw type for control wiring and potential circuit.
4.6.7.8	Cables & Wires	PVC insulated, extruded PVC inner sheathed, armoured, extruded PVC outer sheathed 1100 V grade control cable as per latest edition of IS 1554 part 1 minimum 2.5 sqmm for signals and 4 sqmm for CT with multistrand copper conductor & PVC insulated multistrand flexible copper wires of minimum 2.5 sqmm size, 1100 V grade as per latest edition of relevant IS
4.6.7.9	Cable Glands	Nickel plated brass double compression weatherproof cable gland
4.6.7.10	Lugs on wires	Tinned copper pre-insulated Pin, Ring, Fork type as applicable
4.6.7.11	Potential signal in CT box	Tapped from main LV bus bars, pre wired from LT bus bar up to the terminals.
4.6.7.12	Hinges of CT terminal Box & WTI scanner box	Shall be of Anti theft type & shall not be visible from outside.
4.6.7.12	Essential provision	a) Wiring diagram to be fixed on the back of door along with CT spec. b) Wiring diagram, name plate / danger plate etc shall be made from Aluminium with black engraving & shall be fitted by riveting at appropriate place
4.7	Hardware	
4.7.1	External	Stainless Steel only
4.7.2	Internal	Cadmium plated except special hardware for frame parts and core assembly as per manufacturer's design
4.8	Gasket	Neoprene rubber along all the doors.
4.9	Control cable specification (to be used by the vendor)	PVC insulated, extruded PVC inner sheathed, armoured, extruded PVC outer sheathed 1100 V grade control cable as per latest edition of IS 1554 part 1 minimum 2.5 sqmm for signals and 4 sqmm for CT with multistrand copper conductor. Control cables shall be of FRLS only.

4.10	Specification of wires to be used inside CT box , WTI box etc.	PVC insulated multistoried flexible copper wires of minimum 2.5 sqmm size, 1100 V grade as per latest edition of relevant IS.
4.11	Terminal Blocks to be used by the	Nylon 66 material, minimum 4 sqmm, screw type for control wiring and potential circuit.
4.11.1	Essential provision for CT terminals	Sliding link type disconnecting terminal block screwdriver operated stud type with facility for CT terminal shorting material of housing melamine/ Nylon66
4.12	Cable glands to be used by the	Nickel plated brass double compression weatherproof cable gland
4.13	Cable lugs to be used by the vendor	
4.13.1	For power cables	Long barrel medium duty Aluminium lug with knurling on inside surface. As per attached annexure D
4.13.2	For control cables	Tinned copper pre-insulated Pin, Ring, Fork type as applicable
4.14	Painting of transformer, CT box, WTI box	
4.14.1	Surface preparation	Shot Blasting or chemical 7 tank process
4.14.2	Finish on internal surfaces	Powder coated, Epoxy polyester base, grade A, shade – White, Uniform thickness of 80 microns minimum.
4.14.3	Finish on external surface	Powder coated, Epoxy polyester base, grade A, shade – 7032, Uniform thickness of 120 microns minimum with 01 coat of primer & 02 coats of paint.
4.14.4	Finish shade on external surfaces	RAL 7032 Siemens Grey
4.14.5	Painting on welding	All welding to be applied zinc rich paint before final painting
4.15	Labels & Name Plate	All name plate, wiring scheme plate, R&D plate, caution plate, danger plate, phase identification plate, identification plate shall be aluminium with black engraving Sticker of any form is not acceptable.
4.15.1	Fixing of name plate	By riveting only at appropriate location
4.16	Insulating support material for base plate for mounting components	Backelite shall not be used as a base plate for mounting any components, insulating material non hygroscopic insulating material like FRP shall be used
4.17	Hazard sticker/plate as per IS	As per attached annexure E

5.0	Minimum Protective devices on Transformer	
5.1	Surge Arrester	Required, Connected on Transformer Primary side on all three phases
5.1.1	Type	Gapless Metal Oxide
5.1.2	Housing	Polymeric only, at bottom of HV winding
5.1.3	Rating	a) For solidly grounded system, Surge arrester shall be rated for 9 KV/10KV. b) For resistance grounded system, Surge arrester shall be rated for 12KV.
5.1.4	System Voltage , kV rms	11
5.1.5	Rated Voltage of Arrestor, kV	12
5.1.6	Continuous operating voltage , kV rms	6.35
5.1.7	Maximum Continuous operating voltage, kVrms	10.5
5.1.8	Nominal Discharge Current, kA peak	2
5.1.9	Energy Absorption Capability, kJ/kV	Greater than 2.5
5.1.10	Creepage factor	31 mm /KV
5.1.11	Reference std	IS 3070 part 3 and IEC 99-4
5.1.12	Note for Surge Arrestor	User to check the application , if the 11 kV system neutral is grounded solidly then surge arrestor of Following
5.1.13	Surge Arrestor requirement for solidly	
5.1.14	System Voltage , kV rms	11
5.1.15	Rated Voltage of Arrestor, kV rms	9
5.1.16	Continuous operating voltage , kV rms	6.35
5.1.17	Maximum Continuous operating voltage, kVrms	7.65
5.1.18	Nominal Discharge Current, kA peak	5
.1.19	Energy Absorption Capability, kJ/kV	Greater than 2.5
5.1.20	Creepage factor	31 mm /kV
5.1.21	Reference std	IS 3070 part 3 and IEC 99-4

5.2	Winding Temperature scanner	Required
5.2.1	No. of RTD inputs	Five (Three for windings, one for enclosure & one shall be spare) RTD for enclosure temperature monitoring shall be fixed at enclosure Top from inside to give max. Enclosure temp reading & shall be wired up to temp. Scanner to indicate the reading.
5.2.1.1	Location of winding RTD	At location of winding where maximum temperature is expected.
5.2.2	No of potential free trip contacts	Two
5.2.3	No of potential free Alarm contacts	Two
5.2.4	Auxiliary Supply	240 V AC, 1 phase, 50 Hz. Tapped from LV side busbar through a MCB located inside box.
5.2.5	Winding Temperature Scanner terminal Box	Required
5.2.5.1	Size	As per manufacturers standard
5.2.5.2	Fixing of instrument within box	On side wall of enclosure
5.2.5.3	Fixing of terminals within the box	On C channel available with the terminals
5.2.5.4	Location	Within enclosure frame such that Marshalling Box & WTI on same side & free access to all LV side doors.
5.2.5.5	Terminal Strip	Nylon 66 material, minimum 4 sq mm, screw type for control wiring and potential circuit.
5.2.5.6	Cables & Wires	PVC insulated, extruded PVC inner sheathed, armoured, extruded PVC outer sheathed 1100 V grade control cable as per latest edition of IS 1554 part 1 minimum 2.5 sqmm for signals and 4 sqmm for CT with multistrand copper conductor & PVC insulated multistrand flexible copper wires of minimum 2.5 sqmmsize, 1100 V grade as per latest edition of relevant IS
5.2.5.7	Cable Glands	Nickel plated brass double compression weatherproof cable gland
5.2.5.8	Lugs on wires	Tinned copper pre-insulated Pin, Ring, Fork type as applicable
5.2.5.9	Auxiliary supply in box	Tapped from main LV busbars, taken via MCB for isolation and protection of scanner, MCB to be fixed on DIN rail with clamps on two sides.

5.2.5.10	Essential provision	Wiring diagram to be fixed on the back of door along with brief details of scanner, HV side, LV side door limit switches to be wired up-to Terminal Block, Service socket to be provided with switch, fuse and link.
6.0	Fitting & Accessories	
6.1	Rating & Diagram Plate	Required
6.1.1	Material	Anodized Aluminium 16 SWG
6.1.2	Background	Satin silver
6.1.3	Letters, diagram & border	Black
6.1.4	Process	Etching
6.1.5	Name Plate details	Following details shall be provided on rating and diagram plate as a minimum i) type of transformer i.e. cast resin or VPI etc. with winding material ii) standard to which it is manufactured iii) manufacturer's name; iv) transformer serial number; v) Month and year of manufacture. vi) Rated frequency in Hz. vii) Rated voltages in kV. vii) Number of phases. viii) Rated power in kVA. ix) Type of cooling. x) Rated currents in A. xi) Vector group symbol. xii) 1.2/50ıs wave impulse voltage withstands level in kV. xiii) Powerfrequency withstands voltage in kV. xiv) impedance voltage at rated current and frequency in percentage at principal, minimum and maximum tap at highest temperature. xv) Load loss at rated current at highest temperature. xvi) No-load loss at rated voltage and frequency. xvii) auxiliary loss xviii) Continuous ambient temperature at which ratings apply in C. xix) winding connection diagram with taps and table of tapping voltage, current and power xx) transport weight of transformer xxi) weight ofcore xxii) weight of coil **[R2]** xxiii) Weight of Core CoilAssembly xxiv) Weight of fittings& enclosure**[R2]** xxv) weight of enclosure and fittings

		xxiv) total weight xxv) tapping details xxvi) phase CT details xxvii) Class of insulation xxviii) IP protection rating of the enclosure xxvix) Name of the purchaser xxx) PO no. & date xxxi)Guarantee period xxxii) Fire, Environment & Climate Class
6.2	Detachable Bi-directional flat Roller	Required
6.2.1	Roller center to center distance	Minimum 900 mm on the side of HV and LV termination Maximum 800 mm on the other side (perpendicular to HV, LV termination).
6.2.2	Essential provision	Roller dia. 150 mm min., roller to be fixed in such a way so that the lowermost part of the skid is above ground by at least 100 mm when the transformer is installed on roller.
6.3	Earthing pad on enclosure for transformer earthing complete with Stainless Steel nut, bolt, washers, spring washers etc.	Required with identification plate on outside of enclosure.
6.4	Core, frame to tank earthing	Required
6.5	Off circuit tapping links	Required
6.6	Tap link position plate	Required inside HV side door
6.7	Danger plate made of Anodized aluminum with white letters on red background on HV and LV side	Required
6.8	Skid with Haulage lugs	Required
6.9	Lifting lugs for complete transformer as well as	Required
6.9.1	Essential provision for lifting lugs	Lifting lugs for core coil assembly shall be provided in such a way that the weight shall not come on canopy while lifting. Lifting lugs for canopy/ enclosure shall be provided in such a way that the weight shall not come on canopy while lifting, it shall be borne by supporting members.
6.10	Caution plate for tap links	Required
6.11	Ventilation louvers with stainless steel wire mesh and rain water guard	Required as per Manufacturer's design, but it is to be provided minimum required to prevent ingress of excessive dust.

6.12	Surge arrester & its grounding bushings	Required, Separate & outside the enclosure. It shall not provide outside periphery of the transformer
6.12.1	Essential provision	Surge arrestor shall be erected vertically in such a way that the surge arrestor can be removed at site without removing HV cable lug. Surge arrestor shall not be used for any kind of support. Surge arrestor grounding strip to be routed to the surge arrester grounding bushing near bottom of enclosure with proper support. Surge arrestor grounding bushing shall be identified by identification plate on outside of enclosure. Surge arrestor grounding bushing shall be supplied with all hardware to readily connect purchaser's ground lead.
6.13	LV additional neutral earthing bushing	Required, separate & outside the enclosure.
6.13.1	Essential provision	Busbar connecting the neutral to additional neutral bushing shall be properly supported and additional neutral bushing shall be identified by identification plate on outside of enclosure. Additional neutral bushing shall be supplied with all hardware to readily connect purchaser's ground lead.
6.14	Extra earthing stud for cable armour earthing	Required
6.15	Winding temperature scanner	Required
6.16	RTD in Winding and near top of enclosure.	Required
6.17	Space heater inside enclosure	Required
6.17.1	Mounting of space heater	By suitable spacers so that heater does not come in contact with panel wall directly.
6.18	Copper earthing link	Across all gasketted joints in the enclosure body.
7.0	Packing	
7.1	Packing protection	Against corrosion, dampness, heavy rains, breakage and vibration
7.2	Packing for accessories and spares	Robust wooden non returnable packing case with all the above protection
7.3	Packing details	In each packing case, following details are required:
		i : Individual serial number
		ii : Purchaser's name
		iii : PO number (along with SAP item code, if any) & date
		iv : Equipment tag no. (If any)

		v : Destination
		vi : Manufacturer / Supplier's name
		vii : Address of Manufacturer / Supplier / it's agent
		viii : Description and quantity
		ix : Month & year of Manufacturing
		x: Country of origin
		Xi : Case measurements
		Xii : Gross and net weights in kilograms
		xiii : All necessary slinging and stacking instructions
		ix. As built drawing & O&M manual. One copy with each transformer
8.0	Shipping	i) The bidder shall ascertain at an early date and definitely before the commencement of manufacture, any transport limitations such as weights, dimensions, road culverts, overhead lines, free access etc. from the manufacturing plant to the project site; and furnish to the Purchaser confirmation that the proposed packages can be safely transported, as normal or oversize packages, up to the site. Any modifications required in the infrastructure and cost thereof in this connection shall be brought to the notice of the Purchaser. ii) The seller shall be held responsible for all transit damage due to improper packing.
9.0	Handling and Storage	Manufacturer instruction shall be followed. Detail handling & storage instruction sheet / manual needs to be furnished before commencement of supply.
10.0	Inspection and Testing during manufacture and after final assembly	
10.1	Enclosure	i) Check correct dimensions between wheels demonstrate turning of wheels through 90 deg and further dimensional check ii) Check for physical properties of materials for lifting lugs etc. All load bearing welds, including lifting lug welds shall be subjected to required load tests.

10.2	Core	i) Sample testing of core material for checking specific loss, bend properties, magnetization Characteristics and thickness. ii) Check on the quality of varnish if used on the stampings. a) Measurement of thickness and hardness of varnish on stampings. b) Solvent resistance test to check that varnish does not react in hot oil. c) Check overall quality of varnish by sampling to ensure uniform hipping color, no bare spots. No ever burnt varnish layer and no bubbles on varnished surface. iii) Check on the amount of burns. iv) Bow check on stampings. v) Check for the overlapping of stampings. Corners of the sheet are to be apart. vi) Visual and dimensional check during assembly stage. vii) Check on complete core for measurements of iron-loss and check for any hot spot by exciting the core so as to induce the designed value of flux density in the core. viii) Check for inter laminar insulation between core sectors before and after pressing. ix) Visual and dimensional checks for straightness and roundness of core, thickness of limbs and suitability of clamps. x) High voltage test (2 KV for one minute) between core and clamps. xi) Certification of all test results.
10.3	Insulating Material	i) Sample check for physical properties ofmaterials ii) Check for dielectricstrength. iii) Visual and dimensionalchecks. iv) Certification of all testresults.
10.4	Winding	i) Sample check on winding conductor for mechanical properties and electrical conductivity. ii) Visual and dimensional check on conductor for scratches, dept. mark etc. iii) Sample check on insulating paper for PE value, Bursting strength, Electric strength. iv) Check for the bending of the insulating paper on conductor. v) Check and ensure that physical condition of all materials taken for winding is satisfactory and free of dust.

		vi) Check for absence of short circuit between parallel strands. vii) Check for Brazed joints wherever applicable. viii) Measurement of voltage ratio to be carried out when core/ yoke is completely restocked and all connections are ready. ix) Certification of all test results.
10.5	Tests on fitting and Accessories	As per Manufacturer's Standards
10.6	Routine Tests	The sequence of routine testing shall be as follows: i) Visual and dimension check for completely assembled transformer ii) Measurements of voltage ratio iii) Measurements of winding resistance at principal tap and two extreme taps. iv) Vector Group and polarity test v) Measurements of insulation resistance. vi) Separate sources voltage withstand test. vii) Measurement of iron losses and exciting current at rated frequency and 90%, 100% and 110% rated voltage. viii) Induced voltage withstand test. ix) Load losses measurement. x) Impedance measurement of principal tap (HV and LV) of the transformer. xi) Induced voltage withstand test (to be repeated if type tests are conducted). xii) Measurement of Iron loss (to be repeated if type test are conducted). xiii) Measurement of capacitance and Tan Delta for HV and LV bushings xiv) Ratio of LVCT xv) Magnetic balance test xvi) Power frequency voltage withstand test on all auxiliary circuits xvii) Temperature Rise Test **[R2]#** xviii)Certification of all test results #Temperature rise test may be necessary to be carried out on one unit/lot. Purchaser's engineer, will at its discretion, select transformer for temp.rise test from any lot offered for inspection at manufacturer's works and witness the same for comparison with CPRI/ERDA lab type test results
10.7	Type Tests	

		In case of award of P.O., bidder need to conduct type tests from CPRI/ERDA lab (on one transformer of each rating and type) without any cost implication to BRPL, same type test report shall be valid for next 5 years **[R2]:** i) Impulse withstand test on all three HV limbs of the transformers for chopped wave as per standard ii) Temperature rise test as per IS Note – Purchaser may choose to carry out short circuit, impulse & temperature rise test on one unit from a lot offered for inspection at CPRI/ERDA lab **[R2].** Cost of such tests shall be borne by the bidder**[R2].**
10.8	Special Tests	
		On one transformer of each rating and type at In-house testing laboratory/CPRI/ERDA lab**[R2]** : i) Measure of zero seq. impedance (Cl. 16.10 IS 2026 Part I). ii) Measurement of acoustic noise level (Cl. 16.12 of IS 2026 Part I). iii) Measurement of harmonic level on no load current. iv) Partial discharge test v) High voltage withstand test shall be performed on the auxiliary equipment and wiring after complete assembly. Note: i) Dynamic & Thermal (3 sec) Short Circuit Test as per IS 2026 at CPRI/ERDA lab only**.** Cost of such tests shall be borne by the bidder **[R2].** ii) Total losses (No load and Load losses) may be verified (if required) at BRPL transformer workshop on received Transformers (randomly selected samples)) **[R2]**
10.8.1	Notification to bidders	The product offered must be of type tested quality. In case the product offered is nevertype tested, the same shall be conducted by the bidder at his own cost at CPRI/ERDA lab as per above list **[R2].**
10.9	IP Test**[R2]**	On one transformer of each rating and type at CPRI/ERDA lab **[R2].**
11.0	Inspection	i) The Buyer reserves the right to witness all tests specified on Transformers.
		ii) The Buyer reserves the right to inspect Transformers at the Sellers works at any time prior to dispatch, to prove compliance with the Specifications.
		iii) In-process and final inspection call intimation shall be given in advance to purchaser.

12.0	Drawing, Data & Manuals	
.1	To be submitted along with bid	The seller has to submit : i) Tentative GA drawing of Transformer showing all the views /sections ii) Detailed reference list of customers already using equipment offered during the last 5 years with particular emphasis on units of similar design and rating iii) Completely filled GTP iv) Deviations from this specification. Only deviations approved in writing before award of contract shall be accepted v) Details of manufacturer's quality assurance standards and programme and ISO 9000 series or equivalent national certification vi) Type test reports shall be submitted for the type, size & rating of Transformer offered along with bid. In case the type test report for identical Product is not available then type test report of nearby size /rating shall be submitted for review. .They shall be considered valid for 5 years from date of test performed on Transformers vi) Complete Transformer catalogue and Manual along with the bid. viii) Recommended spare parts and consumable items for five years of operation with prices and spare parts catalogue with price list for future requirements
12.2	After award of contract, seller has to submit three sets of mentioned drawings for buyer's Approval (A) / Reference (R)	i) Programme for production and testing(A) ii) Guaranteed Technical Particulars(A) iii) Calculations to substantiate choice of electrical, structural, mechanical component size / ratings(A) iv-a) Detailed dimension drawing for all components, general arrangement drawing showing detailed component layout and detailed schematic and wiring drawings for all components like marshalling box.

		iv-b) Terminal arrangement & cable box details etc (A) iv-c) Drawings of major components like Bushing , C.T. etc (A) iv-d) Rating and diagram plate with OCTC connection details (R) v) Detailed loading drawing to enable the buyer to design and construct foundations for the transformer (R) vi) Transport / shipping dimensions with weights, wheel base details, untanking height etc(R) vii) List of makes of all fittings and accessories (A) viii)detailed installation and commissioning instructions (R) ix) quality plan
12.3	Submittals required during drawing approval	i) Complete Casting Process ii) Resin Datasheet.
12.3.1	Submittals required prior to dispatch	i) Inspection and test reports, carried out in manufacturer's works(R) ii) Test certificates of all bought out items iii) Operation and maintenance Instruction as well as trouble shooting charts/manuals
12.4	Drawing and document sizes	Standard size paper A0, A1, A2, A3, A4
	No of drgs. / Documents required at different stages	As per Annexure- A
13.0	Approved make of components	
13.1	Core	Nippon/JFE/Posco
13.2	Aluminium	Hindalco, Nalco, Sterlite, Birla
13.3	Steel	Essar/SAIL
13.4	Winding Temperature Indicator	Precimeasure / Pecon
13.5	CT	Pragati/ECS/Kappa
13.6	Terminals	Elmex/Connectwell
13.7	Resin	Huntsmen
	*Vendor shall take prior approval of CES before using any other make than approved make.	
14.0	Quality Assurance	
	Vendor quality plan	To be submitted for purchaser approval

	Inspection points	To be mutually identified & agreed in quality plan
15.0	Progress Report	
	Outline Document	To be submitted for purchaser approval for outline of production, inspection, testing, inspection , packing, dispatch, documentation programme
	Detailed Progress report	To be submitted to Purchaser once a month containing i) Progress on material procurement ii) Progress on fabrication iii) Progress on assembly iv) Progress on internal stage inspection v) Reason for any delay in total programme vi) Details of test failures if any in manufacturing stages vii) Progress on final boxup viii) Constraints / Forward path
16.0	Deviation	Deviations from this Specification shall be stated in writing with the tender by reference to the Specification clause/GTP/Drawing and a description of the alternative offer. In absence of such a statement, it will be assumed by the Buyer that the Seller complies fully with this specification.
17.0	Loss capitalization formulae	As per CBIP manual (see note 1)
17.1	No load Loss capitalization figure	Rs 4,09,979 per kw
17.2	Load loss capitalization figure	Rs 2,26,718 per kw
17.3	Note	The bidder shall be guaranteed No load losses & load loss individually without any positive tolerance, the bidder shall also guarantee losses load (at rated voltage & frequency & 130deg. C) and no positive tolerance shall be allowed on max. In the event of measured loss figures during testing exceeding the guaranteed loss figures of the successful bidder, penalty shall be applied at the rate of 1.25 times the figures mentioned Cl. 17.1 and 17.2 above.
18	Warranty Period	66 months from date of supply & 60 months from date of commissioning whichever is earlier.

19	Inspection Expenses	Inspection (i.e. routing test, acceptance test, type test, factory visit etc.) shall be done any time by BRPL on the basis of PO or may involve 3rd party as per BRPL requirement Any kind of test (routine/type test/acceptance test if any) at 3rd lab (i.e. CPRI/ERDA/NABL approved lab) shall be carried out by seller at their own cost. BRPL may witness the test.

Annexure A: Scope of supply

Sr. No	Description	Scope of Supply
1.0	Scope	Design, manufacture, assembly, testing at stages of manufacture as per this specification, final testing at manufacturer works on completely assembled transformer before dispatch, packing, transportation, delivery and submission of all documentation for the Distribution transformer with all accessories as below and Cl. 5 & 6 of this specification (Above is typical, It has to be validated on a case to case basis
1.1	Nickel Plated brass double compression glands for HV and LV, LVN cables (in case of termination by cable)	YES
1.2	Long barrel medium duty Aluminium lugs for power cables (in case of termination by cable)	YES**[R1]**
1.3	Nickel Plated brass double compression glands and tinned copper lugs for control cable termination in Marshalling box and CT/VT box for vendor's cables	YES
1.4	Cables and wires for transformer accessories, CTs etc. and internal wiring of CT box	YES
1.5	Touch up paint	YES
1.6	Routine testing as per Cl. Of this specification	YES
1.7	Type testing as per Cl. of this specification	YES
1.8	Special testing as per Cl. of this specification	YES
1.9	Supervision of testing & commissioning of transformer at site	YES

2.0 Submission of documents

Submission of drawings, calculations, catalogues, manuals, test reports shall be as follows

	Along with offer	For Approval after award of contract	Final after approval / *After completion of delivery	Remarks
Drawings	3 copies (Typical drgs)	4 copies	6 copies (in hard) of as built drawing shall be provide while delivering the material at stores.	See Clause 11 For various drawings required
Calculations for Current Density, Flux Density & Ability to withstand short circuit, losses & temp. rise	3 copies (Typical)	4 copies	1 copy for each respective rating shall be submitted at the time of drawing approval.	See Clause 11 for details
Catalogues	1 copy		01 no with each transformer of all ratings.	
Instruction manual for the transformer	1 copy		01 no with each transformer of all ratings	
Type Test Report & Routine Test Report*	2 copies (Type test and sample Routine Test)		02 no. of copies shall be submitted at the time of inspection.	

3.0 Delivery Schedule

3.0 Delivery period start date - from date of purchase order

3.1 Delivery period end date - as agreed with supplier

3.2 Material dispatch clearance - after inspection by purchaser and written dispatch clearances from purchaser

Annexure B: Service Conditions

1.0.0	Delhi Atmospheric conditions	
a)	Average grade atmosphere :	Heavily polluted, dry
	Maximum altitude above sea level	1000 M
b)	Ambient Air temperature	Highest 50 deg C, Average 40 deg C
	Design ambient temperature	50 deg C
c)	Relative Humidity	90 % Max
d)	Seismic Zone	4
e)	Rainfall	750 mm concentrated in four months

Annexure C:List of Drawings

1. General Arrangement of Transformer
2. Rating &Diagram Plate
3. Wiring Diagram of Marshalling Box
4. CT/VT termination Box
5. Foundation Details
6. Core Coil Assembly
7. Wiring Diagram Plate for CT Box
8. Tap Link position plate
9. Label plate for phase, Neutral, surge arrester & other essential parts
10. Surge Arrester Arrangement
11. HV & LV Cable support
12. 22 KV Support insulator
13. 3.3 KV support insulator
14. CT mounting details
15. Scanner Box mounting details

16. HT termination details
17. LT termination details
18. Enclosure assembly &door arrangement
19. 3.6 KV, 1000 A, Epoxy Bushing
20. 3.6 KV, 250A, Epoxy Bushing
21. Louver Back Plate arrangement
22. GTP
23. QAP

Annexure D: CRGO & TESTING POINTS [R1]

In addition to the BRPL specification following points to be verified during manufacturing / inspection.	
1	Transformer core shall be low loss, non-ageing, high permeability PRIME GRADE CRGO with M3 Grade or better with max thickness of .23mm and with max core loss of 1W/Kg, perfectly insulated and clamped to minimize noise and vibrations.
2	Following stage inspections will be carried out by purchaser or by third party engineers appointed by BRPL :
2.1	Verification & inspection of the mother coil at port & putting stamp seal may be inspected by BRPL.
2.2	Reconciliation of mother coil by checking stamp & seal at factory before slitting. One sample of CRGO to be sealed for testing at ERDA/CPRI. Following tests shall be conducted on the sample **[R2]:** 1) Specific core loss measurement 2) Magnetic polarization 3) Magnetic permeability 4) Specific core loss measurement after accelerated ageing test 5) Surface insulation resistivity 6) Electrical resistivity measurement 7) Stacking factor 8) Ductility(Bend test) 9) Lamination thickness 10) Magnetization characteristics (B-H curve)
2.3	Bidder should have inhouse core cutting facility for proper monitoring & control on quality.Incase it is done outside cutting shall be done in presence of BRPL.
2.4	Following documents to be submitted during the stage inspection :
2.4.1	Invoice of supplier
2.4.2	Mills test certificates
2.4.3	Packing list
2.4.4	Bill of lading

2.4.5	Bill of entry certificates by customs
2.4.6	Core material shall be directly procured either from the BRPL approved manufacturer or through their authorized service centre/distributor and not through any contractor.
2.5	Bidder should have hydraulic core lifting facility to avoid any jerk at the time of core building. Up to & equal to 1000kVA—Not required **{R3}** Higher than 1000kVA-- Required **{R3}** (Undertaking need to be provided that they shall have hydraulic core lifting facilities before commencement of manufacturing and same shall be validated by BRPL before giving manufacturing clearance) **{R3}**
2.6	BRPL**{R3}** may appoint recognized testing authority like CPRI /ERDA with their instruments & engineer's team and measure no load loss, load loss and percentage impedance of the transformer at supplier's works at our own cost. Bidder shall agree and give them full co-operation during their stay & testing at shop floor. The losses & impedance values so obtained will be considered as final.
2.7	Bidder should have in-house NABL accredited testing facility. 1. Prospective bidders whose NABL accreditation is in process, Team of BRPL(NABL certified Engineers) may visit prospective bidder's works and may give their inputs to take NABL accreditation **{R3}** 2. Based on bidder's status of NABL accreditation ongoing process, it may be qualified (by submission of undertaking that in defined time bidder shall get NABL accreditation certification) **{R3}**

Annexure E: Guaranteed Technical Particulars (Data by Seller)

Sr. No.	Particulars	Specified / Required	Offered
1.0	General		
1.2	Make		
1.2	Type	core type , outdoor, step down	
1.3	Full rating available for installation of the same transformer in indoor poorly ventilated condition (YES/ NO)		
1.4	IP Class		
1.5	Fire Protection Class		
1.6	Environment Class		
1.7	Climate Class		
2.0	Nominal Continuous Rating, KVA		

2.1	HV Winding	250/400/630/1000/1500/2000/25	
2.2	LV Winding	250/400/630/1000/1500/2000/25	
3.0	Rated Voltage (kV)		
3.1	HV winding	11 KV	
3.2	LV winding	433 Volts	
4.0	Rated current (Amps)		
4.1	HV winding		
4.2	LV winding		
5.0	Connections		
5.1	HV winding	Delta	
5.2	LV winding	Star with additional neutral	
5.3	Vector Group Reference	Dyn11	
6.0	Impedance at principal tap rated current and frequency at 130 deg C		
6.1	Impedance	5/5/5/5/6/6/6 %	
6.2	Reactance		
6.3	Resistance		
6.4	Impedance at lowest tap rated current and frequency		
6.5	Impedance at highest tap rated current and frequency, %		
7.0	Resistance of the winding at 130 deg C ,at principal tap, ohm		
7.1	a) HV		
7.2	b) LV		
8.0	Zero sequence impedance, ohm		
8.1	a) HV		
8.2	b) LV		
9.0	Guaranteed maximum losses principal tap full load and 130°C without any positive tolerance kW		
9.1	No load losses (max)	As per Spec Cl.	
9.2	Load Losses (max)	As per Spec Cl.	
9.3	Total stray loses @ 130 deg C		
10.0	Temperature rise over reference design ambient		
10.1	Winding by resistance $_0$ C		
10.2	Maximum hot spot temperature, deg. C		
11.0	Efficiency		
11.1	Efficiency at 130 deg C and unity power factor %		

11.1.1	At 110% Load		
11.1.2	At 100% Load		
11.1.3	At 80% Load	Not less than 99.5 %	
11.1.4	At 60% Load		
11.1.5	At 40% Load		
11.1.6	At 20% Load		
11.2	Efficiency at 130 deg C and 0.8 power factor lag %		
11.2.1	At 110% Load		
11.2.2	At 100% Load		
11.2.3	At 80% Load	Not Less than 99.5 %	
11.2.4	At 60% Load		
11.2.5	At 40% Load		
11.2.6	At 20% Load		
11.3	Maximum efficiency at 130 deg C, %		
11.4	Load and power factor at which it occurs		
12.0	Regulation, (%)		
12.1	Regulation at full load at 130 deg C		
12.1.1	at unity power factor		
12.1.2	at 0.8 power factor lagging		
12.2	Regulation at 110% load at 130 deg C		
12.2.1	at unity power factor		
12.2.2	at 0.8 power factor lagging		
13.0	Details of enclosure		
13.1	Material		

13.2	Thickness of sides mm		
13.3	Thickness of bottom mm		
13.4	Thickness of cover mm		
14	**Core**		
14.1	Type:	Core	
14.2	Core material grade	Premium grade minimum M3 or better	
14.3	Thickness of lamination		
14.4	Insulation of lamination	With insulation coating on both sides	
14.5	Design Flux Density at rated condition at principal tap, Tesla	1.6 T	
14.5.1	Maximum flux density at 10 % over excitation /over fluxing, Tesla	1.73 Tesla maximum allowed	
14.6	Equivalent cross section area mm²		
14.7	Guaranteed No Load current At 100% rated voltage , Amps		
14.7.1	HV		
14.7.2	LV		
14.8	Guaranteed No Load current At 110% rated voltage, Amps		
14.8.1	HV		
14.8.2	LV		
15	**Type of Winding**		
15.1	HV		
15.2	LV		
15.3	Conductor material	Electrolytic Aluminium	
15.4	Current density Amps/sqmm	Maximum allowed 1.5 A per sqmm.(max.)	
15.4.1	HV Winding		
15.4.2	LV Winding		

15.5	Gauge/area of cross section of conductor, sqmm		
15.5.1	HV		
15.5.2	LV		
15.6	Tappings provided as per Cl. 32.0 of Annexure B (YES / NO)		
15.7	Tap link Current rating , A		
16	Insulating Material		
16.1	HV Turn		
16.2	LV Turn		
16.3	LV Core		
16.4	HV – LV		
17	**Insulating material thickness, mm**		
17.1	HV Turn		
17.2	LV Turn		
17.3	LV to Core		
17.4	HV to LV		
18	**Minimum design clearance, mm**		
18.1	HV to earth in Air		
18.2	LV to earth in Air		
18.3	Between HV & LV in Air		
18.4	Top winding and yoke		
18.5	Bottom winding and yoke		
19	**Bushing / Support Insulator**		
19.1	Make		
19.2	Type		
19.3	Reference Standard		
19.4	Voltage class, kV		
19.4.1	HV side Bushing / Support insulator		
19.4.2	LV side line and neutral bushing / Support insulator		
19.5	Creepage factor for all bushing mm/KV		

19.6	Weight, Kg		
19.6.1	HV bushing / Support insulator		
19.6.2	LV line and neutral bushing /		
19.7	Free space required for bushing / Support insulator removal, mm		
19.7.1	HV bushing / Support insulator		
19.7.2	LV line and neutral bushing / Support insulator		
20	**Terminal connections**		
20.1	HV		
20.2	LV		
20.3	Terminal Details		
20.3.1	HV side busbar size		
203.2	HV Termination suitable for cable size		
20.3.3	HV Termination height, mm		
20.3.4	HV side gland Plate dimension, mm x mm		
20.3.5	HV side gland Plate material		
20.3.6	HV side Gland Plate Thickness, mm		
20.3.7	HV side Phase to clearance inside enclosure , mm		
20.3.8	HV side Phase to earth inside box, mm		
20.3.9	LV side busbar size		
20.3.10	LV Termination suitable for cable size		
20.3.11	LV Termination height, mm		
20.3.12	LV side gland Plate dimension, mm x mm		
20.3.13	LV side gland Plate material		
20.3.14	LV side Gland Plate Thickness, mm		
20.3.15	LV side Phase to phase clearance inside enclosure , mm		
20.3.16	LV side Phase to earth inside box, mm		

21	**Current Transformer on LV phases**		
21.1	Type		
21.2	Make		
21.3	Reference Standard		
21.4	CT Ratio		
21.5	Burden, VA		
21.6	Class of Accuracy		
22	CT terminal box size		
23	WT scanner terminal box size		
24	**Alarm and Trip contact ratings of protective devices**		
24.1	Rated / making/ breaking currents , Amp @ Voltage for		
24.1.1	Winding temperature scanner		
25	**Fittings and Accessories as per Cl. 6.0 provided (YES /NO)**		
26	**Painting as per clause 4.13 provided (Yes/No)**		
27	**Over all transformer dimensions**		
27.1	Length, mm		
27.2	Width, mm		
27.3	Height, mm		
28	**Weight data**		
28.1	Core, KG		
28.2	Frame parts, KG		
28.3	Core and frame, KG		
28.4	Total Winding, KG		
28.5	Core , Frame, Winding, KG		
28.6	Enclosure, KG		
28.7	Total Transport weight of the transformer, KG		
28.8	Total weight of the transformer with all accessories		

29	**Shipping Data**		
29.1	Weight of heaviest package, KG		
29.2	Dimensions of the largest package (L x B x H) mm		
30	Surge Arrestor requirement		
30.1	Type		
30.2	System Voltage , kV rms		
30.3	Rated Voltage of Arrestor, kV rms		
30.4	Continuous operating voltage , kV rms		
30.5	Maximum Continuous operating voltage, kV rms		
30.6	Nominal Discharge Current, kA Peak		
30.7	Energy Absorption Capability, KJ/kV		
30.8	Creepage factor		
30.9	Reference std		
31	**WTI Scanner Details**		
31.1	Make		
31.2	Model no.		
31.3	Manual submitted		
32	**Tests (As per Cl 10.0 of the spec)**		
32.1	All in process tests confirmed (Yes/ No)		
32.2	All Type Tests confirmed (Yes / No)		
32.3	All Routine Tests confirmed (Yes/ No)		
32.4	All Special Tests confirmed (Yes/ No)		
33	**Guarantee Period**		