

**NOTICE INVITING TENDER (NIT)**

**RATE CONTRACT FOR SUPPLY**

**OF**

**ONAN COOLED TRANSFORMERS OF RATINGS  
1000, 1600 & 2000 KVA 11/0.415KV**

**NIT NO: CMC/BY/25-26/RS/SkS/SV/52  
[RFx Number: 2200000185]**

**Due Date for Submission: 16.03.2026, 15:00 HRS**

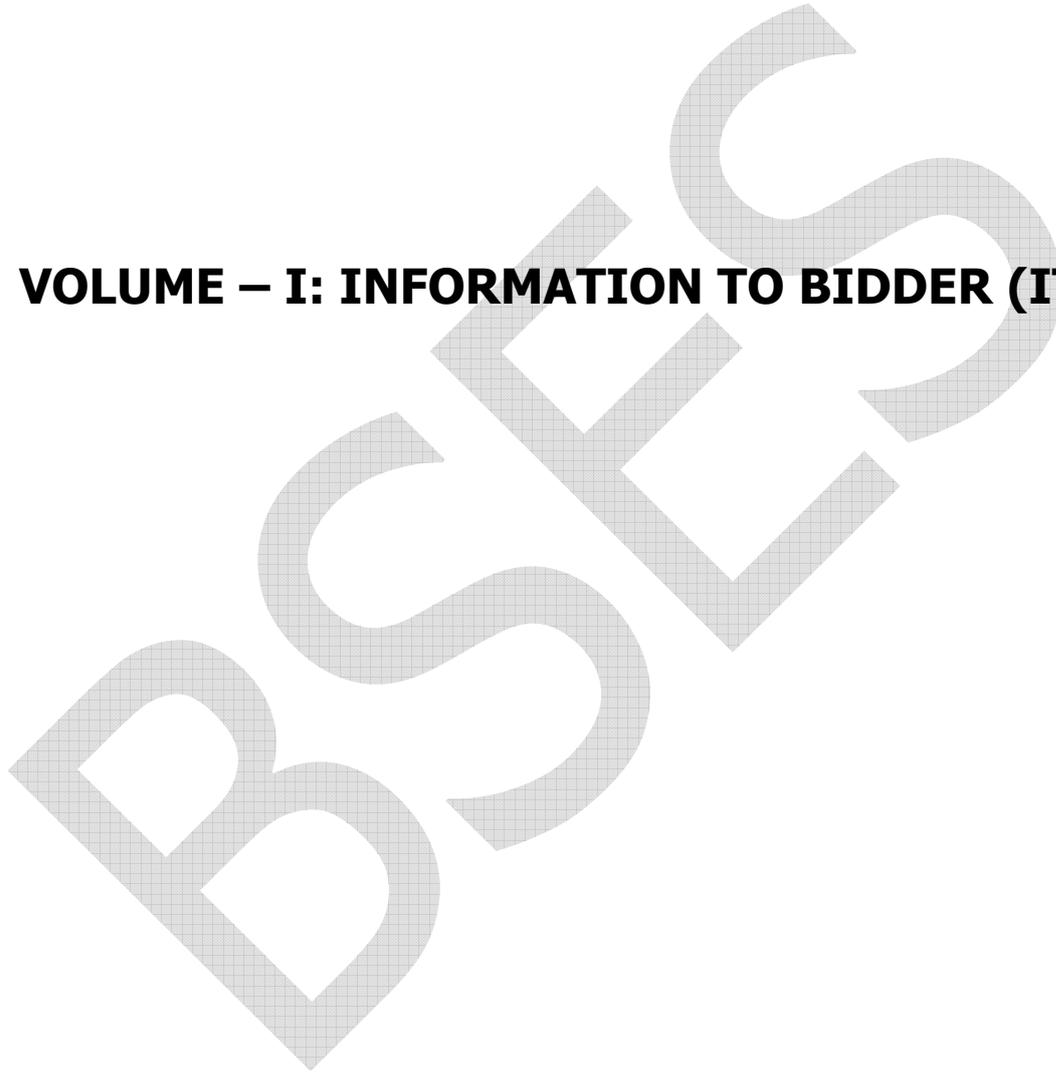
**BSES YAMUNA POWER LIMITED (BYPL)  
CONTRACTS & MATERIALS DEPT.,  
SHAKTI KIRAN BUILDING, KARKARDOOMA,  
DELHI-110032  
CIN: U40109DL2001PLC111525  
WEBSITE: [www.bsesdelhi.com](http://www.bsesdelhi.com)**

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**VOLUME – I: INFORMATION TO BIDDER (ITB)**



<p>INFORMATION TO BIDDER (ITB) NIT NO: CMC/BY/25-26/RS/SKS/SV/52 [RFx Number: 2200000185]</p>	<p>Page <b>1</b> of <b>18</b></p>	<p>Bidders seal &amp; Signature</p>
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## SECTION – I: REQUEST FOR QUOTATION

### 1.00 EVENT INFORMATION

- 1.01 BSES Yamuna Power Ltd (hereinafter referred to as “BYPL”) invites **Open Tender** in the E-Tender Bidding Process on a “Single Stage: Two Parts” from interested Bidders to enter into a **Rate contract valid for one year** as detailed below:

Tender Description	Tender Fee (₹)	Estimated Cost (₹)	EMD Amount (₹)	BYPL Delivery Location
Rate Contract for Supply of ONAN Cooled Distribution Transformers of Ratings 1000, 1600 & 2000 kVA 11/0.415kV	1,180	38.50 Crore	38.50 Lakh	Delhi Store(s)/ Site(s)

**The bidder must qualify the requirements as specified in clause 2.0 stated below.**

- 1.02 The tender document can be downloaded from our website [www.bsesdelhi.com](http://www.bsesdelhi.com) by navigating to → **BSES YAMUNA POWER LTD** → **Tender** → **Open Tenders** or access our e-tendering portal directly at <https://srmpdportal.bsesdelhi.com/irj/portal> to view and participate in the tender.
- 1.03 **Tender Fee:** The bidder must compulsorily submit the non-refundable tender fee of ₹ 1,180/- either as a demand draft or via online transfer through IMPS, NEFT, or RTGS to cover the cost of bid documents. Bids submitted without the Tender fee will be rejected.
- 1.04 **Earnest Money Deposit (EMD)** as specified in Table 1, must be valid for 120 days from the bid submission due date. It should be submitted in the form of BG, FD, or online transfer of the required amount through IMPS, NEFT, or RTGS. Bids submitted without the EMD will be rejected.
- 1.05 **Time Schedule**

The bidders should complete the following events within the dates specified as under:

S. No.	Events	Due date & Time
1	Date of availability of tender documents from BYPL Website & SRM	up to 16.03.2026, 15:00 Hours
2	Date & Time of Pre-Bid Meeting Pre-Bid Meeting will be done online, Register in advance for this meeting via, the Zoom Meeting link: <a href="https://zoom.us/j/99145919613?pwd=6M0nRi71T2RX8rLSsQEUWbwnpxB9c9.1">https://zoom.us/j/99145919613?pwd=6M0nRi71T2RX8rLSsQEUWbwnpxB9c9.1</a> After registering, you will receive a confirmation email containing information about joining the meeting.	05.03.2026, 16:00 Hours
3	Last Date of receipt of pre-bid queries, if any (Queries to be submitted via e-mail)	05.03.2026 up to 18:00 Hours
4	Last Date of replies to all the pre-bid queries as received	09.03.2026 up to 17:00 Hours
5	Last date and time of receipt of Complete Bids (Tender Fees, EMD, Part A & Part B)	16.03.2026, 15:00HRS
6	Date & Time of Opening of PART A - EMD and Technical Bid	16.03.2026, 16:00HRS
7	Date & Time of opening of Price/RA of qualified bids	Will be notified to the qualified bidders through our website/e-mail

**Note:** In the event of the last date specified for submission of bids and the date of opening of bids is declared as a closed holiday for the BSES office, the last date of submission of bids and date of opening of bids will be the following working day at the appointed times.

1.06 The Bid shall be submitted online in two (02) parts as detailed below:

- **Part A - Techno Commercial Bid**
- **Part B - Financial (Price) Bid**

Bids have to be mandatorily submitted only through the e-procurement portal of BSES Delhi. Bids submitted through any other form/ route shall not be admissible.

However, documents that require original submission, such as the Tender Fee (in the form of DD), Earnest Money Deposit (EMD) (in the form of BG/FD/DD as applicable), samples (where applicable), and any other documents specified in the tender documents, must be delivered to the BYPL office at the address below on or before the bid submission deadline:

**Head of Department  
Contracts & Materials Deptt.  
BSES Yamuna Power Ltd  
Reception, Ground Floor  
Shaktikiran Building, Karkardooma  
Delhi 110032**

**Opening of Bids:**

- **Part A (Techno-Commercial Bid):** Shall be opened online.
- **Part B (Financial Bid):** Shall be opened online only for Techno-Commercially qualified bidders. The date and time of opening Part B will be communicated separately in due course.

It shall be the sole responsibility of the bidder to ensure that the bid documents are submitted online and/or reach the above office on or before the last date and time specified.

All envelopes shall be duly superscribed "**NIT NO: CMC/BY/XX-XX/XX/XX/XX/XX [RFx No: 2200000XXX]**" "**NIT Description**"

1.07 BSES Yamuna Power Ltd reserves the right to accept or reject any or all tenders without assigning any reason thereof in the event of the following:

- Tender is received after the due date and time.
- Tender fee of requisite value is not submitted.
- Earnest Money Deposit (EMD) of requisite value & validity is not submitted.
- Financial Bid, as per the prescribed Price Schedule, is not submitted.
- The bid is incomplete in any respect.
- The required documents in support of the Qualification Requirements mentioned in Section 1, Clause 2.0 of this Tender Document are not furnished.
- Complete documents and details as per the Bid Index for Part-A (Technical Bid) at Appendix I – Annexure 1.01 are not enclosed.
- Filled in Schedule of Deviations as per Annexure is not submitted.

**2.00 QUALIFICATION CRITERIA**

The prospective bidder must qualify for all of the following requirements and shall be eligible to participate in the bidding who meets the following requirements and management has a right to disqualify those bidders who do not meet these requirements.

INFORMATION TO BIDDER (ITB) NIT NO: CMC/BY/25-26/RS/SkS/SV/52 [RFx Number: 2200000185]	Page <b>3</b> of <b>18</b>	Bidders seal & Signature
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2.01 **Technical Criteria:**

S. No.	Criteria	Documents to be submitted by the Bidder
1	The bidder should have own manufacturing facility in India for Distribution transformer of similar rating or higher since last 3 years.	i. OEM Valid Certificate of Incorporation & Factory (Manufacturing) Licence. ii. Detailed list of manufacturing units, their locations, and the specific works from which supplies shall be made against this tender, submitted by the OEM.
2	The Bidder should have supplied at least 100 Nos of transformers of 990/1000KVA rating or higher ratings in last 5 years from the date of bid opening to any utilities/SEB's/PSU's/reputed company wherein the end user shall be Utility/SEB's/PSU's.	i. Summary list of executed Purchase orders (Details to be submitted as per the format enclosed in APPENDIX I - ANNEXURE – 1.09) ii. Copies of the relevant Purchase Orders iii. Material delivery clearance certificate copy or Invoice Copies or Delivery completion/ Performance certificate
3	Performance certificate for minimum 2 year satisfactory performance for 990/1000 kVA or higher ratings supplied in last 7 years from the date of bid opening from at least two utilities/ SEB's/ PSU's/ reputed company wherein the end user shall be utilities/ SEB's/ PSU's.  In case of bidder has a previous association with BRPL/BYPL for similar product and service, the performance feedback for that bidder by BRPL/BYPL shall only be considered irrespective of performance certificate issued by any third organization.	Performance Certificates  (Details to be submitted as per the format enclosed in APPENDIX I - ANNEXURE – 1.10)
4	The bidder should have plant installed capacity to supply of 20 nos of transformer per month for similar or higher rating.	Installed Manufacturing Capacity (duly certified by the CE/CA/DIC/Self-Undertaking/Government Organization/others)
5	The bidder should have servicing, repairing, testing & refurbishment facility in INDIA with necessary spares and testing equipments for providing prompt after sales service for DTR.	Relevant Details/certificates/Undertaking (Details of the set-up available shall be brought out in the offer. the bidder shall also submit undertaking along with the bid confirming the infrastructure details submitted)
6	The bidder must possess valid ISO 9001:2015 certification or above.	Valid copy of Certification

2.02 **Commercial Criteria:**

S. No.	Criteria	Documents to be submitted by the bidder
7	The bidder must have an Average Annual Sales Turnover of Rs 70 Crores or more in the last three (3) Financial Years (i.e. FY 2022-23, 2023-24, and 2024-25).	i. Audited Balance Sheet and Profit & Loss Account Or ii. Duly certified CA certificate having UDIN to be submitted (Details to be submitted as per the format enclosed in APPENDIX I - ANNEXURE – 1.14)

8	The bidder must submit an undertaking stating that "No Litigation" is pending with BYPL or any of its group/associate companies as of the date of bid opening.	Self-Undertaking (as per the format enclosed in APPENDIX I - ANNEXURE – 1.15) (Details to be submitted as per the format enclosed in APPENDIX I - ANNEXURE – 1.14)
9	The bidder must submit an undertaking (self-certification) that they have not been blacklisted or debarred by any Central / State Government Institution or Electricity Utility in India as of the date of bid opening.	Self-Undertaking (as per the format enclosed in APPENDIX I - ANNEXURE – 1.15) (Details to be submitted as per the format enclosed in APPENDIX I - ANNEXURE – 1.14)
10	The bidder must hold a valid PAN and GST Registration Number, and shall undertake to comply with all other applicable statutory laws and regulations prior to commencement of supply/work.	i. Copies of PAN and GST registration certificates ii. Self-undertaking confirming compliance with all statutory obligations (as per the format enclosed in APPENDIX I - ANNEXURE – 1.15) (Details to be submitted as per the format enclosed in APPENDIX I - ANNEXURE – 1.14)

Notwithstanding anything stated above, BYPL reserves the right to assess the bidder's capability to perform the contract, assess the capability and installed capacity of the Bidder for carrying out the supplies, should the circumstances warrant such assessment in the overall interest of the purchaser. In this regard the decision of the purchaser is final.

### 3.00 BIDDING AND AWARD PROCESS

Bidders are requested to submit their offer strictly in line with this tender document. Normally, the deviations to tender terms are not admissible and the bids with deviations are liable for rejection. Hence, the bidders are advised to refrain from taking any deviations on this Tender. Still, in case of any deviations, all such deviations shall be set out by the Bidders, clause by clause in the "Annexure - Schedule of Deviations" and the same shall be submitted as a part of the Technical Bid.

#### 3.01 BID SUBMISSION

##### **BIDS ARE INVITED THROUGH THE E-PROCUREMENT PORTAL:**

BSES will carry out E-Procurement through its e-procurement portal (<https://srmpportal.bsedelhi.com/irj/portal>).

Interested Non-registered bidders are requested to obtain the portal user name and password (if not available) for bid submission. For participating in e-Tenders of BYPL, please write a mail to

1. Mr Sumit Verma, E-mail: [Sumit.Ra.Verma@reliancegroupindia.com](mailto:Sumit.Ra.Verma@reliancegroupindia.com)
2. Mr Rakesh Sharma, E-mail: [Rakesh.Ku.Sharma@reliancegroupindia.com](mailto:Rakesh.Ku.Sharma@reliancegroupindia.com), with your details as per below:

- a) Existing Vendor Code with BYPL or its Group/Associates Companies (if available):  
.....
- b) Trade Name: .....
- c) Address of Principal Place of Business: .....
- d) Contact Person's Name: .....
- e) Contact Person's Designation: .....
- f) Contact Person's Mobile No.: .....
- g) Contact Person's email ID: .....

h) Also, attach a valid copy of the Power of Attorney in favour of the above-mentioned Contact Person for being authorized to receive user ID and password on behalf of their organization.

The login ID details shall be sent through email to the email ID mentioned by you for the same.

Bids have to be mandatorily submitted only through the e-procurement portal of BSES Delhi. Bids submitted through any other form/ route shall not be admissible.

However, documents that require original submission, such as the Tender Fee (in the form of DD), Earnest Money Deposit (EMD) (in the form of BG/FD/DD as applicable), samples (where applicable), and any other documents specified in the tender documents, must be delivered to the BYPL office at the address below on or before the bid submission deadline.

Please clearly mention the NIT Number: ..... on the outer envelope and drop the same in the Tender Box placed at the **Reception, Ground Floor, BSES Yamuna Power Ltd., Shaktikiran Building, Karkardooma, Delhi-110032.**

The bids documents and the outer envelope shall be addressed to the following:

**Head of Department  
Contracts & Materials Deptt.  
BSES Yamuna Power Ltd, Shaktikiran Building, Karkardooma, Delhi 110032**

**Kindly Note:**

- The bidder has to ensure that the tender documents is dropped in the correct box designated for tender submission only.
- BYPL shall not be responsible for any wrong placement of tender documents by the bidder.

This is a two-part bid process. Bidders must submit their bids online in two parts - Part-A: Technical Bid & Commercial Terms & Conditions, and Part-B: Financial Bid - on the designated folder/location of the e-procurement portal before the due date and time specified in the tender. For detailed instructions, please refer to the user manual available at <https://srmpportal.bsesdelhi.com/irj/portal> and enclosed with the tender documents.

**PART A:: TECHNICAL BID** comprising of the following, do not contain any cost information whatsoever and shall be submitted within the due date:

S. No.	Descriptions	Type of Documents/Format
<b>A.1</b>	<b>Bid Details</b>	
1	<b>Bid Index for Part-A (Technical Bid)</b>	In the prescribed format enclosed at APPENDIX I ANNEXURE – 1.01
2	<b>Cover Letter, if any</b>	Standard Format
3	<b>Bid Form (Unpriced) Duly Signed</b>	Duly Signed Bid Form as per enclosed format at APPENDIX I ANNEXURE – 1.02
4	<b>Tender Fee</b>	Non-refundable demand draft or online transfer of the requisite amount through IMPS/NEFT/RTGS for Rs 1,180/-, Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.03
5	<b>EMD</b>	Online transfer of the requisite amount through IMPS/NEFT/RTGS or FD or BG in the prescribed stamp paper & format enclosed at APPENDIX I ANNEXURE – 1.05, EMD Details Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.04
6	<b>Power-of-Attorney/ Authorization Letter</b>	In the standard stamp paper/letter
<b>A.2</b>	<b>Technical Bid</b>	
7	<b>Communication Details of the Bidder</b>	Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.06

8	<b>Manufacturer Authorization Form (as applicable)</b>	Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.07
9	<b>Technical Qualifying Criteria Compliance Index &amp; Documents</b>	Documentary evidence in support of qualifying criteria mentioned in Section 1 Clause 2.00. Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.08, ANNEXURE – 1.09 & ANNEXURE – 1.10
10	<b>Schedule of Deviations - Technical</b>	Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.11
11	<b>Technical Details/ Filled in Guaranteed Technical particulars (GTP) as per specification</b>	Bidder shall submit duly filled GTP with all Technical documents
12	<b>Technical Drawings as per specification</b>	Bidder shall submit all Drawings as per the specification
13	<b>Type Test Reports</b>	Bidders shall submit a copy of type test reports in their technical bids in support of technical specifications. Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.12
14	<b>Sample Submission Details (if applicable as per specification)</b>	Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.13
15	<b>Product Catalogue (If applicable)</b>	Bidders shall submit a copy of the product catalogue in their technical bids in support of technical specifications
16	<b>Manufacturer's Quality Assurance Plan</b>	Bidders shall submit a copy of MQP in their technical bids in support of technical specifications
17	<b>Other drawings/ documents mentioned in technical specification</b>	Bidders shall submit a copy of documents in their technical bids in support of technical specifications
18	<b>Testing Facilities</b>	Bidder shall submit the details of testing facilities available at their works/factory.
<b>A.3 Commercial Bid</b>		
19	<b>Company Profile, Organization Chart &amp; Manpower Details.</b>	Bidder shall submit the details of Organization & Manpower with qualification and experience.
20	<b>Commercial Qualifying Criteria Compliance Index &amp; Documents</b>	Documentary evidence in support of qualifying criteria mentioned in Section 1 Clause 2.00. Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.14
21	<b>Undertakings</b>	Duly signed self-undertakings as per enclosed format at APPENDIX I ANNEXURE – 1.15
22	<b>Schedule of Deviations - Commercial</b>	Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.16
23	<b>Acceptance Form For Participation in Reverse Auction Event</b>	Duly signed Acceptance Form For Participation In Reverse Auction Event as per enclosed format at APPENDIX I ANNEXURE – 1.17
24	<b>Commercial Terms and Conditions</b>	Acceptance of Commercial Terms and Conditions viz. Delivery Schedule/Period, Payment terms, PBG etc. Duly filled and signed as per enclosed format at APPENDIX II ANNEXURE – 2.05
25	<b>Unpriced Bid Duly Signed</b>	Item wise marked as "Quoted" & Duly Signed Unpriced Bid as per enclosed format at VOLUME – II - FINANCIAL BID (PRICE FORMAT)
26	<b>Signed Tender document</b>	Original Tender documents duly stamped & signed on each page as a token of acceptance

**PART B:: FINANCIAL BID** comprising of

- Price strictly in the Format enclosed at VOLUME – II - FINANCIAL BID (PRICE FORMAT) indicating Break up of basic price, taxes & duties, etc.
- The Bidder has to submit the item-wise price bifurcation in the bid. An unpriced copy must be attached with the Part A (Technical Bid).

This will be opened internally after techno-commercial evaluation and only of the qualified bidders.

**REVERSE AUCTION CLAUSE**:: The Purchaser reserves the right to conduct a Reverse Auction through SAP-SRM as an integral part of the tendering process. All bidders who are declared techno-commercially qualified shall mandatorily participate in the Reverse Auction. The Reverse Auction shall be conducted either on an individual item-wise basis or on a package-wise basis, as decided by the Purchaser. Bidder is to submit their acceptance as per the format APPENDIX I ANNEXURE – 1.17.

Notwithstanding anything stated above, the Purchaser reserves the right to assess the 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.

**BIDS RECEIVED AFTER THE DUE DATE AND TIME MAY BE LIABLE FOR REJECTION**

**4.00 AWARD DECISION**

- 4.01 Purchaser intends to award the business on the lowest bid basis, so Bidders are encouraged to submit the bid competitively. The decision to place a LOI/Purchase Order solely depends on the purchaser on the cost competitiveness across multiple lots, quality, delivery and bidder's capacity, in addition to other factors that Purchaser may deem relevant.
- 4.02 In the event of your bid being selected by the purchaser (and/or its affiliates) and you subsequent DEFAULT on your bid; you will be required to pay the purchaser (and/or its affiliates) an amount equal to the difference in your bid and the next lowest bid on the quantity declared in NIT/RFQ.
- 4.03 If the performance of the awarded Bidder is found to be unsatisfactory during the execution or delivery period, the award may be cancelled, and BYPL reserves the right to reallocate the order to another Bidder considered suitable.
- 4.04 Rate Contract: The rate contract shall have a validity period of 12 months from the date of RC issued to the responsive, techno-commercially acceptable and evaluated to be the lowest bidder. Purchase Order (PO) shall be placed as per the requirement of BYPL.
- 4.05 Price variation shall be applicable as per PV formulae (PVF).
- 4.06 Quantity Variation: The purchaser reserves the right to vary the quantity by (±) 30% of the tender quantity during the execution of the contract.
- 4.07 Quantity Splitting: The Purchaser reserves the right to distribute the procurable quantity among one or more eligible Bidders. In case of quantity splitting, the distribution shall be as follows:  
a) If the quantity is split among 2 bidders, it will be done at 70:30 at the L1 price.  
b) If the quantity is split among 3 bidders, it will be done at 50:30:20 at the L1 price.  
Note: If quantity needs to be distributed and order splitting is required, quantity distribution shall be maximum among three (3) bidders.

## 5.00 MARKET INTEGRITY

- 5.01 We have a fair and competitive marketplace. The rules for bidders are outlined in the Terms & Conditions. Bidders must agree to these rules before participating. In addition to other remedies available, we reserve 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 & Conditions. Bidders who violate the marketplace rules or engage in behaviour that disrupts the fair execution of the marketplace restrict a bidder to the length of time, depending upon the seriousness of the violation. Examples of violations include, but are not limited to:
- Failure to honour prices submitted to the marketplace.
  - Breach of the terms of the published in Request for Quotation/NIT.

## 6.00 BIDDER CONFIDENTIALITY

- 6.01 All information contained in this RFQ is confidential and shall not be disclosed, published or advertised in any manner without written authorization from BYPL. This includes all bidding information submitted.
- 6.02 All RFQ documents remain the property of BYPL and all Bidders are required to return these documents to BYPL upon request.
- 6.03 Bidders who do not honour these confidentiality provisions will be excluded from participating in future bidding events.

## 7.00 CONTACT INFORMATION

- 7.01 Any technical or commercial clarification pertaining to this RFQ shall be sought strictly in writing and forwarded by e-mail, post, or courier to the addresses specified below. Clarifications shall not be entertained through telephone communication.

Address	Name/ Designation	E-mail Address
<b>Technical</b>		
CES Dept. 3 <sup>rd</sup> Floor, B-Block, BSES Yamuna Power Ltd Shaktikiran Building, Karkardooma, Delhi 110032	Jeena Borana GM (CES)	<a href="mailto:jeena.borana@reliancegroupindia.com">jeena.borana@reliancegroupindia.com</a>
	Srinivas Gopu GM (CES)	<a href="mailto:Srinivas.Gopu@reliancegroupindia.com">Srinivas.Gopu@reliancegroupindia.com</a>
	Amit Tomer Asstt. VP (HOD-CES)	<a href="mailto:Amit.As.Tomar@reliancegroupindia.com">Amit.As.Tomar@reliancegroupindia.com</a>
<b>Commercial</b>		
C&M Dept. 3 <sup>rd</sup> Floor, A-Block, BSES Yamuna Power Ltd Shaktikiran Building, Karkardooma, Delhi 110032	Sumit Verma GM (C&M)	<a href="mailto:Sumit.Ra.Verma@reliancegroupindia.com">Sumit.Ra.Verma@reliancegroupindia.com</a>
	Santosh Singh Addl. VP (Head- Procurement)	<a href="mailto:Santosh.Kum.Singh@reliancegroupindia.com">Santosh.Kum.Singh@reliancegroupindia.com</a>
	Robin Sebastian VP (HOD-C&M)	<a href="mailto:Robin.Sebastian@reliancegroupindia.com">Robin.Sebastian@reliancegroupindia.com</a>

**SECTION – II: INSTRUCTION TO BIDDERS**

**A. GENERAL**

1.00 BSES Yamuna Power Ltd (hereinafter referred to as "the Purchaser") intends to undertake various System Improvement, Repair & Maintenance works, etc., within its licensed distribution area in Delhi. Accordingly, the Purchaser has issued this tender for the procurement of materials as specified in the present bid document.

**2.00 SCOPE OF SUPPLY/WORK**

2.01 The scope broadly include Design, Manufacture, testing at works conforming to the Technical Specifications/IS along with Packing, Forwarding, Transportation and Unloading and proper stacking of the materials at Purchaser's stores/site.

**3.00 DISCLAIMER**

3.01 This Document includes statements, which reflect various assumptions, which may or may not be correct. Each Bidder 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 interest.

3.02 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 arising in any way from the selection process for the Supply.

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

3.04 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 COST OF BIDDING**

4.01 The Bidder shall bear all costs associated with the preparation and submission of its Bid and the Purchaser will in no case be responsible or liable for those costs.

**B. BIDDING DOCUMENTS**

**5.00 BIDDING DOCUMENTS**

5.01 The Scope of Supply/Work, Bidding Procedures and Contract Terms are described in the Bidding Documents.

5.02 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 may result in the rejection of the Bid.

**6.00 AMENDMENT OF BIDDING DOCUMENTS**

- 6.01 At any time before the deadline for submission of Bids, the Purchaser may for any reason, whether at its initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding Documents by Amendment.
- 6.02 The Amendment shall be part of the Bidding Documents, pursuant to Clause 5.01, and it will be notified on the e-procurement portal or website [www.bsedelhi.com](http://www.bsedelhi.com) and the same will be binding on them.
- 6.03 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. The same shall be published as a corrigendum on the e-procurement portal or website [www.bsedelhi.com](http://www.bsedelhi.com)
- 6.04 Purchaser shall reserve the rights to the following:  
a) Extend the due date of submission,  
b) Modify the tender document in part/whole,  
c) Cancel the entire tender
- 6.05 **Bidders are requested to visit the e-procurement portal or website regularly for any modification/clarification/corrigendum/addendum of the bid documents.**

**C. PREPARATION OF BIDS**

**7.00 LANGUAGE OF BID**

- 7.01 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.

**8.00 DOCUMENTS COMPRISING THE BID**

- 8.01 The Bid prepared and submitted by the Bidder shall comprise the following components:
- (a) All the Bids must be accompanied by the required Tender Fees and EMD as mentioned in the tender.
- (b) PART A - Technical Bid and
- (c) PART B - Financial Bid

**9.00 BID FORM**

- 9.01 The Bidder shall submit the Bid Form with the Bidding Documents.

**10.00 EMD**

- 10.01 Pursuant to Clause 8.0(a) above, the bidder shall furnish, as part of its bid, an EMD amounting to as specified in Section I. The EMD is required to protect the Purchaser against the risk of Bidder's conduct which will warrant forfeiture.

The EMD shall be denominated in any of the following forms:

- (a) Bank Guarantee drawn in favour of BSES Yamuna Power Ltd, payable at Delhi or  
(b) Fixed Deposit (lien marked in favour of BSES Yamuna Power Limited) payable at Delhi.

- (c) Online transfer of requisite amount through IMPS/NEFT/RTGS to BYPL account mentioned herein in **Appendix II - BYPL BANK DETAILS WITH IFSC CODE.**

EMD shall be valid for One Hundred Twenty (120) days after the due date of submission drawn in favour of BSES Yamuna Power Ltd.

The EMD may be forfeited in the case of:

- (a) the Bidder withdraws its bid during the period of specified bid validity  
or  
(b) the case of a successful Bidder, if the Bidder does not  
(i) Accept the Purchase Order, or  
(ii) Furnish the required performance security BG.

## 11.00 BID PRICES

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

11.02 The prices offered shall be inclusive of all costs as well as Duties, Taxes or Levies paid or payable during the execution of the supply work, a breakup of price constituents, should be there.

11.03 Prices quoted by the Bidder shall be **"Variable"** and are subject to price adjustment during the execution of the Contract.

11.04 Price Variation Formula:

$$P = P_0 / 100 * (7 + 41 * C/C_0 + 23 * ES / ES_0 + 10 * IS / IS_0 + 5 * IM / IM_0 + 8 * TO / TO_0 + 6 * W / W_0)$$

P = Ex-works Price payable as adjusted in accordance with above formula

P<sub>0</sub> = Ex-works Price as per RC/PO

Following Price Indices is to be used for PV Calculations:

C = Price of CC copper rods. This price is as applicable for the month, ONE month prior to the date of delivery.

ES = Price of CRGO Electrical Steel Lamination. This price is as applicable for the month, ONE month prior to the date of delivery.

IS = Price of HR Coil of 3.15 mm thickness. This price is as applicable for the month, ONE month prior to the date of delivery.

IM = Price of Insulating Materials - Average of pre-compressed pressboards of size 3 mm and 10 mm thick, 3200 mm x 4100 mm C&F price converted into Indian Rupees. This price is as applicable for the month, ONE month prior to the date of delivery.

TO = Price of Transformer Oil. This price is as applicable for the month, ONE month prior to the date of delivery.

W = All India average consumer price index number for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India (Base: 2016 = 100). This index number is as applicable for the month, THREE months prior to the date of delivery.

C<sub>0</sub> = Price of CC copper rods. This price is as applicable for the month, ONE month prior to the due date of tender.

E<sub>0</sub> = Price of CRGO Electrical Steel Lamination. This price is as applicable for the month, ONE month prior to the due date of tender.

I<sub>0</sub> = Price of HR Coil of 3.15 mm thickness. This price is as applicable for the month, ONE month prior to the due date of tender.

IM<sub>0</sub> = Price of Insulating Materials - Average of pre-compressed pressboards of size 3 mm and 10 mm thick, 3200 mm x 4100 mm C&F price converted into Indian Rupees. This price is as applicable for the month, ONE month prior to the due date of tender.

TO<sub>0</sub> = Price of Transformer Oil. This price is as applicable for the month, ONE month prior to the due date of tender.

W<sub>0</sub> = All India average consumer price index number for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India (Base: 2016 = 100). This index number is as applicable for the month, THREE months prior to the due date of tender.

The above prices and indices are as published by IEEMA prevailing as on the first working day of the calendar month, i.e. one month prior to the due date of tender submission e.g. if tender is submitted in March 2025, the applicable prices should be those prevailing as on 1st February, 2025.

If the date of delivery in terms of clause given below falls in September 2026, the applicable prices of raw material should be as published by IEEMA prevailing as on 1st August, 2026.

Note:

a) All prices of raw materials are exclusive of GST amount and exclusive of any other Central, State or Local Taxes etc.

b) Due Date of Tender is the original due date of tender submission. If due date of tender (bid submission) is extended due to any reason, the base date (original due date) will remain unchanged for the calculation of PV clause.

c) The date of delivery for PV calculation shall be the date on which the equipment/ material is notified as being ready for inspection/ dispatch or the contracted delivery date whichever is earlier whenever supplies are affected within contractual delivery period. In case the supplies are affected after the original contractual delivery period, the date of delivery for P.V. purpose would be the one out of original or extended date on which price variation is lower.

d) Bidder shall submit detailed calculation of revised rate and amount as per the Price Variation Formula along with relevant IEEMA circulars. After approval/ clearance from Buyer of revised rates, Invoicing shall be done by the supplier.

**12.00 BID CURRENCIES**

12.01 Prices shall be quoted in Indian Rupees Only.

**13.00 PERIOD OF VALIDITY OF BIDS**

13.01 Bids shall remain valid for 120 days from the due date of submission of the Bid.

13.02 Notwithstanding Clause 13.01 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 and sent by post/courier.

**14.00 ALTERNATIVE BIDS**

14.01 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 regarding the rejection of Bids in the terms and conditions, which are not substantially responsive to the requirements of the Bidding Documents.

**15.00 FORMAT AND SIGNING OF BID**

15.01 The original Bid Form and accompanying documents, must be received by the Purchaser at the date, time and place specified pursuant to Clauses 15.0 and 16.0.

15.02 The original 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-Authority accompanying the Bid. The Bid submitted on behalf of companies registered with the Indian Companies Act, for the time being in force, shall be signed by persons duly authorized to submit the Bid on behalf of the Company and shall be accompanied by certified true copies of the resolutions, extracts of Articles of Association, special or general Power of Attorney etc. to show clearly the title, authority and designation of persons signing the Bid on behalf of the Company. Satisfactory evidence of the authority of the person signing on behalf of the Bidder shall be furnished with the bid. A bid by a person who affixes to his signature the words 'President', 'Managing Director', 'Secretary', 'Agent' or other designations without disclosing his principal will be rejected.

The Bidder's name stated on the Proposal shall be the exact legal name of the firm.

15.03 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 initiated by the person or persons signing the Bid.

**D. SUBMISSION OF BIDS**

**16.00 SEALING AND MARKING OF BIDS**

16.01 Bid submission: Bids have to be mandatorily submitted only through the e-procurement portal of BSES Delhi. Bids submitted through any other form/ route shall not be admissible.

16.02 However, documents that necessarily have to be submitted in originals like EMD or Tender Fee (in the form of BG/ DD /FD as applicable) and any other documents mentioned in the tender documents have to be submitted at the BYPL office before the due date & time of submission. The Technical Documents and the EMD shall be enclosed in a sealed envelope and the said envelope shall be superscribed with — "Technical Bid & EMD". All the envelopes should bear the Name and Address of the Bidder and mark for the Original. The envelopes should be superscribed with — "Tender No. & Due date of opening".

16.03 The Bidder has the option of sending the Bids in person. Bids submitted by

Email/Telex/Telegram /Fax will be rejected. No request from any Bidder to the Purchaser to collect the proposals from Courier/Airlines/Cargo Agents etc. shall be entertained by the Purchaser.

**17.00 DEADLINE FOR SUBMISSION OF BIDS**

- 17.01 The Bid must be received by the Purchaser on or before the due date & time of submission.
- 17.02 The Purchaser may, at its discretion, extend the deadline for the submission of Bids by amending the Bidding Documents in accordance with Clause 6.0, 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.

**18.00 ONE BID PER BIDDER**

- 18.01 Each Bidder shall submit only one Bid by itself. No Joint venture is acceptable. A Bidder who submits or participates in more than one Bid will cause all those Bids to be rejected.

**19.00 LATE BIDS**

- 19.01 No Bid will be received by the Purchaser after the deadline for submission of Bids prescribed by the Purchaser, pursuant to Clause 17.0.

**20.00 MODIFICATIONS AND WITHDRAWAL OF BIDS**

- 20.01 The Bidder is not allowed to modify or withdraw its Bid after the Bid's due date & time of submission subject to any corrigendum/addendum/modifications in the tender documents uploaded to the website.

**E. EVALUATION OF BID**

**21.00 PROCESS TO BE CONFIDENTIAL**

- 21.01 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.

**22.00 CLARIFICATION OF BIDS**

- 22.01 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.

**23.00 PRELIMINARY EXAMINATION OF BIDS / RESPONSIVENESS**

- 23.01 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. Purchaser may ask for submission of original documents to verify the documents submitted in support of qualification criteria.
- 23.02 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

INFORMATION TO BIDDER (ITB) NIT NO: CMC/BY/25-26/RS/SkS/SV/52 [RFx Number: 2200000185]	Page <b>15</b> of <b>18</b>	Bidders seal & Signature
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per item shall prevail and the Total Amount will be corrected.

23.03 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.

23.04 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.

#### **24.00 EVALUATION AND COMPARISON OF BIDS**

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

24.02 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 will be subjected to a responsiveness check. The Technical & qualifying Proposals and the Conditional ties of the Bidders will 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.

24.03 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) Delivery Schedule
- (b) Conformance to Qualifying Criteria
- (c) 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 the Bidding Documents shall be evaluated. **The Purchaser may make its own assessment of the cost of any deviation to ensure a fair comparison of Bids.**

24.04 Any price adjustments that result from the above procedures shall be added for comparative evaluation only to arrive at an "Evaluated Bid Price". Bid Prices quoted by Bidders shall remain unaltered.

#### **F. AWARD OF CONTRACT**

##### **25.00 CONTACTING THE PURCHASER**

25.01 If any Bidder wishes to contact the Purchaser on any matter related to the Bid, from the time of Bid opening to the time of contract award, the same shall be done in writing only.

25.02 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.

##### **26.00 THE PURCHASER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS**

26.01 Submission of bids shall not automatically construe qualification for evaluation. The Purchaser reserves the right to accept or reject any Bid and to annul the Bidding process and reject all

Bids at any time prior to the award of the 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.

## **27.00 AWARD OF CONTRACT**

- 27.01 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 the order to other bidders in the tender, provided it is required for the timely execution of the project & provided he agrees to come to the lowest rate. Purchaser reserves the right to distribute the entire tender quantity at its own discretion without citing any reasons thereof.
- 27.02 The Purchaser reserves the right to issue either a single composite order or separate individual Purchase/Work Orders, which shall, inter alia, cover the Scope of Work as specified in the NIT, including:
- a) Purchase Order for Supply
  - b) Work Order for Installation/Erection, Testing & Commissioning (wherever applicable)
  - c) Work Order for Civil (wherever applicable)

## **28.00 THE PURCHASER'S RIGHT TO VARY QUANTITIES**

- 28.01 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.

## **29.00 LETTER OF INTENT/ NOTIFICATION OF AWARD**

- 29.01 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 3 days of the issue of the letter of intent /Notification of Award by Purchaser.

## **30.00 CONTRACT PERFORMANCE BANK GUARANTEE (CPBG)**

- 30.01 To be submitted within twenty-eight (28) days from the date of issuance of the Letter of Intent/Award/RC. Bidder shall initially submit the performance bank guarantee (PBG) equivalent to 1% of RC Value (including GST) valid till RC validity period plus three months claim period. Upon receipt of the PBG by BYPL against RC, the EMD shall be released. Thereafter bidder shall submit PBG on Purchase Order (PO) basis equivalent to 10% of the PO value (including GST) valid for a period of 30 months from the date of last receipts at site/stores plus 3 months claim period.

## **31.00 CORRUPT OR FRAUDULENT PRACTICES**

- 31.01 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 this provision, the terms set forth below as follows:
    - (i) "Corrupt practice" means behaviour 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 contract execution; and
    - (ii) "Fraudulent practice" means a misrepresentation of facts to influence a procurement process or the execution of a contract to the detriment of the Purchaser, and includes collusive practice among Bidders (before 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 for award 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, 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.

31.02 Furthermore, Bidders shall be aware of the provision stated in the Terms and Conditions of the Contract.

### **32.00 STATUTORY GUIDELINES & REGULATIONS**

32.01 The bidder shall make himself fully aware & familiarize himself with all applicable laws/guidelines/regulations.

### **33.00 SAFETY**

33.01 Safety related requirements as mentioned in our safety Manual put on the Company's website which can be accessed at <http://www.bsedelhi.com>. All bidders shall strictly abide by the guidelines provided in the safety manual at all relevant stages during the contract period.

### **34.00 PRIORITY OF CONTRACT DOCUMENTS**

34.01 The several documents forming the Agreement are to be taken as mutually explanatory of one another, but in case of ambiguities or discrepancies, the same shall be explained and adjusted by the company, who shall, accordingly, issue suitable instructions thereon to the Bidder. In such event, unless otherwise provided in the agreement or explained by way of instructions by the company, as mentioned above, the priority of the documents forming the Agreement shall be as follows:

- i) Contract Agreement/Purchase Order.
  - (a) Special Conditions of Contract
  - (b) General Conditions of Contract
- (ii) The Letter of Acceptance/ Intent
- (iii) Agreed Minutes of the Tender Negotiation Meetings
- (iv) Agreed Minutes of the Tender Technical Meetings
- (v) The Priced Bill of Quantities
- (vi) The Technical Specifications / Scope of work
- (vii) The Tender document, including all Appendices and/or Addenda, Corrigendum the latest taking precedence.

In the event of any conflict between the above-mentioned documents, the more stringent requirement or conditions which shall be favourable to the company shall govern and the decision of the company/BYPL shall be final and binding upon the parties. In case of ambiguity, interpretation shall be mutual and documented.

**BID INDEX FOR PART-A (TECHNICAL BID)**

*(To be filled & submitted on Bidder Letter Head, Bidders document submission should have following main categories as outlined below and should have page numbers printed at the bottom of each page with this page as page number 1. The page number should be in "Page X of Y" format. Separator with document description shall be provided before each document)*

**NIT & RFX No.:**

**Bidder's Name:**

**Bidder's Bid Reference No. & Date:**

S. No.	Particulars	Bid Pdf Page No.	
		From	To
<b>A.1 Bid Details</b>			
1.	Bid Index for Part-A (Technical Bid) as per APPENDIX I ANNEXURE - 1.01	1	
2.	Cover Letter, If any		
3.	Bid Form (Unpriced) Duly Signed as per APPENDIX I ANNEXURE - 1.02		
4.	Tender Fee Details as per APPENDIX I ANNEXURE - 1.03		
5.	EMD Details as per APPENDIX I ANNEXURE - 1.04 & 1.05		
6.	Power-of-Attorney / Authorization Letter		
<b>A.2 Technical Bid</b>			
7.	Communication Details of the Bidder as per APPENDIX I ANNEXURE - 1.06		
8.	Manufacturer Authorization Form (as applicable) as per APPENDIX I ANNEXURE - 1.07		
9.	Technical Qualifying Criteria Compliance Index & Documents as per APPENDIX I ANNEXURE - 1.08, 1.09, 1.10		
10.	Schedule of Technical Deviations (along with soft editable Excel copy) as per APPENDIX I ANNEXURE - 1.11		
11.	Guaranteed Technical particulars (GTP) as per specification		
12.	All Drawings as per specification		
13.	Type Test Reports (Sequence of Tests shall be strictly in accordance with relevant IS/IEC) as per APPENDIX I ANNEXURE - 1.12		
14.	Sample Submission Details (If applicable as per Specification) as per APPENDIX I ANNEXURE - 1.13		
15.	Product Catalogue (If applicable)		
16.	Manufacturer's quality assurance plan (as applicable)		
17.	Other drawings/ documents mentioned in technical specification		
18.	Testing Facilities		
<b>A.3 Commercial Bid</b>			
19.	Company Profile/Organogram/Organization Chart & Manpower Details		
20.	Commercial Qualifying Criteria Compliance Index & Documents as per APPENDIX I ANNEXURE - 1.14		
21.	Undertakings as per APPENDIX I ANNEXURE - 1.15		
22.	Schedule of Commercial Deviations (along with soft editable Excel copy) as per APPENDIX I ANNEXURE - 1.16		
23.	Acceptance form for participation in reverse auction event as per APPENDIX I ANNEXURE - 1.17		
24.	Acceptance of Commercial Terms and Conditions as per APPENDIX II ANNEXURE - 2.05		
25.	Unpriced Bid Duly Signed (Volume - II Financial Bid (Price Format))		
26.	NIT Document complete Signed & Stamped		

**BID FORM**

To

Head of Department  
Contracts & Material Deptt.  
BSES Yamuna Power Ltd  
Shaktikiran Building, Karkardooma,  
Delhi 110032

Sir,

1. We understand that BYPL is desirous of procuring.....  
for it's licensed distribution network area in Delhi.
2. Having examined the Bidding Documents for the above-named works, we the undersigned, offer to deliver the goods in full conformity with the Terms and Conditions and technical specifications for the sum indicated in the Financial Bid or such other sums as may be determined in accordance with the terms and conditions of the contract. The amounts are in accordance with the Price Schedules attached herewith and are made part of this bid.
3. If our Bid is accepted, we undertake to deliver the entire goods as per the delivery schedule mentioned in Section IV from the date of award of the purchase order/letter of intent.
4. If our Bid is accepted, we will furnish a performance bank guarantee for due performance of the Contract in accordance with the Terms and Conditions.
5. We agree to abide by this Bid for 120 days from the due date of bid submission and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
6. We declare that we have studied the provision of Indian Laws for the supply/services of equipments/materials and the prices have been quoted accordingly.
7. Unless and until Letter of Intent is issued, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
8. We understand that you are not bound to accept the lowest or any bid you may receive.
9. There is provision for Resolution of Disputes under this Contract, by the Laws and Jurisdiction of Contract.

Dated this..... day of..... 20XX

Signature..... In the capacity of .....

.....duly authorized to sign for and on behalf of

(IN BLOCK CAPITALS) .....

**TENDER FEE DETAILS**

- a. Amount (Rs.) : **1,180/- (One Thousand One Hundred Eighty Only)**
- b. Mode of Payment : DD or online transfer through IMPS/NEFT/RTGS (select any one)
- c. DD /UTR No. (As applicable) : .....
- d. Dated : .....
- e. Bidders Bank Account No. : .....
- f. Name of the Bank : .....
- g. Address of the Bank : .....
- h. IFSC Code of the Bank : .....
- i. SWIFT Code of the Bank : .....

**EMD DETAILS**

- a. EMD Amount (Rs.) : .....
- b. Mode of Payment : BG/FD/online transfer through IMPS/NEFT/RTGS (select any one)
- c. BG/FD/UTR No. (As applicable): .....
- d. Dated : .....
- e. BG valid up to : .....
- f. BG Claim period up to : .....
- g. Bidders Bank Account No. : .....
- h. Name of the Bank : .....
- i. Address of the Bank : .....
- j. IFSC Code of the Bank : .....
- k. SWIFT Code of the Bank : .....

**(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*] (hereinafter called the "Bank"), are bound unto BSES Yamuna Power Ltd., with its Corporate Office at Shaktikiran Building, Karkardooma, Delhi -110032, (hereinafter called - the "Purchaser") in the sum of Rs..... (Rupees..... only) 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:

- 1 If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form; or
2. If the Bidder, having been notified of the acceptance of its Bid by the Purchaser during the period of bid validity:
  - (a) fails or refuses to execute the Contract Form, if required; or
  - (b) fails or refuses to furnish performance security, In accordance with the Instructions to Bidders/Terms and 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 condition(s), specifying the occurred condition or condition(s).

This guarantee will remain in force up to and including One Hundred Twenty (120) days after the due date of submission bid, and any demand in respect thereof should reach the Bank not later than the above date.

(Stamp & signature of the bank)

Signature of the witness

**COMMUNICATION DETAILS OF THE BIDDER**

S. No.	Designation	Name	Mobile No.	E-mail id
1	CEO / MD			
2	Sales / Marketing Head			
3	Sales Representative / Key Account Manager (KAM)			
4	Technical Head			
5	Manufacturer Plant / Operations Head			
6	Post Order Execution In Charge			
7	Authorized contact person (Primary responsibility for the Bid)			
8	Authorized contact person (Secondary responsibility for the Bid)			

**MANUFACTURER AUTHORIZATION FORM**  
**(To be submitted on OEM's Letter Head)**

Date: .....  
Tender No.: .....

To

Head of Department  
Contracts & Material Deptt.  
BSES Yamuna Power Ltd  
Shaktikiran Building, Karkardooma,  
Delhi 110032

Sir,

WHEREAS M/s. *[name of OEM]*, who are official manufacturers of ..... having factories at *[address of OEM]* do hereby authorize M/s *[name of bidder]* to submit a Bid in relation to the Invitation for Bids indicated above, the purpose of which is to provide the following Goods, manufactured by us .....and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty by the Conditions of the Contract or as mentioned elsewhere in the Tender Document, concerning the Goods offered by the above firm in reply to this Invitation for Bids.

We hereby confirm that in case, the channel partner fails to provide the necessary services as per the Tender Document referred above, M/s *[name of OEM]* shall provide standard warranty on the materials supplied against the contract. The warranty period and inclusion/exclusion of parts in the warranty shall remain the same as defined in the contract issued to our channel partner against this tender.

Yours Sincerely,  
For .....

Authorized Signatory

QUALIFYING CRITERIA COMPLIANCE INDEX - TECHNICAL CRITERIA				
S No	Qualifying Criteria Description as per section 1 clause 2.00	Documentary Proof Description	Documentary Proof Enclosed on Bid Page No.	
			From	To
1				
2				
3				
4				
5				

**LIST OF PURCHASE ORDERS EXECUTED & DELIVERY DETAILS IN SUPPORT OF QUALIFYING REQUIREMENTS**

S No	Item Details				PO & Execution Details					Customer Name	End User (shall be Utility/ SEB's/ PSU's) name and details	PO copy, MDCC /Delivery completion certificates/ Invoice Copies enclosed on Bid Page no.	
	Item	Model	Voltage Rating (kV)	Current Rating (A)	PO No	PO Date	PO Qty	Executed Qty	Execution Year			From	To
<b>Total</b>								Σ	Σ				

**Note – Only items relevant as per qualifying requirements should be included in the list.**

LIST OF PERFORMANCE CERTIFICATES IN SUPPORT OF QUALIFYING REQUIREMENT														
S No	Item Details				PO No	Supplied/ Commissioning		Performance Certificate Issue Date	Performance Certificate Issued By End User (Utility/SEB/Govt Org.)	Contact Details of Issuing Person			Enclosed on Bid Page No.	
	Item	Model	Voltage Rating (kV)	Current Rating (A)		Qty.	Date			Name	Email	Mobile	From	To
<b>Total</b>						Σ								

**Note –**

- 1. Only items relevant as per qualifying requirement should be included in the list.**
- 2. Only Performance certificates issued by End User (utilities/ SEB's/PSU's only) will be accepted as per qualifying requirement.**

**SCHEDULE OF DEVIATIONS - TECHNICAL**

Vendor shall refrain from taking any deviations on this TENDER. Still, in case of any deviations, all such deviations from this tender shall be set out by the Bidder, Clause by Clause in this schedule and submit the same as a part of the Technical Bid.

Unless **specifically** mentioned in this schedule, the tender shall be deemed to confirm the BYPL's specifications:

**Technical Deviations:-**

S. No.	NIT Pdf Page No.	NIT Clause No.	NIT Clause Descriptions	Details of Clarification/deviation with justifications

**Note – Please enclose detailed GTP and drawings as per specification after the technical deviation sheet**

**Seal of the Bidder:**

**Signature:**

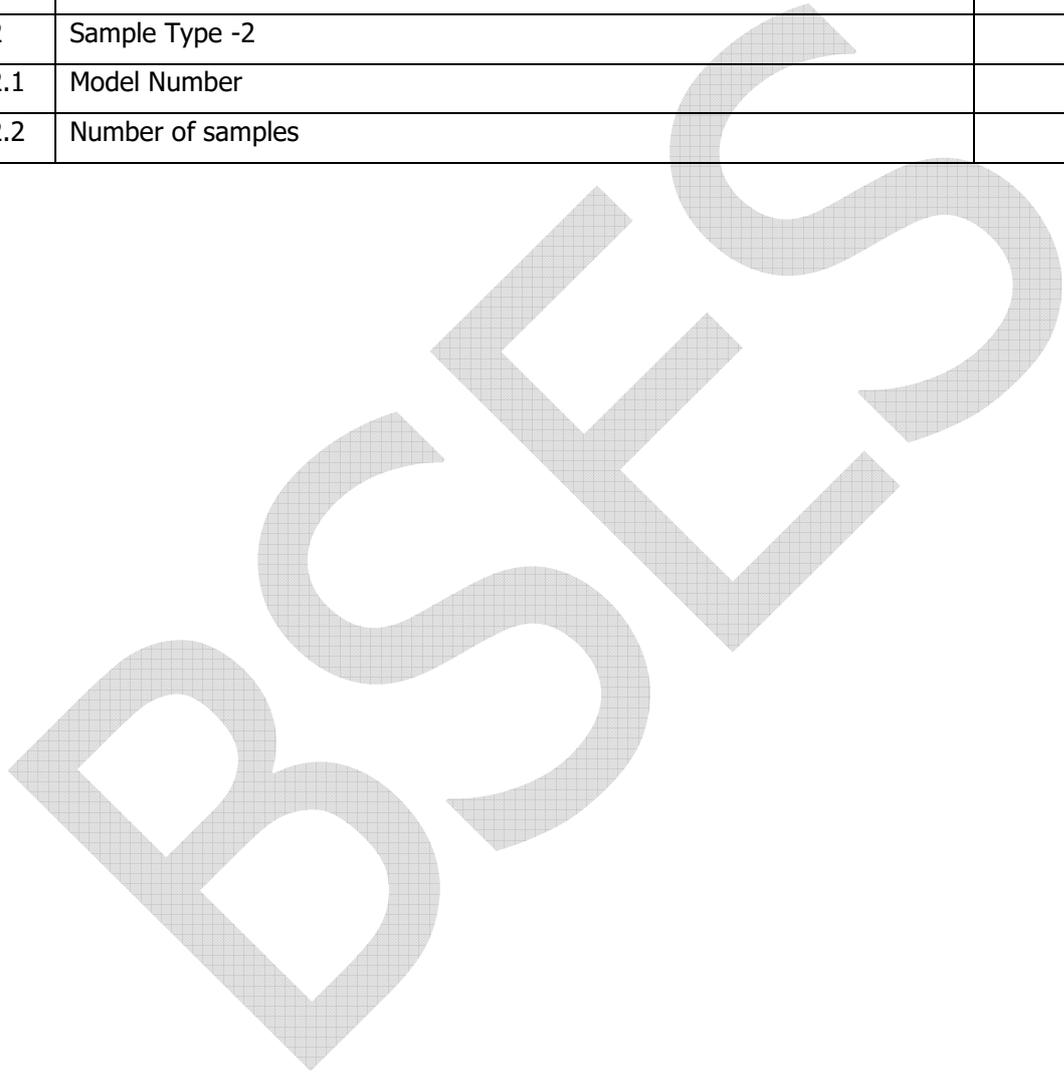
**Name:**

**TYPE TEST REPORTS (SEQUENCE OF TESTS SHALL BE STRICTLY IN ACCORDANCE WITH RELEVANT IS/IEC)**

S No	Test Description	Reference Standard	Reference Standard Clause No.	Name of Testing Lab	Test Report Reference Number	Date of Issue of Report	Report Enclosed on Bid Page No	
							From	To
1								
2								
3								
4								
5								
6								
7								



<b>SAMPLE SUBMISSION DETAILS (IF APPLICABLE AS PER SPECIFICATION)</b>		
<b>S No</b>	<b>Description</b>	<b>Bidder's Response</b>
1	Samples submitted with the bid	Yes/No
1	Sample Type -1	
1.1	Model Number	
1.2	Number of samples	
2	Sample Type -2	
2.1	Model Number	
2.2	Number of samples	



QUALIFYING CRITERIA COMPLIANCE INDEX - COMMERCIAL CRITERIA				
S No	Qualifying Criteria Description as per section 1 clause 2.00	Documentary Proof Description	Documentary Proof Enclosed on Bid Page No.	
			From	To
1				
2				
3				
4				
5				

**UNDERTAKINGS**  
**(To be submitted on Bidders Letter Head)**

Date: .....

Tender No.: .....

To

Head of Department  
Contracts & Material Deptt.  
BSES Yamuna Power Ltd  
Shaktikiran Building, Karkardooma,  
Delhi 110032

Sir,

We [*name of bidder*], ..... , hereby undertake and confirm the following:

- [*name of bidder*] has "No Litigation" pending with the BYPL or its Group/Associates Companies as on the date of bid opening.
- [*name of bidder*] has not been blacklisted/debarred by any central/state government institution/Electricity utilities as on the date of bid opening.
- [*name of bidder*] shall comply with all the statutory compliances as per the laws/rules etc. before the start of the supply/work.
- All documents, certificates, and information submitted by us against this tender are genuine, true, and correct. Copies provided have been made from the original documents. In the event that any document, certificate, or information is found to be false, forged, or misleading, BYPL shall have the right, at its sole discretion, to take appropriate legal action, including forfeiture of EMD and disqualification from participation in future tenders of BYPL and its group companies, for an indefinite period or as decided by BYPL.

Yours Sincerely,

For .....

Authorized Signatory

Name : \_\_\_\_\_

Designation : \_\_\_\_\_

Seal : \_\_\_\_\_

APPENDIX I NIT NO: CMC/BY/25-26/RS/SKS/SV/52 [RFx Number: 2200000185]	Page <b>15</b> of <b>22</b>	Bidders seal & Signature
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**SCHEDULE OF DEVIATIONS - COMMERCIAL**

Vendor shall refrain from taking any deviations on this TENDER. Still, in case of any deviations, all such deviations from this tender shall be set out by the Bidder, Clause by Clause in this schedule and submit the same as a part of the Technical Bid.

Unless **specifically** mentioned in this schedule, the tender shall be deemed to confirm the BYPL's specifications:

**Commercial Deviations:-**

S. No.	NIT Pdf Page No.	NIT Clause No.	NIT Clause Descriptions	Details of Clarification/deviation with justifications

By signing this document we hereby withdraw all the deviations whatsoever taken anywhere in this bid document and comply with all the terms and conditions, technical specifications, scope of work etc. as mentioned in the standard document except those mentioned above.

**Seal of the Bidder:**

**Signature:**

**Name:**

**ACCEPTANCE FORM FOR PARTICIPATION IN REVERSE AUCTION EVENT**

(To be signed and stamped by the bidder)

BSES Yamuna Power Ltd (hereinafter referred to as **"BYPL"**) intends to use the reverse auction through the SAP-SRM tool as an integral part of the entire tendering process. All the bidders who are found as techno commercial qualified based on the tender requirements shall be eligible to participate in the reverse auction event.

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

1. BYPL shall provide the user ID and password to the authorized representative of the bidder. (Authorization letter in lieu of the same be submitted along with the signed and stamped acceptance form)
2. BYPL will make every effort to make the bid process transparent. However, the award decision by BYPL would be final and binding on the bidder.
3. The bidder agrees to non-disclosure of trade information regarding the purchase, identity of BYPL, bid process, bid technology, bid documentation, bid details, etc.
4. The bidder is advised to understand the auto bid process to safeguard themselves against any possibility of non-participation in the auction event.
5. In case of bidding through internet medium, bidders are further advised to ensure availability of the entire infrastructure as required at their end to participate in the auction event. Inability to bid due to telephone line glitches, internet response issues, software or hardware hangs; power failure or any other reason shall not be the responsibility of BYPL.
6. In case of intranet medium, BYPL shall provide the infrastructure to bidders, further, BYPL has sole discretion to extend or restart the auction event in case of any glitches in infrastructure observed which has restricted the bidders from submitting the bids to ensure fair & transparent competitive bidding. In case an auction event is restarted, the best bid already available in the system shall become the start price for the new auction.
7. In case the bidder fails to participate in the auction event due to any reason whatsoever, it shall be presumed that the bidder has no further discounts to offer and the initial bid as submitted by the bidder as a part of the tender shall be considered as the bidder's final no regret offer. Any offline price bids received from a bidder in lieu of non-participation in the auction event shall be outright rejected by BYPL.
8. The bidder shall be prepared with competitive price quotes on the day of the reverse auction event.
9. The prices as quoted by the bidder during the auction event shall be inclusive of all the applicable taxes, duties and levies and shall be FOR Landed Cost basis at the BYPL site.
10. The prices submitted by a bidder during the auction event shall be binding on the bidder.
11. No requests for time extension of the auction event shall be considered by BYPL.
12. The original price bids submitted by the bidders shall be proportionately reduced for each line item, based on the final all-inclusive prices determined at the conclusion of the auction event, to arrive at the final contract value.

Signature & seal of the Bidder

APPENDIX I NIT NO: CMC/BY/25-26/RS/SKS/SV/52 [RFx Number: 2200000185]	Page <b>17</b> of <b>22</b>	Bidders seal & Signature
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## CODE OF CONDUCT FOR SUPPLIERS

BSES expects suppliers including their personnel (employees or sub-contractors) to support, embrace and enact the following Code of Conduct (CoC), apart from complying with all national and international regulations and laws that are applicable at any given time. BSES encourages its suppliers to go beyond compliance and embrace the principles of sustainability. BSES will support training and capacity-building programmes undertaken by suppliers, which promote awareness on sustainability and responsible business practices. BSES shall incorporate regulatory compliance and ESG performance as key criteria based on requirements as stated in the Code during evaluation of the suppliers.

### A. Promote Environmental Sustainability

All suppliers support a precautionary approach to environmental issues and undertake initiatives to promote better environmental responsibility. To this end, suppliers will

1. Reduce resource consumption and conserve natural resources:
  - 1.1. Conduct all operations, sourcing, manufacture, distribution of products and the supply of services with the aim of protecting and preserving the environment.
  - 1.2. Use natural resources rationally and work towards reducing resource consumption (water, energy, fuel, electricity, other materials etc.) and GHG emissions.
  - 1.3. Identify environmental risks and set up appropriate prevention measures.
2. Prevent pollution and reduce waste generation
  - 2.1. Maintain all required official permits, licenses and registrations.
  - 2.2. Prevent contamination, limit waste generation, and avoid or minimise adverse impact on the environment and biodiversity by facilitating reusing and recycling material.
  - 2.3. Clearly monitor the precautions to be taken during operations & maintenance in case of emission of heat, vibrations, radioactive rays, noise or similar.
  - 2.4. Use only those chemicals and aerosols with very low or zero ODP (Ozone Depletion Potential), which are allowed as per the regulatory provisions.
  - 2.5. Ensure that all the chemical and hazardous substances are accompanied by the manufacturer MSDS (Material Safety Data Sheet) during transport, storage, use and disposal, and that instructions mandated be strictly followed. No chemical and hazardous substance shall be received without a MSDS document. All the applicable regulatory guidelines shall be adhered strictly for the procurement, transport, storage, use and disposal of such harmful and hazardous chemicals.
  - 2.6. Provide written instructions about handling and/or disposal of equipment and product during the life cycle if special handling is required.

### B. Commitment to Human Rights, Labour and the Society

Suppliers shall support, respect and protect human and labour rights and make sure their organisation/entity is not complicit in any kind of abuses and/or violations. In this regard, the suppliers must:

1. Fair working conditions
  - 1.1. Provide and maintain healthy and safe working conditions and welfare facilities for the employees in its establishment.
  - 1.2. Ensure that that wages and benefits of their employees and subcontractors are fair and comply with applicable national and local laws as well as with contractual agreements.
  - 1.3. Provide all workers, both permanent and non-permanent, with employment documents that are freely agreed to and which respect their legal and contractual rights.
2. Health & Safety

APPENDIX I NIT NO: CMC/BY/25-26/RS/SKS/SV/52 [RFx Number: 2200000185]	Page 18 of 22	Bidders seal & Signature
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Ensure that the activities of suppliers do not harm the health and safety of their own employees, suppliers and subcontractors, local communities/population, and finally the users of its products and services, which is in accordance with the BSES's Mission Zero Harm in Health and Safety.

3. Child Labour

- 3.1. No person below 18 years shall be employed or permitted to work in any occupation or process.
- 3.2. Zero tolerance for any kind of child labour in their establishments and supply chain.

4. Forced Labour

- 4.1. Under no circumstance shall suppliers use forced labour<sup>1</sup>, whether in form of compulsory or trafficked labour, indentured labour, bonded labour or other forms, through direct or indirect use of force and/or intimidation.
- 4.2. Any kind of slavery, mental and physical coercion, human trafficking and debt bondage in the supply chain shall not be tolerated.

5. Wages and Working hours

- 5.1. Ensure that all applicable regulations related to wages, overtime compensation and other legally mandated benefits of their employees and subcontractors are fair and comply with applicable national and local laws as well as with contractual agreements. Minimum wages are applicable as per applicable in central Act and State rules.
- 5.2. Ensure that maximum working hours laid down and are adhered to.

6. Freedom of Association and Collective Bargaining

- 6.1. Recognise and respect the rights of workers to freedom of association and collective bargaining. Workers are not intimidated or harassed in the exercise of their right to join or refrain from joining any organisation.
- 6.2. Ensure that all employees can communicate with the management regarding working conditions.

7. Non-Discrimination and Equal opportunity

- 7.1. Commit, within the scope of prevailing laws and statutes, to oppose all forms of discrimination<sup>2</sup>.
- 7.2. Maintain a work environment free from any form of discrimination and harassment.
- 7.3. Refrain from discrimination in hiring and employment practices on grounds of skin colour, age, caste, gender, race, ethnicity, nationality, socio-economic background, physical or mental disability, religion, sexual orientation, marital status, pregnancy, dependants, political or religious opinion, ideology, union membership and personal or social circumstances. Special attention must be paid to the rights of workers most vulnerable to discrimination.

8. Zero Tolerance towards Harassment

- 8.1. Treat all employees with respect and dignity and furthermore ensure that their own suppliers treat their employees in the same manner.
- 8.2. No tolerance towards unacceptable treatment of employees, such as physical punishment or torture, sexual harassment<sup>3</sup>, or abuse, mental or physical coercion or verbal abuse, or the threat of any such treatment.
- 8.3. No worker should be subjected to any physical, sexual, psychological, or verbal harassment, abuse or other form of intimidation.

**C. Ethical Integrity and Legality**

Suppliers shall demonstrate the highest standard of integrity, ethics, and business conduct.

1. Compliance with Applicable laws and regulations:
  - 1.1. All activities must be carried out in compliance with the legislation that is applicable in the countries in which the suppliers operate.
  - 1.2. All other applicable international laws and regulations must be complied with, including those relating to international trade (such as those relating to sanctions, export controls and reporting obligations), data protection and antitrust/ competition laws.
  - 1.3. Avoid any conduct that could tarnish or damage the reputation of BSES.
2. Anti-Corruption & Anti Bribery
  - 2.1. All forms of bribery and corruption are prohibited
  - 2.2. Adequate measures and procedures should be in place to prevent bribery in all commercial dealings.
  - 2.3. Maintain a policy of 'Zero Tolerance' of any practice that may be deemed to be corruption, either active or passive.
  - 2.4. No tolerance for unacceptable conduct, which includes, but not limited to, non-compliance with anti- corruption laws and, directly or indirectly offering, promising, hiring or authorising payments in cash or in kind to any BSES employee, public official or any other person or entity, with intention of a) obtaining or retaining business b) Influencing business decisions; and/or c) securing an unfair advantage.
3. Conflict of Interest
  - 3.1. All and any conflict of interest in any business dealings with BSES, of which the suppliers are aware, should be declared to BSES so that appropriate action can be taken.
  - 3.2. Avoid a situation where there is a real or potential conflict of interest with BSES employees, or with their family or closely associated persons, that could affect the independence or objectivity of their professional actions or decisions. If avoidance is not possible, the suppliers should inform BSES of the situation so that appropriate action can be taken.
4. Insider Trading and Other Economic Crimes
  - 4.1. Ensure that all business and commercial dealings are transparently performed and accurately recorded in the books and records.
  - 4.2. Comply with applicable anti-money laundering laws, conduct business only with ethically responsible partners and receive funds only from legitimate sources.
  - 4.3. Avoid actual or attempted participation in economic offences, such as (but not limited to) money laundering, criminal breach of trust, counterfeiting, criminal misappropriation of properties, forgery, cheating, extortion, embezzlement and fraud.
  - 4.4. Refrain from insider trading. No confidential information regarding BSES is used to either engage, facilitate or support insider trading in BSES's shares.
  - 4.5. Take necessary measures to detect and prevent any illicit or suspicious forms of payment and inform and/or report through established channels if it has any suspicion or concern in this regard.
5. Gifts & Hospitality
  - 5.1. Any business entertaining/hospitality with BSES should be modest in value, appropriate, and compliant with the law and company policies, entirely for the purpose of maintaining good business relations and not intended to influence in any way BSES's decisions on future business relationship.
  - 5.2. Only gifts/honorarium of nominal value accepted or offered on festivals, at conferences, etc. will be permitted. Such gifts should comply with local laws and customs (including cultural and religious festivals) and should not be prohibited under applicable law and should not include cash or cash equivalents, gold or other precious metals, gems or stones.
  - 5.3. Neither receive nor offer or make, directly or indirectly, any illegal payments, remunerations, gifts, donations or comparable benefits that are intended, or perceived, to obtain

- uncompetitive favours for the conduct of its business with BSES.
- 5.4. Neither directly or indirectly offer any gift, entertainment, trip, discount, service, or other benefit to any official of BSES or his/her close relations which would or be capable of compromising, influencing, liable to corrupt the integrity and objectivity of that person.
6. Competition, Confidentiality and Data Privacy
- 6.1. All market survey/other entities information must be obtained and used legitimately and in compliance with all applicable laws and regulations.
- 6.2. No attempt should be made to divulge to BSES any information about any other entity in violation of any law or agreement.
- 6.3. Likewise, BSES's confidential information must not be shared with any Supplier unless expressly permitted by BSES in writing by authorised signatory under the respective purchase order or agreement, as the case may be.
7. Transparency and Ethics
- 7.1 Fair competition  
Avoid any action that may constitute an illegal practice of unfair competition and ensure compliance with applicable competition laws.
- 7.2 Corporate image and reputation  
Suppliers must NOT:
- Make false statements or provide any misleading information regarding its products/services.
  - Give the impression of representing or being the spokesperson of BSES while getting associated with any religious/political party or for activities in their personal capacity.
8. Protection of Intellectual Property and No Misuse or Improper use of BSES's assets/ property
- 8.1. Respect and protect all confidential information and intellectual property of BSES.
- 8.2. Do not misuse and share assets of BSES and employ them only for the purpose of conducting the business for which they are duly authorised by BSES. These include tangible assets such as equipment and machinery, systems, facilities, materials, and resources and intangible assets such as intellectual property rights, processes, know how & technology, proprietary information, etc.
- 8.3. Safeguard, secure, and protect BSES's assets and information technology from theft, destruction, misappropriation, wastage, and abuse.
- 8.4. Promptly report loss, theft or destruction of any intellectual property and data of the Company or that of any Supplier.
9. Financial Records and Accuracy in Books
- 9.1. Have accounting practices in place to ensure accuracy of its financial books and records.
- 9.2. Ensure accurate accounting and proper reporting of information pertaining to the business and financial results in accordance with applicable Accounting Standards [Generally Accepted Accounting Principles (GAAP)].
- 9.3. Ensure compliance to applicable laws and regulations with respect to accounting and taxation and timely discharge of tax liability.
10. Sanction Laws
- 10.1 Do not engage in any dealings or transactions with any person, or in any country or territory that are subject to global / regional sanctions as mentioned herein below in clause 10.2. BSES is vigilant of its suppliers who may be on a sanctions list or have a related company in a country subject to global/regional sanctions. In case of any concerns, the supplier should immediately report to BSES.
- 10.2 Do not be subject to or the target of any economic or financial sanctions or trade embargoes imposed, administered or enforced by the U.S. Government including without limitation by

the World Bank or by the United Nations Security Council, the European Union, the United Kingdom including by Her Majesty's Treasury or the Department of Business, Innovation and Skills, a relevant regulatory authority or the Minister of Foreign Affairs of Canada under the Special Economic Measures Act or the United Nations Act or legislation or regulations with similar purpose or effect or any other relevant sanctions authority of any other country (collectively, 'Sanctions Laws') nor is the Company or any of its subsidiaries / affiliates located, organised or resident in a country or territory that is the subject of the target of Sanctions Laws

10.3 Do not take any action which places or is likely to place BSES in violation of Sanctions Laws and/ or breaches affecting the reputation and/ or business interests of BSES

11. Responsible Sourcing

Ensure that goods and materials are not sourced in a suspicious or illegal way and implement measures for sustainable procurement practices<sup>3</sup> to ensure compliance with laws and regulations.

12. Quality of Product and Services

Products and services should meet the specifications, quality, safety and environmental criteria specified in the relevant contract documents and required by applicable laws

13. Corporate Citizenship

Suppliers shall be committed to be good corporate citizens, not only in compliance with all relevant laws and regulations, but also by assisting and supporting initiatives to improve the quality of life of local communities/regions in which it operates. The activities may be, but not limited to, community health and family welfare, vocational training, education and literacy and employment.

<sup>1</sup> 'Forced Labour' or 'Involuntary Labour' refers to all work or service that is extracted under the menace of penalty. It also includes terms such as, bonded labour and modern slavery. It also includes any labour for which the worker receives less than the government stipulated minimum wage.

<sup>2</sup> 'Discrimination' refers to unjust or prejudicial treatment of people, especially on the grounds of, but not limited to, caste, creed, gender, race, ethnicity, age, colour, religion, disability, socio-economic status or sexual orientation.

<sup>3</sup> Sustainability shall mean to devise a practice & procedure proactively to sustain resources of organisation and society at present levels with reasonable degradation. Sustainable procurement or sourcing is the process of making purchasing decisions that meet an organisation's needs for goods and services in a way that benefits not only the organisation but society, while minimising its impact on the environment. Organisation integrates the sustainability into business model as a resultant of ESG principles. This is achieved by ensuring that the working conditions of its suppliers' employees are decent, the products or services purchased are sustainable, where possible, and that socio- economic issues, such as inequality and poverty, are addressed

**GENERAL CONDITIONS OF CONTRACT  
(GCC)**

## **GENERAL CONDITIONS OF CONTRACT (GCC)**

The General Condition of Contract shall form a part of specifications, contract document.

### **1. General Instructions & Applicability**

- 1.1. All Bids shall be prepared and submitted strictly in accordance with these instructions. The Bidder shall be solely responsible for all expenses incurred in the preparation and submission of the Bid. Under no circumstances shall the Purchaser be held liable for such costs, regardless of the outcome of the bidding process.
- 1.2. The Purchaser reserves the right to seek clarifications or additional information from any Bidder at any stage of the evaluation process. The Purchaser may, at its discretion, reject any Bid that is incomplete, non-responsive, or fails to meet the requirements stated in the Bid Documents. The decision of the Purchaser regarding the responsiveness or rejection of any Bid shall be final and binding, without any financial or other obligation on its part.
- 1.3. The Bidder shall be deemed to have carefully examined, read, and fully understood all instructions, terms, conditions, and technical requirements specified in the Tender Documents prior to submission of its Bid.

### **2. Definitions and Interpretations**

- 2.1. COMPANY / OWNER / PURCHASER / BUYER / CUSTOMER shall mean BSES Yamuna Power Limited (BYPL), a company incorporated under the Companies Act, 2013, having its registered office at Shakti Kiran Building, Karkardooma, Delhi – 110032. The expression shall include its authorized representatives, agents, successors, and permitted assigns.
- 2.2. BIDDER / SELLER / SUPPLIER / VENDOR / CONTRACTOR / AGENCY / MANUFACTURER shall mean the entity submitting a quotation or proposal in response to this bid enquiry issued by the Purchaser. The term Seller refers to the successful Bidder(s) whose bid has been accepted by the Purchaser and on whom the Letter of Acceptance or Letter of Award or Purchase Order is issued, and shall include the Seller's heirs, legal representatives, successors, and permitted assigns, wherever applicable.
- 2.3. OFFER SHEET shall mean the Bidder's formal and firm offer submitted to BYPL in accordance with the specifications set forth in the Bid Documents.
- 2.4. CONTRACT PRICE/RATE shall mean the price specified in the Letter of Intent, Letter of Award, Rate Contract, or Purchase Order, as applicable.
- 2.5. SITE shall mean the location(s) where the Works, Goods, or Services are to be delivered, installed, commissioned, or executed, as specified elsewhere in the Tender Documents.
- 2.6. STORE shall mean the designated area or location where goods and materials are stored, or as otherwise defined in the Contract.
- 2.7. ENGINEER IN CHARGE shall mean the Company's authorized or nominated representative responsible for supervising and administering the execution of the Works under the Contract.
- 2.8. APPLICABLE LAW shall mean the Constitution of India and all laws, rules, regulations, directives, notifications, codes, orders, or instructions having the force of law as issued by any competent legislative or governmental authority, including but not limited to laws relating to taxes, duties, assessments, expropriation, and compulsory acquisition, as amended from time to time. Any resulting implications shall constitute a Change in Law or Change in Permits, as applicable.

- 2.9. OTHER CLEARANCES shall mean all consents, approvals, permits, or authorizations required to be obtained from governmental or local authorities necessary for commencing or completing the work.
- 2.10. DEFECT LIABILITY PERIOD shall mean the period during which the Seller shall remain responsible for the repair or replacement of any defective part of the Works executed under the Contract, at no additional cost to the Purchaser.
- 2.11. TENDER SPECIFICATION shall mean the technical and commercial requirements, Indian Standard specifications, and description of works detailed in the Tender Documents, including all documents and references expressly or implicitly forming part of the Tender.
- 2.12. SPECIFICATIONS shall collectively mean all stipulations contained in the RFQ, Commercial Terms and Conditions, Instructions to Bidders, Technical Specifications, and any Amendments, Revisions, Deletions, or Additions issued by the Purchaser from time to time.
- 2.13. CODES AND STANDARDS shall mean all applicable codes and standards referred to or implied in the Specifications.
- 2.14. CHANGE OF WORK shall mean any addition, deletion, suspension, or modification to the scope, quality, functionality, or requirements of the Work as defined in the Contract, resulting in a corresponding change to the Technical Specifications and/or completion schedule.
- 2.15. GOOD INDUSTRY PRACTICE shall mean the level of skill, care, diligence, prudence, and foresight reasonably expected from a competent and experienced service provider engaged in similar activities under similar circumstances, in compliance with prevailing laws, regulations, and industry standards.
- 2.16. CONTRACT shall mean the agreement formed by the Letter of Award or Acceptance, Purchase Order or Work Order, Special Conditions of Contract (SCC), General Conditions of Contract (GCC), the Tender and its Annexures, and all addenda, corrigenda, and clarifications issued by the Purchaser.
- 2.17. EFFECTIVE DATE OF CONTRACT shall mean the date of issuance or award of the Contract, which shall also be deemed the Contract Commencement Date.
- 2.18. CONTRACT PERIOD shall mean the total duration agreed upon between the Seller and Purchaser for execution of the Contract, inclusive of any extended contract period for reason beyond the control of the Seller and/or Purchaser due to force majeure.
- 2.19. CONTRACT COMMENCEMENT DATE shall mean the date of issuance or award of the Contract, which shall be deemed the Effective Date of Contract.
- 2.20. CONTRACT COMPLETION DATE shall mean the date marking the expiry of the Guarantee or Defect Liability Period, which shall be deemed the Contract Completion Date.
- 2.21. ACCEPTANCE shall mean and deemed to include one or more of the following as will be stipulated in the specification:
- 2.21.1. Written approval by the Purchaser's Inspector authorizing dispatch of material from the Supplier's works.
- 2.21.2. Acceptance of material at Purchaser site stores after its receipt and due inspection/testing and release of material acceptance note.
- 2.21.3. In case of supply and installation contracts, acceptance shall mean issuance of the Equipment/Material Takeover Receipt after successful installation, commissioning, and final acceptance.

### **3. Contract Documents Priority & Formation**

- 3.1. The documents forming the Contract shall be read as mutually explanatory. In case of any ambiguity or discrepancy, the same shall be clarified and resolved by the Purchaser, whose interpretation shall be final. Unless otherwise provided, the order of precedence of Contract documents shall be as follows:
- 3.1.1. Contract Agreement/Purchase Order/Work Order
  - 3.1.2. Letter of Acceptance / Letter of Intent / Letter of Award
  - 3.1.3. Agreed Minutes of the Tender Negotiation Meetings
  - 3.1.4. Agreed Minutes of the Tender Technical Meetings
  - 3.1.5. Priced Bill of Quantities
  - 3.1.6. Technical Specifications, Drawings, and Scope of Work
  - 3.1.7. Tender Document including all Appendices, Addenda, and Corrigenda (latest revisions to take precedence)
  - 3.1.8. Applicable Codes and Standards
- 3.2. In the event of any inconsistency, the interpretation most consistent with achieving the Project's technical, legal, and statutory objectives shall prevail. No oral communication or instruction shall supersede the written Contract documents.

### **4. Governing Laws & Dispute Resolution**

- 4.1. The Contract shall be governed by and interpreted in accordance with the laws of India.
- 4.2. Any dispute, controversy, or claim arising out of or relating to this Contract, or the breach, termination, or invalidity thereof, shall first be sought to be resolved amicably through mutual consultation between the Parties.
- 4.3. In the event that an amicable resolution is not achieved within a reasonable period, the dispute shall be referred to arbitration in accordance with the provisions of the Arbitration and Conciliation Act, 1996, as amended by the Arbitration and Conciliation (Amendment) Act, 2023. The Arbitral Tribunal shall consist of three (3) arbitrators — one to be appointed by each Party, and the third, who shall act as the presiding arbitrator, to be jointly appointed by the two arbitrators so nominated.
- 4.4. The seat and venue of arbitration shall be New Delhi, India, and the language of proceedings shall be English. The arbitral award rendered by the Tribunal shall be final and binding upon both Parties.

### **5. Change in Law**

- 5.1. Change in Law shall mean the occurrence of any of the following events after the Effective Date of the Contract:
- 5.1.1. The enactment or coming into force of any new Applicable Law.
  - 5.1.2. Any amendment, modification, alteration, or repeal of an existing Applicable Law, or the issuance of any new or revised directive, regulation, or order thereunder.
  - 5.1.3. Any change or variation in the rate, nature, or applicability of taxes, duties, levies, or charges payable in connection with this Contract.
- 5.2. In the event of any Change in Law, the impacted Party shall promptly notify the other Party in writing with relevant details.
- 5.3. If such Change in Law results in any increase or decrease in the cost, expense, or liability of the Seller in performing its obligations under the Contract, an equitable adjustment shall be made to the Contract Price and/or the Schedule of Completion as mutually agreed between the Parties.

5.4. The Parties agree to negotiate in good faith to reasonably compensate or adjust obligations affected by such Change in Law to ensure the fair performance of the Contract.

**6. Language, Measurement & Precedence**

6.1. The Contract issued by the Company to the Seller, along with all related correspondence, documents, instructions, and communications, shall be prepared and maintained in the English language. In case of any translation of Contract documents, the English text shall prevail and govern in the event of any conflict or ambiguity.

6.2. All dimensions, units, quantities, and measurements shall be expressed and interpreted strictly in accordance with the Metric System (International System of Units - SI). Any deviation or alternative units must be clearly specified and mutually agreed upon in writing.

**7. Scope of Supply - General**

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

7.2. Supplier shall have to quote for the Bill of quantities as listed in Volume - II of this RFQ.

7.3. Quantity variation and additional requirements if any shall be communicated to Seller during execution.

7.4. All relevant drawings, data and instruction manuals.

**8. Specifications, Codes & Standards**

8.1. All applicable codes and standards referred to in the Contract Document shall be strictly followed. Codes and standards not specifically mentioned in the Contract Document may be adopted with prior written approval of BYPL, provided that the materials, supplies, and equipment conforming to such standards are equal to or better than the corresponding standards specified in the Contract.

8.2. Product manufacturer or brand names cited in the Contract Documents are intended solely to indicate the required type and quality of products. No substitution or alteration of the specified brands or product quality shall be made without the prior written consent of BYPL. All products and equipment shall be used or installed strictly in accordance with the original manufacturer's guidelines, unless otherwise directed by BYPL.

8.3. In all cases, compliance with the relevant codes, standards, and requirements prescribed by applicable government authorities shall be ensured

8.4. In the absence of specific BSES standards, the relevant Indian Standards (IS) or International Electrotechnical Commission (IEC) standards, as applicable, shall be followed.

**9. Representations and Warranties**

9.1. It is hereby represented and warranted that full legal capacity, along with all valid licenses, permits, and approvals required to perform the obligations under this Contract, are in place.

9.2. It is warranted that all Goods supplied under this Contract:

9.2.1. Are brand new and free from any defects in design, materials, and workmanship.

9.2.2. Fully conform to the specifications and requirements of the Contract.

9.2.3. Are suitable and fit for the intended purpose as specified in the Contract Documents.

9.3. It is further warranted that all Services performed shall be executed with the highest degree of skill, care, and diligence, in accordance with Good Industry Practice and prevailing professional standards.

## 10. Ethics, Integrity & Code of Conduct

10.1. Full compliance shall be ensured with all anti-bribery, anti-corruption, conflict of interest, gifts and gratuities, and integrity policies issued or communicated by the Purchaser. For Contracts exceeding the specified thresholds, execution of an Integrity Pact shall be mandatory in accordance with the Purchaser's guidelines.

10.2. Any breach of these ethics and integrity obligations may result in disciplinary action, including but not limited to termination of the Contract, forfeiture of performance security deposits, recovery of losses incurred by the Purchaser, debarment from future procurement opportunities, and reporting to the relevant regulatory or enforcement authorities.

## 11. Sustainability, ESG & Legal Compliance

11.1. An Environmental, Social, and Governance (ESG) program appropriate to the scope of work shall be implemented, including but not limited to the following:

11.1.1. Compliance with applicable Extended Producer Responsibility (EPR), electronic waste, hazardous waste, plastic waste, and battery waste management regulations;

11.1.2. Adherence to RoHS/REACH standards where applicable;

11.1.3. Design and supply of energy-efficient products meeting prescribed star ratings or efficiency classes;

11.1.4. Provision for take-back and responsible disposal or recycling of packaging and end-of-life equipment, where mandated;

11.1.5. Implementation of Occupational health and safety management systems aligned with IS/ISO 45001;

11.1.6. Social safeguards including prohibition of child labour, forced labour, assurance of fair wages, and provision of safe and dignified workplaces.

11.1.7. Adoption of environmentally responsible practices such as waste minimization, recycling, and strict prohibition of hazardous materials usage, in accordance with relevant laws and regulations.

11.2. Support shall be extended to the Purchaser's Scope-3 greenhouse gas emissions tracking efforts by submitting quarterly reports detailing, where available, the embodied carbon content of supplied goods (where available) and associated logistics emissions. The Seller shall provide reasonable assistance in this regard at no additional cost.

11.3. Priority shall be given to the use of recycled or returnable packaging materials, and single-use plastics shall be minimized except where necessary for product protection. All wooden packaging shall be sourced from legally compliant entities. Pallets, drums, and similar packaging materials shall be collected and returned for reuse or recycling, wherever feasible.

11.4. Accurate records, documentation, and evidence of compliance with all ESG requirements shall be maintained and furnished to BYPL or relevant authorities as reasonably requested, in the prescribed format and frequency.

## 12. Data & Cybersecurity

12.1. For any scope involving software, firmware, or networking components, the following requirements shall apply:

12.1.1. Provide comprehensive cyber hardening guidelines;

12.1.2. Maintenance of a vulnerability disclosure window of thirty-six (36) months from the date of delivery;

- 12.1.3. Timely provision of security patches and firmware updates as and when they become available;
- 12.1.4. Submission of a software Bill of Materials (SBOM) listing all included software components;
- 12.1.5. Confirmation that no hard-coded credentials exist in delivered software or devices.
- 12.1.6. Any connection to the Purchaser's network shall require prior written authorization before implementation.

12.2. Any personal data processed in relation to this Contract shall be handled in full compliance with applicable data protection laws, including the Digital Personal Data Protection Act, 2023, as amended from time to time. Appropriate technical and organizational security measures shall be implemented, and any data breach or security incident impacting Purchaser data shall be promptly notified to the Purchaser.

### **13. Local Content and Eligibility**

- 13.1. Full compliance shall be ensured with the Public Procurement (Preference to Make in India) Order and related norms. This includes submission of accurate declarations of local content in goods and services, along with consent for verification and audit by the Purchaser or authorized agencies. Any false or misleading declaration shall entitle the Purchaser to disqualify the offer, terminate the Contract, and impose debarment in accordance with applicable regulations.
- 13.2. Entities originating from countries sharing land borders with India shall comply with the registration and eligibility criteria prescribed by the Government of India. Non-compliance with these requirements shall render the offer ineligible for consideration and may result in termination of the Contract if discovered after award.

### **14. Manufacturing Approvals & Clearances**

- 14.1. Transmittal approval documents - including Guaranteed Technical Parameters (GTP), drawings, Quality Assurance Plans (QAP), and other relevant documents - shall be submitted within 15 days to the designated BYPL official for review and approval. BYPL shall provide approval or comments within seven (7) calendar days of the initial submission. Should resubmission be required, the Seller shall complete it within five (5) calendar days. Subsequent approvals or comments from BYPL on such resubmissions will be issued within five (5) calendar days. Repeated resubmissions are discouraged and may impact timelines.
- 14.2. Manufacturing activities shall commence only after the Seller receives formal transmittal approval and manufacturing clearance from BYPL.
- 14.3. All documents submitted for transmittal approval must reflect pre-award discussions and confirmations between BYPL and the Seller to ensure accuracy and compliance.
- 14.4. Post Order Transmittal Approval shall be completed within 04 weeks from the date of Rate Contract/Purchase Order. Delays in obtaining transmittal approval shall not be accepted as valid grounds for extension of delivery timelines or waiver of liquidated damages.

### **15. Errors, Omissions & Discrepancies**

- 15.1. Sole responsibility shall rest for all discrepancies, errors, and omissions identified in the drawings, documents, or any other information submitted, irrespective of whether such submissions have been approved, reviewed, or accepted by BYPL. However, any design or drawing errors arising directly from inaccurate or incomplete data or written instructions provided by BYPL shall not be so attributed.

**16. Quality Assurance, Inspection, Testing and Test Certificates**

- 16.1. All equipment shall be procured solely from authentic sources approved by the Company and in accordance with Company specifications.
- 16.2. A detailed Quality Assurance Plan (QAP) and test procedures shall be prepared, identifying all stages of manufacturing, associated quality checks, raw material inspections, and Customer hold points. The document shall specify inspection methods, acceptance criteria, and applicable standards, and shall obtain Purchaser approval prior to commencement of manufacturing. The Purchaser reserves the right to review in-house inspection reports and quality checks at stages other than Customer hold points and may issue remarks requiring additional testing, rectification, or rejection, which shall be duly complied with.
- 16.3. Witness and Hold points represent critical inspections or tests during manufacturing, for which prior intimation shall be given to the Purchaser to facilitate witnessing. Final inspection shall constitute a mandatory hold point. No work shall proceed beyond any hold point without explicit clearance from the Purchaser or receipt of a witness waiver letter.
- 16.4. Any waiver by the Purchaser of a quality assurance activity at any stage shall not relieve responsibility for compliance with all Contract requirements, codes, and referenced standards, nor preclude the Purchaser from subsequently rejecting non-conforming materials or work.
- 16.5. All applicable test certificates and joint inspection reports related to equipment and materials shall be submitted.
- 16.6. Manufacture items shall not be dispatched without prior receipt of a Material Dispatch Clearance Certificate (MDCC) or explicit instructions from the Purchaser.
- 16.7. All in-house testing and inspections shall be conducted at no additional cost. Such inspections shall be overseen by the Purchaser or its authorized third-party inspection agency. Costs of futile or abortive inspection visits shall be deducted from invoices.
- 16.8. The Purchaser reserves the right to send any supplied material to recognized laboratories for testing at any time, with testing costs borne accordingly. In the event that materials fail to meet the specified technical requirements, all associated charges and penalties shall be borne as applicable. Wherever required, a representative shall be present to witness the sealing of materials at the storage site prior to dispatch for testing to avoid any dispute.

**17. Inspection & Test Charges**

- 17.1. The Goods shall be subjected to inspection by the Purchaser and/or a third-party inspection agency appointed by the Purchaser. Such inspections shall include stage-wise and final inspections as per the mutually agreed Quality Assurance/Quality Control (QA/QC) procedures. Additionally, inspections may be conducted at the Purchaser's site or storage facilities. Any damaged or rejected Goods shall be repaired or replaced to the satisfaction of the Purchaser at no additional cost.
- 17.2. Inspection charges are deemed to be included in the total Contract value, whereas third-party inspection fees shall be borne by the Purchaser. However, costs arising from futile or abortive visits by the Purchaser's inspectors to the premises shall be deducted from invoices.
- 17.3. No shipment of Goods, whether in whole or in part, shall be effected under this Purchase Order until a written Release for Shipment Notice has been received from the Purchaser or its authorized representative.

17.4. Requests for stage-wise or pre-dispatch inspections must be submitted to the Purchaser at least seven (7) days in advance, utilizing the official request format provided by BYPL.

**18. Documentation**

18.1. All materials and equipment shall be procured exclusively from BYPL-approved sources and shall strictly conform to BYPL specifications and Transmittal Approvals. Copies of all relevant Material and Type Test Certificates, Operation and Maintenance (O&M) Manuals, and approved as-built drawings for the supplied equipment shall be submitted. Compliance with BYPL specifications and Field Quality Procedures shall be mandatory and ensured throughout the execution of the project.

**19. Packing, Handling, and Storage**

19.1. Packing: All Commodities shall be packed in suitable crates, boxes, drums, containers, cartons, or other appropriate packaging to ensure safe transportation by road or rail to BYPL's Delhi/New Delhi stores or project site. The packaging shall provide adequate protection against damage during transit. Wherever feasible, biodegradable packaging materials shall be used in compliance with applicable environmental standards.

19.2. Packing List: Each package shall contain a detailed packing list itemizing the contents with exact weight, external dimensions (length, width, and height), Item SAP Code, Purchase Order number, and date. One copy of the packing list must be enclosed inside each package delivered.

19.3. Prior to commencement of supply, the Material Safety Data Sheet (MSDS), along with detailed handling and storage instructions or manuals (where applicable), shall be provided. Copies of these documents shall accompany the first lot of materials delivered and be maintained at the storage or project site location.

**20. Delivery Terms & Address**

20.1. The Goods shall be delivered to BYPL's designated Store(s) and/or Site(s). All shipments shall be made on a Free on Road (FOR) destination basis, inclusive of all applicable taxes and duties.

20.2. Responsibility for unloading of the Goods at the respective BYPL Store(s) or Site(s) shall rest accordingly.

20.3. Wherever applicable, all required transit documents, including E-Way Bills, shall be issued to ensure lawful transportation of the Goods. The logistics partner or transporter shall not be held liable for any loss, penalties, or confiscation arising from improper documentation or mis-declaration.

**21. Transportation**

21.1. Responsibility shall rest for arranging transportation of the Goods from the manufacturing works or warehouses to the Buyer's designated Store(s) or Site(s).

21.2. All charges related to transportation from the works to the Buyer's Store(s) or Site(s) shall be deemed included in the total Order value and shall not be claimed or billed separately

**22. Transit Insurance**

22.1. Transit Insurance shall be arranged for all materials and Goods.

22.2. In the event of damage to or loss of cargo during transit, coordination shall be undertaken with the relevant insurance company for obtaining coverage, lodging claims, and facilitating settlement. Irrespective of the insurance outcome, the damaged or lost Goods shall be replaced and delivered to the Purchaser within thirty (30) days of the incident, at sole cost and expense, including all associated costs of replacement and delivery.

### **23. Acceptance & Rejection of Goods**

23.1. Goods shall be accepted only upon receipt of the Material Dispatch Clearance Certificate (MDCC).

23.2. The Purchaser shall not accept materials if LR / RR / Bilty and the Original Tax Invoice (Transporter Copy) are not handed over at store/site. The Seller shall draw all dispatch documents in favour of Purchaser as "Consigned to" and "Billed to".

23.3. The materials shall be supplied during working hours from 10AM to 5PM. No delivery shall be effected after this time unless prior intimation is given to the Purchaser.

23.4. Acknowledgement of receipt, duly signed by the authorized person at the store/site along with the Purchaser's seal, shall be obtained confirming receipt of materials and quantities. In the absence of such acknowledgement, payment shall not be processed.

23.5. Exact quantities shall be supplied as per the MDCC. In case of short supply, as verified at the store/site, the discrepancy shall be adjusted and payment shall be released on a net basis accordingly.

23.6. The Purchaser retains the exclusive right to reject any Goods that do not strictly comply with the terms and conditions of the Purchase Order.

### **24. Price Validity**

24.1. The agreed prices shall remain variable and fixed for the entire duration of the Contract until its completion.

### **25. Prices/Rates/Taxes**

25.1. Price basis for supply of Materials & Services:

25.1.1. The Contract price/rates finalized shall remain variable and fixed for the entire duration of the Contract.

25.1.2. The supply prices shall be inclusive of packing, forwarding, loading at the manufacturer's premises, payment of GST, freight, and all other applicable local charges. Octroi is presently not applicable in Delhi; however, if made applicable, it shall be reimbursed at actuals.

25.1.3. The supply prices shall also include unloading at BYPL Delhi/New Delhi stores/sites.

25.1.4. Transit insurance shall be arranged at no additional cost to the Purchaser.

25.1.5. GST is included in the total Contract price. GST payments shall be processed only upon submission of a valid GST registration certificate and a self-declaration on letterhead confirming compliance with GST provisions and deposit as per applicable laws. The GST registration number shall be provided.

25.1.6. Income Tax (IT) at applicable rates shall be deducted from invoices as Tax Deducted at Source (TDS), as per prevailing laws.

### **26. Taxes & Duties**

26.1. All taxes, duties, turnover tax, labour cess, etc. (except GST) levied by State or Central Governments or local bodies shall be borne by the Seller. Any new taxes and duties levied by

the government during the term of this Agreement shall be borne by BYPL. Income tax and TDS will be deducted at source from the Seller's invoices as applicable. The Seller must furnish their GST registration number.

- 26.2. GST on actuals will be paid upon submission of GST registration and a self-declaration on the Seller's letterhead confirming that the tax has been or will be deposited as per applicable tax laws.
- 26.3. As per Notification No. 39/2021 # Central Tax dated 21st December 2021, effective from 01/01/2022, a registered person (i.e., Recipient/Purchaser) can claim input tax credit only for invoices reflected in GSTR2A or GSTR2B (which requires 100% matching of invoices). Sellers must deposit GST by filing GSTR-1 and GSTR-3B.
- 26.4. In case of non-compliance resulting in the Recipient/Purchaser being unable to avail input tax credit due to non-filing or non-compliance of GSTR-1 and GSTR-3B for the relevant month/quarter of supply, the Recipient/Purchaser reserves the right to withhold 100% of the GST amount from subsequent payments until such default is rectified.
- 26.5. For release of withheld payments under the GST Act, proof of tax payment shall be submitted through GST Portal screenshots reflecting the Recipient/Purchaser's name, along with copies of the relevant GSTR-1 and GSTR-3B returns for the applicable period. Payments shall not be released until such proof is furnished.
- 26.6. The Recipient/Purchaser further reserves the right to recover any financial loss incurred (including tax, interest, penalties, and loss of input tax credit) arising from non-compliance or non-filing of GSTR-1 and GSTR-3B.
- 26.7. For goods delivered on an FOR site basis, compliance with all applicable provisions relating to issuance of E-way Bills shall be ensured. Any violation may result in penalties and seizure of goods during transit. All penalties, pre-deposits, and related expenses arising from such violations shall be borne accordingly. Timely release of seized goods shall also be ensured. Any delay in supply due to such seizure shall attract liquidated damages as per Contract provisions.
- 26.8. For goods not covered under GST, applicable Excise Duty (ED), VAT, or CST shall be payable extra at prevailing rates.
- 26.9. BYPL Tax Details:  
26.9.1. GSTIN: 07AABCC8569N1Z0  
26.9.2. CST No.: 07740254593  
26.9.3. TIN No.: 07740254593  
26.9.4. PAN No.: AABCC8569N
- 26.10.A detailed statement of invoices and corresponding amounts shall be submitted to the concerned officer within seven (7) days after the end of each month pertaining to the supply period. Failure to submit the same shall be construed as no reconciliation requirement.

## **27. Variation in Taxes, Duties & Levies**

- 27.1. The total order value shall be adjusted for any variations in statutory levies imposed by competent authorities through fresh notifications issued within the stipulated delivery period. In the event of any reduction in taxes, duties, or levies, such benefits shall be passed on to the Buyer.
- 27.2. No other taxes, duties, or levies beyond those specified shall be payable by the Buyer, except for new levies, taxes, or duties imposed by competent authorities via fresh notifications after the issuance of the purchase order but within the stipulated delivery period.

27.3. Any changes in taxes, duties, or levies shall only apply to the portion of the purchase order remaining unexecuted on the date of such notification. Changes occurring after the scheduled delivery date shall not affect the terms or value of the purchase order.

27.4. The purchase order value shall remain unaffected by any variations in exchange rates.

**28. Taxes & Duties on Raw Materials and Bought-Out Components**

28.1. Taxes and duties applicable to raw materials and bought-out components shall be deemed included within the total order value and shall not be subject to any escalation or variation for any reason throughout the duration of the contract.

**29. Building and Other Construction Workers (BOCW) Act (Applicable for All Civil and Construction Works)**

29.1. The Building and Other Construction Workers (BOCW) Act shall apply to any establishment employing or having employed ten (10) or more building workers at any time during the preceding twelve months in connection with any building or construction work. Where applicable, registration with the Registering Officer under Section 7 of the BOCW Act, along with compliance with relevant State Government rules, shall be obtained and the Registration Certificate issued by the concerned State Labour Department shall be submitted.

29.2. In accordance with the Act, cess at the rate of 1% of the cost of construction work shall be payable and shall be deducted from each interim bill. The cost of materials, when billed separately as a distinct schedule item, shall be excluded from the cess calculation. Full compliance with all applicable provisions of the BOCW Act shall be ensured.

**30. Tax Indemnity Clause**

30.1. The Seller (including its affiliates in India or overseas, agents, third-party Sellers, or any other persons appointed by such affiliates for this Agreement) shall bear sole responsibility for compliance with and payment of all taxes—direct or indirect—including but not limited to income tax, transfer pricing, value added tax, SGST, CGST, IGST, UTGST, GST Compensation Cess, customs duty, excise duty, Research and Development Cess, cesses, interest, penalties, or any other tax/duty/amount/charge/liability arising under laws or regulations applicable in India or overseas, or from demands or recoveries initiated by any revenue authority.

30.2. If any tax liability (including but not limited to income tax, transfer pricing, value added tax, SGST, CGST, IGST, UTGST, GST Compensation Cess, customs duty, excise duty, Research and Development Cess, etc.), cesses, interest, penalties, or other charges become payable by the Purchaser due to the Seller's or its affiliates' failure to comply with relevant laws or regulations, the Seller undertakes to indemnify the Purchaser for such amounts.

30.3. Furthermore, the Seller agrees to indemnify and keep indemnified the Purchaser against all actions, proceedings, claims, losses, damages, costs, and expenses directly or indirectly arising from any failure by the Seller or its affiliates to comply with applicable legal obligations.

30.4. The parties agree to the following procedure in the event the Purchaser receives any demand or notice relating to non-compliance by the Seller or its affiliates with tax laws:

30.4.1. The Purchaser shall notify the Seller in writing within five (5) common working days of receipt of such communication, or as soon as reasonably possible if the response time is shorter.

30.4.2. Upon receipt of notification, the Seller shall either accept the demand and reimburse the Purchaser within five (5) working days of payment or propose disputing the demand.

- 30.4.3. If the Seller opts to dispute the demand and the Purchaser agrees, the Purchaser will contest the demand following due legal process, refraining from paying the tax demand during litigation. The Seller shall reimburse all litigation costs incurred, including counsel fees and filing charges. Should any coercive recovery measures be initiated, the Purchaser may pay the sum and recover it from the Seller within five (5) working days.
- 30.4.4. If the demand is finally determined by a tribunal or authority and payment was made by the Purchaser, the Seller shall reimburse the amount within ten (10) days of payment. Conversely, if no amount is payable and a refund arises, the Purchaser shall pass the refund to the Seller within ten (10) days of receipt.

### 31. Invoicing Instructions

- 31.1. Invoices shall be prepared in triplicate - (1) Original for the recipient, (2) Duplicate for the transporter, and (3) Triplicate for the Seller - and delivered to: BSES YAMUNA POWER LIMITED, SHAKTI KIRAN BUILDING, KARKARDOOMA, DELHI - 110032. Separate Material Dispatch Clearance Certificates (MDCC) shall be issued for Capex and Opex, and invoices shall be submitted accordingly
- 31.2. GST registration shall be obtained in the State from which the supply is made. A valid GST registration number shall be maintained, and GST tax invoices along with supporting documents shall be issued in compliance with the SGST Act, CGST Act, IGST Act, UTGST Act, GST Compensation Cess Act, and applicable Rules. Failure to submit GST-compliant invoices shall result in withholding of applicable tax components (SGST, CGST, IGST, UTGST, GST Compensation Cess) during payment processing.
- 31.3. Invoices shall be issued in the name of BSES YAMUNA POWER LIMITED, with the Store/Site address as specified in the MDCC. All invoices must comply with GST requirements relating to Invoices, Debit Notes, and Credit Notes, including details such as GSTIN, HSN/SAC codes, item description, tax rates, and other particulars as prescribed under applicable regulations and the GST INV-01 template.
- 31.4. Applicable CGST, SGST, UGST, IGST, and GST Compensation Cess shall be charged correctly, as per prevailing laws.
- 31.5. Timely Issuance of Invoices/Debit/Credit Notes:
- 31.5.1. Invoices and debit/credit notes shall be issued promptly to enable the Purchaser to claim input tax credit within prescribed timelines under GST laws. All adjustments (credit notes, purchase returns, debit notes) shall be processed within statutory time limits.
- 31.5.2. In case of advance payments, a tax invoice shall be raised as per GST provisions. Upon payment of advance, a payment voucher shall be issued by the Purchaser as per applicable GST rules. Four copies of invoices shall be provided, including the Electronic Reference Number where mandated. Persons in charge of conveyance shall carry all required documents and devices as prescribed under law.
- 31.6. Transit Documents and E Way Bills: Wherever applicable, all required transit documents/E-Way Bills shall be issued in compliance with statutory provisions for movement of goods. Logistics partners or transporters shall not be held liable for losses or confiscation arising from improper documentation or misdeclaration. Compliance with all E-Way Bill regulations shall be ensured. Any violation may attract penalties and seizure of goods, and all such penalties, pre-deposits, and related costs shall be borne accordingly. Timely release of seized goods from authorities (CGST/SGST, etc.) shall be ensured. Delays arising from seizure shall attract liquidated damages as per Contract provisions.

- 31.7. All Suppliers/Service Providers must include the following minimum details in invoices to be submitted:
- 31.7.1. Invoice/Credit Note number and date
  - 31.7.2. Supplier/service provider address and GSTN
  - 31.7.3. Customer name and address as per GST registration and GST registration number
  - 31.7.4. 'Shipped to' and 'Billed to' addresses
  - 31.7.5. Place of supply
  - 31.7.6. Description of goods/services with units of measurement
  - 31.7.7. HSN/SAC codes
  - 31.7.8. Taxable value (gross and discount detailed separately if applicable)
  - 31.7.9. Tax rate and amount for CGST, SGST, and IGST separately
  - 31.7.10. Authorized signature (for e-invoices, a physical signature is not required)
  - 31.7.11. Indication of reverse charge applicability, if any.

### 32. Bill Submission Procedure

- 32.1. All monitoring, measurement, billing, and payment processes shall be carried out through BYPL's IT-enabled platform in accordance with Company guidelines issued from time to time, and strict adherence to the same shall be ensured. The Company reserves the right to modify the bill submission procedure, and bills shall be submitted as per the procedure stipulated by the Company from time to time.
- 32.2. All bills shall be uploaded on the BYPL portal (BTS – Bill Tracking System) for certification by the Engineer In-Charge or Package Engineer.
- 32.3. In addition, the original bill (hard copy), along with all supporting documents, shall be submitted to the Vendor Support Cell of BYPL. Bills shall be raised in favour of BSES Yamuna Power Ltd., Shakti Kiran Building, Karkardooma, New Delhi – 110032.
- 32.4. Each bill shall be complete in all respects, including compliance with ESI, HR, Quality, HSE, Stores, and Finance requirements. The site follows an established procedure for bill processing. Incomplete bills or invoices shall not be processed for payment.

### 33. Terms of Payment and Billing

#### 33.1. For Supply Of Equipment/Materials

100% payment shall be made within 45 days from the date of receipt & acceptance of material at store(s)/site(s) on against submission of following documents against dispatch of each consignment at our Vendor Support Cell (VSC):

- a) Signed copy of accepted Rate Contract / Purchase Order (for first payment)
- b) PBG equivalent to 1% of RC Value (including GST) valid till RC validity period, as applicable
- c) LR / RR / BL as applicable
- d) Challan, as applicable
- e) One (01) copy of the detailed tax invoice showing commodity description, quantity, unit price, total price, and basis of delivery, covering 100% of the consignment value claimed
- f) One (01) copy of the transporter's invoice duly receipted by BYPL Store and original certificate issued by BYPL confirming receipt and acceptance of the material at Store/Site as per Contract provisions
- g) One (01) copy of Packing List / Detailed Packing List
- h) Approved Test Certificates / Quality Certificates, wherever applicable
- i) Certificate of Origin, wherever applicable
- j) Material Dispatch Clearance Certificate (MDCC)
- k) Warranty / Guarantee Certificate, wherever applicable
- l) Checklist for bill submission

- 33.2. The Purchaser reserves the right to recover any tax loss, interest, or penalty suffered due to non-compliance with tax laws. In the event input tax credit is denied due to any shortcoming

(which otherwise would have been available in the normal course), such shortcoming shall be rectified at own cost and effort. If rectification is not possible, the financial loss suffered by the Purchaser on account of denied tax credit shall be made good. In such cases, any amount paid shall first be appropriated towards the GST component charged in the invoice, and the balance shall be treated towards the value of supply of goods/services.

- 33.3. The Purchaser shall deduct Tax Deducted at Source (TDS), wherever applicable, at rates prescribed under GST laws or any other applicable Indian law, and remit the same to the Government. Necessary TDS certificates shall be issued as per statutory provisions.
- 33.4. Any liability arising out of disputes relating to tax rate, HSN classification, calculation, or payment of tax to the Government shall be borne accordingly.
- 33.5. Where supply of Goods is liable to GST under the Reverse Charge Mechanism (RCM), the applicable category of registration shall be clearly indicated, along with a declaration stating that "the liability of payment of GST is on the Recipient of Supply."

#### **34. Performance Guarantee**

- 34.1. To be submitted within twenty-eight (28) days from the date of issuance of the Letter of Intent/Award/RC. Bidder shall initially submit the performance bank guarantee (PBG) equivalent to 1% of RC Value (including GST) valid till RC validity period plus three months claim period. Upon receipt of the PBG by BYPL against RC, the EMD shall be released. Thereafter bidder shall submit PBG on Purchase Order (PO) basis equivalent to 10% of the PO value (including GST) valid for a period of 30 months from the date of last receipts at site/stores plus 3 months claim period.
- 34.2. All Bank Guarantees shall be issued in favour of BSES Yamuna Power Ltd. and shall strictly conform to the format prescribed by BYPL.
- 34.3. Performance Guarantee Forfeiture: Each Performance Bank Guarantee furnished under Clause 34.1 shall contain a provision for automatic and unconditional forfeiture, without recourse, upon presentation by BYPL to the issuing bank along with a simple statement that there has been failure to comply with any term or condition of the Contract.
- 34.4. The Performance Bank Guarantee shall be liable for automatic and unconditional forfeiture, without recourse, if BYPL, at its sole discretion, determines non-compliance with any term or condition of the Contract.
- 34.5. Performance Guarantee Release: All Performance Bank Guarantees shall be released without interest within seven (7) days after expiry of the validity period specified under Clause 34.1, except in cases covered under Clause 34.4.

#### **35. Defects Liability Period/ Warranty / Guarantee**

- 35.1. The materials/items supplied shall be guaranteed against any defect or failure arising from faulty materials, workmanship, or design for the entire Defects Liability Period. The Defects Liability Period shall be sixty-six (66) months from the date of delivery at Store(s)/Site(s).
- 35.2. If, during the Defects Liability Period, any goods are found to be defective, they shall be promptly replaced or rectified at own cost, including dismantling and reinstallation, as directed by the Purchaser. Where removal from site is required, the goods shall be returned at own cost within the agreed timeline from receipt of intimation.
- 35.3. In case of emergencies, service personnel shall be deputed within forty-eight (48) hours, and adequate manpower and spares shall be ensured throughout the warranty period.

35.4. If, in the sole discretion of BYPL, the situation warrants emergency restoration, BYPL reserves the right to take immediate action to identify the fault and restore the system using available resources, materials, or through any third-party agency, under due intimation. All associated costs of replacement, substitution, shipping, labour, taxes, levies, and other related expenses, along with 15% of the expenses as administrative overheads, shall be borne accordingly. BYPL may recover such costs by charging the same, setting off against any amounts payable, or deducting from the Performance Bank Guarantee (PBG). The recoverable amount shall be paid within thirty (30) days of intimation.

35.5. Fault root cause analysis shall be conducted jointly by BYPL's CES, O&M, OET, OEM teams, and concerned representatives. In cases where faults are attributable to reasons other than defective material, design, or workmanship, further liability or cost shall not arise.

**36. Support beyond the Guarantee Period**

36.1. Availability of spare parts and necessary technical support shall be ensured for a minimum period of ten (10) years after completion of the equipment guarantee period under the Contract. At least twelve (12) months' prior notice shall be given to BYPL before declaration of End of Life (EOL) support for the supplied product or technology.

**37. Return, Replacement or Substitution**

37.1. BYPL shall promptly notify upon identification of any defective commodity. At its sole discretion, BYPL may return such defective commodities for replacement at no cost to BYPL or reject the commodities and procure the same or similar items from a third party. In the event of third-party procurement, proof of the replacement purchase cost shall be provided.

37.2. All costs associated with replacement, substitution, shipping, labour, and other related expenses incurred in connection with return, replacement, or third-party procurement of the commodity shall be borne accordingly. BYPL reserves the right to deduct such costs from any payments due or recover the same from the Performance Bank Guarantee.

37.3. Where the cost of the substitute commodity exceeds the quoted price, the differential amount shall be reimbursed to BYPL.

37.4. At BYPL's sole discretion, materials or goods rejected and not collected within forty-five (45) days from the date of rejection notification may be disposed of by BYPL at the associated risk and cost.

**38. Effective Date of Commencement of Contract**

38.1. The Contract shall be deemed to commence on the date of issuance of the Letter of Intent, Letter of Acceptance, or Purchase Order, whichever is earlier, and this date shall be considered as the effective commencement date for all contractual obligations.

**39. Time - The Essence of Contract**

39.1. The date specified for completion of the "Project" in the Letter of Intent/Acceptance or Purchase Order shall be deemed to be the essence of the Contract. Completion of the Project shall be ensured on or before the stipulated schedule and completion date.

**40. Delivery Completion Timelines**

40.1. The contractual delivery for the Goods or Services shall adhere strictly to the defined schedule.

**41. Extension of Time and Time Overrun**

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41.1. Extension of time may be granted at the Company's discretion in cases where delays are not attributable to reasons within control, subject to submission of detailed justification within ten (10) days of occurrence of the delay. Grant of such extension shall not entitle any increase in the Contract price and shall not prejudice the Company's right to recover liquidated damages, wherever applicable.

#### **42. Liquidated Damages**

42.1. In the event of delay in supply of items/equipment beyond the schedule stipulated in the Purchase Order, liability shall arise to pay, as penalty for delay, a sum equivalent to 1% (one percent) of the basic (ex-works) price of the undelivered units, or part thereof, for each week of delay against the respective milestone deliveries.

42.2. The total penalty for delay under the Contract shall be subject to a maximum of ten percent (10%) of the basic (ex-works) price of the total undelivered units.

42.3. The Purchaser may, without prejudice to any other method of recovery, deduct such damages from any amount due or becoming due, recover the same from the Performance Bank Guarantee, or initiate appropriate claims.

42.4. Where penalty is levied in accordance with the Order terms and conditions, BYPL shall raise an invoice for the penalty amount along with applicable GST. After adjustment of the penalty invoice amount, the net payment shall be released accordingly.

#### **43. Recoveries**

43.1. Whenever any sum becomes recoverable under this Contract, the Purchaser shall be entitled to recover such amount by appropriating, in whole or in part, any sums due or that may become due under the Contract. In the event such sums are insufficient to cover the total recoverable amount, the outstanding balance shall be paid to the Purchaser upon demand.

#### **44. The Micro, Small and Medium Enterprises (MSME)**

44.1. Where the establishment falls within the scope of the Micro, Small and Medium Enterprises Development Act, 2006 and its amendments, such status shall be declared at the time of submission of the bid. Failure to declare the same shall be deemed as confirmation of non-MSME status. A copy of the Udyog Aadhaar (UA) and Udyam Registration Number, along with the PAN number, shall be submitted as applicable.

#### **45. Transfer and Subcontracting**

45.1. The Contract or any part thereof shall not be subcontracted, transferred, assigned, or otherwise parted with, whether directly or indirectly, without the prior written approval of the Purchaser.

45.2. Notwithstanding any approved subcontracting, full responsibility shall remain for the execution, completion, and satisfactory performance of the Work in strict compliance with the Purchase Order, specifications, approved drawings, and data sheets. Complete accountability shall also extend to any acts, omissions, defaults, or negligence of any subcontractor.

#### **46. Intellectual Property Rights and Royalties**

46.1. Indemnity shall be provided to the Purchaser and the Purchaser's Representative against all claims and proceedings arising from infringement or alleged infringement of any patent rights, registered designs, copyright, trademarks, trade names, know-how, or other intellectual property rights (collectively referred to as "Intellectual Property Rights") in relation to the Works, equipment, machinery, methods, plant, materials, or any item required for execution

of the Works. In the event of infringement, the infringing item shall, at own cost, be rectified, modified, or replaced so that the infringement ceases, or necessary rights/licences shall be procured from the concerned third party.

- 46.2. Prompt notice shall be given of any such claim. At own cost, negotiations for settlement and any litigation or arbitration arising therefrom shall be undertaken. The Purchaser or the Purchaser's Representative shall not make any admission prejudicial to such defence unless there is failure to assume conduct of negotiations, litigation, or arbitration within a reasonable time after request. In the event of inaction, the Purchaser shall have full liberty to deduct the claimed amount from any sums due under this or any other contract, and any remaining balance shall be treated as a debt recoverable.
- 46.3. Intellectual Property Rights in any plant, materials, drawings, designs, plans, documents, specifications, data, know-how, charts, or information provided by the Purchaser shall remain the sole property of the Purchaser. Usage rights shall be limited strictly to execution of the Works.
- 46.4. Intellectual Property Rights in any plant, materials, drawings, designs, plans, calculations, documents, know-how, or information proprietary in nature ("Proprietary IPR") shall continue to vest with the respective owner and/or third-party licensors. A worldwide, perpetual, royalty-free, non-exclusive licence (including the right to sub-license) shall be granted and/or procured, at own cost, in favour of the Purchaser for use, operation, maintenance, and repair of the Works.
- 46.5. If any patent, trademark, trade name, registered design, or software is specifically developed for execution of the Works, all Intellectual Property Rights therein shall vest absolutely with the Purchaser and shall not be utilized or retained for any other purpose without prior written consent of the Purchaser.
- 46.6. Where proprietary software (customized or off-the-shelf) is used for storing or utilizing records relating to the Works, a worldwide, perpetual, royalty-free licence or sublicense (including the right to sub-license) shall be obtained at own expense in favour of the Purchaser. Such licence may restrict usage to purposes connected with design, construction, reconstruction, manufacture, installation, completion, reinstatement, extension, repair, and operation of the Works or any part thereof.
- 46.7. Where software used in execution of the Works is subject to pre-existing rights held by any party, a worldwide, perpetual, royalty-free licence shall be obtained in favour of the Purchaser for the right to use and apply such software, including any modifications, improvements, or developments thereof.

#### **47. Vendor Code of Conduct**

- 47.1. Seller acknowledges having reviewed the BYPL policy on legal and ethical code required to be followed by Sellers encapsulated in the "Vendor/Supplier Code of Conduct" displayed on the official website of BYPL ([www.bsedelhi.com](http://www.bsedelhi.com)) also, which shall be treated as a part of the agreement/contract/PO/WO.
- 47.2. Seller undertakes that he shall adhere to the Supplier Code of Conduct and also agrees that any violation of the Supplier Code of Conduct shall be treated as breach of the agreement/contract/PO/WO.
- 47.3. In event of any such breach, irrespective of whether it causes any loss/damage, company (BYPL) shall have the right to recover loss/damage including liquidated damages from Seller.

47.4. The Seller hereby indemnifies and agrees to keep indemnified the company (BYPL) against any claim/litigation/liability/penalty including litigation cost arising out of any violation of Supplier Code of Conduct by the Seller or its officers, agents & representatives etc.

#### **48. Limitation of Liability**

48.1. Except in cases of willful misconduct, fraud, or gross negligence, neither Party shall be liable to the other for loss of use of any works, loss of profit, loss of contracts, or any other indirect or consequential damages arising out of or in connection with the Contract. The total liability under this Contract shall not exceed the Contract Value.

48.2. Notwithstanding the above, the limitation of liability shall not apply in the following cases:

48.2.1. Fraud, willful misconduct, or unlawful acts

48.2.2. Acts or omissions that violating fundamental rules of diligence expected under similar circumstances

48.2.3. Intellectual property infringement

48.2.4. Breach of confidentiality or data security obligations

48.2.5. Tax and statutory dues liabilities

48.2.6. Recovery of liquidated damages

48.2.7. Third-party death or personal injury

#### **49. Liability of Suppliers/Contractors**

49.1. Subject to due discharge of obligations under the Contract and except in cases of willful misconduct, fraud, or gross negligence, liability for any loss or damage caused to the Purchaser's property or the Site shall be limited as follows:

a) No liability shall arise for any indirect or consequential loss or damage; and

b) Liability for direct loss or damage shall not exceed:

i. The total payments made and expected to be made under the Contract, including reimbursements, if any; or

ii. The insurance claim proceeds receivable under any insurance policy obtained to cover such liability, whichever is higher.

49.2. This limitation of liability shall not affect the supplier's liability, if any, for damage to third-party property or injury or death of a person due to negligence of the Contractor or any Person or firm acting on behalf of the supplier in executing the order.

49.3. Notwithstanding anything contained in the Contract, the Supplier shall not be liable for any gross negligence or willful misconduct on the part of the Purchaser or any of its affiliates, any vendor, or any party, other than Supplier and/or, its directors, officers, agents or representatives or its affiliates, or SubSupplier, or the vendor or any third party engaged by it.

49.4. Notwithstanding anything contained in the Contract, including but not limited to approval by the Purchaser of any drawings, documents, vendor list, supply of information or data or the participation of the Purchaser in any meeting and/or discussion or otherwise, shall not absolve the Supplier from any of its liabilities or responsibilities arising in relation to or under the Contract.

#### **50. Indemnification**

50.1. The Supplier shall indemnify and hold harmless the Company from and against any and all liabilities, claims, damages, losses, or expenses arising out of or resulting from:

50.1.1. any breach non-observance or non-performance by Supplier or its employees or agents of any of the provisions of this Work Order.

50.1.2. any act or omission of Supplier or its employees or agents.

50.1.3. any negligence or breach of duty on the part of Supplier, its employees or agents including any wrongful use by it or them of any property or goods belonging to or by COMPANY.

50.1.4. Any damages or loss related to free-issued materials, for which the Supplier shall submit an Indemnity Bond.

50.2. The Supplier shall at all times indemnify the Company against all liabilities to third parties, including employees or agents of the Company or the Supplier, for bodily injury, property damage, or any other loss arising out of or in connection with the execution or completion of the Works. This includes all costs, charges, and expenses incurred by the Company due to claims from such persons.

## 51. Events of Default

51.1. Each of the following events or occurrences shall constitute an event of default under the Contract:

51.1.1. The Supplier fails or refuses to pay any amounts due under the Contract;

51.1.2. The 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 valid extension thereof;

51.1.3. The 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;

51.1.4. The Supplier fails to complete the works in accordance with the approved schedule of works.

51.1.5. The Supplier fails to comply with any reasonable instructions or directions issued by the Company in connection with the execution of the works.

51.1.6. The 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 BYPL specifying the failure.

## 52. Consequences of Default

52.1. If any Event of Default occurs and continues, BYPL may, by written notice, terminate the Contract forthwith.

52.2. Upon occurrence of an Event of Default, BYPL may, without prejudice to any other rights or remedies available under law or the Contract, exercise one or more of the following remedies;

52.2.1. Invoke and present the Performance Bond for payment;

52.2.2. Procure the same or equivalent Commodities from any third-party source; and/or

52.2.3. Recover from the Supplier any losses, damages, or additional expenses incurred as a result of the Supplier's default.

## 53. Force Majeure

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

53.1.1. 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 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.

53.1.2. 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.

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

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

### 53.2. Specific Events of Force Majeure

53.2.1. 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:

53.2.1.1. Natural elements or other acts of God, such as storms, floods, earthquakes, lightning, cyclones, landslides, or other natural disasters.

53.2.1.2. Explosions or fires.

53.2.1.3. Epidemics, pandemics, or plagues.

53.2.1.4. Declared war by the Government of India.

53.2.1.5. Dangers of navigation or perils of the sea.

53.2.1.6. Cyber security incidents impacting grid operations.

53.2.1.7. Pandemic-related lockdowns.

53.2.1.8. Climate change events beyond traditional natural disasters.

53.2.1.9. Embargoes.

53.2.1.10. Supply chain or industrial disturbances beyond reasonable control.

53.2.2. Note: Force Majeure shall not apply to financial inability, labour shortages, power failures, strikes, accidents, or subsupplier defaults.

### 53.3. Notice of Events of Force Majeure

53.3.1. If a force majeure event prevents a party from performing any obligations under the Contract in part or in full that party shall:

53.3.1.1. Immediately notify the other party in writing of the force majeure events within 7(seven) working days of the occurrence of the force majeure event

53.3.1.2. Be entitled to suspend performance of the obligation under the Contract which is affected by force majeure event for the duration of the force majeure event.

53.3.1.3. Use all reasonable efforts to resume full performance of the obligation as soon as practicable

53.3.1.4. Keep the other party informed of all such efforts to resume full performance of the obligation on a regular basis.

53.3.1.5. Provide prompt notice of the resumption of full performance or obligation to the other party.

### 53.4. Mitigation of Events of Force Majeure

53.4.1. Each Party shall:

53.4.1.1. 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;

53.4.1.2. 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

53.4.1.3. 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.

**53.5. Burden of Proof**

53.5.1. 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.

**53.6. Termination for Certain Events of Force Majeure**

53.6.1. 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.

53.6.2. The Purchaser may terminate the contract after giving 7 (seven) days' notice if any of the following occurs:

53.6.2.1. Supplier fails to complete the execution of works within the approved schedule of works, terms and conditions.

53.6.2.2. In case the Supplier commits any Act of Insolvency, or is adjudged insolvent

53.6.2.3. Has abandoned the contract

53.6.2.4. Has failed to commence work or has suspended the progress of works

53.6.2.5. Has failed to proceed with the works with due diligence and failed to make such due progress

**53.7. Limitation of Force Majeure event**

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

**53.8. Extension of Contract Period due to Force Majeure event**

53.8.1. 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.

**53.9. Effect of Events of Force Majeure**

53.9.1. 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 the failure to perform such obligations shall be due to an event of "Force Majeure".

**54. Suspension or Extension**

54.1. The Purchaser reserves the right to suspend or reinstate execution of the whole or any part of the Works without affecting the validity of the Contract provisions. Any orders for suspension or reinstatement shall be provided to the Supplier in writing. The completion time for the Works will be extended by a period equivalent to the duration of the suspension.

54.2. For any aggregate suspension period less than six (6) months, the Supplier shall not be entitled to claim reimbursement. If the suspension of the Works extends beyond six (6) months, the Purchaser will reimburse the Supplier only for necessary and demonstrable direct costs incurred, subject to satisfactory substantiation. Overheads, incidentals, and profit shall not be considered. The Purchaser's decision regarding such claims will be final and binding. The Purchaser shall bear no liability for suspension or delay arising from any default on the part of the Supplier or its sub-Suppliers; the Purchaser's decision in this respect shall also be final and binding.

## **55. Severability**

55.1. If any provision of this Agreement is found to be invalid, illegal, or unenforceable by a court of competent jurisdiction, such invalidity or unenforceability shall not affect the remaining provisions of the Agreement, which shall continue to be valid and enforceable to the fullest extent permitted by law.

## **56. Waiver of Rights**

56.1. No failure or delay by either Party in enforcing any provision of this Agreement shall be deemed a waiver of that provision or of any subsequent breach. Any waiver granted must be expressly made in writing and shall apply only to the specific instance and shall not constitute a waiver of any other rights or breaches occurring thereafter.

## **57. Patent Rights and Royalty**

57.1. In the event that the Supplier, during the course of performing its obligations under this GCC, acquires, invents, or develops any proprietary knowledge, information, process, or invention which qualifies, or may qualify, as a trademark, copyright, patent, trade secret, geographical indication, or any other intellectual property right, the Supplier shall promptly disclose such creation to BYPL. All title, interest, and rights to such intellectual property shall vest exclusively in BYPL, and the Supplier shall execute all documents necessary to ensure BYPL's sole ownership without delay.

57.2. The Supplier warrants that, in performing its obligations, no intellectual property rights of any third party shall be infringed, whether by violation of statute, passing off, or otherwise. The Supplier shall bear sole responsibility for any infringement claims, and shall fully indemnify and hold BYPL harmless from and against any and all losses, damages, liabilities, costs, or expenses (including reasonable legal fees) incurred as a result of any such infringement. Any compensation, damages, or expenses paid by BYPL to third parties in connection with such infringement shall be recoverable in full from the Supplier.

## **58. Confidentiality/Secrecy**

58.1. The Supplier shall not, without the Company's prior written consent, disseminate, publish, or otherwise utilize in any form of advertising, publicity, sales release, or media any photograph, reproduction, or description of the Items/Works under this Contract, nor disclose the site details, dimensions, quantities, or other related information concerning the Items/Works.

58.2. The Supplier, along with its employees and representatives, shall maintain strict confidentiality regarding all information encountered in the execution of the Contract, as detailed below.

58.2.1. Documents: All maps, plans, drawings, specifications, schemes, and other documents or information related to the Contract/Project, including any material supplied to the Supplier by BYPL for contract execution, shall be treated as confidential and remain the property of BYPL. Such documents shall be used solely for purposes of the Contract and shall not be disclosed or used for any other purpose. Disclosure to third parties is permitted solely where such disclosure is necessary for the execution of the Work, and only upon the third party's execution

of a confidentiality agreement acceptable to BYPL, explicitly committing to uphold confidentiality obligations equivalent to those set forth herein.

- 58.2.2. Geographical Data: Maps, layouts, site photographs, and regional imagery depicting installations of national or BYPL significance shall not be published, disclosed, or exported without BYPL's prior written approval. Any necessary disclosure to third parties shall be subject to confidentiality agreements satisfactory to BYPL, executed prior to disclosure.
- 58.2.3. Violation: In the event of any breach of these confidentiality provisions, the Supplier shall indemnify and hold the Company harmless from any loss, cost, damage, or claim (including claims asserted by third parties) arising as a result of such breach. Any actual or suspected data breach or cyber incident must be promptly notified to BYPL and investigated at the Supplier's expense.

58.3. Furthermore, the Supplier shall be liable for compensation or damages as determined by the competent authority of BYPL.

## **59. Progress Reports of Work Execution and Information**

- 59.1. Throughout the manufacturing and dispatch stages of the Items/Equipment under this Contract, periodic progress reports shall be submitted at own cost, as reasonably required by the Purchaser. Such reports shall include relevant supporting documents such as production schedules, inspection status, test certificates, photographs of critical manufacturing stages, and dispatch details. The format, content, and number of copies of such reports shall be as specified by the Purchaser.
- 59.2. Quantitative progress reports shall be aligned with the agreed delivery schedule and shall provide sufficient detail to enable the Purchaser to assess manufacturing progress, plan inspections/witness dates, and review dispatch forecasts, including status of key bought-out components, wherever applicable. Review meetings may be convened within seven (7) days of report submission, or at other times as reasonably required by the Purchaser, to discuss progress.
- 59.3. Weekly or periodic progress reports (as applicable) shall include, but not be limited to:
- 59.3.1. Executive summary of manufacturing and supply status.
  - 59.3.2. Description of manufacturing activities completed during the reporting period and materials/components procured.
  - 59.3.3. Photographs of critical stages of manufacture and testing, as and when required by the Purchaser, clearly indicating date, description, and stage of manufacture.
  - 59.3.4. Updated delivery schedule showing percentage completion against milestones, planned inspection dates, and dispatch targets for the subsequent period.
  - 59.3.5. Identification of any anticipated delays or constraints that may impact manufacturing or delivery schedules.
  - 59.3.6. Any other information or supporting documentation reasonably required to verify timely manufacture, inspection, testing, and delivery in accordance with the Contract.
- 59.4. The Purchaser shall specify the number of copies (hard/soft) of progress reports to be submitted and, where relevant, the communication matrix indicating recipients. The format of monthly progress reports shall also be communicated by the Purchaser.
- 59.5. In addition to the above, all reports, records, and information as may be requested shall be furnished promptly in the format and frequency prescribed. The Purchaser reserves the right to revise reporting requirements, and compliance with such revised obligations shall be ensured.

**60. Dispute Resolution & Arbitration**

- 60.1. The Parties shall make all reasonable efforts to resolve amicably, through mutual discussions, any disputes or differences arising out of or in connection with this Contract. In the event that such disputes remain unresolved for thirty (30) days from the date either Party notifies the other in writing of the dispute, either Party may refer the matter to arbitration.
- 60.2. Arbitration shall be conducted by a tribunal comprising two arbitrators - one to be appointed by each Party. The two arbitrators thus appointed shall mutually select a third individual to act as the presiding arbitrator prior to entering upon reference, if and when required. The arbitration proceedings shall be undertaken in accordance with the provisions of the Indian Arbitration and Conciliation Act, 1996 and its 2015 and 2019 amendments. The seat and venue of arbitration shall be New Delhi, India. The language of all proceedings, documents, and communications shall be English. The arbitral process shall be completed within a maximum period of three (3) months from constitution of the arbitral tribunal.
- 60.3. Reference to negotiation and/or arbitration may proceed regardless of whether the Supply/Works have been completed, provided that the contractual obligations of both the Purchaser and the Supplier shall remain unaffected during pendency of arbitration. Under no circumstances shall the Supplier suspend execution of the Supply/Works, in whole or in part, on account of ongoing arbitration. Payments due to the Supplier shall continue to be made as per the terms of the Contract.
- 60.4. All disputes arising out of or in relation to this Contract that require recourse to judicial proceedings shall be subject to the exclusive jurisdiction of the courts at Delhi, India.

**61. Termination for convenience of Purchaser**

- 61.1. Purchaser at its sole discretion may terminate the contract by giving 30 days prior notice in writing or through email to the Supplier. Purchaser shall pay the Supplier for all the supplies/ services rendered till the actual date of contract termination against submission of invoice by the Supplier to that effect.
- 61.2. Payment of such compensation is the sole and exclusive remedy of the Supplier for termination of this Agreement by Purchaser hereunder and the Supplier shall not be entitled to, and hereby waives, claims for lost profits and all other damages and expenses.
- 61.3. Supplier hereby agrees that substantiation for settlement of any claims submitted by Supplier shall be complete and in sufficient detail to allow Purchaser's evaluation. Terminate all sub-contracts except those that have been/ to be assigned to the Purchaser all rights, titles and benefits of the Suppliers/Vendor as the case may be.

**62. Entire Agreement & Amendment**

- 62.1. This Agreement constitutes the entire understanding between BYPL and the Supplier regarding the subject matter herein and supersedes all prior agreements, whether written or oral, that relate to such matters. Any modification, amendment, or alteration to this Agreement shall be valid only if documented in writing and duly executed by authorized representatives of both BYPL and the Supplier.

**63. Notice & Communication**

- 63.1. Any notice or other formal communication under this Agreement shall be in writing, signed by or on behalf of the party issuing it, and shall be sent by registered post with acknowledgement due (A.D.) to the addresses of the Supplier or BYPL as stated herein, or to

GENERAL CONDITIONS OF CONTRACT (GCC) NIT NO: CMC/BY/25-26/RS/Sks/SV/52 [RFx Number: 2200000185]	Page <b>25</b> of <b>27</b>	Bidders seal & Signature
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such other addresses as may be mutually agreed upon in writing by the Parties from time to time.

- 63.2. Notices and formal communications may also be transmitted via the official email addresses of the authorized representatives of the Supplier or BYPL. Such electronic communications shall be deemed duly delivered upon successful transmission and acknowledgement by the recipient.
- 63.3. All communications, correspondence, and documentation pertaining to the Purchase Order shall be directed strictly as specified in this Agreement.

#### **64. Acceptance**

- 64.1. The Supplier hereby acknowledges and confirms review of BYPL's Policy on legal and ethical standards for Suppliers, as set forth in the "Vendor/Supplier Code of Conduct" displayed on BYPL's official website ([www.bsesdelhi.com](http://www.bsesdelhi.com)). The Supplier agrees that the Supplier Code of Conduct shall form an integral part of the Contract, Purchase Order (PO), or Work Order (WO). The Supplier undertakes to fully comply with the Vendor/Supplier Code of Conduct, and acknowledges that any violation shall constitute a breach of the Contract/PO/WO. In the event of such breach, whether or not it causes any actual loss or damage, BYPL reserves the right to recover any loss or damage from the Supplier. The Supplier shall indemnify and hold harmless BYPL against any claims, litigation, or other consequences arising out of any breach or violation of the Supplier Code of Conduct by the Supplier, its officers, agents, or representatives.
- 64.2. Acceptance of the Contract includes acceptance of all terms and conditions referenced therein, including technical specifications, drawings, general conditions, detailed scope of supply/work, and any equipment drawings provided to the Supplier.
- 64.3. The contractual obligations of BYPL and the Supplier are strictly limited to the terms and conditions set forth in the Contract. No amendment, modification, or alteration to the Contract shall be valid unless made in writing and signed by authorized representatives of both Parties.
- 64.4. All services and supplies under this Contract are expected to be fully aligned with BYPL's Vision, Mission, and Values. These can be reviewed at <https://www.bsesdelhi.com/web/bypl/about-bses>.

**QUANTITY AND DELIVERY REQUIREMENTS**

Sl. No.	BYPL SAP Code	Item Description	Specification	Total Qty. (Nos)	Tentative Delivery Schedule	Destination
1	2100266148	Supply of ONAN Transformers of rating 1000KVA 11/0.415KV	BSES-TS-12-TRDU-R1	51	Delivery for the Ist Lot of 15 nos DT's shall be within 03 Month from the PO date and completion @15 Nos per month in lots thereafter.	BYPL Stores/Sites Delhi
2	2100266149	Supply of ONAN Transformers of rating 1600KVA 11/0.415KV		66		
3	2100266150	Supply of ONAN Transformers of rating 2000KVA 11/0.415KV		08		

The delivery schedule shown above is tentative. PO(s) will be released as per the actual requirement. However, the Supplier has to deliver the material within the delivery schedule provided.

Schemes may be executed in a phased manner.

**APPENDIX II**

ANNEXURE – 2.01

**FORMAT OF PERFORMANCE BANK GUARANTEE**  
**(To be executed on a Non-Judicial Stamp Paper of appropriate value)**

This Guarantee made at \_\_\_\_\_ this [\_\_\_\_] day of [\_\_\_\_] 20XX

1. WHEREAS M/s BSES Yamuna Power Limited, a Company incorporated under the provisions of Companies Act, 2013 having its Registered Office at Shaktikiran Building, Karkardooma, Delhi 110032, India hereinafter referred to as the " Owner ", (which expression shall unless repugnant to the context or meaning thereof include its successors, administrators, executors and assigns).
2. AND WHEREAS the Owner has entered into a contract for \_\_\_\_\_ (Please specify the nature of contract here ) vide Contract No. \_\_\_\_\_ dated \_\_\_\_\_ (hereinafter referred to as the "Contract") with M/s. \_\_\_\_\_, (hereinafter referred to as "the Supplier", which expression shall unless repugnant to the context or meaning thereof be deemed to mean and include each of their respective successors and assigns) for providing services on the terms and conditions as more particularly detailed therein.
3. AND WHEREAS as per clause \_\_\_\_ of Conditions of Contract, the Suppliers are obliged to provide to the Owners an unconditional bank guarantee for an amount equivalent to ten percent (10%) of the total Contract Value for the timely completion and faithful and successful execution of the Contract from [ \_\_\_\_\_ ] *pl. specify the name of Bank*) having its head/registered office at [ \_\_\_\_\_ ] through its branch in \_\_\_\_\_ (*pl. specify the name of Branch through which B.G is issued*) hereinafter referred to as "the Bank", (which expression shall unless it be repugnant to the context or meaning thereof be deemed to include its successors and permitted assigns).
4. NOW THEREFORE, in consideration inter alia of the Owner granting the Suppliers the Contract, the Bank hereby unconditionally and irrevocably guarantees and undertakes, on a written demand, to immediately pay to the Owner any amount so demanded (by way of one or more claims) not exceeding in the aggregate [Rs. ].....(*in words*) without any demur, reservation, contest or protest and/or without reference to the Supplier and without the Owner needing to provide or show to the Bank, grounds or reasons or give any justification for such demand for the sum/s demanded.

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5. The decision of the Owner to invoke this Guarantee and as to whether the Supplier has not performed its obligations under the Contract shall be binding on the Bank. The Bank acknowledges that any such demand by the Owner of the amounts payable by the Bank to the Owner shall be final, binding and conclusive evidence in respect of the amounts payable by the Supplier to the Owner. Any such demand made by the Owner on the Bank shall be conclusive and binding, notwithstanding any difference between the Owner and the Supplier or any dispute raised, invoked, threatened or pending before any court, tribunal, arbitrator or any other authority.
6. The Bank also agrees that the Owner at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor without proceeding against the Suppliers notwithstanding any other security or other guarantee that the Owner may have in relation to the Supplier's liabilities.
7. The Bank hereby waives the necessity for the Owner first demanding the aforesaid amounts or any part thereof from the Suppliers before making payment to the Owner and further also waives any right the Bank may have of first requiring the Owner to use its legal remedies against the Suppliers, before presenting any written demand to the Bank for payment under this Guarantee.
8. The Bank's obligations under this Guarantee shall not be reduced by reason of any partial performance of the Contract. The Bank's obligations shall not be reduced by any failure by the Owner to timely pay or perform any of its obligations under the Contract.
9. The Bank further unconditionally and unequivocally agrees with the Owner that the Owner shall be at liberty, without the Bank's consent and without affecting in any manner its rights and the Bank's obligation under this Guarantee, from time to time, to:
  - (i) vary and/or modify any of the terms and conditions of the Contract;
  - (ii) Forebear or enforce any of the rights exercisable by the Owner against the Suppliers under the terms and conditions of the Contract; or
  - (iii) Extend and/or postpone the time for performance of the obligations of the Suppliers under the Contract;

and the Bank shall not be relieved from its liability by reason of any such act or omission on the part of the Owner or any indulgence shown by the Owner to the Suppliers or any other reason whatsoever which under the law relating to sureties would, but for this provision, have the effect of relieving the Bank of its obligations under this Guarantee.

10. This Guarantee shall be a continuing bank guarantee and shall not be discharged by any change in the constitution or composition of the Suppliers, and this Guarantee shall not be affected or discharged by the liquidation, winding-up, bankruptcy, reorganization, dissolution or insolvency of the Suppliers or any of them or any other circumstances whatsoever.
11. This Guarantee shall be in addition to and not in substitution or in derogation of any other security held by the Owner to secure the performance of the obligations of the Suppliers under the Contract.
12. NOTWITHSTANDING anything herein above contained, the liability of the BANK under this Guarantee shall be restricted to \_\_\_\_\_ (*insert an amount equal to ten percent (10%) of the Contract Value*) and this Guarantee shall be valid and enforceable and expire on \_\_\_\_\_ (*pl. specify date*) or unless a suit or action to enforce a claim under this Guarantee is filed against the Bank on or before the date of expiry.
13. On termination of this Guarantee, all rights under the said Guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities hereunder.
14. The Bank undertakes not to revoke this Guarantee during its validity except with the prior written consent of the Owner and agrees that any change in the constitution of the Bank or the Suppliers shall not discharge our liability hereunder.
15. This Guarantee shall be governed by the laws of India. Any suit, action, or other proceeding arising out of, connected with, or related to this Guarantee or the subject matter hereof shall be subject to the exclusive jurisdiction of the courts of **Delhi**, India.

Dated this ..... day of ..... 20XX at .....

(Signature)

.....  
(Name)

.....  
(Designation with Bank Stamp)

Attorney as per  
Power of Attorney No.....

Date.....

**BYPL BANK DETAILS WITH IFSC CODE:**

1. Name of the Bank: State Bank Of India
2. Branch Name & Full Address: 14-15th Floor, Jawahar Vyapar Bhawan, 1, Tolstoy Marg,  
Janpath, New Delhi 110001
3. Bank Account No: 10277791808
4. IFS Code: SBIN0009601
5. MICR Code: 110002188
6. Swift Code: SBININBB132
7. Email ID: sbi.09601@sbi.co.in

**FORMAT OF WARRANTY/GUARANTEE CERTIFICATE**

BSES YAMUNA POWER LIMITED Shaktikiran Building, Karkardooma, Delhi -110032.

Ref. Purchase Order No. :

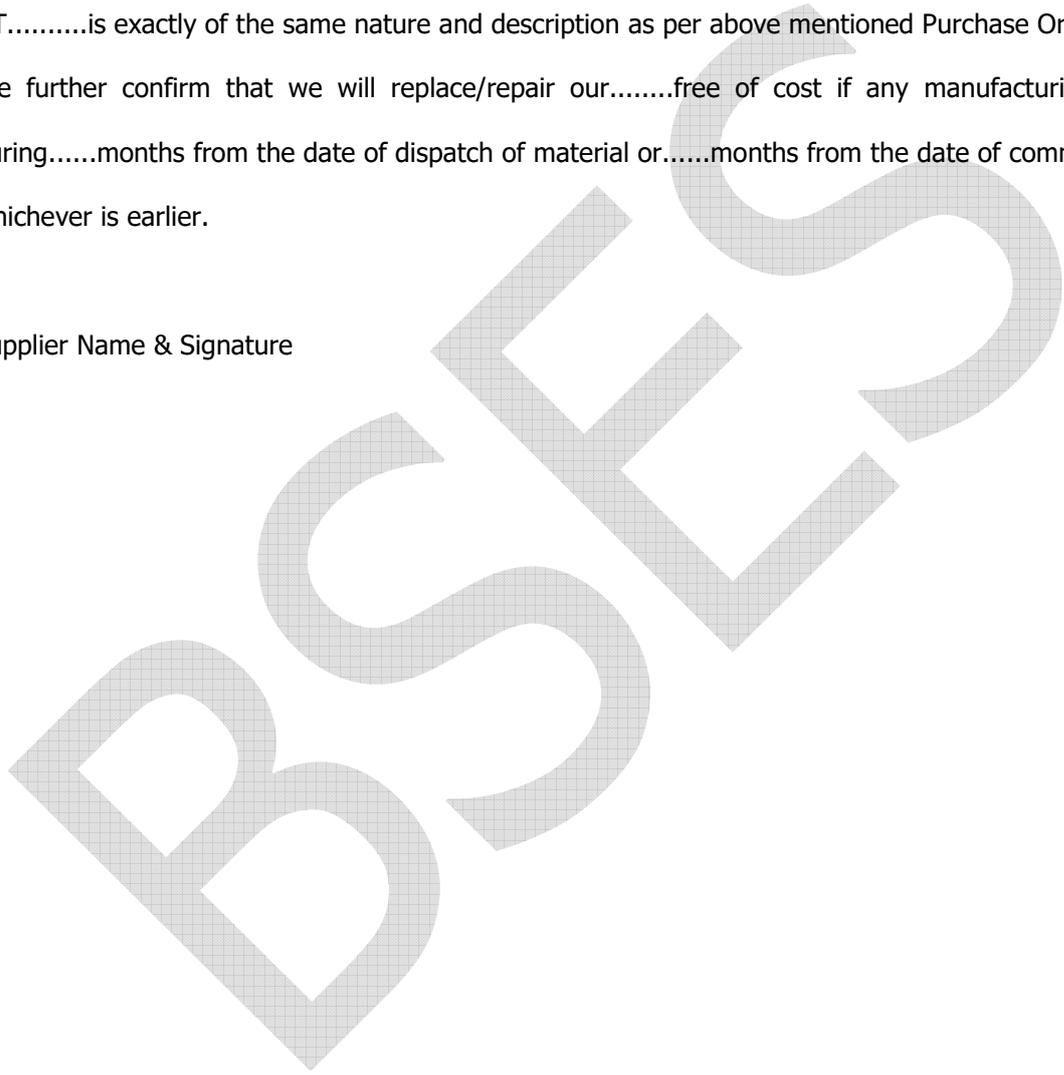
Dear Sir,

We hereby confirm that the.....dispatched to BSES YAMUNA POWER LTD vide invoice no.....

DT.....is exactly of the same nature and description as per above mentioned Purchase Order.

We further confirm that we will replace/repair our.....free of cost if any manufacturing defect during.....months from the date of dispatch of material or.....months from the date of commissioning whichever is earlier.

Supplier Name & Signature



**GST UNDERTAKING**

The Supplier shall give an undertaking in the following words on each invoice in the absence of which tax payment as on the Supplier's invoice may be withheld.

"The tax component as mentioned in the invoice shall be deposited with the GST Department as per law by way of actual payment or by way of legal set off as per law. The turnover billed shall be duly declared in my GST returns a copy of which shall be filed with the Purchaser. Should the input tax credit to the Purchaser be denied by way of any lapse on the part of the Supplier, the same shall be paid on demand and in any case the Purchaser is authorized to deduct the tax equivalent amount from the amount payable to the Supplier"

**SUMMARY OF COMMERCIAL TERMS AND CONDITIONS**

SL NO	PARTICULARS	CLAUSE AS PER TENDER	BIDDER'S CONFIRMATION
1	Validity of Bid	120 days from the date of submission of the bid.	
2	Rate Contract	The rate contract shall have a validity period of 12 months from the date of LOI/RC issued to the responsive, techno-commercially acceptable and evaluated to be the lowest bidder. Purchase Orders (PO) will be placed as per BYPL's requirements. The rate will remain Variable throughout the validity period of the Rate Contract.	
3	Price Basis	<b>"Variable"</b> , FOR Delhi store(s)/site(s) basis. Prices shall be inclusive of all taxes & duties, freight up to Delhi store(s)/site(s).	
4	Unloading	Unloading at stores/sites shall be in the Seller's scope.	
5	Transit Insurance	Transit insurance shall be in the vendor's scope.	
6	Payment Terms	100% payment shall be paid in 45 days from the date of receipt and acceptance of GOODS at the store(s)/site(s) against submission of documents.	
7	Delivery Schedule	<ul style="list-style-type: none"> <li>- Vendor shall submit Transmittal Approval Documents (GTP/Drawings/QAP/etc.) within 15 days from the LOI/PO to the concerned BYPL officials.</li> <li>- BYPL shall review and either approve or provide comments on the submitted documents within 7 days of the initial submission.</li> <li>- If resubmission is required, vendor shall complete the resubmission within 5 days from the receipt of the comments.</li> <li>- For subsequent resubmissions, BYPL shall respond within 5 days.</li> <li>- Repeated rejections due to non-compliance is not desirable.</li> <li>- <b>Delivery for the 1st Lot of 15 nos DT's shall be within 03 Month from the PO date and completion @15 Nos per month in lots thereafter or completion as per the schedule provided by BYPL.</b></li> </ul>	
8	Defect Liability Period	66 months from the date of receipt of equipment/item at store(s)/site(s).	
9	Liquidated Damages	1% (One) of the basic value (ex-works value) of undelivered units per week of delay or part thereof, subject to maximum of 10% (Ten) of the total basic value (ex-works value) of undelivered units.	
10	Performance Bank Guarantee	To be submitted within twenty-eight (28) days from the date of issuance of the Letter of Intent/Award/RC. Bidder shall initially submit the performance bank guarantee (PBG) equivalent to 1% of RC Value (including GST) valid till RC validity period plus three months claim period. Upon receipt of the PBG by BYPL against RC/PO, the EMD shall be released. Thereafter bidder shall submit PBG on Purchase Order (PO) basis equivalent to 10% of the PO value (including GST) valid for a period of 30 months from the date of last receipts at site/stores plus 3 months claim period.	
11	Reverse Auction	Acceptance for participation in Reverse Auction event.	

**Seal of the Bidder:**

**Signature:**

**Name:**

APPENDIX II NIT NO: CMC/BY/25-26/RS/SKS/SV/52 [RFx Number: 2200000185]	Page <b>7</b> of <b>7</b>	Bidders seal & Signature
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**VOLUME – II**

**FINANCIAL BID (PRICE FORMAT)**

FINANCIAL BID FORMAT NIT NO: CMC/BY/25-26/RS/SKS/SV/52 [RFx Number: 2200000185]	Page 1 of 2	Bidders seal & Signature
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**ALL PRICES IN INR (₹)**

S. No.	DESCRIPTION OF GOODS	HSN CODE (8 Digit Mandatory)	UoM	QTY <b>(A)</b>	UNIT BASIC PRICE INCL FREIGHT (₹) <b>(B)</b>	UNIT GST & CESS AS APPLICABLE (CGST & SGST/UTGST or IGST) (₹) <b>(C)</b>		UNIT LANDED RATE (All Inclusive) (₹) <b>(D = B+C)</b>	TOTAL LANDED VALUE (₹) <b>(E = DXA)</b>
						%	AMT		
1	Supply of ONAN Transformers of rating 1000KVA 11/0.415KV		Nos	51					
2	Supply of ONAN Transformers of rating 1600KVA 11/0.415KV		Nos	66					
3	Supply of ONAN Transformers of rating 2000KVA 11/0.415KV		Nos	08					
GRAND TOTAL LANDED VALUE (₹)									
In words .....									

**NOTE: Cost of all tests as per technical specification is to be included. No separate/extra charges will be paid.**

The Un-priced bid should be marked as **"Quoted"** and be submitted with Part – A

We declare that the following are our quoted prices in INR for the entire package.

Date:

Bidders Name:

Place:

Bidders Address:

Signature: .....

Designation: .....

Printed Name: .....

Common Seal: .....

**VOLUME – III**  
**TECHNICAL SPECIFICATIONS**

BSES

# BSES

## Technical Specification of Conventional Oil filled Distribution Transformer

Specification no – BSES-TS-12-TRDU-R1

Rev:	1	
Date:	07/12/2022	
Prepared by	Vani Sood / Pronab Bairagi	<i>Vansy</i>
	Jeena Borana	<i>Jeena</i>
Reviewed by	Srinivas Gopu	<i>Srinivas</i>
	Amit Tomar	<i>Amit</i>
Approved by	Gaurav Sharma	<i>Gaurav</i>
	Gopal Nariya	<i>Gopal</i>

**TECHNICAL SPECIFICATION OF  
CONVENTIONAL OIL FILLED DISTRIBUTION TRANSFORMER****INDEX**

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**TECHNICAL SPECIFICATION OF  
CONVENTIONAL OIL FILLED DISTRIBUTION TRANSFORMER****Record of Revision**

Sl No.	Revision No	Item/Clause No.	Nature of change	Approved by
1	R1	3.23, 3.24.3, 3.25.7, 3.26.7, 3.30, 3.35, 4.2.8.6,4.2.10.7	Transformer rating added	GN/GS
2	R1	3.29	Material of HV busbar revised	GN/GS
3	R1	3.31	Material of LV busbar revised	GN/GS
4	R1	4.2.8.2	Rating of additional neutral bushing added	GN/GS
5	R1	5.21	Buchholz relay for 1000 KVA added	GN/GS

**TECHNICAL SPECIFICATION OF  
CONVENTIONAL OIL FILLED DISTRIBUTION TRANSFORMER****1.0 Scope of Supply**

For scope of supply, refer annexure – A.

**2.0 Codes & standards**

a) Materials, equipment and methods used in the manufacture of Transformer shall conform to the latest edition of below mentioned standards.

b) Vendor shall possess valid BIS Certification.

IS 1180	Outdoor type oil immersed distribution transformer upto and including 2.5MVA,33kV
IS 2026	Power Transformers
IS 2026-4	Terminal Marking, tappings and Connections for Power Transformers.
IS:3347	Dimensions for Porcelain Transformer bushing
IS:3637	Gas operated relays
IS:3639	Fitting & Accessories for power transformers
IS:4201	Application guide for CT's
IS:8478	Application guide for On-load tap changer
IS:10028	Code of practice for selection, installation & maintenance of transformers
IS 5561	Electrical Power Connectors
IS 5	Colors for ready mix paints
IS:335	Insulating oil
IS 6272	Industrial cooling fans
IS 12615	Three phase induction motors
IS/IEC 60034	Rotating Electrical Machines. (e.g. For Cooler Fan Motors.)
IS/IEC 60071	Co-ordination of Insulation.
IS 16227/IEC 61869	Current Transformers.
IS 8468/ IEC 60214	On Load Tap Changers
IS2026-7/IEC 60076-7	Loading Guide for Oil-Immersed Power Transformers.
IS 2026-8 /IEC 60076-8	Application Guide for Power Transformers.
IS 2026-10/IEC 60076-10	Determination of Transformer Sound Levels.
IS/IEC 60529	Degrees of Protection Provided by Enclosures (IP Code).

**TECHNICAL SPECIFICATION OF  
CONVENTIONAL OIL FILLED DISTRIBUTION TRANSFORMER**

IS/IEC 60947	Low-Voltage Switchgear and Control gear.
IS/IEC 60137	Bushing for alternating voltage above 1000V
IS:1271/IEC 60085	Thermal evaluation and classification of electrical insulation
IEC 60076	Power transformers.
IEC 60156	Method for Determination of the Electric Strength for Insulating Oils.
IEC 60296	Specification for Unused Mineral Insulating Oils for Transformers and Switchgear.
IEC 60445	Basic & Safety principles for man-machine interface, marking and identification, Identification of Equipment Terminals and conductor terminals
BS 148	Determination of Transformer and Reactor Sound Levels.
BS 223	Application Guide for Power Transformers.
BS 2562	Terminal and Tapping Markings for Power Transformers.
	Indian Electricity Rules
	Indian Electricity Act
	CBIP manual

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. Indian Standards / IEC standards
- iv. Approved Vendor Drawings
- iv. Other documents

**3.0 Major Design Criteria & Parameters of the Transformer**

Sr No	Description	Data by purchaser
3.1	Voltage variation on supply side	+ / - 10 %
3.2	Frequency variation on supply side	+ / - 5 %
3.3	Transient condition	- 20 % or + 10 % combined variation of voltage and frequency
3.4	Service Condition	Refer Annexure B
3.5	Insulation level	Class A

**TECHNICAL SPECIFICATION OF  
CONVENTIONAL OIL FILLED DISTRIBUTION TRANSFORMER**

3.6	Location of equipment	Generally Outdoor but may be located indoor also with poor ventilation
3.7	Reference design ambient temperature	50 deg C
3.8	Type	Oil immersed, core type, step down
3.9	Type of cooling	ONAN
3.10	Reference standard	IS 2026/IS 1180
3.11	No. of phases	3
3.12	No. of windings per phase	2
3.13	Rated frequency ( Hz )	50 Hz
3.14	Highest system voltage HV side	12 kV
3.15	Highest system voltage LV side	460 volt
3.16	Lightning Impulse withstand voltage , kV peak	
3.16.1	For nominal system voltage of 11 kV	75
3.17	Power Frequency Withstand Voltage kV rms	
3.17.1	For nominal system voltage of 11 kV	28
3.17.2	For nominal system voltage of 415 V	3
3.18	Clearances Phase to Phase , mm	
3.18.1	For nominal system voltage of 11 kV	180
3.18.2	For nominal system voltage of 415 V	25
3.19	Clearances Phase to Earth , mm	
3.19.1	For nominal system voltage of 11 kV	120
3.19.2	For nominal system voltage of 415 V	25
3.20	System Fault Level , HV side	350 MVA
3.21	System Fault Level , LV side	35 MVA
3.22	System earthing	
3.22.1	HV	Solidly earthed
3.22.2	LV	Solidly earthed
3.23	Ratings	250/400/630/1000/1600/2000/2500 <sup>(R1)</sup> kVA

**TECHNICAL SPECIFICATION OF  
CONVENTIONAL OIL FILLED DISTRIBUTION TRANSFORMER**

3.24	Percentage Impedance at 75 deg C	
3.24.1	250/400/630 kVA	4.5 % with IS tolerance
3.24.2	1000 kVA	5.0 % with IS tolerance
3.24.3	1600/2000/2500 <sup>(R1)</sup> kVA	6.25% with IS tolerance
3.25	Max Total losses(No Load+ Load Losses at 75°C) at 50% of the rated load , kW	
3.25.1	250 kVA	0.98
3.25.2	400 kVA	1.225
3.25.3	630 kVA	1.86
3.25.4	1000 kVA	2.79
3.25.5	1600 kVA	4.2
3.25.6	2000 kVA	5.05
3.25.7	2500 kVA	6.15 <sup>(R1)</sup>
3.26	Max Total losses(No Load+ Load Losses at 75°C) at 100% of the rated load , kW	
3.26.1	250 kVA	2.93
3.26.2	400 kVA	3.45
3.26.3	630 kVA	5.3
3.26.4	1000 kVA	7.7
3.26.5	1600 kVA	11.8
3.26.6	2000 kVA	15
3.26.7	2500 kVA	18.5 <sup>(R1)</sup>
3.27	Phase CT Ratio , Amp	
3.27.1	250 kVA	400/5
3.27.2	400 kVA	600/5
3.27.3	630 kVA	1000/5
3.27.4	1000 kVA	1500/5
3.27.5	1600 kVA	2500/5
3.27.6	2000 kVA	3000/5
3.27.7	2500 kVA	4000/5 <sup>(R1)</sup>

**TECHNICAL SPECIFICATION OF  
CONVENTIONAL OIL FILLED DISTRIBUTION TRANSFORMER**

3.28	HV cable size for all sizes / Conductor size	11 kV (E) grade , A2XCEWY 3C x 150 sqmm
3.29	Busbar size on HV side for cable termination, mm x mm	50x10-Tinned copper <sup>(R1)</sup>
3.30	LV cable size, 650 /1100 V grade , A2XY cable single core 630 sqmm unarmoured (approx cable dia 40 mm)/ A2XY Cable single core 1000sqmm(Approx dia. 48mm)	Cable
3.30.1	250 kVA	1 runs per phase + 1 runs in Neutral-single core 630 sqmm cable
3.30.2	400 kVA	2 runs per phase + 2 runs in Neutral-single core 630 sqmm cable
3.30.3	630 kVA	3 runs per phase + 3 runs in Neutral-single core 630 sqmm cable
3.30.4	1000 kVA	4 runs per phase + 4 runs in Neutral-single core 630 sqmm cable
3.30.5	1600 KVA	3 runs per phase + 3 runs in Neutral-single core 1000 sqmm cable
3.30.6	2000 kVA	4 runs per phase + 4 runs in Neutral-single core 1000 sqmm cable
3.30.7	2500 kVA <sup>(R1)</sup>	5 runs per phase + 5 runs in Neutral-single core 1000 sqmm cable
3.31	Busbar size on LV side for cable termination, mm x mm	
3.31.1	250/400/630 kVA <sup>(R1)</sup>	
3.31.1.1	Phase	100 x 12-Alumium
3.31.1.2	Neutral	100 x 12-Alumium
3.31.2	1000kVA	
3.31.2.1	Phase	2 runs 100 x 12-Aluminium
3.31.2.2	Neutral	2 runs 100 x 12-Aluminium

**TECHNICAL SPECIFICATION OF  
CONVENTIONAL OIL FILLED DISTRIBUTION TRANSFORMER**

3.31.3	1600kVA <sup>(R1)</sup>	
3.31.3.1	Phase	2 runs 160 x 12-Aluminium
3.31.3.2	Neutral	2 runs 160 x 12-Aluminium
3.31.4	2000kVA	
3.31.4.1	Phase	2 runs 160 x 12-Aluminium
3.31.4.2	Neutral	2 runs 160 x 12-Aluminium
3.31.5	2500kVA <sup>(R1)</sup>	
3.31.5.1	Phase	2 runs 160 x 15-Aluminium
3.31.5.2	Neutral	2 runs 160 x 15-Aluminium
3.32	Maximum Overall Dimension Acceptable ( length x width x height), mm x mm x mm	
3.32.1	250 KVA	1500 x1300x 1700
3.32.2	400 kVA	1500X1500X2000
3.32.3	630 kVA	1700X1700X2200
3.32.4	1000 kVA	1900X1900X2500
3.32.5	1600 kVA	2300X2000X2600
3.32.6	2000 kVA	2500X2000X2600
3.32.7	2500 kVA <sup>(R1)</sup>	2800X2300X2700
3.33	Short Circuit withstand Capacity of the transformer	
3.33.1	Three phase dead short circuit at secondary terminal with rated voltage maintained on the other side	For 3 secs.
3.33.2	Single phase short circuit at secondary terminal with rated voltage maintained on other side	For 3 secs.
3.34	Overload Capability	As per IS 2026/IEC 60905

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3.35	Noise Level <sup>(R1)</sup>	400/630/1000/1600/2000/2500 KVA- 56/57/58/60/61/62 Db respectively
3.36	Radio Influence Voltage	Maximum 250 microvolt
3.37	Harmonic suppression	Transformer to be designed for suppression of 3rd, 5th, 7th harmonic voltages and high frequency disturbances.
3.38	Partial Discharge	Transformer to be free from partial discharge upto 120 % of rated voltage as the voltage is reduced from 150 % of rated voltage i.e. there shall be no significant rise above background level
3.39	Tappings	Off Circuit taps on HV winding , +10% to - 10% in steps of 2.5 % , change of taps by externally operated switch
3.39.1	Rotary tap switch operating voltage	11 kV
3.39.2	Rotary tap switch current rating, Amp.	
3.39.2.1	250 KVA	20 Amps
3.39.2.2	400 kVA	60 Amp
3.39.2.3	630 / 1000 kVA	100 Amp
3.39.2.4	1600/2000 kVA	150 Amp
3.39.2.5	2500 kVA <sup>(R1)</sup>	200 Amp

**4.0 Construction & Design**

4.1	Type	Double Copper wound, three phase, oil immersed, with ONAN cooling, with off circuit tap changer
4.2	<b>Major Parts</b>	
4.2.1	<b>Tank</b>	
4.2.1.1	Type	Non sealed type with conservator as

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		per manufacturer's standard.
4.2.1.2	Material of Construction	Robust mild steel plate without pitting and low carbon content
4.2.1.3	Plate Thickness	Adequate for meeting the requirements of pressure and vacuum type tests as per IS
4.2.1.4	Welding features	<ul style="list-style-type: none"><li>i) All seams and joints shall be double welded</li><li>ii) All welding shall be stress relieved for sheet thickness greater than 35 mm</li><li>iii) All pipes, radiators, stiffeners, welded to the tank shall be welded externally</li></ul>
4.2.1.5	Tank features	<ul style="list-style-type: none"><li>i) Adequate space at bottom for collection of sediments</li><li>ii) Stiffeners provided for rigidity and designed to prevent accumulation of water</li><li>iii) No internal pockets in which gas/air can accumulate</li><li>iv) No external pocket in which water can lodge</li><li>v) Tank bottom with welded skid base</li><li>vi) Tank cover sloped to prevent retention of rain water</li><li>vii) Minimum disconnection of pipe work and accessories for cover lifting</li><li>viii) Tanks shall be of a strength to prevent permanent deformation during lifting , jacking, transportation with oil filled.</li></ul>

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		<ul style="list-style-type: none"> <li>ix) Tank to be designed for oil filling under vacuum</li> <li>x) Tank cover fitted with lifting lug</li> <li>xi) Tank cover bent at all the ends</li> <li>xii) Minimum disconnection of pipe work and accessories for cover lifting</li> </ul>
4.2.1.6	Flanged type adequately sized inspection cover rectangular in shape required for	<ul style="list-style-type: none"> <li>i) HV line bushing</li> <li>ii) LV line bushing</li> <li>iii) LV neutral bushing</li> <li>iv) Core / Winding</li> </ul>
4.2.1.7	Fittings and accessories on main tank	See under fittings and accessories.
4.2.2	<b>Conservator for the main tank</b>	
4.2.2.1	Capacity	Adequate between highest and lowest visible levels to meet the requirement of expansion of oil volume in the transformer and cooling equipment from minimum ambient temperature to maximum operating temperatures.
4.2.2.2	Conservator oil preservation system	Conventional
4.2.2.3	Conservator features	<ul style="list-style-type: none"> <li>i) Conservator shall be bolted into position so that it can be removed for cleaning / other maintenance purposes</li> <li>ii) Main pipe from tank shall project about 20 mm above conservator bottom for creating a sump for collection of impurities</li> <li>iii) Conservator minimum oil level corresponding to minimum temperature shall be well above the sump level.</li> <li>iv) Conservator to main tank piping</li> </ul>

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		shall be supported at minimum two points.
4.2.2.4	Fittings and accessories on main tank conservator	<ul style="list-style-type: none"> <li>i) Prismatic oil gauge with MINIMUM, NORMAL and MAXIMUM marking</li> <li>ii) End Cover</li> <li>iii) Oil Filling Hole with cap</li> <li>iv) Silica Gel Dehydrating Breather with oil seal and dust filter with clear acrylic single piece clearly transparent cover resistant to UV rays(1kg). Breather shall be of Flanged type in circular shape with 4 no.holes of ½ inches with hardware of M10 bolts. Silica gel shall be of round ball type of 2.5mm dia.</li> <li>v) Drain Plug</li> <li>vi) Air release plug as required</li> <li>vii) Pressure/ Vacuum gauge</li> <li>viii)Magnetic Oil Gauge with LOW LEVEL ALARM</li> </ul>
4.2.3	<b>Radiators</b>	Detachable type
4.2.3.1	Thickness	Minimum 1.2 mm
4.2.4.2	Features	With lifting lugs, air release plug,
4.2.5	<b>Core</b>	
4.2.5.1	Material	High grade , non ageing, low loss, high permeability, grain oriented, cold rolled silicon steel lamination. Core shall be low loss of 1Watt/kG (max)
4.2.5.2	Grade	Premium Grade minimum M3 or better
4.2.5.3	Lamination thickness	0.23 mm Max.

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4.2.5.4	Design Flux Density at rated conditions at principal tap	As per Manufacturer design.
4.2.5.5	Maximum Flux Density at 12.5 % over excitation / over fluxing	1.9 T
4.2.5.6	Core Design Features	<ul style="list-style-type: none"><li>i) Core shall be in the form of step and stack in three limb format. Note: Wound core shall not be acceptable</li><li>ii) Magnetic circuit designed to avoid short circuit paths within core or to the earthed clamping structures</li><li>iii) Magnetic circuit shall not produce flux components at right angles to the plane of lamination to avoid local heating</li><li>iv) Least possible air gap and rigid clamping for minimum core loss and noise generation</li><li>v) Adequately braced to withstand bolted faults on secondary terminals without mechanical damage and damage/ displacement during transportation and positioning.</li><li>vi) Percentage harmonic potential with the maximum flux density under any condition limited to avoid capacitor overloading in the system</li><li>vii) All steel sections used for supporting the core shall be thoroughly sand blasted after cutting , drilling, welding</li><li>viii) Provision of lifting lugs for core</li></ul>

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		coil assembly ix) Supporting framework designed not to obstruct complete drainage of oil from transformer
4.2.6	<b>Winding</b>	
4.2.6.1	Material	Electrolytic Copper
4.2.6.2	Maximum Current Density allowed	3 Amp per sq mm at all taps.
4.2.6.3	Winding Insulating material	Class A , non catalytic, inert to transformer oil, free from compounds liable to ooze out, shrink or collapse.
4.2.6.4	Winding Insulation	Uniform
4.2.6.5	Design features	<p>i) Type of winding</p> <p>a. LV: Sprial/Helical</p> <p>b. HV: Crossover/Disc</p> <p>Note: Foil winding shall not be acceptable</p> <p>ii) Stacks of winding to receive adequate shrinkage treatment</p> <p>iii) Connections braced to withstand shock during transport, switching, short circuit, or other transients.</p> <p>iv) Minimum out of balance force in the transformer winding at all voltage ratios.</p> <p>v) Conductor width on edge exceeding six times its thickness</p> <p>vi) Transposed at sufficient intervals.</p> <p>vii) Coil assembly shall be suitably supported between adjacent sections by insulating spacers + barriers</p> <p>viii) Winding leads rigidly supported ,</p>

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		<p>using guide tubes if practicable</p> <p>ix) Winding structure and major insulation not to obstruct free flow of oil through ducts</p> <p>x) Provision of taps as per clause 3.39</p>
4.2.7	<b>Transformer Oil</b>	
4.2.7.1	Type	Should be in accordance with specification as per Annex C of this document
4.2.8	<b>Bushings and Terminations</b>	
4.2.8.1	Type of HV side bushing	HV bushing should be top mounted. Outdoor, Pocerlain, rated voltage and creepage as per 31mm/kV with voltage class of 12kV respectively
4.2.8.2	Type of LV side bushing <sup>(R1)</sup>	<p>LV bushing should be top mounted. Outdoor, Porcelain, rated voltage and creepage as per 31mm/kV with voltage class of 1.1 kV respectively</p> <p>Additional neutral bushing of porcelain outside on top of LT cable box with brass palm connector (as per IS 3347) shall be provided. The rating of additional neutral bushing should be same as phase bushing <sup>(R1)</sup>. Connection between the main neutral and additional neutral shall be provided. For extra neutral bushing, protection box shall be provided in order to prevent ingress of water.</p>
4.2.8.2.1	Essential provision for LV side line bushing	<p>It shall be complete with brass palm with aluminium busbar of size shall be as per clause 3.31.</p> <p>Bimetallic strip to be provided</p>

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4.2.8.2.2	Essential provision for LV side neutral bushing	In case of neutral bushing the stem and busbar shall be integral without bolted, threaded, brazed joints. Busbar size shall be as per clause 3.31
4.2.8.3	Arcing Horns	Not required
4.2.8.4	Support insulators inside HV cable box if provided	Epoxy resin cast, rated voltage 12 kV
4.2.8.5	Termination on HV side bushing	By bimetallic terminal connectors suitable for ACSR/AAAC conductor / Cable connection through cable box with disconnecting link suitable for 11kV(E) grade, A2XFY 3Cx 150sqmm
4.2.8.6	Termination of LV side bushing	By bimetallic terminal connectors suitable for LV Cable size of 650/1100VGrade, A2XY Cable single core 630sqmm (Approx dia 40mm) / A2XY Cable single core 1000sqmm (Approx dia. 48mm) for 1600/2000/2500 <sup>(R1)</sup> KVA.
4.2.8.7	Minimum creepage distance of all bushings and support insulators.	31mm/KV
4.2.8.8	Protected creepage distance	At least 50 % of total creepage distance
4.2.8.9	Continuous Current rating	Minimum 20 % higher than the current corresponding to the minimum tap of the transformer
4.2.8.10	Rated thermal short time current	25 times the rated current for 2 sec
4.2.8.11	Atmospheric protection for clamp and fitting of iron and steel	Hot dip galvanizing as per IS 2633
4.2.8.12	Bushing terminal lugs in oil and air	Brass palm connector for HV & LV side (as per IS: 3347)
4.2.8.13	Sealing washers /Gasket ring	Nitrile cork rubber(RC70C)/

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		Expanded TEFLON(PTFE) as applicable.
4.2.9	<b>HV &amp; LV cable box</b>	Required
4.2.9.1	Material of Construction	Sheet Steel min. 2.5 mm thick
4.2.9.2	Cable entry	At bottom through detachable gland plate with cable clamps of non magnetic material
4.2.9.3	Cable size for HV	11 kV (E) grade , A2XFY 3C x 150 sqmm
4.2.9.4	Cable size for LV	LV cable size, 650 /1100 V grade, A2XY cable single core 630 sqmm unarmoured (approx cable dia 40 mm) / A2XY Cable single core 1000sqmm (Approx dia. 48mm) for 1600/2000/2500 <sup>(R1)</sup> KVA.
4.2.9.5	Cable size for LV Neutral	LV cable size, 650 /1100 V grade, A2XY cable single core 630 sqmm unarmoured (approx cable dia 40 mm) / A2XY Cable single core 1000sqmm (Approx dia. 48mm) for 1600/2000/2500 <sup>(R1)</sup> KVA.
4.2.9.6	Detachable Gland Plate material for HV, LV, LV Neutral box	i) MS for HV cable box ii) Al for LV cable box.
4.2.9.7	Gland plate thickness for HV, LV, LV Neutral box	i) 3 mm for HV side cable box ii) 5 mm for LV cable box.
4.2.9.8	Cable gland for HV cables	Nickel plated brass double compression weatherproof cable gland
4.2.9.9	Cable lug for HV, LV, LV Neutral cables	i) Double hole Aluminium lugs for LV & Neutral side ii) Single hole Aluminum lugs for HV side
4.2.9.10	Essential parts	i) Flange type removable front cover with handles min two nos. ii) Aluminium for LV with bimetallic strips and tinned copper for HV

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		<p>Busbar of adequate size for Purchaser's cable termination with busbar supports</p> <p>iii) Earthing boss for the cable box</p> <p>iv) Earthing link for the gasketed joints at two point for each joint</p> <p>v) Earthing provision for cable Armour/ Screen</p> <p>vi) Flanged type inspection cover on top for bushing inspection and maintenance with handle</p> <p>vii) Drain plug</p> <p>viii) Rainhood on gasketed vertical joint</p> <p>ix) Danger / caution plate</p>
4.2.9.11	Terminal Clearances	700mm, Minimum
4.2.9.12	Termination height required for cable termination	1000mm, Minimum
4.2.10	<b>Current Transformers</b>	
4.2.10.1	Provision	On all three phases on LV side
4.2.10.2	Mounting	On LV side bushings on all three phases with the help of fibre glass mounting plate affixed to main tank by nut bolt arrangement
4.2.10.3	Maintenance requirements	Replacement should be possible by removing fixing nut of mounting plate after removal of LT cable without disturbing LT bushing
4.2.10.4	Accuracy Class	0.5
4.2.10.5	Burden	10VA
4.2.10.6	Type	Resin Cast Ring type suitable for outdoor use.
4.2.10.7	CT ratio	

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	250 KVA	400/5
	400kVA	600/5
	630kVA	1000/5
	1000kVA	1500/5
	1600kVA	2500/5
	2000kVA	3000/5
	2500kVA <sup>(R1)</sup>	4000/5
4.2.10.8	<b>CT terminal Box</b>	
4.2.10.8.1	Size	650 mm height x 750 mm width x 275 mm depth.
4.2.10.8.2	Fixing of instrument / 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
4.2.10.8.3	No of horizontal channels to be provided	Four
4.2.10.8.4	Fixing of terminals within the box	On horizontal slotted channel with the help of C channel available with the terminals
4.2.10.8.5	Location	On tank wall
4.2.10.8.6	Box door design	Openable from outside with antitheft hinge, padlock facility, door fixed by stainless steel allen screw M6 size , door shall have canopy for rain protection
4.2.10.8.7	Terminal strip	Nylon 66 material, minimum 4 sq mm, screw type for control wiring and potential circuit.
4.2.10.8.8	Cables and 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 sq mm for signals and 4 sq mm for CT with

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		multi strand copper conductor
4.2.10.8.9	Cable Glands	Nickel plated brass double compression weatherproof cable gland
4.2.10.8.10	Lugs on wires	Tinned copper pre insulated Pin, Ring, Fork type as applicable
4.2.10.8.11	Potential signal in CT box	i) Tapped from main LV busbar ii) Neutral Link and Fuse to be provided by bidder for PT
4.2.10.8.12	Essential provision	Wiring diagram to be fixed on the back of door along with CT spec. on Aluminum engraved plate fixed by rivet.
4.2.11	<b>Off Circuit tap Switch</b>	
4.2.11.1	Range /Step	Off circuit taps on HV winding, +10% to -10% in steps of 2.5%, change of taps by externally operated switch.
4.2.11.2	Type	Rotary type, 3 pole gang operated, draw out type
4.2.11.3	Operating Voltage	11kV
4.2.11.4	Rated Current for tap Switch	i) 400 kVA - 60 Amps ii) 630/1000 kVA - 100 Amps iii) 1600/2000kVA-150 Amps iv) 2500kVA- 200 Amps
4.2.11.5	Operating Handle	External at suitable height to be operated from ground level.
4.2.11.6	Essential provision	Tap position indicator, direction changing facility, locking arrangement, and caution plate metallic fixed by rivet.
4.2.12	<b>Pressure Relief Device</b>	
4.2.12.1	Type	Pressure Relief Valve (PRV)
4.2.12.2	Auxiliary contacts	2 NO

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4.2.13	<b>Winding and Oil Temperature scanner</b>	Required
4.2.13.1	PT 100 sensor	For measurement of Oil temperature LV winding temperature.
4.2.13.2	No of potential free trip contacts	2 NO
4.2.13.3	No of potential free alarm contacts	2 NO
4.2.13.4	Auxiliary Supply	240 AC, Single phase, 50Hz. Tapped from LV side busbar through a MCB located inside box.
4.2.13.5	Communication port	RS 485 port for interfacing with FRTU on Modbus protocol. Battery/Super capacitor for data transmission to SCADA in the event of Auxiliary supply fail
4.2.13.5	Fixing of instrument	On side wall of tank
4.2.14	<b>Auxiliary Relay (hand reset type)</b>	Required to identify the type of fault/indication.
4.2.14.1	Quantity	4 no's Separate auxiliary relay to be provided for PRV, MOG,WTI/OTI, Buchholz relay.
4.2.14.2	Potential free contacts	2 NO
4.2.14.3	Auxiliary supply	240V AC
4.3	<b>Hardware</b>	
4.3.1	External	Hot dip galvanized bolts
4.3.2	Internal	Cadmium plated except special hardware for frame parts and core assembly as per manufacturer's design
4.4	<b>Gasket</b>	
4.4.1	For Transformer , surfaces interfacing with oil like inspection cover etc.	Nitrile cork rubber RC70C grade
4.4.2	For Cable boxes, Marshalling box, etc.	Neoprene rubber based/ cork nitrile
4.5	Valves	

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4.5.1	Material of construction	Brass / gun metal
4.5.2	Type	Both end flanged gate valve / butterfly valve depending on application
4.5.3	Size	As per manufacturer's standard
4.5.4	Essential provision	Position indicator, locking rod, padlocking facility, valve guard, cover plate.
4.6	Cable routing on Transformer	Control cables for accessories on transformer tank shall be routed through perforated GI trays
4.6.1	Control cable specification	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 sq mm for signals and 4 sq mm for CT with multi strand copper conductor
4.6.2	Specification of wires to be used inside marshalling box.	PVC insulated multi-strand flexible copper wires of minimum 2.5 sq mm size, 1100 V grade as per latest edition of relevant IS
4.7	Terminal Blocks to be used by the vendor	Nylon 66 material, minimum 4 sq mm, Stud type screw driver operated type for control wiring and potential circuit.
4.7.1	Essential provision for CT terminals	Sliding link type disconnecting terminal block Stud type screwdriver operated with facility for CT terminal shorting material of housing melamine/ Nylon66
4.8	Cable glands to be used by the vendor	Nickel plated brass double compression weatherproof cable gland

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4.9	Cable lugs to be used by the vendor	
4.9.1	For power cables	Long barrel medium duty Aluminium lug with knurling on inside surface.
4.9.2	For Control Cable	Tinned copper pre insulated Pin, Ring, Fork type as applicable
4.10	Painting of transformer, Radiator, marshalling box for CT, cable boxes etc.	
4.10.1	Surface preparation	By 7 tank pretreatment process or shot blasting method
4.10.2	Finish on internal surfaces of the transformer	Bright Yellow heat resistant and oil resistant paint two coats. Paint shall neither react nor dissolve in hot transformer insulating oil.
4.10.3	Finish on inner surface of the CT terminal box, HV/LV/LVN cable box	White Polyurethane paint anti condensation type two coats , minimum dry film thickness 80 microns
4.10.4	Finish on outer surface of the transformer, radiator, CT terminal box, HV/LV/LVN cable box	Battle ship Grey shade 632 Polyurethane paint two coats, minimum dry film thickness 80 microns
4.10.5	Frame parts	Battle ship grey shade 632 IS 5, 80 micron minimum insulating oil resistant paint. Paint shall neither react nor dissolve in hot transformer insulating oil.

**5.0 Fittings and Accessories on Transformer**

5.1	Rating and Diagram Plate	Required
5.1.1	Material	Anodized aluminum 16SWG
5.1.2	Background	SATIN SILVER
5.1.3	Letters, diagram & border	Black

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5.1.4	Process	Etching
5.1.5	Rating and Diagram Plate details	<p>Following details shall be provided on rating and diagram plate as a minimum</p> <ul style="list-style-type: none"><li>i) type/kind of transformer with winding material</li><li>ii) standard to which it is manufactured</li><li>iii) manufacturer's name;</li><li>iv) transformer serial number;</li><li>v) month and year of manufacture</li><li>vi) rated frequency in Hz</li><li>vii) rated voltages in kV</li><li>viii) number of phases</li><li>ix) rated power in kVA</li><li>x) type of cooling (ONAN)</li><li>xi) rated currents in A</li><li>xii) vector group connection symbol</li><li>xiii) 1.2/50<math>\mu</math>s wave impulse voltage withstand level in kV</li><li>xiv) power frequency withstand voltage in kV</li><li>xv) impedance voltage at rated current and frequency in percentage at principal, minimum and maximum tap</li><li>xvi) Max. Total losses at 50 % rated load</li><li>xvii) Max. Total losses at 100 % rated load</li><li>xviii) Load loss at 50% &amp; 100% rated load</li><li>xix) No-load loss at rated voltage and frequency</li><li>xx) Energy efficiency level.</li><li>xxi) continuous ambient temperature</li></ul>

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		at which ratings apply in deg C xxii) top oil and winding temperature rise at rated load in deg C; xxiii) winding connection diagram with taps and table of tapping voltage, current and power xxiv) transport weight of transformer xxv) weight of core and windings xxvi) Weight of core xxvii) Weight of winding xxviii) total weight xxix) volume of oil xxx) weight of oil xxxi) name of the purchaser xxxii) PO no and date xxxiii) Guarantee period
5.2	Terminal marking Plate for Bushing, anodized aluminium black lettering on satin silver background both inside cable boxes near termination and on cable box cover (all fixed by rivet)	Required
5.3	Company Monogram Plate fixed by rivet	Required
5.4	Lifting Lug to lift complete transformer with oil	Required
5.5	Lifting lug for top cover	Required
5.6	Lashing Lug	Required
5.7	Jacking Pad with Haulage hole to raise or lower complete transformer with oil	Required
5.8	Detachable Bidirectional flat roller Assembly	Required
5.8.1	Roller center to center distance	Minimum 900 mm on the side of HV

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		and LV cable box Maximum 800 mm on the other side (perpendicular to HV, LV cable box).
5.8.2	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.
5.9	Pockets for ordinary thermometer on tank cover with metallic identification plate fixed by rivet.	Required
5.10	Drain valve (gate valve) for the main tank with cork above ground by 150mm minimum with padlocking and valve guard with metallic identification plate fixed by rivet.	Required
5.11	Filter valve (gate valve) at top with padlocking and valve guard with metallic identification plate fixed by rivet.	Required
5.12	Air Release Plug on tank cover with metallic identification plate fixed by rivet.	Required
5.13	Earthing pad on tank for transformer earthing complete with non ferrous nut , bolt, washers, spring washers etc. with metallic identification plate fixed by rivet	Required
5.14	Rainhood for vertical gasketed joints , in cable boxes, Conservator	Required Not required as per Annexure A Scope of supply
5.15	Earthing bridge by copper strip jumpers on all gasket joints at at least two points for electrical	Required

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	continuity	
5.16	Skid base welded type with haulage hole	Required
5.17	Core , Frame to tank Earthing	Required
5.18	Danger plate made of Anodized aluminum with white letters on red background on Transformer, cable boxes (all fixed by rivet)	Required
5.19	Caution plate for Off Circuit tap changer fixed by rivet.	Required
5.20	MOG with auxiliary contact wired upto Terminal Box	Required
5.21	Buchholz relay for transformer 1000kVA <sup>(R1)</sup> and above	Required
5.22	Pressure relief valve	Required
5.23	WTI & OTI Temperature Scanner	Required
5.24	Auxiliary relays (4 no's)	Required
5.25	LT cable support-By aluminium clamp fixed on the on MS bracket of size 50x 10 supported from the tank wall shall be provided .	Required
5.26	HT cable support-By GI clamp fixed on the on MS bracket of size 50x 10 supported from the tank wall shall be provided.	Required

**6.0 Approved make of components**

6.1	CT	Pragati / ECS / Kappa/Mehru/Continental/Nortex
6.2	Bushings	Baroda Bushing/Jaipur glass/CJI
6.3	Tap Changer	Always /Paragon
6.4	MOG	Sukrut/Atvus

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6.5	Valves	Newman/ATAM
6.6	CRGO	Nippon/JFE/Posco/Thyson kkurup
6.7	Copper	Birla copper/Sterlite
6.8	Pre compressed Pressboard	Raman Board, Mysore/ Senapathy Whiteley
6.9	Laminated Wood	Permalli Wallance / Rochling Engineers
6.10	Oil	Apar/Savita/Raj Petro/Gandhaar
6.11	Steel	TATA/Jindal/SAIL
6.12	Lugs/Glands	Jainson/Dowells/Comet
6.13	Radiators	CTR/Hi-Tech Radiators /Tarang Engineers
6.14	WTI/OTI	Precimeasure/ Pecon
6.15	Buchholz Relay	Sukrut/Atvus
6.16	Auxiliary Relay	GE/Alstrom
6.17.	Aluminium	Hindalco, Nalco, Sterlite, Birla

Note – Any other make of component offered by the bidder maybe reviewed & approved by purchaser

**7.0 Quality assurance**

7.1	Quality Assurance program	To be submitted before contract award. Program shall contain following i) The structure of the organization ii) The duties and responsibilities assigned to staff ensuring quality of work. iii) The bidder should have qualified technical & dedicated QA personnel at various stages of manufacture & testing. iv) Factory inspection of bidder may be carried out to ascertain the quality system and process in place at manufacturing facility. The same is applicable to bidders not approved with BSES. v) The system for purchasing, taking
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		<p>delivery and verification of materials</p> <ul style="list-style-type: none"><li>vi) The system for ensuring quality of workmanship</li><li>vii) The system for control of documentation</li><li>viii) The system for the retention of records</li><li>ix) The arrangements for the Supplier's internal auditing</li><li>x) A list of the administration and work procedures required to achieve and verify Contract's quality requirements. These procedures shall be made readily available to the Purchaser for inspection on request</li></ul>
7.2	Quality Plan	<p>To be submitted by the successful bidder for approval. Plan shall contain following as a minimum</p> <ul style="list-style-type: none"><li>i) An outline of the proposed work and program sequence</li><li>ii) The structure of the Supplier's organisation for the contract</li><li>iii) The duties and responsibilities assigned to staff ensuring quality of work for the contract</li><li>iv) Inspection Hold and notification points mutually agreed.</li><li>v) Submission of engineering documents required by the specification</li><li>vi) The inspection of materials and components on receipt</li><li>vii) Reference to the Supplier's work procedures appropriate to each activity</li><li>viii) Inspection during fabrication/construction</li><li>ix) Final inspection and test</li><li>x) Successful bidder shall include submittal of Mills invoice, Bill of lading, Mill's test certificate for grade, physical tests, dimension,</li></ul>

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		specific watt loss per kG for the core material to the purchaser for verification in the quality plan suitably
7.3	Manufacturing Quality Assurance Plan	Refer Annexure D

**8.0 Progress Reporting**

8.1	Outline Document	To be submitted for purchaser approval for outline of production, inspection, testing, packing, dispatch, documentation programme
8.2	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 box up viii) Constraints ix) Forward path

**9.0 Inspection & testing**

9.1	Inspection and Testing during manufacture	Only type tested equipment shall be acceptable
9.1.1	Tank and Conservator	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, jacking pads etc. All load bearing welds, including lifting lug welds shall be subjected to iii) required load tests. iv) Leakage test of the conservator. v) Certification of all test results. vi) Oil leakage test . vii) Vacuum and Pressure test on tank as type test as per IS

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9.1.2	Core	
9.1.2.1	Mother Core coil	Verification & inspection of the mother coil at port & putting stamp & seal may be inspected by BSES.
9.1.2.2	Core sample type testing	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 per P.O.  i) Specific core loss measurement ii) Magnetic polarization iii) Magnetic permeability iv) Specific core loss measurement after accelerated ageing test v) Surface insulation resistivity vi) Electrical resistivity measurement vii) Stacking factor viii) Ductility(Bend test) ix) Lamination thickness x) Magnetization characteristics (B-H curve)
9.1.2.3	Core cutting	Bidder should have in house core cutting facility for proper monitoring & control on quality. In case it is done outside cutting shall be done in presence of BSES.
9.1.2.4	Core physical verification	i) 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 over all quality of varnish by sampling to ensure uniform hipping colour, no bare spots. No ever burnt varnish layer and no bubbles on varnished surface. ii) Check on the amount of burns. iii) Bow check on stampings. iv) Check for the overlapping of stampings. Corners of the sheet are to be apart.

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		<ul style="list-style-type: none"><li>v) Visual and dimensional check during assembly stage.</li><li>vi) 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.</li><li>vii) Check for inter laminar insulation between core sectors before and after pressing.</li><li>viii) Visual and dimensional checks for straightness and roundness of core, thickness of limbs and suitability of clamps.</li><li>ix) High voltage test (2 KV for one minute) between core and clamps.</li></ul> Certification of all test results.
9.1.2.5	Documents verification	Following documents to be submitted during the stage inspection <ul style="list-style-type: none"><li>i) Invoice of supplier</li><li>ii) Mills test certificates</li><li>iii) Packing list</li><li>iv) Bill of lading</li><li>v) Bill of entry certificates by customs</li></ul>
9.1.3	Insulating Materials	<ul style="list-style-type: none"><li>i) Sample check for physical properties of materials.</li><li>ii) Check for dielectric strength.</li><li>iii) Visual and dimensional checks.</li><li>iv) Check for the reaction of hot oil on insulating materials.</li><li>v) Certification of all test results.</li></ul>
9.1.4	Windings	<ul style="list-style-type: none"><li>i) Sample check on winding conductor for mechanical properties and electrical conductivity.</li><li>ii) Visual and dimensional check on conductor for scratches, dept. mark etc.</li><li>iii) Sample check on insulating paper for PE value, Bursting strength, Electric strength.</li><li>iv) Check for the reaction of hot oil on insulating paper.</li><li>v) Check for the bending of the insulating paper on conductor.</li></ul>

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		<ul style="list-style-type: none"><li>vi) Check and ensure that physical condition of all materials taken for winding is satisfactory and free of dust.</li><li>vii) Check for absence of short circuit between parallel strands.</li><li>viii) Check for Brazed joints wherever applicable.</li><li>ix) Measurement of voltage ratio to be carried out when core/ yoke is completely restocked and all connections are ready.</li><li>x) Certification of all test results.</li></ul>
9.1.4.1	Checks before drying process	<ul style="list-style-type: none"><li>i) Check conditions of insulation on the conductor and between the windings.</li><li>ii) Check insulation distance between high voltage connection distance between high voltage connection cables and earthed and other live parts.</li><li>iii) Check insulation distance between low voltage connection and earthed and other parts.</li><li>iv) Insulation test of core earthing.</li><li>v) Check for proper cleanliness</li><li>vi) Check tightness of coils i.e. no free movement.</li><li>vii) Certification of all test results.</li></ul>
9.1.4.2	Checks during drying process	<ul style="list-style-type: none"><li>i) Measurement and recording of temperature and drying time during vacuum treatment.</li><li>ii) Check for completeness of drying.</li><li>iii) Certification of all test results.</li></ul>
9.1.5	Oil sample testing	One sample of oil drawn from every lot of transformer offered for inspection should be tested at CPRI/ERDA lab for tests as listed under Table-1 of IS:1866 (2000). The cost of this testing should be included within the cost of transformer.
9.1.6	Test on fittings and accessories	As per manufacturer's standard
9.2	Routine tests	The sequence of routine testing shall be as follows

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- 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 at 50 % & 100 % of load.
- x) Impedance measurement of principal tap (HV and LV) of the transformer.
- xi) Routine test of tanks
- xii) Induced voltage withstand test (to be repeated if type tests are conducted).
- xiii) Measurement of Iron loss (to be repeated if type test are conducted).
- xiv) Measurement of capacitance and Tan Delta for transformer winding and Tan Delta for transformer oil (for all transformers).
- xv) Ratio of CT
- xvi) Oil leakage test on completely assembled transformer
- xvii) Magnetic balance test
- xviii) Power frequency voltage withstand test on all auxiliary circuits
- xix) Certification of all test results.
- xx) Temperature Rise Test #

**Note:**

- a) \*Insulation resistance measurement shall be carried out at 5kV for HV and

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		<p>1kV for LV. Value of IR should not be less than 1000 Mohms. Polarization Index (PI = <math>IR_{10min}/IR_{1min}</math>) should not be less than 1.5 (If one minute IR value is above 5000 Mohms and it is not be possible to obtain an accurate 10 minutes reading, in such cases polarization index can be disregarded as a measure of winding condition.)</p> <p>b) #Temperature rise test may be necessary to be carried 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 ERDA/CPRI type test results</p> <p>c) BSES may appoint recognized testing authority like CPRI /ERDA lab with their instruments &amp; 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 &amp; testing at shop floor. The losses &amp; impedance values so obtained will be considered as final.</p>
9.3	Acceptance test at NABL lab	<p>Bidder should have in-house NABL accredited testing facility. In case of unavailability of same, one Transformer of each rating shall be randomly selected and sealed by BSES representative for complete acceptance test as per IS 1180 ( including temperature test) at third party NABL Lab. Tests shall be conducted once per Rate contract.</p>
9.4	Type Tests	<p>On one transformer of each rating and type at CPRI/ERDA.</p> <p>i) Impulse withstand test on all three HV limbs of the transformers for chopped wave as per standard</p> <p>ii) Temperature rise test as per IS</p>

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		<ul style="list-style-type: none"> <li>iii) Dissolved gas analysis before and after Temperature Rise Test</li> <li>iv) Pressure and Vacuum test on tank</li> </ul> <p>Note – Purchaser may choose to carry out short circuit, impulse &amp; temperature rise test on one unit from a lot offered from inspection at CPRI/ERDA</p>
9.5	Special Tests	<p>On one transformer of each rating and type</p> <ul style="list-style-type: none"> <li>i) Dynamic &amp; Thermal (3 sec) Short Circuit Test as per IS 2026</li> <li>ii) Measure of zero seq. impedance (Cl. 16.10 IS 2026 Part I).</li> <li>iii) Measurement of acoustic noise level (Cl. 16.12 of IS 2026 Part I).</li> <li>iv) Measurement of harmonic level on no load current.</li> <li>v) Paint adhesion test.</li> <li>vi) High voltage withstand test shall be performed on the auxiliary equipment and wiring after complete assembly. Cost of such tests, if extra, shall be quoted separately by the Bidder.</li> </ul>
9.6	Notification to bidders	<p>In case bidder had conducted type &amp; special tests from CPRI/ERDA on BSES design and there is no design change in the transformer less than 10 years from the date of the bid opening, then bidder need not to conduct the type test from CPRI/ERDA lab.</p> <p>The bidder shall submit the under taking that there is no change in design with respect to type tested design.</p> <p>The product offered must be of type tested quality.</p> <p>In case the product offered is never type &amp; special tested the same (as per above clause 9.4.&amp; 9.5), is to be conducted by bidder at his own cost at CPRI/ERDA</p>
9.7	Customer Hold Point	<ul style="list-style-type: none"> <li>i) GTP &amp; Drawings approval</li> <li>ii) Core Inspection(See CI No 9.1.2)</li> </ul>

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		<p>Sample to be tested at CPRI/ERDA for each lot.</p> <p>iii) Tank Pressure &amp; vacuum Test</p> <p>iv) Core &amp; Coil Stage inspection of each lot to be offered for final testing.</p>
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**10.0 Packing , Shipping, Handling and Storage**

10.1	Packing	
10.1.1	Packing protection	Against corrosion, dampness, heavy rains, breakage and vibration
10.1.2	Packing for accessories and spares	Robust wooden non returnable packing case with all the above protection
10.1.3	Packing details	<p>On each packing case details required as follows</p> <p>i) Individual serial number;</p> <p>ii) Purchaser's name;</p> <p>iii) PO number;</p> <p>iv) Destination;</p> <p>v) Supplier's name;</p> <p>vi) Name and address of supplier's agent</p> <p>vii) Description and quantity</p> <p>viii) Manufacturer's name</p> <p>ix) Country of origin</p> <p>x) Case measurements</p> <p>xi) Gross and net weights in kilograms</p> <p>xii) All necessary slinging and stacking instructions.</p>
10.2	Shipping	<p>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, upto the plant site.</p>

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		ii) Any modifications required in the infrastructure and cost thereof in this connection shall be brought to the notice of the Purchaser
10.3	Handling and Storage	As per manufacturer's instruction

**11.0 Deviations**

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, requirements of the Specification shall be met without exception.

**12.0 Drawings& Data Submission Matrix**

Drawing submission shall be as per the matrix given below. All documents/ drawing shall be provided on A3/A4 sheet in box file with separators for each section. PDF shall also be provided of all documents via USB. Deviation sheet and GTP shall be provided in excel sheet. Language of the documents shall be English only. Deficient/ improper document/ drawing submission may liable for rejection.

S.no	Documents to be submitted	With the bid	After Award	
			For Approval	Prior to dispatch
1	Copy of specification along with company seal & signature on each page.	✓	✓	
2	Guaranteed technical particulars	✓	✓	
3	Outline dimension drawing for each major component, general arrangement drawing showing component layout an general schematic diagrams.	✓	✓	
4	Type test certificates, where available, and sample routine test reports	✓	✓	
5	Detailed reference list of customers already using equipment offered during the last 5 years with particular emphasis on units of similar design and rating	✓		
6	Details of manufacturers quality assurance standard and programme and ISO 9000 series or equivalent national certification.	✓		
7	Deviations from this specification. Only deviations approved in writing before award of contract shall be	✓		

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S.no	Documents to be submitted	With the bid	After Award	
			For Approval	Prior to dispatch
	accepted.			
8	Recommended spare parts and consumable items for the five years of operation with prices and spare parts catalogue with price list for future requirements.	✓		
9	Transport / shipping dimension and weights, space required for handling parts for maintenance	✓		
10	Write up on oil preservation system.		✓	✓
11	Quality assurance program.	✓	✓	
12	Programme for production and testing		✓	
13	General description of the equipment and all components, including brochures		✓	
14	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 and OTI/WTI scanner, PRV, Buchholz relay. Auxiliary relays		✓	
15	Calculations to substantiate choice of electrical, structural, mechanical component size, ratings		✓	
16	Detailed loading drawing to enable the purchaser to design and construct foundations for the transformer.		✓	
17	Transport /shipping dimension with weights ,wheel base details, untanking height etc.		✓	
18	Terminal arrangements and cable box details		✓	
19	Flow diagram of cooling system showing no. of cooling banks		✓	
20	Drawings of major components like bushing,CT, OTI/WTI Scanner, PRV, Buchholz relay, Auxiliary relays, Valves, radiators etc		✓	
21	Lists of makes of all fittings and accessories		✓	
22	Statement drawing attention to all exposed points in the equipment at		✓	



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S.no	Documents to be submitted	With the bid	After Award	
			For Approval	Prior to dispatch
	which contact with or in close proximity to other metals and stating clearly what protection is employed to prevent corrosion at each point			
23	Detailed installation and commissioning instructions			✓
24	Inspection and test reports carried out in manufacturers works			✓
25	Test certificates of all bought out items. and catalogues			✓
26	Operation and maintenance instructions as well as trouble shooting charts.			✓

**TECHNICAL SPECIFICATION OF  
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1.1 Design, manufacture, assembly, testing at stages of manufacture as per Cl. 9 of this specification, final testing at manufacturer works on completely assembled transformer before dispatch, packing, transportation, delivery and submission of all documentation for the Power transformer with all accessories as below

<b>Sr. No</b>	<b>Description</b>	<b>Scope of Supply</b>
1.1.1	Fully assembled transformer with all major parts like conservator, Radiators, CT box, Fittings and accessories as per Clause 5.0 of this specification	YES
1.1.2	Off circuit tap changer as per this specification	YES
1.1.3	HV, LV, cable boxes	YES
1.1.4	Support steel material for support of cable boxes from ground	YES
1.1.5	Foundation Bolts for complete transformer	YES
1.1.6	Support structure to support of cable from the transformer tank	YES
1.1.7	Nickel Plated brass double compression glands for HV and LV, LVN cables (in case of termination by cable)	YES
1.1.8	Long barrel medium duty Aluminium lugs for power cables (in case of termination by cable)	YES
1.1.9	Nickel Plated brass double compression glands and tinned copper lugs for control cable termination in CT box for vendor's cables	YES
1.1.10	Cables and wires for transformer accessories and internal wiring of CT box	YES
1.1.11	Touch up paint, minimum 2 litres	YES
1.1.12	Extra Transformer oil 10 % in non returnable drums	YES
1.1.13	One spare complete set of gaskets	YES
1.1.14	Routine testing as per Cl. 9.2 & 9.3 of this specification	YES
1.1.15	Type testing as per Cl. 9.4 of this specification	YES
1.1.16	Special testing as per Cl. 9.5 of this specification	YES
1.1.17	Submission of Documentation as detailed below	YES

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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 Technical Particulars of transformer oil**

Transformer oil shall be new and conform to the following requirements:

## 1.0 Codes &amp; standards

Latest revision of following codes & standards with all amendments –

	Standard no	Title
1.1	IS 335	New insulating oils
1.2	IS 1783	Drums for oils

**2.0 Properties**

The insulating material shall have following features

Sr No	Item description	Specification requirement
<b>2.1</b>	<b>Function</b>	
2.1.1	Viscosity	
2.1.1.1	Viscosity at 40°C	15 mm <sup>2</sup> /s, Max
2.1.1.2	Viscosity at 0°C	1800 mm <sup>2</sup> /s, Max
2.1.2	Pour Point	- 10°C, Max
2.1.3	Water content	30 mg/Kg, Max
2.1.4	Breakdown voltage	
2.1.4.1	New unfiltered oil	30 kV, Min
2.1.4.2	After filtration	70 kV, Min
2.1.5	Density at 20°C	0.895 g/ml, Max
2.1.6	Dielectric dissipation factor at 90°C	0.005, Max
2.1.7	Particle Content	Manufacturer to specify the data
<b>2.2</b>	<b>Refining/Stability</b>	
2.2.1	Appearance of oil	Clear, free from sediment and suspended matter

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<b>Sr No</b>	<b>Item description</b>	<b>Specification requirement</b>
2.2.2	Acidity	0.01 mg KOH/g, Max
2.2.3	Interfacial tension at 27°C	0.04 N/m, Min
2.2.4	Total sulphur content	Manufacturer to specify the data
2.2.5	Corrosive sulfur	Not-corrosive
2.2.6	Potentially Corrosive sulfur	Not-corrosive
2.2.7	DBDS	Not detectable (<5 mg/kg)
2.2.8	Inhibitor	Not detectable (<0.01%)
2.2.9	Metal Passivator	Not detectable (<5 mg/kg)
2.2.10	Other additives	Manufacturer to specify the data
2.2.11	2-furfural and related Compounds content	Not detectable (<0.05 mg/kg) for each individual compound
<b>2.3</b>	<b>Performance</b>	
2.3.1	Oxidation stability, test duration 164 h	
2.3.1.1	Total acidity	1.2 mg KOH/g, Max
2.3.1.2	Sludge	0.8%, Max
2.3.1.3	DDF at 90°C	0.5, Max
2.3.2	Gassing Tendency	Manufacturer to specify the data
2.3.3	ECT	Manufacturer to specify the data
<b>2.4</b>	<b>Health,safety and Environment</b>	
2.4.1	Flash point	135°C, Min
2.4.2	PCA content Max	3%, Max
2.4.3	PCB content	Not detectable (<2 mg/Kg)



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Annexure D Manufacturing Quality Assurance Plan

SL NO	CHARACTRISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANC E NORMS	FORMAT OF RECORD	AGENCY			REMARKS
								S	M	O	
1	2	3	4	5	6	7	8	9			10
<b>A</b>	<b>RAW Material</b>										
1	<b>Winding Conductor (PICC)</b>										
1.1	Bare Dimensions & Finish of Conductor	Major	Measurement	1 sample per size per lot	IEC 13730 Part 27,IEC 60317,IS 7404,IS 6160,IS 613	IEC 13730 Part 27,IEC 60317,IS 7404,IS 6160,IS 613	Supplier's TC	P	V	R	
1.2	Increase in dimensions due to Paper covering	Major	Measurement	-DO-	-DO-	-DO-	-DO-	P	V	R	
1.3	Resistivity @ 20°C	Major	Electrical	-DO-	-DO-	-DO-	-DO-	P	V	R	
1.4	No of Layers	Critical	Measurement	-DO-	-DO-	-DO-	-DO-	P	V	R	
1.5	Conductor Tensile strength	Critical	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
1.6	Conductor Elongation	Critical	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
1.7	% Overlap of Paper	Critical	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	



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SL NO	CHARACTRISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANC E NORMS	FORMAT OF RECORD	AGENCY			REMARKS
								S	M	O	
1	2	3	4	5	6	7	8	9			10
1.8	Corner Radius	Critical	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
1.9	<b>Kraft Paper Insulation</b>										
1.9.1	Thickness	Major	Measurement	1 sample per size per lot	IEC:60554, IS:9335	IEC:60554, IS:9335	Supplier's TC	P	V	R	
1.9.2	Apparent Density	Major	Chemical	-DO-	-DO-	-DO-	-DO-	P	V	R	
1.9.3	Air Permeability	Major	Chemical	-DO-	-DO-	-DO-	-DO-	P	V	R	
1.9.4	Tensile Index (Longitudinal and Transverse)	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
1.9.5	Electrical Strength in Air	Major	Electrical	-DO-	-DO-	-DO-	-DO-	P	V	R	
1.9.6	Ash Content	Major	Chemical	-DO-	-DO-	-DO-	-DO-	P	V	R	
1.9.7	pH of 5% Aqueous Extract	Major	Chemical	-DO-	-DO-	-DO-	-DO-	P	V	R	
1.9.8	Conductivity of 5% Aqueous Extract	Critical	Chemical	-DO-	-DO-	-DO-	-DO-	P	V	R	
1.9.9	Moisture Content	Major	Chemical	-DO-	-DO-	-DO-	-DO-	P	V	R	
1.9.10	Heat Stability	Major	Chemical	-DO-	-DO-	-DO-	-DO-	P	V	R	
1.9.11	Degree of Polymerization	Major	Chemical	-DO-	-DO-	-DO-	-DO-	P	V	R	



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SL NO	CHARACTRISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANC E NORMS	FORMAT OF RECORD	AGENCY			REMARKS
								S	M	O	
1	2	3	4	5	6	7	8	9			10
1.9.12	Elongation (MD & CMD)	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
1.9.13	Tear index	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
<b>2.0</b>	<b>CRGO Laminations (Watt absorption)</b>										
2.1	Specific Core Loss	Major	Electrical	Random	IEC 60404, IS 3024, IS 649	IEC 60404, IS 3024, IS 649	Supplier's TC	P	V	R	
2.2	Surface Insulation resistance	Major	Electrical	-DO-	-DO-	-DO-	-DO-	P	V	R	
2.3	Ageing Test	Major	Measurement	-DO-	-DO-	-DO-	-DO-	P	V	R	
2.4	Stacking Factor	Major	Measurement	-DO-	-DO-	-DO-	-DO-	P	V	R	
2.5	Waviness	Major	Measurement	-DO-	-DO-	-DO-	-DO-	P	V	R	
2.6	Edge Burr	Major	Visual	-DO-	-DO-	-DO-	-DO-	P	V	R	
2.7	Sample testing for Checking Specific Core loss, accelerated ageing test, Surface insulation resistivity, AC permeability and magnetization, stacking	Major	Electrical	100%	-DO-	-DO-	--	--	P	W	Sample will be randomly selected by BSES & will be send for testing at CPRI/ERDA



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SL NO	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS
								S	M	O	
1	2	3	4	5	6	7	8	9			10
	factor, Ductility										lab.
3.12	Core Cutting	Major	Visual	Random	-DO-	-DO-	-DO-	P	W	W	
<b>3.0</b>	<b>Un-impregnated Laminated Wood</b>										
3.1	Thickness	Major	Visual	1 sample size / LOT	IS 3513/IEC 61061	IS 3513/IEC 61061	Supplier's TC	P	V	R	
3.2	Density	Major	Chemical	-DO-	-DO-	-DO-	-DO-	P	V	R	
3.3	Moisture Content	Major	Chemical	-DO-	-DO-	-DO-	-DO-	P	V	R	
3.4	Oil Absorption	Major	Chemical	-DO-	-DO-	-DO-	-DO-	P	V	R	
3.5	Cross breaking strength	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
3.6	Compressive Strength	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
3.7	Electric Strength in Oil	Major	Electrical	-DO-	-DO-	-DO-	-DO-	P	V	R	
3.8	Shrinkage in oil	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
3.9	Tensile Strength, compressive strength	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
<b>4.0</b>	<b>Press Boards (Pre-compressed)</b>										



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								S	M	O	
1	2	3	4	5	6	7	8	9			10
4.1	Thickness	Major	Measurement	1 sample/Size/LOT	IEC:60641, IS:1576	IEC:60641, IS:1576	Supplier's TC	P	V	R	
4.2	Tensile Strength (MD & CMD)	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
4.3	Shrinkage in Air (MD & CMD)	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
4.4	Moisture Content	Major	Chemical	-DO-	-DO-	-DO-	-DO-	P	V	R	
4.5	Oil Absorption	Major	Chemical	-DO-	-DO-	-DO-	-DO-	P	V	R	
4.6	Electrical Strength in Oil and air	Major	Electrical	-DO-	-DO-	-DO-	-DO-	P	V	R	
4.7	pH of 5% aqueous extract	Major	Chemical	-DO-	-DO-	-DO-	-DO-	P	V	R	
4.8	Conductivity of 5% aqueous extract	Major	Chemical	-DO-	-DO-	-DO-	-DO-	P	V	R	
4.9	Compressibility	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
4.10	Ash Content	Major	Chemical	-DO-	-DO-	-DO-	-DO-	P	V	R	
4.11	Apparent density	Major	Chemical	-DO-	-DO-	-DO-	-DO-	P	V	R	
4.12	Elongation (MD & CMD)	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
<b>5.0</b>	<b>Tank and its</b>										



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								S	M	O	
1	2	3	4	5	6	7	8	9			10
	<b>accessories</b>										
5.1	Structural steel										
5.1.1	Thickness	Major	Measurement	Random	IS 2062/ IS:1576	IS 2062/ IS:1576	Suppliers TC	P	V	R	
5.1.2	Yield Strength	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
5.1.3	Tensile Strength	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
5.1.4	Elongation	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
5.1.5	Bend test	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
5.1.6	Chemical composition	Major	Chemical	-DO-	-DO-	-DO-	-DO-	P	V	R	
<b>5.2</b>	<b>Manufacturing of Tank and accessories</b>										
5.2.1	Dimension check	Major	Measurement	100%	MFR. Spec/ DRG/BSES approved document	MFR. Spec/ DRG/ BSES approved document	MFR. Fabrication report	P	W	R	
5.2.2	Joint preparation	Major	Measurement	100%	-DO-	-DO-	-DO-	P	V	R	
5.2.3	Assembly and alignment	Major	Visual and measurement	100%	MFR. Spec/ DRG	MFR. Spec/ DRG	MFR. Fabrication report	P	V	R	



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								S	M	O	
1	2	3	4	5	6	7	8	9			10
5.2.4	DP Test on Welds on Load bearing members eg. Jack Pads	Major	DP Test	100%	-DO-	-DO-	-DO-	P	W	R	
5.2.5	Pressure test	Major	Mechanical	On One unit	CBIP	CBIP	Test Report	--	P	W	<b>STAGE INSPECTIO N</b>
5.2.6	Vacuum test	Major	Mechanical	On One unit	CBIP	CBIP	Test Report	--	P	W	<b>STAGE INSPECTIO N</b>
5.2.7	<b>Leakage test</b>										
5.2.7.1	Main Unit	Major	Mechanical	100%	MFR. STD	MFR. STD	Test report	P	W	R	
5.2.7.2	Conservator	Major	Mechanical	100%	MFR. STD	MFR. STD	Test report	P	W	R	
5.2.7.3	Pipes	Major	Mechanical	100%	MFR. STD	MFR. STD	Test report	P	W	R	
5.2.8	Surface preparation	Major	Visual	100%	MFR. STD	MFR. STD	MFR. Fabrication report	P	V	R	
5.2.9	Final Paint Coat (including Primer), Thickness & Shade	Major	Measurement	100%	MFR. STD	MFR. STD	Test report	P	V	R	
5.2.10	Paint Peel off test	Major	Visual	100%	MFR. STD	MFR. STD	Test report	--	P	R	



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								S	M	O	
1	2	3	4	5	6	7	8	9			10
<b>6.0</b>	<b>Bushing/Insulators</b>										
6.1	Make and rating	Critical	Visual	100%	IS 8603/IS 2099/App.Drg.	IS 8603/IS 2099/App.Drg.	Supplier's TC	P	V	R	
6.2	Visual inspection for surface smoothness, any damage, etc.	Critical	Visual	100%	-DO-	-DO-	-DO-	P	V	R	
6.3	Important dimension including Creepage distance	Major	Measurement	One sample /size / lot	-DO-	-DO-	-DO-	P	V	R/W	
6.4	Dry Power Frequency voltage withstabd test	Major	Electrical	100%	-DO-	-DO-	-DO-	P	V	R	
6.5	Air pressure test in water	Major	Electrical	100%	-DO-	-DO-	-DO-	P	V	R	
6.6	Electro -Tinning	Major	Electrical	100%	-DO-	-DO-	-DO-	P	V	R	
6.7	All routine electrical tests	Major	Electrical	-do-	-do-	-do-	-do-	P	V	R	
<b>7.0</b>	<b>Magnetic Oil Gauge</b>										
7.1	Make and dimensions	Major	Physical	100%	App.Drg./ Supplier Catalogue	App.Drg./ Supplier Catalogue	Supplier's TC	P	V	R	
7.2	Test for level (eg at 30°	Major	Mechanical	100%	-DO-	-DO-	-DO-	P	V	R	



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								S	M	O	
1	2	3	4	5	6	7	8	9			10
	Max)										
7.3	Switch contact test	Major	Electrical	100%	-DO-	-DO-	-DO-	P	V	R	
7.4	Leakage test	Major	Mechanical	100%	-DO-	-DO-	-DO-	P	V	R	
7.5	Switch operating and setting	Major	Electrical	100%	-DO-	-DO-	-DO-	P	V	R	
7.6	Di-electric test at 2 KV AC between live terminal and body	Major	Electrical	100%	-DO-	-DO-	-DO-	P	V	R	
<b>8.</b>	<b>Buchholz relay</b>										
8.1	Make and type	Critical	Visual	100%	App.Drg./ Supplier Catalogue /IS 3637	App.Drg./ Supplier Catalogue /IS 3637	Supplier's TC	P	V	R	
8.2	Bore size	Major	Measurement	One/size	-DO-	-DO-	-DO-	P	V	R	
8.3	Porosity and element test	Major	Critical	100%	-DO-	-DO-	-DO-	P	V	R	
8.4	Gas volume and surge test	Major	Mechanical	One/Size	-DO-	-DO-	-DO-	P	V	R	
8.5	HV test at 2 KV AC & IR test	Major	Electrical	100%	-DO-	-DO-	-DO-	P	V	R	



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								S	M	O	
1	2	3	4	5	6	7	8	9			10
8.6	Continuity for alarm/Trip	Major	Electrical	100%	-DO-	-DO-	-DO-	P	V	R	
<b>9.0</b>	<b>Radiator</b>										
9.1	Dimension, number of sections	Major	Measurement	100%	MFR. DRG	VTD DRG	Supplier's TC	P	V	R	
9.2	Leakage Test with Air	Major	Visual	100%	As per CBIP	As per CBIP	Supplier's TC	P	V	R	
9.3	Paint shade	Major	Visual & Measurement	Random	MFR. Specs /Drg	MFR. Specs /Drg	Supplier's TC	P	V	R	
9.4	Surface Preparation	Major	Measurement	100%	SA 2.5 of ISO 8503/2	SA 2.5 of ISO 8503/2	Supplier's TC	P	V	R	
<b>10</b>	<b>Off Circuit Tap Changer</b>										
10.1	Make, Rating and model	Major	Visual	100%	MFR. Spec/ IS 8468 /IEC 214-1989	MFR. Spec/ IS 8468 /IEC 214-1989	Supplier's TC	P	V	R	
10.2	Contact Resistance test	Major	Visual	100%	Supplier's STD	Supplier's STD	Supplier's TC	P	V	R	
10.3	Electrical Routine test	Major	Electrical	100%	IS 8468/ IEC 214	IS 8468/ IEC 214	Supplier's TC	P	V	R	
10.4	Mechanical test on diverter switch including	Major	Mechanical	100%	-DO-	-DO-	-DO-	P	V	R	



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								S	M	O	
1	2	3	4	5	6	7	8	9			10
	pressure test										
10.5	HV test for Auxiliary circuit	Major	Electrical	100%	-DO-	-DO-	-DO-	P	V	R	
10.6	Mechanical test on Tap selector switch with motor drive	Major	Mechanical	100%	-DO-	-DO-	-DO-	P	V	R	
10.7	Pressure test for Oil Compartment	Major	Mechanical test	100%	-DO-	-DO-	-DO-	P	V	R	
11.0	<b>Transformer Oil</b>	Major	Testing	One Sample from each lot	Annexure D of BSES spec.	Annexure D of BSES spec.	STC	P	V	R	One sample of oil shall be drawn from <b>each lot of Transformer</b> offered for final inspection by BSES representative and same shall be tested at CPRI/ERDA



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								S	M	O	
1	2	3	4	5	6	7	8	9			10
											lab as per relevant std.
<b>12.0</b>	<b>OTI / WTI Scanner</b>										
12.1	Make and Model	Critical	Visual	100%	MFR. STD/App. Drg.	MFR. STD/App. Drg.	Suppliers TC	P	P	R	
12.2	Calibration	Major	Electrical	100%	-DO-	-DO-	-DO-	P	P	R	
12.3	Check for alarm & trip signal operation against set value	Major	Electrical	100%	-DO-	-DO-	-DO-	P	P	R	
12.4	HV test	Major	Electrical	100%	-DO-	-DO-	-DO-	P	V	R	
12.5	Switch Setting	Major	Mechanical	100%	-DO-	-DO-	-DO-	P	P	R	
<b>13.0</b>	<b>Bushing Metal parts</b>										
13.1	Dimension Checks	Major	Mechanical	100%	MFR. STD /IS 3347	MFR. STD /IS 3347	Supplier's TC	P	V	R	
13.2	Surface Finish	Major	Visual	100%	-DO-	-DO-	-DO-	P	V	R	
<b>14.0</b>	<b>Current Transformers</b>										
14.1	Dimensions, make	Major	Measurement	100%	MFR. STD /App. DRG. / IS 2705	MFR. STD /App. DRG. / IS 2705	Supplier's TC	P	P	R	



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								S	M	O	
1	2	3	4	5	6	7	8	9			10
14.2	Rating and terminal marking	Major	Physical	100%	MFR. APPD. DRG	MFR. APPD. DRG	Supplier's TC	P	P	R	
14.3	Measurement of ratio and phase angle error	Major	Electrical	100%	IS 2705	IS 2705	Supplier's TC	P	V	R	
14.4	High Voltage test	Major	Electrical	100%	-DO-	-DO-	-DO-	P	V	R	
14.5	Inter-Turn insulation test	Major	Electrical	100%	-DO-	-DO-	-DO-	P	V	R	
14.6	Polarity	Major	Electrical	100%	-DO-	-DO-	-DO-	P	V	R	
14.7	Knee point voltage	Major	Electrical	-do-	-do-	-do-	-do-	P	V	R	Only for Class-PS NCT
14.8	Excitation current	Major	Electrical	-do-	-do-	-do-	-do-	P	V	R	Only for Class-PS NCT
14.9	Secondary winding resistance	Major	Electrical	-do-	-do-	-do-	-do-	P	V	R	Only for Class-PS NCT
<b>15.0</b>	<b>Valves/ Butterfly valves</b>										
15.1	Make & operation	Critical	Visual	100%	APP.drg./MFR. STD/IS 778	APP.drg./MFR . STD/IS 778	Supplier's TC	P	P	R	
15.2	Leakage test for body	Major	Mechanical	100%	-DO-	-DO-	-DO-	P	P	R	



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								S	M	O	
1	2	3	4	5	6	7	8	9			10
15.3	Leakage test for top spindle	Major	Mechanical	100%	-DO-	-DO-	-DO-	P	P	R	
15.4	Mounting dimensions	Major	Measurement	100%	-DO-	-DO-	-DO-	P	P	R	
15.5	Material of Body & Seat	Major	Chemical & measurement	1 sample per lot	-DO-	-DO-	-DO-	P	V	R	
<b>16.0</b>	<b>Pressure relief Valve/Device</b>										
16.1	Make	Critical	Visual	100%	MFR. STD/ App. Drg.	MFR. STD/ App. Drg.	-DO-	P	P	R	
16.2	Operating pressure	Major	Mechanical	100%	-DO-	-DO-	-DO-	P	P	R	
16.3	Switch Contact test	Major	Electrical	100%	-DO-	-DO-	-DO-	P	P	R	
16.4	Mounting dimensions	Major	Measurement	100%	-DO-	-DO-	-DO-	P	V	R	
16.5	HV test between body & terminal	Major	Electrical	100%	-DO-	-DO-	-DO-	P	V	R	
<b>17.0</b>	<b>Gasket</b>										
17.1	Appearance & Finish	Major	Mechanical	1 sample per size per lot	IS 4253-II, 1980/IS 3400	IS 4253-II, 1980/IS 3400	Supplier's TC	P	V	R	
17.2	Hardness, IRHD	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
17.3	Tensile Strength	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	



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								S	M	O	
1	2	3	4	5	6	7	8	9			10
17.4	Compressibility	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
17.5	Compression set	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
17.6	Flexibility	Major	Mechanical	-DO-	-DO-	-DO-	-DO-	P	V	R	
<b>18.0</b>	<b>Silica gel Breather with oil seal</b>										
18.1	Type / model/weight	Major	Visual	100%	MFR. STD /DRG	MFR. STD /DRG	Supplier's TC	P	V	R	
18.2	Color of Gel	Major	Visual	100%	-DO-	-DO-	-DO-	P	V	R	
19	<b>Control cubicle/CT terminal Box</b>										
19.1	Dimensions	Major	Measure ment	100%	BSES Approved document	BSES Approved document	Supplier's TC	P	V	R	
19.2	Hi-voltage test at 2kV RMS for one minute	Major	Electrical	-DO-	-DO-	-DO-	-DO-	P	V	R	
19.3	Insulation resistance at 5000 V DC	Major	Electrical	-DO-	-DO-	-DO-	-DO-	P	V	R	
19.4	Verification of component & Fittings	Major	Visual	-DO-	-DO-	-DO-	-DO-	P	V	R	



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								S	M	O	
1	2	3	4	5	6	7	8	9			10
19.5	Wiring check	Major	Visual	-DO-	-DO-	-DO-	-DO-	P	V	R	
19.6	Welding, grinding, chipping	Major	Visual	--DO-	-DO-	-DO-	-DO-	P	V	R	
19.7	Paint	Major	Visual	-DO-	-DO-	-DO-	-DO-	P	V	R	
<b>B</b>	<b>In Process</b>										
<b>1</b>	<b>Winding(LV and HV)</b>										
1.1	Check for Visual, physical and dimensional Parameters and no. of parallel conductors.										
1.1.1	Measurement of axial height, OD & ID& current density calculation.	Major	Measurement	100%	MFR. Data/Drg/BSES approved document	MFR. Data/Drg/BSE S approved document	QC report/Test report	--	P	W	
1.1.2	Copper Conductor size (Bare & covered)	Major	Measurement	100%	-DO-	-DO-	-DO-	--	P	W	
1.1.3	No. of Turns / Disc	Major	Measurement	100%	-DO-	-DO-	-DO-	--	P	R	
1.2	Winding height	Major	Measurement	100%	-DO-	-DO-	-DO-	--	P	W	



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								S	M	O	
1	2	3	4	5	6	7	8	9			10
1.3	Visual inspection of Brazed joints as applicable	Major	Visual	100%	-DO-	-DO-	-DO-	--	P	R	
1.4	Tap Leads termination in case of tap winding	Major	Visual	100%	-DO-	-DO-	-DO-	--	P	R	
1.5	Current density calculation	--	--	--	--	--	--	--	P	W	
<b>1.6</b>	<b>Weight</b>	Major	Visual	100%	-DO-	-DO-	-DO-	--	P	W	
<b>2.0</b>	<b>Core Assembly</b>										
2.1	Visual & Key Dimensional check										
2.1.1	Diagonal distance	Major	Measurement	100%	MFR.Drg/BSES approved document	MFR.Drg/BSE S approved document	QC report/Test report	--	P	W	
2.1.2	Window centre distance	Major	Measurement	100%	-DO-	-DO-	-DO-	--	P	W	
2.1.3	Window height	Major	Measurement	100%	-DO-	-DO-	-DO-	--	P	W	
2.2	Stack Thickness	Major	Measurement	100%	-DO-	-DO-	-DO-	--	P	W	
2.3	High Voltage test at 2 KV AC for 1 min between core & core clamp, Yoke	Major	Electrical	100%	-DO-	-DO-	-DO-	--	P	W	



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CONVENTIONAL OIL FILLED DISTRIBUTION TRANSFORMER**

SL NO	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS
								S	M	O	
1	2	3	4	5	6	7	8	9			10
	bolt										
2.4	Pre-Core loss measurement	Major	Electrical	100%	-DO-	-DO-	-DO-	--	P	W	
2.5	Weight	Major	Visual	100%	-DO-	-DO-	-DO-	--	P	W	
<b>3.0</b>	<b>Core-Coil Assembly</b>										
3.1	Top & Bottom insulation arrangement	Major	Visual	100%	MFR.Data /DRG/BSES approved document	MFR.Data /DRG/BSES approved document	QC report	--	P	R	
3.2	Lead arrangement	Critical	Visual	100%	-DO-	-DO-	-DO-	--	P	R	
3.3	Tap & Lead End Brazing & Insulation	Critical	Visual	100%	-DO-	-DO-	-DO-	--	P	R	
3.4	Dimension of Coil After Shrinkage	Major	Measurement	100%	-DO-	-DO-	-DO-	--	P	R	
3.5	Verification of Major electrical clearances	Major	Visual & Measurement	100%	-DO-	-DO-	-DO-	--	P	R	
3.6	HV/LV Connection	Major	Visual	100%	-DO-	-DO-	-DO-	--	P	R	
3.7	Cleanliness	Major	Visual	100%	-DO-	-DO-	-DO-	-	P	R	
<b>4.0</b>	<b>Core-Coil Assembly</b>										



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								S	M	O	
1	2	3	4	5	6	7	8	9			10
	<b>Before Overing</b>										
4.1	Initial Ratio test	Major	Measurement	100%	-DO-	-DO-	-DO-	--	P	R	
<b>5.0</b>	<b>Core-coil assembly during drying</b>										
<b>5.1</b>	Measurement & recording of temperature & drying time during vacuum treatment.	Major	Visual	100%	MFR.Data /DRG	MFR.Data /DRG	QC report	--	P	R	
<b>5.2</b>	Check for completeness of drying	Major	Visual	100%	MFR.Data /DRG	MFR.Data /DRG	QC report	--	P	R	
<b>5.3</b>	Certification of all test	Major	Visual	100%	MFR.Data /DRG	MFR.Data /DRG	QC report	--	P	R	
<b>6.0</b>	<b>Core-Coil Assembly After Overing</b>										
6.1	Ratio Test, Vector Group & Magnetic Balance test	Major	Electrical	100%	-DO-	-DO-	QC report /Test report	--	P	W	
6.2	Recording of time/Temp, Vacuum	Major	Measurement	100%	-DO-	-DO-	-DO-	--	P	R	
6.3	Record of Moisture extract	Major	Measurement	100%	MFR. STD	MFR. STD	QC report	--	P	R	



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								S	M	O	
1	2	3	4	5	6	7	8	9			10
6.4	Verification of completeness & Drying	Major	Verify	100%	MFR. STD	MFR. STD	QC report	--	P	R	
6.5	Insulation resistance measurement by Megger	Major	Electrical	100%	MFR. STD	MFR. STD	Test report	--	P	R	
6.6	Earthing connection	Major	Visual	-DO-	MFR. STD	MFR. STD	QC Report	--	P	R	
<b>7.0</b>	<b>Tanking</b>										
7.1	Electrical clearance arrangement	Major	Measurement	100%	MFR. DRG	MFR. DRG	QC report	--	P	R	
7.2	Verification of Core-Frame Clamping arrangement	Major	Visual	100%	-DO-	-DO-	-DO-	--	P	R	
7.3	Core to frame insulation resistance test & HV test at 2 KV for min	Major	Electrical	100%	-DO-	-DO-	-DO-	--	P	R	
<b>8.0</b>	<b>Final Assembly for testing</b>										
8.1	Fittings of external accessories	Major	Visual	100%	MFR. STD /DRG	MFR. STD /DRG	Job Card	--	P	R	
8.2	Internal Oil leakage test on main unit	Major	Visual	100%	CBIP	CBIP	QC report	--	P	R	

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								S	M	O	
1	2	3	4	5	6	7	8	9			10
8.3	Oil filtration & pressure test	Major	Visual	-DO-	IS 1180	IS 1180	-DO-	-	P	R	
<b>C</b>	<b>Final testing</b>										
<b>1</b>	<b>Routine Test</b>										
1.1	Voltage Ratio test and check of phase displacement	Major	Electrical	100%	IS 2026/IS 1180	IS 2026/IS 1180	Test Report	--	P	W	
1.2	Winding Resistance at all tap corrected to 75°C	Major	Electrical	100%	IS 2026/IS 1180	IS 2026/IS 1180	Test report	--	P	W	
1.3	No Load Loss & Current @90%,100%&112.5% of rated voltage	Major	Electrical	100%	IS 2026/IS 1180	IS 2026/IS 1180	Test report	--	P	W	To be repeated after type test.
1.4	Impedance Voltage/Short Circuit Impedance(Principal Tap)	Major	Electrical	100%	IS 2026/IS 1180	IS 2026/IS 1180	Test report	--	P	W	
1.5	Load Loss measurement at 50% and 100% of load @Principal, Max, MinTap	Major	Electrical	100%	IS 2026/IS 1180	IS 2026/IS 1180	Test report	--	P	W	



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								S	M	O	
1	2	3	4	5	6	7	8	9			10
1.6	Induced over voltage	Major	Electrical	100%	IS 2026/IS 1180	IS 2026/IS 1180	Test report	--	P	W	To be repeated after type test
1.7	Separate Source Voltage Test	Major	Electrical	100%	IS 2026/IS 1180	IS 2026/IS 1180	Test report	--	P	W	
1.8	Insulation Resistance &PI(10 min / 1 min)	Major	Electrical	100%	--	--	Test report	--	P	W	IR shall be more than 2000 MΩ PI Shall be more than1.5
1.9	Voltage Vector Relationship & Polarity	Major	Electrical	100%	IS 2026/IS 1180	IS 2026/IS 1180	Test report	--	P	W	
1.10	Magnetic Balance Test	Major	Electrical	100%	IS 2026/IS 1180	IS 2026/IS 1180	Test report	--	P	W	
1.11	Oil leakage test on transformer with complete fitting and accessories	Major	Visual	100%	CBIP	CBIP	Test report	--	P	W	
1.12	Polarity check & Ratio Test of LVWTI CT/	Major	Electrical	100%	IS 2026/IS 1180	IS 2026/IS 1180	Test report	--	P	W	



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SL NO	CHARACTRISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANC E NORMS	FORMAT OF RECORD	AGENCY			REMARKS
								S	M	O	
1	2	3	4	5	6	7	8	9			10
	Metering CT										
1.13	BDV test on Transformer Oil	Major	Electrical	100%	IS 2026/IS 1180	IS 2026/IS 1180	Test report	--	P	W	
1.14	Power frequency withstand on auxiliary circuit	Major	Electrical	100%	IS 2026/IS 1180	IS 2026/IS 1180	Test report	--	P	W	
1.15	Heat Run Test (Temp. Rise Test)	Major	Testing	One Unit (each lot)	IS 2026/IS 1180	IS 2026/IS 1180	Test Report	--	P	W	
1.16	Pressure relief device test	Major	Testing	One Unit (each lot)	MFR. STD	MFR. STD	Test Report	--	P	W	
1.17	Visual and dimensional check	Major	Visual	100%	Approved drawings	Approved drawings	Test Report	--	P	W	
1.18	Measurement of Cap & tandelta of Wdg, Oil and HV bushing	Major	Electrical	One unit	--	--	Test report	--	P	W	
1.19											
<b>2.0</b>	<b>Type test (One unit of each type and rating of Transformer at CPRI/ERDA)</b>										
2.1	Heat Run Test (Temp. Rise Test)	Major	Testing	One Unit	IS 2026	IS 2026	Test Report	<b>CPRI/ERDA</b>			



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SL NO	CHARACTRISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANC E NORMS	FORMAT OF RECORD	AGENCY			REMARKS
								S	M	O	
1	2	3	4	5	6	7	8	9			10
2.2	Dynamic & Thermal (3 sec) Short Circuit Test	Major	Testing	One Unit	IS 2026	IS 2026	Test Report	CPRI/ERDA			
2.3	Impulse withstand Test on all HV & LV Limb for Chopped wave.	Major	Testing	One Unit	IS 2026	IS 2026	Test Report	CPRI/ERDA			
2.4	DGA Test Before & After temperature rise	Major	Testing	One Unit	Relevant std.	Relevant std.	Test Report	CPRI/ERDA			Test shall be conducted once per PO
<b>3.0</b>	<b>Special Test (One unit of each type and rating of Transformer)</b>										
3.1	Zero Phase Sequence Test	Major	Testing	One Unit	IS 2026	IS 2026	Test Report	--	P	W	
3.2	Noise Level Test	Major	Testing	One Unit	NEMA TR-1	NEMA TR-1	Test Report	--	P	W	
3.3	No Load Harmonic Test	Major	Testing	One Unit	IS 2026	IS 2026	Test Report	--	P	W	
3.4	HV Test on all auxiliary equipment and wiring after complete assembly	Major	Testing	One Unit	--	--	Test Report	--	P	W	
<b>D</b>	<b>Dispatch &amp; Packing</b>										
1.1	Identification & packing	Major	Visual	100%	As per packing list	As per packing list	Packing List	--	P	--	



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								S	M	O	
1	2	3	4	5	6	7	8	9			10
1.2	Check for proper Packing	Major	Visual	100%	As per packing list	As per packing list	Packing List	--	P	--	
1.3	Visual check before dispatch	Major	Visual	100%	As per packing list	As per packing list	Packing List	--	P	--	

**Note:**

- Transformer from each lot may be opened for core and winding verification. BSES approval is be taken prior to opening the transformer.
- Type Test shall be valid for 10 years.

All IS and IEC standards with their latest revisions/amendments shall be applicable

**LEGEND:**

S: Supplier

M: Main Contractor (Manufacturer)

O: Owner (BSES)

P - Perform

V - Verify

R – Review

W- Witness

**TECHNICAL SPECIFICATION OF  
CONVENTIONAL OIL FILLED DISTRIBUTION TRANSFORMER****Schedule A Guaranteed Technical Particulars (Data by Seller)**

<b>Sr.</b>	<b>Particulars</b>	<b>Specified / Required</b>	<b>Offered</b>
1.0	General		
1.1	Make		
1.2	Type	Oil immersed, core type, step down located generally outdoor but may be located indoor also with poor ventilation. Bidder shall confirm full rating available in indoor location also	
2.0	Nominal Continuous Rating, KVA		
2.1	HV winding	250/400/630/1000/1600/2000/2500kVA	
2.2	LV winding	250/400/630/1000/1600/2000/2500kVA	
3.0	Rated voltage ( kV )		
3.1	HV Winding	11 kV	
3.2	LV Winding	415 volt	
4.0	Rated current ( Amps )	250/400/630/1000/1600/2000/2500kVA	
4.1	HV Winding		
4.2	LV Winding		
5.0	Connections		
5.1	HV Winding	Delta	
5.2	LV Winding	Star with neutral	
5.3	Vector Group reference	Dyn11	
6.0	Impedance at principal tap rated current and frequency, ohm @75 deg C		
6.1	Impedance	4.5%/4.5% / 4.5%/ 5.0/6.25/6.25 % with IS tolerance	
6.2	Reactance		
6.3	Resistance		
6.4	X/R ratio		
6.5	Impedance at lowest tap at		

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	rated current and frequency		
6.6	Impedance at highest tap at rated current and frequency		
7.0	Resistance of the winding at 75° C in ohm		
7.1	a) HV		
7.2	b) LV		
8.0	Zero sequence impedance in ohm		
8.1	a) HV		
8.2	b) LV		
9.0	Guaranteed maximum Total losses at principal tap at 75°C, kW		
9.1	50 % of Load	as per Spec CI 3.25	
9.2	100% of Load	as per Spec CI 3.26	
9.3	No Load Loss (Max)		
9.4	Total I <sup>2</sup> R losses of windings @ 75 deg C, KW		
9.5	Total stray loses @ 75 deg C, KW		
9.6	Total Load losses (Max.), KW		
9.7	No load loss at maximum permissible voltage and frequency (approx.),kW		
10.0	Temperature rise over reference ambient of 40 °C		
10.1	Top oil by thermometer ° C	40 °C	
10.2	Winding by resistance ° C	45 °C	
11.0	Efficiency		
11.1	Efficiency at 75°C and unity power factor %		
11.1.1	at 110% load		

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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 75 <sup>0</sup> 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		
11.2.4	at 60% load		
11.2.5	at 40% load		
11.2.6	at 20% load		
11.3	Maximum efficiency at 75 <sup>0</sup> C %		
11.4	Load and power factor at which it occurs		
12.0	Regulation , (%)		
12.1	Regulation at full load at 75 <sup>0</sup> C		
12.1.1	at unity power factor		
12.1.2	at 0.8 power factor lagging		
12.2	Regulation at 110% load at 75 <sup>0</sup> C		
12.2.1	at unity power factor		
12.2.2	at 0.8 power factor lagging		
13.0	Tappings		
13.1	Type		
13.2	Capacity		
13.3	Range-steps x % variation		
13.4	Taps provided on HV winding (Yes / No)		
13.5	Rated current of rotary switch		

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14.0	Cooling system		
14.1	Type of cooling	ONAN	
14.2	No. of cooling unit Groups		
14.3	Capacity of cooling units		
14.4	Mounting of radiators		
14.5	Number of Radiators		
14.8	Total radiating surface , sqmm		
14.9	Thickness of radiator tubes, mm	Minimum 1.2 mm	
15.0	Details of Tank		
15.1	Material	Robust mild steel plate without pitting and low carbon content	
15.2	Thickness of sides mm		
15.3	Thickness of bottom mm		
15.4	Thickness of cover mm		
15.5	Confirmation of Tank designed and tested for Vacuum, Pressure ( Ref: CBIP Manual ) , (Yes/ No)		
15.5.1	Vacuum mm of Hg. / (kN/m <sup>2</sup> )	As per IS	
15.5.2	Pressure mm of Hg.		
15.6	Is the tank lid sloped?	Yes	
15.7	Inspection cover provided (Yes / No)	as per spec	
15.8	Location of inspection cover (Yes / No)		
15.9	Min. dimensions of inspection cover ( provide list of all inspection cover with dimension), mm x mm		
16.0	Core		
16.1	Type:	Core	

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16.2	Core material grade	Premium grade minimum M3 or better	
16.3	Core lamination thickness in mm		
16.4	Insulation of lamination	With insulation coating on both sides	
16.5	Design flux density at rated condition at principal tap, Tesla		
16.6	Maximum flux density at 12.5 % overexcitation /overfluxing, Tesla	1.9 Tesla Max allowed	
16.7	Equivalent cross section area mm <sup>2</sup>		
16.8	Guaranteed No Load current at 100% rated voltage , Amps		
16.8.1	HV		
16.8.2	LV		
16.9	Guaranteed No Load current At 110% rated voltage, Amps		
16.9.1	HV		
16.9.2	LV		
17.0	Type of Winding		
17.1	HV		
17.2	LV		
17.3	Conductor material	Electrolytic Copper	
17.4	Current density (HV/LV)	Maximum allowed 3.0 A per sq mm at all taps	
17.5	Gauge/area of cross section of conductor		
17.5.1	a) HV		
17.5.1	b) LV		
17.6	Insulating material		
17.6.1	HV Turn		

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17.6.2	LV Turn		
17.6.3	LV Core		
17.6.4	HV - LV		
17.7	Insulating material thickness, mm		
17.7.1	HV Turn		
17.7.2	LV Turn	-	
17.7.3	LV to Core		
17.7.4	HV to LV		
18.0	Minimum design clearance, mm		
18.1	HV to earth in Air		
18.2	HV to earth in oil		
18.3	LV to earth in Air		
18.4	LV to earth in oil		
18.5	Between HV & LV in Air		
18.6	Between HV & LV in oil		
18.7	Top winding and yoke		
18.8	Bottom winding and yoke		
19.0	<b>Insulating oil</b>		
19.1	Quantity of oil        Ltrs		
19.1.1	In the Transformer tank		
19.1.2	In each radiator		
19.1.4	Total quantity		
19.2	10% excess oil furnished?	Yes in separate non returnable drums with each transformer	
19.3	Type of Oil	As per cl 4.2.7	
20.0	<b>Bushing / Support Insulator</b>		
20.1	Make	-	
20.2	Type		
20.2.1	HV side	As per Cl. 4.2.8.1 of the spec	
20.2.2	LV side	As per Cl. 4.2.8.2 of the spec	
20.3	Reference Standard		

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20.4	Voltage class, kV		
20.4.1	HV side Bushing/ Support Insulator	12 kV	
20.4.2	LV side line and neutral bushing/ Support Insulator	1.1 kV	
20.5	Creepage factor for all bushing / Support Insulator mm/KV	31 mm / kV	
20.6	Rated thermal short time current		
20.6.1	HV bushing	25 times rated current for 2 secs.	
20.6.2	LV line and neutral bushing	25 times rated current for 2 secs.	
20.7	Weight, Kg		
20.7.1	HV bushing		
20.7.2	LV line and neutral bushing		
20.8	Free space required for bushing removal, mm		
20.8.1	HV bushing		
20.8.2	LV line and neutral bushing		
21.0	<b>Terminal connections</b>		
21.1	HV	Cable size as per CI no 3.28	
21.2	LV	Cable size as per CI no 3.30	
21.3	LV Neutral	Cable size as per CI no 3.30	
22.0	<b>HV cable box</b>	Required	
22.1	Suitable for cable type,size	Cable size as per CI no 3.28	
22.2	Termination height	750 mm min.	
22.3	Gland plate dimension, mm x mm		
22.4	Gland plate Material	MS	
22.5	Gland plate thickness	3 mm min.	
22.6	Phase to phase clearance inside box,mm	180 mm	
22.7	Phase to earth inside	120 mm	

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	box,mm		
23.0	<b>LV Cable box</b>	Required	
23.1	Suitable for cable type , size	Cable size as per CI no 3.30	
23.2	Termination height	1000 mm, min.	
23.3	Gland plate dimension, mmxmm		
23.4	Gland plate material	Aluminium	
23.5	Gland plate thickness	5 mm min.	
23.6	Phase to phase	25 mm	
23.7	Phase to earth	25 mm	
24.0	L.V neutral Cable termination arrangement	Separate cable box not required (LV-N to be provided in LV cable box.)	
25.0	Current Transformer on LV phases		
25.1	Type		
25.2	Make		
25.3	Reference Standard		
25.4	CT Ratio		
25.5	Burden, VA		
25.6	Class of Accuracy		
25.7	CT terminal box size		
26.0	Pressure release device		
26.1	Minimum pressure the device is set to rupture		
26.1.1	For Main Tank		
26.1.2	Alarm and trip contact ratings of protective devices		
27.0	Fittings Accessories Each Transformer furnished as per Clause No 5. (Bidder shall attach separate sheet giving details, make and bill of materials)		

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27.1	OTI/WTI Scanner		
27.1.1	Make		
27.1.2	Model no		
27.1.3	Auxiliary supply		
27.1.4	Manual submitted (Yes/No)		
27.2	Buchholz Relay		
27.2.1	Make		
27.2.2	Model no		
27.2.3	Auxiliary supply		
27.2.4	Manual submitted (Yes/No)		
27.3	Auxiliary relays for Fault/indication identification (PRV, Buchholz relay, MOG)		
27.3.1	Make		
27.3.2	Model no		
27.3.3	Auxiliary supply		
27.3.4	Potential free contacts		
27.3.5	Manual submitted (Yes/No)		
28.0	Painting: as per clause for the transformer, cable boxes, radiator, Marshalling box (Yes/No)		
29.0	Max over all transformer dimensions	As per Clause 3.32	
29.1	Length, mm		
29.2	Breadth, mm		
29.3	Height, mm		
30.0	Transformer Tank Dimensions		
30.1	Length, mm		
30.2	Breadth, mm		
30.3	Height, mm		
31.0	Weight data		
31.1	Core, kG		

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31.2	Frame parts, kG		
31.3	Core and frame, kG		
31.4	Total Winding, kG		
31.5	Core , Frame, Winding, kG		
31.6	Tank, kG		
31.7	Tank lid, kG		
31.8	Empty conservator tank, kG		
31.9	Each radiator empty, kG		
31.10	Total weight of all radiators empty, kG		
31.11	Weight of oil in Tank, kG		
31.12	Weight of oil in Conservator, kG		
41.13	Weight of oil in each Radiators, kG		
31.14	Total weight of oil in Radiators, kG		
31.16	Total Transport weight of the transformer, kG		
32.0	Volume Data		
32.1	Volume of oil in main tank, litres		
32.2	Volume of oil between highest and lowest levels of main conservator, litres		
32.4	Volume of oil in each radiator, litres		
32.5	Total volume of oil in radiators, litres		
32.7	Transformer total oil volume, litres		
33.0	Shipping Data		
33.1	Weight of heaviest package, kG		

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33.2	Dimensions of the largest package (L x B x H) mm		
34.3	Tests		
34.1	All in process tests confirmed as per Cl. (Yes/ No)		
34.2	All Type Tests confirmed as per Cl. (Yes / No)		
34.3	All Routine Tests confirmed as per Cl. (Yes/ No)		
34.4	All Special Tests confirmed as per Cl. (Yes/ No)		

**TECHNICAL SPECIFICATION OF  
CONVENTIONAL OIL FILLED DISTRIBUTION TRANSFORMER****Schedule B Guaranteed Technical Particulars of Transformer Oil**

Bidder to submit hard copy duly filled & signed along with techno commercial offer.  
Bidder to submit separate GTP for each type of insulating oil –

<b>Sr No</b>	<b>Item description</b>	<b>Specification requirement</b>	<b>Data by Vendor</b>
1.0	Manufacturer Name		
1.1		Address	
1.2		Contact person	
1.3		Contact telephone no	
<b>2.0</b>	<b>Function</b>		
2.1	Viscosity		
2.1.1	Viscosity at 40°C	15 mm <sup>2</sup> /s, Max	
2.1.2	Viscosity at 0°C	1800 mm <sup>2</sup> /s, Max	
2.2	Pour Point	- 10°C, Max	
2.3	Water content	30 mg/Kg, Max	
2.4	Breakdown voltage		
2.4.1	New unfiltered oil	30 kV, Min	
2.4.2	After filtration	70 kV, Min	
2.5	Density at 20°C	0.895 g/ml, Max	
2.6	Dielectric dissipation factor at 90°C	0.005, Max	
2.7	Particle Content	Manufacturer to specify the data	
<b>3.0</b>	<b>Refining/Stability</b>		
3.1	Appearance of oil	Clear, free from sediment and suspended matter	
3.2	Acidity	0.01 mg KOH/g, Max	
3.3	Interfacial tension at 27°C	0.04 N/m, Min	
3.4	Total sulphur content	Manufacturer to specify the data	
3.5	Corrosive sulfur	Not-corrosive	
3.6	Potentially Corrosive sulfur	Not-corrosive	
3.7	DBDS	Not detectable (<5 mg/kg)	
3.8	Inhibitor	Not detectable (<0.01%)	
3.9	Metal Passivator	Not detectable (<5 mg/kg)	

**TECHNICAL SPECIFICATION OF  
CONVENTIONAL OIL FILLED DISTRIBUTION TRANSFORMER**

<b>Sr No</b>	<b>Item description</b>	<b>Specification requirement</b>	<b>Data by Vendor</b>
3.10	Other additives	Manufacturer to specify the data	
3.11	2-furfural and related Compounds content	Not detectable (<0.05 mg/kg) for each individual compound	
<b>4.0</b>	<b>Performance</b>		
4.1	Oxidation stability, test duration 164 h		
4.1.1	Total acidity	1.2 mg KOH/g, Max	
4.1.2	Sludge	0.8%, Max	
4.1.3	DDF at 90°C	0.5, Max	
4.2	Gassing Tendency	Manufacturer to specify the data	
4.3	ECT	Manufacturer to specify the data	
<b>5.0</b>	<b>Health,safety and Environment</b>		
5.1	Flash point	135°C, Min	
5.2	PCA content Max	3%, Max	
5.3	PCB content	Not detectable (<2 mg/Kg)	

**TECHNICAL SPECIFICATION OF  
CONVENTIONAL OIL FILLED DISTRIBUTION TRANSFORMER****Schedule C Recommended Spares (Data by Seller)**

List of recommended spares as following –

<b>Sr No</b>	<b>Description of spare part</b>	<b>Unit</b>	<b>Quantity</b>
1		No	
2		No	
3		No	
4		No	
5		No	
6		No	