



BHARAT HEAVY ELECTRICALS LTD.
 (A GOVT. OF INDIA UNDERTAKING)
 P.O BHEL Jhansi - 284129, INDIA
 Tel.:0510-277001/2412260 Fax: 2412120
 Email : mmx@bheljhs.co.in

PURCHASE ENQUIRY

ENQ NO/DT: E1320026 28/01/23
 REV NO/DT: 0 28/01/23

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PLEASE SEND YOUR BEST QUOTATION AS PER TERMS & CONDITIONS AND REMARK MENTIONED UNDERNEATH.

Eng Due on:	20-02-23 MONDAY	
Close at:	13:15 Open at:14:00	
Matcat:	131011 UDEL Wood Bd	
Validity:	120 days from Technical bid opening date	
IEM:		
TOP:	See Special Remarks	
RA:	BHEL reserves the right to conduct RA	
Est. Value:	Item wise	
Bid Type:	TWO BID	Delivery: FOR Jhansi
Tot Item:	13	E-Proc: Yes

REQUIRED: TEST CERT/ GUARANTEE CERT

ITEM NO : 1 PSL QTY/UM: 460.80 M2
 MATL CODE : AA2201701016 PO QTY /UM: 160.00 NO
 DESTINATION: JS

DESCRIPTION	DELIVERY	QUANTITY(PSL UM)
PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE :-10 TK X 1200 X 2400 MM	JAN-23	460.80

ITEM NO : 2 PSL QTY/UM: 403.20 M2
 MATL CODE : AA2201701024 PO QTY /UM: 140.00 NO
 DESTINATION: JS

DESCRIPTION	DELIVERY	QUANTITY(PSL UM)
PERMA WOOD SHEET TO CPS AA 22001 REV-02 SIZE:- 12 TK X 1200 X 2400	JAN-23	403.20

ITEM NO : 3 PSL QTY/UM: 259.20 M2
 MATL CODE : AA2201701032 PO QTY /UM: 90.00 NO
 DESTINATION: JS

DESCRIPTION	DELIVERY	QUANTITY(PSL UM)
PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:-14 TK X 1200 X 2400 MM	JAN-23	259.20

ITEM NO : 4 PSL QTY/UM: 403.20 M2
 MATL CODE : AA2201701040 PO QTY /UM: 140.00 NO
 DESTINATION: JS

DESCRIPTION	DELIVERY	QUANTITY(PSL UM)
PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:-16 TK X 1200 X 2400 MM	JAN-23	403.20

ITEM NO : 5 PSL QTY/UM: 806.40 M2
 MATL CODE : AA2201701059 PO QTY /UM: 280.00 NO
 DESTINATION: JS

DESCRIPTION	DELIVERY	QUANTITY(PSL UM)
PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:-20 TK X 1200 X 2400 MM	JAN-23	806.40

ITEM NO : 6 PSL QTY/UM: 691.20 M2
 MATL CODE : AA2201701067 PO QTY /UM: 240.00 NO
 DESTINATION: JS

DESCRIPTION	DELIVERY	QUANTITY(PSL UM)
PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:-25 TK X 1200 X 2400 MM	JAN-23	691.20

ITEM NO : 7 PSL QTY/UM: 403.20 M2



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MATL CODE : AA2201701075 PO QTY /UM: 140.00 NO
DESTINATION: JS

DESCRIPTION	DELIVERY	QUANTITY (PSL UM)
PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:-32 TK X 1200 X 2400 MM	JAN-23	403.20

ITEM NO : 8 PSL QTY/UM: 489.60 M2
MATL CODE : AA2201701083 PO QTY /UM: 170.00 NO
DESTINATION: JS

DESCRIPTION	DELIVERY	QUANTITY (PSL UM)
PERMA WOOD SHEET TO CPS AA22001 REV 02 TO SIZE 38 TKX1200X2400 LG	JAN-23	489.60

ITEM NO : 9 PSL QTY/UM: 806.40 M2
MATL CODE : AA2201702012 PO QTY /UM: 280.00 NO
DESTINATION: JS

DESCRIPTION	DELIVERY	QUANTITY (PSL UM)
PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:-50 TK X 1200 X 2400 MM	JAN-23	806.40

ITEM NO : 10 PSL QTY/UM: 288.00 M2
MATL CODE : JS2201702985 PO QTY /UM: 100.00 NO
DESTINATION: JS

DESCRIPTION	DELIVERY	QUANTITY (PSL UM)
PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:-60 TK X 1200 X 2400 MM	JAN-23	288.00

ITEM NO : 11 PSL QTY/UM: 70.00 NO
MATL CODE : JS9006280570 PO QTY /UM: 70.00 NO
DESTINATION: JS

DESCRIPTION	DELIVERY	QUANTITY (PSL UM)
PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:-50 TK X 1830 X 1830 MM	JAN-23	70.00

ITEM NO : 12 PSL QTY/UM: 70.00 NO
MATL CODE : JS9006280600 PO QTY /UM: 70.00 NO
DESTINATION: JS

DESCRIPTION	DELIVERY	QUANTITY (PSL UM)
PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:-60 TK X 1830 X 1830 MM	JAN-23	70.00

ITEM NO : 13 PSL QTY/UM: 50.00 NO
MATL CODE : JS9006280620 PO QTY /UM: 50.00 NO
DESTINATION: JS

DESCRIPTION	DELIVERY	QUANTITY (PSL UM)
PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:-80 TK X 1830 X 1830 MM	JAN-23	50.00

SPECIAL REMARKS:

1.PRESS TENDER ENQUIRY IS FLOATED IN TWO BID SYSTEM THRU E-PROCUREMENT
(<https://eprocurebhel.co.in>) FOR FINALIZATION OF FRAME WORK AGREEMENT
/RATE CONTRACT FOR PERMA WOOD SHEETS. THE VALIDITY OF RATE CONTRACT
(RC) WILL BE ONE YEAR FOR ORDERING FROM DATE OF AWARD OF RATE



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CONTRACT.

2. OFFER HAS TO BE SUBMITTED THROUGH NIC ONLY. OFFER SUBMITTED THROUGH ANY OTHER MEANS WILL NOT BE ACCEPTED.
3. ALL TECHNO COMMERCIAL DOCUMENTS INCLUDING PQR, TENDER DOCUMENTS, TECHNO COMMERCIAL MANDATORY SHEETS, TECHNICAL SPEC TO BE SUBMITTED WITH TECHNO COMMERCIAL BID .
4. ALL TENDER TERMS AND CONDITIONS SHALL STRICTLY BE ADHERED.
5. PLEASE GO THROUGH SCHEDULE I TO VIII OF NIT AND QUOTE ACCORDINGLY.
6. INTRIGITY PACT ARE TO BE SUBMITTED ALONGWITH BID PART-I DULY SIGNED WITH COMPANY SEAL .
7. PRICE TO BE QUOTED ON FIRM BASIS AND NO PVC IS APPLICABLE.
8. FA MAYBE FINALIZED ON TWO SOURCES FOR SMOOTH SUPPLY WITH SPLITTING BETWEEN L1 & L2 IN THE RATIO OF(70:30)APPROX. QUANTITY DISTRIBUTION SHALL HOWEVER ALSO BE SUBJECT TO CAPACITY COMMITTED TO BHEL, ACCEPTANCE OF THE RATES/TERMS & CONDITIONS ESTABLISHED WITH L-1 BIDDERS ETC.
9. DELIVERY TERMS: RATES TO BE QUOTED ON FOR BHEL JHANSI BASIS INCLUDING FREIGHT, INSURANCE, PACKING, FORWARDING ETC. IN BIDDER'S ACCOUNT.
10. CONTROL OF RC BY VALUE: RC SHALL BE CONTROLLED BY VALUE OF RC ENTERED INTO WITH A VENDOR. ITEM WISE QUANTITY REQUIREMENT IS TENTATIVE ESTIMATED AND ORDERING OF ITEMS CAN VARY TO ANY EXTANT WITHIN THE VALUE OF RC ENTERED INTO WITH A VENDOR LIMITED TO+/-30%.
11. SOURCE INSPECTION MAY BE DONE AT SUPPLIERS WORKS BY BHEL /BHEL APPROVED 3RD PARTY /CUSTOMER AS INDICATED ININDIVIDUAL PO. FINAL INSPECTION FOR ACCEPTANCE OF QUALITY AND QUANTITY SHALL BE DONE AT BHEL. TEST CERTIFICATE AND GUARANTEE CERTIFICATE SHALL BE SUPPLIED WITH EACH LOT OF SUPPLY.
12. EVALUTION SHALL BE ON ITEM WISE BASIS. ORDERING ON SPECIFIC VENDOR WILL BE CONTROLLED BY TOTAL VALUE OF AWARD TO ITEM & NOT BY NUMBER OF PERMA WOOD SHEETS.
13. DELIVERY MENTIONED IS TENTATIVE AND ACUTAL DELIVERIES WILL BE GIVEN IN ORDERS DERIVED FROM THIS .R/C.
14. THE ESTIMATED REQUIREMENT MAY VARY WITHIN PLUS/ MINUS 30%.
15. NO TENDER FEES SHALL BE APPLICABLE.
16. LOADING SHALL BE APPLICABLE FOR NON ACCEPTANCE OF NIT TERMS AND CONDITIONS.
17. IN CASE OF INSPECTION AT VENDOR WORKS BY TPI/BHEL/CUSTOMER, SUPPLIER HAS TO PROVIDE 15 DAYS ADVANCE INTIMATION FOR INSPECTOR DEPUTATION ON VENDOR WORKS. FURTHER DISPATCH CLEARANCE WILL BE GIVEN WITHIN 4 DAYS OF SUBMISSION OF REPORT TO BHEL/CUSTOMER. VENDOR TO TAKE CARE OF OTHER ELEMENTS OF INSPECTION SUCH AS INSPECTION DURATION, INSPECTION REPORT SUBMISSION, ARRANGEMENT OF PACKING, TRANSPORTATION DURATION FROM SUPPLIER WORKS TO BHEL JHANSI ETC. TO MEET DELIVERY DATES OF PO.
18. BHEL SHALL BE RESORTING TO REVERSE AUCTION (RA) (GUIDELINES AS AVAILABLE ON WWW.BHEL.COM) FOR THIS TENDER. RA SHALL BE CONDUCTED AMONG THE TECHNO-COMMERCIALY QUALIFIED BIDDERS PRICE BIDS OF ALL TECHNO-COMMERCIALY QUALIFIED BIDDERS SHALL BE OPENED AND SAME SHALL BE CONSIDERED FOR RA. IN CASE ANY BIDDER(S) DO(ES) NOT PARTICIPATE IN ONLINE REVERSE AUCTION, THEIR SEALED ENVELOPE PRICE BID ALONG WITH APPLICABLE LOADING, IF ANY, SHALL BE CONSIDERED FOR RANKING.
19. TENDER EVALUATION WILL BE IN INR ON TOTAL COST TO BHEL ON FOR BHEL JHANSI BASIS.

In case the bidder has not submitted PAN No, TIN No. and E-mail ID, the bidder has to submit the same along with the copy of PAN No and TIN No. Else his offer will be liable to be rejected.

If you are not in a position to quote due to any reason, you must send regret letter titled enquiry no. etc, failing which you may not be considered for sending future enquiries.



JSC140/M2053

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ENCLOSERS :

FOR AND ON BEHALF OF
BHARAT HEAVY ELECTRICALS LTD

Rahul
28/1/23

RAHUL KUMAR
DY MANAGER (TRFR MM)
Email:-rahulkumar.r@bhel.in

***** END OF PURCHASE ENQUIRY *****

NOTE :

- * THE BIDDER IS INFORMED THAT THE GENERAL TERMS & CONDITIONS OF ENQUIRY (JHS 2055A Rev 03) WHICH ARE UPLOADED AT <https://www.bheljhs.co.in/apps/sip/index.php> AT (TERMS & CONDITION -> FOR ENQUIRY) LINK, ARE TO BE READ BY THE BIDDER BEFORE SUBMITTING QUOTE IN THE ENQUIRY. BHEL SHALL CONSTRUCT THE PARTICIPATION BY THE BIDDER IN ENQUIRY AS ACCEPTANCE TO THE GENERAL TERMS AND CONDITIONS OF ENQUIRY.
- * SUPPLIERS ARE REQUESTED TO INFORM US WITH VALID CERTIFICATE, IF THEY ARE REGISTERED UNDER MSMED ACT'2006. (APPLICABLE FOR INDIAN SUPPLIERS ONLY).
- * FOR SUPPLIERS SUPPLYING FROM OUTSIDE THE LOCAL AREA OF BHEL JHANSI, ENTRY TAX WILL BE APPLICABLE. SUPPLIERS SHOULD NECESSARILY INDICATE RATE OF ENTRY TAX SEPARATELY WHEREVER APPLICABLE. THEY SHOULD ALSO MENTION THE ENTRY TAX CHARGED SEPARATELY IN THE INVOICE.
- * FOR SUPPLIERS SUPPLYING FROM OUTSIDE UP, IN CASE THE OFFER IS SILENT ON ENTRY TAX, IT SHALL BE LOADED SUITABLY WITH THE APPLICABLE RATES
- * IN CASE IF THERE IS ANY DIFFERENCE BETWEEN THE 'SPECIAL REMARKS/ANNEXURES' OF THE ENQUIRY AND THE PREPRINTED TERMS & CONDITIONS (REF JSC140/M2053), THE REQUIREMENT GIVEN IN REMARKS WILL PREVAIL.
- * Reference Sl. No. 2(B) of General Terms and Conditions regarding option for offer submission through Email addressed to tenderbox.jhs@bhel.in , please note that the maximum mail size including attachments should not exceed 20 MB , otherwise the offer shall not be delivered due to size limitation and bidder sending mail attachments more than 20 MB will have no claim whatsoever on the subject tender . Also due to any technical snag , if offer has not reached tenderbox.jhs@bhel.in , it will be bidder's sole responsibility to ensure offer submission through alternate routes before the due date and time .BHEL will not entertain any such claim for non-receipt of offer on time .



Bharat Heavy Electricals Limited

)A Govt of India Undertaking(

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PURCHASE ENQUIRY E1320026

RATE CONTRACT FOR TWO YEARS FOR PROCUREMENT OF PERMA WOOD SHEET

TENDER DOCUMENTS

SL.	Description	Schedule	Page. No
1	Terms & Conditions of the Enquiry	Schedule-I	2-9
2	Pre-Qualifying Requirement (PQR)	Schedule-II	10-11
3	Techno Commercial Bid (Part - A)	Schedule-III	12-14
4	Price Bids (Part-B)	Schedule-IV	15
5	Business Rules for reverse Auction.	Schedule-V	16-24
6	Integrity Pact	Schedule-VI	25-30
7	CA Certificate for MSME Benefit.	Schedule-VII	31-32
8	SPEC	Schedule-VIII	33-44

(SCHEDULE- I)

Terms & Conditions for supply of PERMA WOOD SHEET Enquiry No. E1320026

- 1. General:** Tenders are invited in Two-Part Bid system for purchase of PERMA WOOD SHEET as per Specifications and terms & conditions mentioned in the Schedules -"I to VIII". On BHEL EProcurement (NIC) only The supplies against this enquiry shall be subject to our General Terms and conditions of enquiry and PO (JHS2055A Rev.03 at https://jhs.bhel.com/apps/sip/enq/terms/enq_tems_current.pdf). In addition, the terms and conditions given under this annexure shall specifically apply to this enquiry. If any difference between the General Terms and conditions of enquiry and PO and the conditions included in this annexure, the conditions included in this annexure shall prevail. Make in India and other Guidelines issued by Gov,t of India/Ministry will be applicable to this Enquiry .
- 2.** The offer of the bidders who are in the banned list as also the offer of the bidders who engage the services of the banned firms shall be rejected. List of banned firms is available on BHEL website: www.bhel.com. Likewise, offers of those bidder(s) will not be considered who have been suspended (under hold / delisting) by BHEL, Jhansi during the given period.
- 3.** Lot wise quantity and delivery schedule indicated in the enquiry sheet is tentative. Actual procurement will be carried out progressively as per requirement of BHEL.
- 4. Procedure for Bid submission:** -Offer to be submitted in BHEL EProcurement (NIC) only. Offer submission through any other mode is not acceptable. Bid submission consists of two parts

-Part-A Techno-Commercial bid

-Part-B Price Bid

Both Part-A & Part-B of the offer shall be submitted on NIC only.

Part -A of the bid shall complete details of the product offered, acceptance to the specifications, all techno commercial terms and conditions of the Schedules.

In case it becomes necessary to deviate in any of the above, deviations must be clearly brought out in bid Part-A of the offer. Tenders not complying with the above and other requirements of the tender shall be liable for rejection. Tenderers are therefore advised to read all the documents carefully before submission of the bids and ensure the fulfillments of all the technical and commercial parameters.

Part-B of the Bid is uploaded on NIC. Bidder has to submit the Price Bid in the same format on NIC only. Bid submission on any other format is not acceptable. Rate to **be quoted per Nos on FOR BHEL, Jhansi basis for individual item as per NIC format.**

Pl note that evaluation shall be done on Total cost to BHEL (FOR BHEL, Jhansi) basis.

- 5. Bid Opening:** - The "Techno-commercial" part of the bid i.e. Bid Part-A of the offers shall be opened on the due date of tender opening on NIC. Clarifications, wherever required on this part, shall be obtained from the bidders for their evaluation. The Price bid Part-B of such vendors alone shall be opened whose techno-commercial bids are found acceptable. The date of 'Price bid -Part B' opening shall be intimated later on.



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Reverse Auction: BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com) for this tender. RA shall be conducted among the techno commercially qualified bidders. In case any bidder(s) do(es) not participate in online Reverse Auction, their price bid as submitted by vendor on NIC along with applicable loading, if any, shall be considered for ranking.”

“Pre-Qualification Criteria

Please refer attached Schedule-II Offers of only those Bidders who meet the Pre-qualification criteria will be accepted. Any deviation from these shall render offer submitted by bidder as rejected.

In case of space constraint, Information asked in PQR (Schedule-II) shall be submitted as additional attachment with Sign and Seal.

Pl provide Turnover details of last three Financial years as below.

Refer Point no 2 of Schedule-II

Financial Year	2019-20	2020-21	2021-22	Average Turnover
Turnover				

Vendor to submit details of executed PO as per Point no. 3& 4 of Schedule-II

Customer Name	Order no & Date	Qty. supplied in UOM	Tax Invoice No./Completion Certificate & Date.	Remarks, if any

6. **Bid evaluation:** The bid shall be evaluated on total delivered cost to BHEL (landed cost net of input tax credit) taking into account all duties / taxes / Cess like GST as per prevailing structure on date of tender enquiry (bid Part-I). Bidders may note that quoted rates shall be loaded for any deviation from the terms & conditions given in this enquiry, to arrive at landed cost and same shall be communicated to techno-commercially suitable bidders before price bid opening. Evaluation of items shall be done on item wise L1 basis.
7. **Technical Parameters and Tendered Quantity:** - PERMA WOOD SHEET shall conform to the purchase specifications. BHEL QA plan and / or customer approved QA plan to be followed strictly. Tentative quantity breaks up is mentioned below.

PI ITEM NO	ITEM DESCRIPTION	PO QTY	PO UNIT
1	PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE :- 10 TK X 1200 X 2400 MM	160	NOS
2	PERMA WOOD SHEET TO CPS AA 22001 REV-02 SIZE:- 12 TK X 1200 X 2400	140	NOS
3	PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:- 14 TK X 1200 X 2400 MM	90	NOS
4	PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:- 16 TK X 1200 X 2400 MM	140	NOS
5	PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:- 20 TK X 1200 X 2400 MM	280	NOS
6	PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:- 25 TK X 1200 X 2400 MM	240	NOS
7	PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:- 32 TK X 1200 X 2400 MM	140	NOS
8	PERMA WOOD SHEET TO CPS AA22001 REV 02 TO SIZE 38 TKX1200X2400 LG	170	NOS
9	PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:- 50 TK X 1200 X 2400 MM	280	NOS
10	PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:- 60 TK X 1200 X 2400 MM	100	NOS
11	PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:- 50 TK X 1830 X 1830 MM	70	NOS
12	PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:- 60 TK X 1830 X 1830 MM	70	NOS
13	PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:- 80 TK X 1830 X 1830 MM	50	NOS

Quantity under individual item may vary within +/- 30%. At the time of supply, TC/GC/CC and other Documents as per Schedule of the PO must accompany each lot.

8. **Pricing Terms:** - Material will be supplied on finished basis and rate so quoted shall be firm during validity of contract.
9. **Transit Insurance:** - By the bidder. In case of insurance by BHEL, bidders shall have to comply with our general terms and conditions in this regard. Also bidder shall have to render all necessary assistance needed by BHEL to recover the damages from the insurers, in the event of claim arising under policy.
10. **Terms of delivery:** - In case of indigenous bidders, we prefer on F.O.R BHEL, Jhansi basis. In case of EX- Works delivery, for evaluation freight and insurance shall be loaded. Bidders may note that delivery beyond committed schedule will attract penalty for delay. the date of delivery at named destination in India shall be taken as contractual delivery completion date where delivery terms are FOR destination. In case of 'Ex-works' delivery terms, the date of LR / RR shall be the contractual delivery completion date. To have an equitable comparison amongst the vendors in the tender, freight charges from dispatch city to BHEL, Jhansi shall be loaded on quoted prices as given below.
for freight charges @ 0.005% per KM of basic quoted rate (with minimum loading for 100KM) or as per below table.

Description/ Type of Perma Wood	Type of Vehicle for transporting one sheet of Perma Wood (i.e. 9MT or 21MT or 41MT)	Applicable FTL rates (Rs/MT- Km)	Distance from dispatch city to Jhansi+15 Km	Total Freight charges	Freight charges per Nos on Perma wood
A	B	C	D	E=C*D*9 Or E=C*D*21 Or E=C*D*41	F=E

Both Above loading is tentative and depends on BHEL discretion.

and for Insurance offer will be loaded @ 0.05775% on (basic + GST + Frt.) to arrive relative status i.e. L1, L2.etc.

11. **Purchase from customer approved vendors:** - Bidders may note that PERMA WOOD SHEET for most of the customers is to be sourced from their approved vendors only. In those cases, pertaining to requirement of such contracts, BHEL would open the price Bid and place purchase orders on the approved vendors of respective customer only. Clause no 23

(Purchase Preference to Make in India) as mentioned in GTC JHS2055 Rev03 will prevail for distribution. Local supplier will be preferred in Enquiry distribution accordingly.

12. **Number of Suppliers:** - We need 2 suppliers for execution of this contract and the tentative distribution of quantities among L1 & L2 would be in the ratio of 70:30 Number of minimum suppliers required to execute this contract may change depending upon committed capacity and also acceptance to counter offer, if any, made by BHEL. Number of bidders for quantity distribution shall be (n-1), limited to 2 bidders where n is number of techno – commercially qualified bidders and shall be as shown below:

n	L1	L2	Total
1	100	-	100
2	70	30	100

Wherever, the number of techno commercially qualified responses (N) is two, BHEL reserves the right on whether or not to distribute the quantity on more than one bidder. The ordering will further be governed by customer, approval of vendors (wherever applicable), manufacturing capacity, loading of jobs, delivery & quality performance of vendors.

If there is only one techno commercial acceptable vendor, BHEL reserves the right to allocate 100% quantity or the quantity required by BHEL to L1 vendor.

Quantity variation for split quantities: Quantity variation of +/-30% will be applicable for individual vendors on split quantities also.

All efforts will be made by BHEL to maintain proportionate quantity distribution between L1 and L2 vendors to the extent possible. However, ordering against rate contract will depend upon the actual requirement /projects received by BHEL/ Vendors approved by BHEL customer.

Distribution of Enquiry Quantity with respect to Clause no 23 (Purchase Preference to Make in India) as mentioned in GTC JHS2055 Rev03 will prevail over any other distribution mentioned in this Enquiry.

Bidder shall note that any distribution in PermaWood (Including MSME/MII quantity benefit) or distribution of quantities between L1 & L2 should have to comply above.

13. **Inspection/Quality Checks and Quality Records:** - Pre-dispatch /source inspection/ Third Party Inspection may be carried out at vendor works as per practice in vogue or Customer requirement. However, vendor shall maintain all records of input materials and finished PermaWood thereby establishing traceability. BHEL may conduct quality audit at supplier works for ensuring implementation of Quality system. Vendor shall carry out all the Electrical & Mechanical tests as called for in the specifications and submit Test certificates for each lot of dispatch.

14. All costs related to inspections and re-inspections shall be borne by the Seller. Seller shall be responsible to provide assistance such as labor, materials, electricity, fuels, stores, apparatus, instruments at his cost, as may be required and as may be reasonably demanded to carry out such tests effectively.
15. Supplier has to provide 15 Days advance intimation for inspector deputation on vendor works. Further dispatch clearance will be given within 4 days of submission of report to BHEL/CUSTOMER. Vendor to take care of other elements of inspection such as Inspection duration, Inspection report submission, arrangement of Packing, transportation duration from Supplier works to BHEL Jhansi etc. to meet delivery dates of PO.
16. **Replacement of rejected Goods:** - Final inspection for acceptance of quality shall be at BHEL's works after receipt of material and results shall be binding on the suppliers. In case of rejection due to noncompliance to agreed specification and for the reasons attributable to the vendor, the materials shall be replaced by vendor free of charge on "FOR BHEL works basis" including interalia cost elements such as total transportation, insurance and other taxes / levies etc. as applicable. The rejected goods shall be subsequently returned to the vendor at his cost.
17. **Taxes & Duties:** - GST as applicable within India only will be paid / reimbursed by BHEL and same will be loaded for price comparison on delivered cost to BHEL (i.e. landed cost net of input tax credit).
18. **Guarantee:** - PERMA WOOD SHEET under this tender shall be free from any kind of manufacturing defects and shall be under guarantee for a period of 24 months from the date of receipt at BHEL, Jhansi.
19. **Payments Terms:** - 100% payment within 90 days of receipt of material (45 days for MSE / NSIC registered suppliers as per relevant act in force), subject to acceptance of material at BHEL, on direct presentation of the documents.
Any deviation from the following payment terms, if accepted (by BHEL), shall be loaded @ SBI base rate (as on date of Part I bid opening) + 6%, for the purpose of bid evaluation

In case LC payment term for indigenous bidders are accepted by the competent authority, offers with interest free Usance period less than 120 days (45 days for MSEs vendors & subject to submission of Udyog Aadhar Memorandum) shall be liable for rejection.
20. **Validity of Offer:** - Offer should be valid for a period of 120 days from the date of techno-commercial bid opening date (part-1) for finalization of the contract.
21. **Levy of Penalty for delayed performance:** - Penalty shall be @0.5 % per week or part there of subject to maximum of 10 % of the undelivered portion shall be applicable for delayed supplies. LD recovery, the applicable GST shall also be recoverable from sellers.
22. In case of non-acceptance of LD Clause, the suitable loading up to 10% maximum shall be done on supplier's quoted rate to derive the L-1 Status.

23. Commercial Conditions quoted by the vendor in any place including as stated in bidder's 'General Terms and Conditions of enquiry' if any, shall not be binding on the Purchaser and the conditions contained in this annexure, including General terms & Conditions rev 03 of enquiry, if any, for this enquiry shall only prevail.
24. **Applicable Laws and Jurisdiction of Courts:** - Indian laws both substantive and procedural, for the time being in force, including modifications thereto, shall govern the Contract including Arbitration proceedings. The competent Courts at Jhansi in the State of Uttar Pradesh, India shall have sole jurisdiction.
25. **Benefits earmarked to Suppliers for Purchase Under 'Make In India':** -
As part of minimizing import content under Gov, t of India guidelines and to encourage and promote indigenously manufactured goods within India and services provided by sources within India, bidders who manufacture goods and provide services within India (Local Suppliers) are given purchase preference and are entitled to benefits in the tender. For further clarifications Please refer GTC JHS 2055A Rev03.
26. A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of Procuring Entity's interests. The bidder found to have a conflict of interest shall be disqualified. A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:
- a) they have controlling partner (s) in common;
Or
 - b) they receive or have received any direct or indirect subsidy/ financial stake from any of them;
Or
 - c) they have the same legal representative/agent for purposes of this bid;
Or
 - d) they have relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder,
Or
 - e) Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all bids in which the parties are involved. However, this does not limit the inclusion of the components/ sub-assembly/ Assemblies from one bidding manufacturer in more than one bid;
Or
 - f) In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. One manufacturer can also authorize only one agent/dealer. There can be only one bid from the following:
 1. The principal manufacturer directly or through one Indian agent on his behalf; and
 2. Indian/foreign agent on behalf of only one principal, ·
Or
 - g) A Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid,
Or



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- h) In case of a holding company having more than one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies. Bidders must proactively declare such sister/ common business/ management units in same/ similar line of business. "

27. **INTEGRITY PACT: -**

As per Government of India's guidelines this contract will be covered under Integrity pact. Performa for Integrity pact is enclosed with this enquiry. Integrity pact document, as per this format, is to be prepared and signed by vendors and is to be submitted along with Techno-commercial bid (Part-1) duly signed and sealed. Offers received without signed pact shall be rejected, price bid of such vendors will not be opened.

Independent external monitor (IEM) For monitoring of enquiry procedure, under Integrity pact an Independent External monitor (IEM) is appointed by BHEL.

The IEM appointed for this contract is:

SL.NO	IEM	EMAIL
1	Shri Otem Dai, IAS (Retd.)	iem1@bhel.in
2	Shri Bishwamitra Pandey, IRAS (Retd.)	iem2@bhel.in
3	Shri Mukesh Mittal, IRS (Retd.)	iem3@bhel.in

Prepared by

Rahul Kumar

Dy.Mgr (TRFR MM)

Sl. No.	REQUIREMENT	Bidder's Response																				
4	<p>Minimum Quantum- For qualifying, bidder should have supplied minimum 10% (For Non-MSEs) or 7% (For MSEs) of NIT quantity of the item(s) for which they have quoted. The dimension of the items supplied should be minimum thickness 12mm, width of 1200mm and length of minimum 1800mm OR "O" Ring of Minimum thickness of 12mm and OD of 1000mm without joint</p> <p>Vendor to submit details of executed PO.</p> <table border="1"> <thead> <tr> <th>Customer Name</th> <th>Order No. & Date</th> <th>Qty. supplied in UoM</th> <th>Tax Invoice / Completion Certificate & Date</th> <th>Remark, if any</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Customer Name	Order No. & Date	Qty. supplied in UoM	Tax Invoice / Completion Certificate & Date	Remark, if any																
Customer Name	Order No. & Date	Qty. supplied in UoM	Tax Invoice / Completion Certificate & Date	Remark, if any																		
5	<p>It is better / desired that New vendors who are not registered with BHEL, Jhansi should submit duly filled "Supplier Registration Form (SRF)" along with the requested documents. The SRF is available on line on our website www.bhel.com. However the same is not mandatory.</p>	<input type="checkbox"/> Document Submitted																				

- We agree that our bid is liable to be rejected in case (a) the relevant information is not filled, (b) documentation is incomplete, (c) there are false declarations, and (d) if we do not meet the PQR.
- Criteria at Sl. No. 5 is desirable. Other are mandatory.
- Supporting documents for the details filled above have been submitted.

(Signature of the Supplier with Name, Designation & Seal)



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(SCHEDULE-III)

Acceptance to salient Terms & Conditions of the Enquiry I.e. Techno Commercial Bid

Sl.No	DESCRIPTION	TO BE FILLED BY THE VENDOR
A-	Name of the Supplier with Telephone No./Fax No./Email	
B-	Name and Designation of Contact person	
C-	Address of the works at which inspection/delivery is offered.	

Sl. no.	Particulars	Supplier's Confirmation
1-	Complete acceptance to Technical terms & conditions including Technical/Purchase Specs as mentioned in Schedule-I to VIII	<input type="checkbox"/> Accepted
2-	Participation by the Bidders in the tender shall be construed as acceptance of the bidder to the General Terms and Conditions JHS2055A-Rev-03 uploaded at https://jhs.bhel.com/apps/sip/enq/terms/enq_tems_current.pdf We confirm that we have read the GTC with applicable revision, and accepts the same.	<input type="checkbox"/> Accepted
3-	Conformance / Test Certificate/Guarantee Certificate (along with supply) as specified in enquiry will be provided.	<input type="checkbox"/> Yes
4-	(a) Delivery period on FOR basis from date of PO issue/LOI, whichever is later. (BHEL reserves the right to reject the offer of such bidders whose quoted/delivery period on F.O.R BHEL, Jhansi basis is more than 8 weeks.) (b) Supplier shall have capacity of minimum 150 Nos of Sheet per month reserved for BHEL Jhansi (c) Vendor to indicate monthly capacityDays. <input type="checkbox"/> Accepted -.....

5-	<p>Taxes and Duties (For indigenous bidders only): -Extra as applicable.</p> <p>a). CGST (Mention N.A if not applicable)</p> <p>b). SGST (Mention N.A if not applicable)</p> <p>c). IGST (Mention N.A if not applicable)</p>	<p><input type="checkbox"/> Accepted</p> <p>a).....%</p> <p>b).....%</p> <p>c).....%</p>
6-	Price Bid submitted as per attached price bid format only	<input type="checkbox"/> Accepted
7-	<p>Bidders quoted against all enquiry items.</p> <p>In case Bidders quoted for less items, same to be mentioned</p>	<p><input type="checkbox"/> Accepted</p> <p>No of Enq. Items against which Bidder quoted_____</p>
8-	Acceptance for prices finalization through reverse auction (R.A) i.e. Acceptance to participation in R.A	<input type="checkbox"/> Accepted
9-	Terms of delivery on F.O.R BHEL Jhansi basis.	<input type="checkbox"/> Accepted
10-	Validity - Quoted prices are valid for 120 days from date of tender opening.	<input type="checkbox"/> Accepted
11-	Acceptance for prices on firm basis and no PVC is applicable.	<input type="checkbox"/> Accepted
12-	<p>Payment Terms -</p> <p>100 % payment within 90 days (45 days for MSE / NSIC registered suppliers as per relevant act in force) from the date of receipt of material and submission of clear and admissible bill, subject to acceptance of material at BHEL, on direct presentation of the documents.</p> <p>In case of dispatch of material to site directly, site certification for receipt of materials is required unless otherwise provided for in the PO. Any deviation from the above payment terms, if accepted (by BHEL), shall be loaded @ SBI base rate (as on date of Part I bid opening) + 6%, for the purpose of bid evaluation.</p>	<p><input type="checkbox"/> Accepted</p> <p><input type="checkbox"/> Accepted</p>
13-	No Advance payment terms will be accepted.	<input type="checkbox"/> Accepted
14-	Liquidated Damage / Penalty – Penalty shall be @0.5 % per week or part there of subject to maximum of 10 % of the undelivered portion shall be applicable for delayed supplies. LD recovery, the applicable GST shall also be recoverable from vendors.	<input type="checkbox"/> Accepted



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15-	Risk Purchase - If the material is not supplied within stipulated delivery indicated in PO, BHEL shall have the option to purchase the material from other sources at the supplier's risk & cost.	<input type="checkbox"/> Accepted
16-	Guarantee: In Case an order is placed, supplier shall be required to guarantee for smooth and satisfactory performance of the equipment for a period of 24 months from the date of receipt at BHEL Jhansi and certificate must be issued to this effect. Necessary instruction booklets for operation and maintenance are to be sent with supply, where applicable.	<input type="checkbox"/> Accepted
17-	"The Bidder along with its associate/collaborators/sub-contractors/sub-vendors/consultants/service providers shall strictly adhere to BHEL Fraud prevention Policy displayed on BHEL website http://www.bhel.com and shall immediately bring to the notice of BHEL management about any fraud or suspected fraud as soon as it comes to their notice."	<input type="checkbox"/> Accepted
18-	Supplier has to provide 15 Days advance intimation for inspector deputation on vendor works. Further dispatch clearance will be given within 4 days of submission of report to BHEL/CUSTOMER. Vendor to take care of other elements of inspection such as Inspection duration, Inspection report submission, arrangement of Packing, transportation duration from Supplier works to BHEL Jhansi etc. to meet delivery dates of PO .	<input type="checkbox"/> Accepted
19-	Whether you are a MSME Vendor-Yes/No If yes, please fill up the following details as per UDYAM Certificate- UDYAM Certificate- Udyam Registration No..... Type of Enterprises- (Micro/Small/Medium) Activity- (Manufacturer/Trader)	<input type="checkbox"/> Accepted

Signature of Supplier & seal :

Date :

Name of contact person :

Cell No. :

Landline with STD code & E-mail :

(SCHEDULE-IV) (PRICE BID)

Validate Print Help

[Item Wise BoQ](#)

Tender Inviting Authority: SR. DGM-TMM

Name of Item: SUPPLY OF PERMAWOOD

Contract No: E1320026

Name of the Bidder/ Bidding Firm / Company :	
--	--

PRICE SCHEDULE

(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)

Sl. No.	Item Description	Item Code / Make	Quantity	Units	Quoted Currency in INR / Other Currency	BASIC RATE In Figures To be entered by the Bidder in Rs per Nos	Unit Rate per Nos in Words
1	2	3	4	5	12	7	13
1	PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE :-10 TK X 1200 X 2400 MM	item1	160.00	NOS	INR		INR Zero Only
2	PERMA WOOD SHEET TO CPS AA 22001 REV-02 SIZE:- 12 TK X 1200 X 2400	item2	140.00	NOS	INR		INR Zero Only
3	PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:-14 TK X 1200 X 2400 MM	item3	90.00	NOS	INR		INR Zero Only
4	PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:-16 TK X 1200 X 2400 MM	item4	140.00	NOS	INR		INR Zero Only
5	PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:-20 TK X 1200 X 2400 MM	item5	280.00	NOS	INR		INR Zero Only
6	PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:-25 TK X 1200 X 2400 MM	item6	240.00	NOS	INR		INR Zero Only
7	PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:-32 TK X 1200 X 2400 MM	item7	140.00	NOS	INR		INR Zero Only

8	PERMA WOOD SHEET TO CPS AA22001 REV 02 TO SIZE 38 TKX1200X2400 LG	item8	170.00	NOS	INR		INR Zero Only
9	PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:-50 TK X 1200 X 2400 MM	item9	280.00	NOS	INR		INR Zero Only
10	PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:-60 TK X 1200 X 2400 MM	item10	100.00	NOS	INR		INR Zero Only
11	PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:-50 TK X 1830 X 1830 MM	item11	70.00	NOS	INR		INR Zero Only
12	PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:-60 TK X 1830 X 1830 MM	item12	70.00	NOS	INR		INR Zero Only
13	PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:-80 TK X 1830 X 1830 MM	item13	50.00	NOS	INR		INR Zero Only

(SCHEDULE-V)

BUSINESS RULES FOR REVERSE AUCTION

This has reference to tender no **{E1320026 dateXXXX}**. BHEL shall finalise the Rates for the supply of **{PERMA WOOD SHEET}** through Reverse Auction mode. BHEL has made arrangement with M/s. **{Service provider}**, who shall be BHEL's authorized service provider for the same. Bidders should go through the instructions given below and submit acceptance of the same.

The technical & commercial terms are as per (a) BHEL Tender Enq. No. **{E1320026}** dated **{XXXX}**, (b) Bidders' technical & commercial bid (in case of two-part bid) and (c) subsequent correspondences between BHEL and the bidders, if any.

1. Procedure of Reverse Auctioning

- i. Price bids of all techno-commercially qualified bidders shall be opened.
- ii. **Reverse Auction:** The 'bid decrement' will be decided by BHEL.
- iii. The lowest bidder in sealed envelope price bid shall be shown as current L1 automatically by the system and no acceptance of that price is required. System shall have the provision to indicate this bid as current L1.
- iv. Bidders by offering a minimum bid decrement or the multiples thereof can displace a standing lowest bid and become "L1" and this continues as an iterative process. However, no bidder shall be allowed to lower its bid below the current L1 by more than 5 decrements at one go.
- v. After the completion of the reverse auction, the Closing Price shall be available for further processing.
- vi. Wherever the evaluation is done on total cost basis, after Reverse Auction, prices of individual line items shall be reduced on pro-rata basis.

2. Schedule for reverse auction: The Reverse Auction is tentatively scheduled on *{shall be intimated later}*: *:{start time}:14:00 ;{Close Time:15:00 }*.

3. Auction extension time: If a bidder places a bid in the last **{05}** minutes of closing of the Reverse Auction and if that bid gets accepted, then the auction's duration shall get extended automatically for another **{05}** minutes,

for the entire auction (i.e. for all the items in the auction), from the time that bid comes in. Please note that the auto-extension will take place only if a bid comes in those last {05} minutes and if that bid gets accepted as the lowest bid. If the bid does not get accepted as the lowest bid, the auto extension will not take place even if that bid might have come in the last {05} minutes. In case, there is no bid in the last {05} minutes of closing of Reverse Auction, the auction shall get closed automatically without any extension. However, bidders are advised not to wait till the last minute or last few seconds to enter their bid during the auto-extension period to avoid complications related with internet connectivity, network problems, system crash down, power failure, etc.

The above process will continue till completion of Reverse Auction.

Complaints/ Grievances, if any, regarding denial of service or any related issue should be given in writing thru e-mail/ fax to M/s. {Service provider} with a copy to BHEL within 15 minutes prior to initial closing time of Reverse Auction.

4. **Bid price:** The Bidder has to quote the {FOR, BHEL Jhansi} Price inclusive of Packing & Forwarding charges, all the routine & type tests as per tender scope, taxes, duties, freight and insurance as specified in tender document. including loading (if indicated by BHEL due to deviations in technical/ commercial terms) for the Items specified. Details are as shown in Excel Sheet for calculation of total cost to BHEL (To be specified by Unit as per NIT conditions).
5. **Bidding currency and unit of measurement:** Bidding will be conducted in *Indian Rupees per Unit* of the material as per the specifications {...}
6. **Validity of bids:** Price shall be valid for {120 days} from the date of reverse auction. These shall not be subjected to any change whatsoever.
7. **Lowest bid of a bidder:** In case the bidder submits more than one bid, the lowest bid at the end of Reverse Auction will be considered as the bidder's final offer to execute the work.
8. Unique user IDs shall be used by bidders during bidding process. All bids made from the Login ID given to the bidders will be deemed to have been made by the bidders/ bidders' company.
9. **Post auction procedure:** BHEL will proceed with the Lowest Bid in the Reverse Auction for further processing.

10. Any commercial/ technical loading shall be separately intimated to respective bidders prior to RA. The excel sheet provided in this regard shall cover all these aspects. Commercial/ technical loading if any, shall be added by the respective bidder in its price during Reverse Auction. Modalities of loading & de-loading shall be separately intimated to the bidders. The responsibility for correctness of total cost to BHEL shall lie with the bidders.
11. Reverse auction shall be conducted by BHEL (through M/s {Service Provider}), on pre-specified date, while the bidders shall be quoting from their own offices/ place of their choice. Internet connectivity shall have to be ensured by bidders themselves.

During the RA process if a bidder is not able to bid and requests for extension of time by FAX/ email/ phone then time extension of additional 15 minutes will be given by the service provider provided such requests come before 5 minutes of auction closing time. However, only one such request per bidder can be entertained.

In order to ward-off contingent situation of connectivity failure bidders are requested to make all the necessary arrangements/ alternatives whatever required so that they are able to circumvent such situation and still be able to participate in the reverse auction successfully. Failure of power or loss of connectivity at the premises of bidders during the Reverse auction cannot be the cause for not participating in the reverse auction. On account of this, the time for the auction cannot be extended and neither BHEL nor M/s. {Service provider} is responsible for such eventualities.

12. Proxy bids: Proxy bidding feature is a pro-bidder feature to safe guard the bidder's interest of any internet failure or to avoid last minute rush. The proxy feature allows bidders to place an automated bid in the system directly in an auction and bid without having to enter a new amount each time a competing bidder submits a new offer. The bid amount that a bidder enters is the minimum that the bidder is willing to offer. Here the software bids on behalf of the bidder. This obviates the need for the bidder participating in the bidding process until the proxy bid amount is decrementally reached by other bidders. When proxy bid amount is reached, the bidder (who has submitted the proxy bid) has an option to start participating in the bidding process.

The proxy amount is the minimum amount that the bidder is willing to offer. During the course of bidding, the bidder cannot delete or change the amount of a proxy bid.

Bids are submitted in decrements (decreasing bid amounts). The application automates proxy bidding by processing proxy bids automatically, according to the decrement that the auction originator originally established when creating the auction, submitting offers to the next bid decrement each time a competing bidder bids, regardless of the fact whether the competing bids are submitted as proxy or standard bids. However, it may please be noted that if a manual bid and proxy bid are submitted at the same instant manual bid will be recognized as the L1 at that instant.

In case of more than one proxy bid, the system shall bid till it crosses the threshold value of 'each lowest proxy bid' and thereafter allow the competition to decide the final L1 price.

Proxy bids are fed into the system directly by the respective bidders. As such this information is privy only to the respective bidder(s).

13. Bidders are advised to get fully trained and clear all their doubts such as refreshing of Screen, quantity being auctioned, tender value being auctioned etc from M/s {Service provider}.
14. M/s. {Service provider}, shall arrange to demonstrate/ train the bidder or bidder's nominated person(s), without any cost to bidders. M/s. {Service provider}, shall also explain the bidders, all the business rules related to the Reverse Auction. Bidders are required to submit their acceptance to the terms/ conditions/ modalities before participating in the Reverse Auction in the process compliance form as enclosed. Without this, the bidder will not be eligible to participate in the event.
15. Successful bidder shall be required to submit the final prices (L1) in prescribed format (Annexure – VI) for price breakup, quoted during the Reverse Auction, duly signed and stamped as token of acceptance without any new condition (other than those already agreed to before start of auction), after the completion of auction to M/s. {Service provider} besides BHEL within two working days of Auction without fail.
16. Any variation between the final bid value and that in the confirmatory signed price breakup document will be considered as tampering the tender process and will invite action by BHEL as per extant guidelines for suspension of business dealings (as available on www.bhel.com).

- 17.** Bidders' bid will be taken as an offer to execute the work/ supplies the item as per enquiry no. {E1320026} dt. {XXXX}. Bids once made by the bidder, cannot be cancelled/ withdrawn and bidder shall be bound to execute the work as mentioned above at bidder's final bid price. Should bidder back out and not execute the contract as per the rates quoted, BHEL shall take action as per extant guidelines for suspension of business dealings (as available on www.bhel.com).
- 18.** Bidders shall be able to view the following on their screen along with the necessary fields during Reverse Auction:
- a. Leading (Running Lowest) Bid in the Auction (only total price of package)
 - b. Bid Placed by the bidder
 - c. Start Price
 - d. Decrement value
 - e. Rank of their own bid during bidding as well as at the close of auction.
- 19.** BHEL's decision on award of contract shall be final and binding on all the Bidders.
- 20.** BHEL reserves the right to extend, reschedule or cancel the Reverse Auction process at any time, before ordering, without assigning any reason, with intimation to bidders.
- 21.** BHEL shall not have any liability to bidders for any interruption or delay in access to the site irrespective of the cause. In such cases, the decision of BHEL shall be binding on the bidders.
- 22.** Other terms and conditions shall be as per bidder's techno-commercial offers and other correspondences, if any, till date.
- 23.** If there is any clash between this business document and the FAQ available, if any, in the website of M/s. {Service provider}, the terms & conditions given in this business document will supersede the information contained in the FAQs. Any changes made by BHEL/ service provider (due to unforeseen contingencies) after the first posting shall be deemed to have been accepted if the bidder continues to access the portal after that time.
- 24.** Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party. If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action as per extant BHEL



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guidelines for suspension of business dealings (as available on www.bhel.com), shall be initiated by BHEL.



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Process Compliance Form

(The bidders are required to print this on their company's letterhead and sign, stamp before RA)

To

- M/s. {Service provider
- Postal address}

Sub: Agreement to the Process related Terms and Conditions

Dear Sir,

This has reference to the Terms & Conditions for the Reverse Auction mentioned in the RFQ document for {Items} against BHEL enquiry/ RFQ no.{E1320026} dt. {XXXX} This letter is to confirm that:

- 1) The undersigned is authorized official/ representative of the company to participate in RA and to sign the related documents.
- 2) We have studied the Reverse Auction guidelines (as available on www.bhel.com), and the Business rules governing the Reverse Auction as mentioned in your letter and confirm our agreement to them.
- 3) We also confirm that we have taken the training on the auction tool and have understood the functionality of the same thoroughly.
- 4) We also confirm that, in case we become L1 bidder, we will FAX/ email the price confirmation & break up of our quoted price as per Annexure - VI within **two** working days (of BHEL) after completion of RA event, besides sending the same by registered post/ courier both to M/s. BHEL and M/s. {Service provider.}

We, hereby confirm that we will honour the Bids placed by us during the auction process.

With regards

Signature with company seal

Name –

Company / Organization

Designation within Company / Organization

Address of Company / Organization

- **Sign this document and FAX/ email it to M/s {Service provider} at {.....} prior to start of the Event.**

Details of item (s) for Reverse Auction

Procurement of PERMA WOOD SHEET against Tender Enquiry No. E1320026 dated XXXXXXXX

PI ITEM NO	ITEM DESCRIPTION	PO QTY	PO UNIT
1	PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE :- 10 TK X 1200 X 2400 MM	160	NOS
2	PERMA WOOD SHEET TO CPS AA 22001 REV-02 SIZE:- 12 TK X 1200 X 2400	140	NOS
3	PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:- 14 TK X 1200 X 2400 MM	90	NOS
4	PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:- 16 TK X 1200 X 2400 MM	140	NOS
5	PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:- 20 TK X 1200 X 2400 MM	280	NOS
6	PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:- 25 TK X 1200 X 2400 MM	240	NOS
7	PERMA WOOD SHEET TO CPS AA22001 REV 02 SIZE:- 32 TK X 1200 X 2400 MM	140	NOS
8	PERMA WOOD SHEET TO CPS AA22001 REV 02 TO SIZE 38 TKX1200X2400 LG	170	NOS
9	PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:- 50 TK X 1200 X 2400 MM	280	NOS
10	PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:- 60 TK X 1200 X 2400 MM	100	NOS
11	PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:- 50 TK X 1830 X 1830 MM	70	NOS
12	PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:- 60 TK X 1830 X 1830 MM	70	NOS
13	PERMA WOOD SHEET TO CPS AA22002 REV 04 SIZE:- 80 TK X 1830 X 1830 MM	50	NOS

Quantity variation +/-30.0 % of Indented Quantity.

The offers of all the bidders are technically & commercially frozen as submitted by the bidders and clarified in subsequent correspondence, if any, with the bidders.



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(SCHEDULE-VI)

INTEGRITY PACT

Between Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at "BHEL House", Siri Fort, New Delhi - 110049 (India) hereinafter referred to as "The Principal", which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

and

_____, (description of the party along with address), hereinafter referred to as "The Bidder/ Contractor" which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

Preamble

The Principal intends to award, under laid-down organizational procedures, contract/s for _____ E1320026 _____

_____ (hereinafter referred to as "Contract"). The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint panel of Independent External Monitor(s) (IEMs), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1- Commitments of the Principal

1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles: -

1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

1.1.3 The Principal will exclude from the process all known prejudiced persons.

1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 - Commitments of the Bidder(s)/ Contractor(s)

2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. The Bidder(s)/ Contractor(s) commits himself to observe the following principles during participation in the tender process and during the contract execution.

2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant Indian Penal Code (IPC) and Prevention of Corruption Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

2.1.4 Foreign Bidder(s)/ Contractor(s) shall disclose the name and address of agents and representatives in India and Indian Bidder(s)/ Contractor(s) to disclose their foreign principals or associates. The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

2.3 The Bidder(s)/ Contractor(s) shall not approach the Courts while representing the matters to IEMs and shall await their decision in the matter.

Section 3 - Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process, terminate the contract, if already awarded, exclude from future business dealings and/ or take action as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

Section 4 - Compensation for Damages

4.1 If the Principal has disqualified the Bidder (s) from the tender process before award / order acceptance according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.

4.2 If the Principal is entitled to terminate the Contract according to Section 3, or terminates the Contract in application of Section 3 above, the Bidder(s)/ Contractor (s) transgression through a violation of Section

2 above shall be construed breach of contract and the Principal shall be entitled to demand and recover from the Contractor an amount equal to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee, whichever is higher, as damages, in addition to and without prejudice to its right to demand and recover compensation for any other loss or damages specified elsewhere in the contract.

Section 5 - Previous Transgression

5.1 The Bidder declares that no previous transgressions occurred in the last 3 (three) years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.

5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason or action can be taken as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

Section 6 - Equal treatment of all Bidder (s)/ Contractor (s) / Sub-contractor (s)

6.1 The Principal will enter into Integrity Pacts with identical conditions as this Integrity Pact with all Bidders and Contractors.

6.2 In case of Sub-contracting, the Principal Contractor shall take the responsibility of the adoption of Integrity Pact by the Sub-contractor(s) and ensure that all Sub-contractors also sign the Integrity Pact.

6.3 The Principal will disqualify from the tender process all Bidders who do not sign this Integrity Pact or violate its provisions.

Section 7 - Criminal Charges against violating Bidders/ Contractors /Subcontractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section 8 -Independent External Monitor(s)

8.1 The Principal appoints competent and credible panel of Independent External Monitor (s) (IEMs) for this Integrity Pact. The task of the IEMs is to review independently and objectively, whether and to what extent the parties comply with the obligations under this Integrity Pact.

8.2 The IEMs are not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.

8.3 The IEMs shall be provided access to all documents/ records pertaining to the Contract, for which a complaint or issue is raised before them as and when warranted. However, the documents/records/information having National Security implications and those documents which have been classified as Secret/Top Secret are not to be disclosed.

8.4 The Principal will provide to the IEMs sufficient information about all meetings among the parties related to the Contract provided such meetings could have an impact on the contractual relations

between the Principal and the Contractor. The parties offer to the IEMs the option to participate in such meetings.

8.5 The advisory role of IEMs is envisaged as that of a friend, philosopher and guide. The advice of IEMs would not be legally binding and it is restricted to resolving issues raised by a Bidder regarding any aspect of the tender which allegedly restricts competition or bias towards some Bidders. At the same time, it must be understood that IEMs are not consultants to the Management. Their role is independent in nature and the advice once tendered would not be subject to review at the request of the organization.

8.6 For ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process or during execution of Contract, the matter should be examined by the full panel of IEMs jointly, who would look into the records, conduct an investigation, and submit their joint recommendations to the Management.

8.7 The IEMs would examine all complaints received by them and give their recommendations/ views to the CMD, BHEL at the earliest. They may also send their report directly to the CVO, in case of suspicion of serious irregularities requiring legal/ administrative action. Only in case of very serious issue having a specific, verifiable Vigilance angle, the matter should be reported directly to the Commission. IEMs will tender their advice on the complaints within 30 days.

8.8 The CMD, BHEL shall decide the compensation to be paid to the IEMs and its terms and conditions.

8.9 IEMs should examine the process integrity, they are not expected to concern themselves with fixing of responsibility of officers. Complaints alleging mala fide on the part of any officer of the Principal should be looked into by the CVO of the Principal.

8.10 If the IEMs have reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant Indian Penal Code / Prevention of Corruption Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the IEMs may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

8.11 After award of work, the IEMs shall look into any issue relating to execution of Contract, if specifically raised before them. As an illustrative example, if a Contractor who has been awarded the Contract, during the execution of Contract, raises issue of delayed payment etc. before the IEMs, the same shall be examined by the panel of IEMs. Issues like warranty/ guarantee etc. shall be outside the purview of IEMs.

8.12 However, the IEMs may suggest systemic improvements to the management of the Principal, if considered necessary, to bring about transparency, equity and fairness in the system of procurement.

8.13 The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

9.1 This Integrity Pact shall be operative from the date this Integrity Pact is signed by both the parties till the final completion of contract for successful Bidder, and for all other Bidders 6 months after the Contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.



Bharat Heavy Electricals Limited

)A Govt of India Undertaking(

MM Department, Sub post Office: BHEL Jhansi 284120

Tel: 5102412554,9486369271

e-mail: arjun.singh@bhel.in; rahulkumar.r@bhel.in

9.2 If any claim is made/ lodged during currency of this Integrity Pact, the same shall be binding and continue to be valid despite the lapse of this Pact as specified above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 - Other Provisions

10.1 This Integrity Pact is subject to Indian Laws and exclusive jurisdiction shall be of the competent Courts as indicated in the Tender or Contract, as the case may be.

10.2 Changes and supplements as well as termination notices need to be made in writing.

10.3 If the Bidder(s)/ Contractor (s) is a partnership or a consortium or a joint venture, this Integrity Pact shall be signed by all partners of the partnership or joint venture or all consortium members.

10.4 Should one or several provisions of this Integrity Pact turn out to be invalid, the remainder of this Integrity Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

10.5 Only those bidders / contractors who have entered into this Integrity Pact with the Principal would be competent to participate in the bidding. In other words, entering into this Integrity Pact would be a preliminary qualification.

10.6 In the event of any dispute between the Principal and Bidder(s)/ Contractor(s) relating to the Contract, in case, both the parties are agreeable, they may try to settle dispute through Mediation before the panel of IEMs in a time bound manner. In case, the dispute remains unresolved even after mediation by the panel of IEMs, either party may take further action as the terms & conditions of the Contract. The fees/expenses on dispute resolution through mediation shall be shared by both the parties. Further, the mediation proceedings shall be confidential in nature and the parties shall keep confidential all matters relating to the mediation proceedings including any settlement agreement arrived at between the parties as outcome of mediation. Any views expressed, suggestions, admissions or proposals etc. made by either party in the course of mediation shall not be relied upon or introduced as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the dispute that is the subject of mediation proceedings. Neither of the parties shall present IEMs as witness in any Alternative Dispute Resolution or judicial proceedings in respect of the dispute that was subject of mediation.

For & On behalf of the Principal
(Office Seal)

For & On behalf of the Bidder/ Contractor
(Office Seal)

Place _____

Date _____

Witness: _____
(Name & Address) _____

Witness: _____
(Name & Address) _____

Clause on IP in the tender

Integrity Pact (IP)

- (a) IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner. Following Independent External Monitors (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.

Sl	IEM	Email
1.	Shri Otem Dai, IAS (Retd.)	iem1@bhel.in
2.	Shri Bishwamitra Pandey, IRAS (Retd.)	iem2@bhel.in
3.	Shri Mukesh Mittal, IRS (Retd.)	iem3@bhel.in

- (b) The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid (Part-I, in case of two/ three part bid). Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.
- (c) Please refer Section-8 of IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to any of the above IEM(s). All correspondence with the IEMs shall be done through email only.

Note:

No routine correspondence shall be addressed to the IEM (phone/ post/ email) regarding the clarifications, time extensions or any other administrative queries, etc on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) department's officials whose contact details are provided below:

Details of contact person(s):

(1)
Name: _____
Deptt: _____
Address: _____
Phone: (Landline/ Mobile) _____

Email: _____
Fax: _____

(2)
Name: _____
Deptt: _____
Address: _____
Phone: (Landline/ Mobile) _____

Email: _____
Fax: _____

(SCHEDULE-VII)

Annexure – I

Certificate by Chartered Accountant on letter head.

This is to Certify that M/s, (hereinafter referred to as 'company/) having its registered office at is registered under MSMED Act 2006 as per following details:-

UDYAM Reg. No. -

UDYAM Reg. Date :,

Category: (Micro/Small),

Major Activity:(Manufacturing/Services}.

Further verified from the Books of Accounts that the investment and turnover of the company as per the latest three financial statements as per MSMED Act 2006 is as follows:-

(Amount in Crores)

Financial Year	Investment in plant and machinery*	Turnover during the Year	Type of Financial Statements
			Audited/Provisional
			Audited/Provisional
			Audited/Provisional

*Investment in plant and machinery (i.e. original cost excluding land and building and the items specified by the Ministry of Micro, Small and Medium Enterprises vide its notification No.S.O.2119 (E) dated June 26, 2020:

(Strike off whichever is not applicable)

The above investment of Rs..... Crore and Turnover of Rs..... Crore is within permissible limit of Investment of Rs. Crore and Turnover of Rs..... Crore for Micro/ Small (Strike off which is not applicable) Category under MSMED Act 2006.

.Or

The company has been graduated from its original category (Micro/ Small) (Strike off which is not applicable) and the date of graduation of such enterprise from its original category is (dd/mm/yyyy) as notified vide S.O. No. 2119(E) published in the gazette notification dated 26.06.2020 by Ministry of MSME.

Date:



Bharat Heavy Electricals Limited

)A Govt of India Undertaking(

MM Department, Sub post Office: BHEL Jhansi 284120

Tel: 5102412554,9486369271

e-mail: arjun.singh@bhel.in; rahulkumar.r@bhel.in

(Signature)


Name -

Membership number -


Seal of Chartered Accountant

UDIN –

(SCHEDULE-VIII) (SPEC)

	CORPORATE PURCHASING SPECIFICATIONS		AA 22001		
			Rev. No.02		
			PAGE 1 of 6		
UNIMPREGNATED DENSIFIED LAMINATED WOOD-LOW DENSITY					
<p>1.0 GENERAL: This specification governs the quality requirements of an unimpregnated densified laminated wood of low density, consisting of layers or cross laminated 2 mm thick wood veneers, bonded and densified under heat and pressure. The material in insulating oil has temperature index of at least 105.</p>					
<p>2.0 APPLICATION: Used for coil support ring, winding support flange, supporting cleates etc. in Transformers</p>					
<p>3.0 COMPLAINE WITH NATIONAIL STANDARDS: There is no Indian Standard covering this type of material.</p>					
<p>4.0 TEST METHODS: Unless otherwise specified, the tests shall be conducted in accordance with the relevant methods of AA 085 17 01.</p>					
<p>5.0 SAMPLE FOR TEST: Two sheets of ordered thickness and size 500 x 500 mm prepared from the same batch, shall be supplied for testing and approval.</p>					
<p>6.0 DIMENSIONS AND TOLERANCES: Thickness, width, length of the laminated wood shall be stated on the order.</p>					
<p>6.1 Preferred Thickens (mm): 10, 12, 14, 16, 20, 25, 30, 40, 45, 50, 60, 70, 75, 80, 90 and 100.</p>					
Revisions: Ref: C 1.34.1.25 of MOM of MRC (E)			APPROVED: INTERPLANT MATERIAL RATIONALISATION COMMITTEE – MRC(E)		
Rev. No.02	Amd. No.	Reaffirmed	Prepared	Issued	Dt. of 1 st Issue
Dt:01-01-1998	Dt:	Year: 2007	HEP, Bhopal	Corp. R&D	01.05.1980

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6.2 Tolerance on Nominal Thickness:

Nominal thickness (mm)	Above Up to & Including	Tolerance (±)(mm)
10	25	0.8
25	40	1.0
40	50	1.25
50	-	1.5

6.3 Tolerance on width Length:

± 3.5 mm.

7.0 PHYSICAL PROPERTIES:

7.1 Density, as received condition (IS : 1708):

0.90 – 1.09 g/cm³

7.2 Moisture & Volatile Content:

7% Max.

Test Specimen (40 x 12mm x thickness of board) shall be dried at 145 ± 2°C till the weight is constant. Thickness above 12 mm shall be machined down to 12 mm, keeping one surface intact.

7.3 Oil Absorption:

9%, Min.


Test specimen (100 x 100 mm x thickness of board) shall be dried at 105 ± 2°C for 72 hours and then impregnated with insulating oil (IS: 335) at 90 ± 2°C for 72 hours. Thickness above 12 mm shall be machined down to 12 mm, keeping one surface intact.


8.0 EFFECT OF OIL ON WOOD (TYPE TEST):


8.1 Sludge and Oil Acidity (Appendix – 1):


8.1.1 Increase in acidity: 0.1 mg KOH/g, Max.

8.1.2 Increase in Sludge content: 0.05% Max.


 <p>बि एच ई एल BHEL</p>	<p>CORPORATE PURCHASING SPECIFICATIONS</p>	AA 22001
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<p>9.0 ELECTRICAL PROPERTIES:</p> <p>9.1 Electric Strength (Proof) in Oil at 90 ± 2°C: Three test specimens shall be dried at 105 ± 2°C for 72 hours and, impregnated with insulating oil (IS: 335) at 90 ± 2°C 72 hours.</p> <p>9.1.1 Flatwise: 4 k v/mm Sample size shall be at least 150 x 150 mm x thickness of board. However thickness above 12 mm shall be machined down to 12mm keeping one surface intact.</p> <p>9.1.2 Edgewise: 60 kV</p> <p>10.0 MECHANICAL PROPERTIES:</p> <p>10.1 Tensile strength: Along the grain 70 MPa, Min.</p> <p>10.2 Cross Breaking Strength: Along the grain : 90 MPa, Min. Across the grain: 67 MPa Min.</p> <p>10.3 Compressive Strength: Flatwise: 160 MPa, Min.</p> <p>The test shall be carried out on 20 x 20 mm x thickness of board. However thickness above 20 mm shall be machined down to 20 mm keeping one side intact.</p> <p>11.0 TEST CERTIFICATES:</p> <p>Unless otherwise stated, three copies of test certificates shall be sent along with each consignment.</p> <p>In addition, the supplier shall ensure to send one copy of test certificates along with the dispatch documents to facilitate quick clearance of the material.</p>		


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<p style="text-align: center;">The test certificates shall bear the following Information:</p> <p>AA 22001 : Unimpregnated Densified Laminated Wood - (Rev.No.02) Low Density BHEL order No. Batch/LOt NO. Thickness, Width & length Net weight/No of boards Test values obtained and certificate tor compliance with clauses 4, 7 to 10.</p> <p>12.0 PACKING AND MARKING:</p> <p>The laminated wood shall be suitably packed to prevent any damage during transit, Each package shall bear the following information:</p> <p>AA 22001: Unimpregnated Densified Laminated wood – Low Density BHEL Order No. Manufacturer's Name & Grade. Thickness, width & Length, No, of boards/Components, Net weight & Gross Weight.</p> <p>13.0 REFERRED STANDARDS (Latest publications Including Amendments):</p> <p>1. IS: 335 2. IS: 1708 3. AA 085 17 01</p>		


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<p>Appendix - I</p> <p>Slug and Oil Acidity:</p> <ol style="list-style-type: none"> Conditioning: Condition the test piece for 168 hours in controlled atmosphere of 65 ± 5% RH and 27 ± 2°C. Test Specimen: Cut the specimen to dimension of 75mm x 12.5mm x Thickness. <p>NOTE: Thickness above 9 mm shall be machined to 9 mm. Both the surfaces shall be machined evenly to achieve thickness of 9 mm.</p> <ol style="list-style-type: none"> Procedure: Into a 150 mm x 25 mm test tube weigh 25 g of, transformer oil. Transformer oil complying with the requirements of IS 335 is suitable. Prepare the test specimen, weigh it to the nearest 0.01 g and introduce it into the oil. Lightly plug the Mouth of the tube with cotton wool and place it in a constant temperature bath maintained at 100 ± 0.5° c for 164±1 hour. <p>Place a similar quantity of the same oil in a second tube and maintain this under the same conditions as a 'blank' sample.</p> <p>At the end of the specified heating period, remove the tubes from the bath and allow them to cool to room temperature. If it can be seen that delamination has occurred, the specimen has failed. If there is no visible delaminating, determine the sludge content of the oil in which the pressboard has been impressed as follows.</p> <p>Pour the oil into a 600 ml beaker and wash the test tube and pressboard sample with n-heptanes until oil-free, adding the washings to the oil in the beaker. Make the contents of the beaker up to approximately 300 ml with n-heptanes. cover the beaker with a watch glass and allow to stand in the dark for 24 hrs. At room temperature.</p> <p>Filter the solution through a tared, dried, sintered glass filter, of no. 4 filter transferring all the sediment to the filter with the aid of n-heptane from a wash-bottle. Dry the filter at 105 ± 2°C to constant mass. Express the amount of sediment as a percentage of the original sample mass.</p> <p>Make the filtrate up to 500 ml in a measuring cylinder with n-heptane. Make the 'blank' sample up to 500 ml in a second cylinder- Determine the acid values of the heptane solutions as follows.</p>		


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<p>Place 60ml toluene and 40ml industrial methylated spirits(66 overproof) in a 600 ml conical flask.Add 2ml to 3 ml Alkali blue indicator solution(2% by mass in industrial methylated spirits and one drop of 0,1N hydrochloric acid),Neutralize this mixture, with 0.1N alcoholic hydrochloric potassium hydroxide (KOH),to give a red colour which persists for 15 s .Add 100ml of the above filtrate to the neutralized solvents and titrate to the same and point with the 0.1N alcoholic KOH.Repeat the titration on 100 ml of the 'blank' solution.</p> <p>Results: Calculated the increases in the acid value of the oil per gram of pressboard in mg KOH//g from the expression.</p> $\text{Increase in acid value} = \frac{(t_2 - t_1) \times 5.61 \times 5}{W}$ <p>Where</p> <p>T₁ is the number of millitres of 0.1n KOH required to neutralize 100 ml n-heptane in blank solution.</p> <p>T₂ is the number of millitres of 0.1n KOH required to neutralize 100 ml of filtrate: and</p> <p>W is the sample mass of laminated pressboard (grams).</p> <p>Report the acid value of the 'blank' oil together with the increase in acid value due to the sample as calculated from the above equation. Report also the percentage sludge produced by the sample.</p>		


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	CORPORATE PURCHASE SPECIFICATION	AA 220 02																		
		REV. NO. 04																		
		PAGE 1 OF 6																		
UNIMPREGNATED DENSIFIED LAMINATED WOOD-HIGH DENSITY																				
<p>1. GENERAL: This specification governs the quality requirements of an unimpregnated densified laminated wood of high density, consisting of layers of cross laminated 2 mm thick wood veneers, bonded and densified under heat and pressure. The material in insulating oil has temperature index of at least 105.</p> <p>2. APPLICATION: Used for clamping rings, terminal boards etc. in Transformer.</p> <p>3. COMPLIANCE WITH NATIONAL STANDARDS: There is no Indian Standard covering this type of material.</p> <p>4. DIMENSIONS AND TOLERANCES: Thickness, width and length of the laminated wood shall be stated on the order.</p> <p>4.1 Preferred Thickness: 10, 12, 14, 16, 20, 25, 30, 40, 45, 50, 60, 70, 75, 80, 90 and 100 mm.</p> <p>4.2 Tolerance on Nominal Thickness:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th colspan="2" style="text-align: left;">Nominal thickness (mm)</th> <th style="text-align: right;">Tolerance (±)mm</th> </tr> <tr> <th style="text-align: left;">Above</th> <th style="text-align: left;">Upto & includ</th> <th></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">10</td> <td style="text-align: center;">25</td> <td style="text-align: right;">0.80</td> </tr> <tr> <td style="text-align: center;">25</td> <td style="text-align: center;">40</td> <td style="text-align: right;">1.00</td> </tr> <tr> <td style="text-align: center;">40</td> <td style="text-align: center;">50</td> <td style="text-align: right;">1.25</td> </tr> <tr> <td style="text-align: center;">50</td> <td style="text-align: center;">-</td> <td style="text-align: right;">1-50</td> </tr> </tbody> </table>			Nominal thickness (mm)		Tolerance (±)mm	Above	Upto & includ		10	25	0.80	25	40	1.00	40	50	1.25	50	-	1-50
Nominal thickness (mm)		Tolerance (±)mm																		
Above	Upto & includ																			
10	25	0.80																		
25	40	1.00																		
40	50	1.25																		
50	-	1-50																		
Revisions: As per 38 th MOM of MRC-E		APPROVED: INTERPLANT MATERIAL RATIONALISATION COMMITTEE-MRC(E)																		
Rev No. 04	Reaffirmed	Prepared BHOPAL																		
Dt.20.04.2012	Year:	Issued CORP. R&D																		
		Dt. of 1 st Issue Feb, 80																		

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<p>4.3 Tolerance on width & Length: ± 3.5 mm.</p> <p>5. TEST METHODS: Unless otherwise specified, the tests shall be conducted in accordance with the relevant methods as specified in Corporate Standard AA 085 17 01.</p> <p>6. SAMPLE FOR TEST: Two sheets of ordered thickness and size 500 x 500 mm prepared from the same batch shall be supplied for testing and approval.</p> <p>7. PHYSICAL PROPERTIES :</p> <p>7.1 Density, as received condition (IS : 1708) : 1.00 to 1.20 g/Cm³</p> <p>7.2 Moisture & Volatile content: 7 % max. Test specimen 40mm x 12mm x thickness of board shall be dried at 145 ± 2°C till the weight is constant. Thickness above 12mm shall be machined to 12mm, keeping one surface intact.</p> <p>7.3 Oil Absorption; 6%, Min. Test specimen (100 x 100 mm x thickness of board) shall be dried at 105 ± 2°C for 72 hours and then impregnated with insulating Oil (IS:335) at 90 ± 2°C for 72 hours. Thickness above 12 mm shall be machined down to 12 mm, keeping one surface intact.</p> <p>8. EFFECT OF OIL ON WOOD (TYPE TEST) :</p> <p>8.1 Sludge and oil Acidity (Appendix -1):</p> <p>8.1.1 Increase in acidity: 0.1 mg KOH/g, max.</p> <p>8.1.2 Increase in sludge content; 0.05% max.</p>		

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<p>9. ELECTRICAL PROPERTIES :</p> <p>9.1 Electric strength (Proof) in oil at 90 ± 2°C:</p> <p>Three test specimens shall be dried at 105 ± °c for 72 hours and, impregnated with insulating oil (IS:335> at 90 + 2 C 72° hours. Thickness above 12 mm shall be machined down to 12 mm, keeping one surface intact for flatwise test only.</p> <p>9.1.1 Flatwise:</p> <p>4 k V/mm.</p> <p>Sample size shall be atleast 150 x 150 mm x thickness of board. However thickness above 12 mm shall be machined down to 12 mm keeping one surface intact,</p> <p>9.1.2 Edgewise:</p> <p>60 kV.</p> <p>10. MECHANICAL PROPERTIES:</p> <p>10.1 Tensile Strength;</p> <p>Along the grain 95 MPa, min.</p> <p>10.2 Cross Breaking strength;</p> <p>Along the grain : 112 MPa Min. Across the grain; 85 MPa Min.</p> <p>10.3 Compressive Strength:</p> <p>Flatwise : 185 MPa, Min.</p> <p>The test shall be carried out on 20mm X 20mm X thickness of board. However, Thickness above 20mm shall be machined down to 20 mm keeping one side intact,</p> <p>11. TEST CERTIFICATES:</p> <p>Unless otherwise stated, three copies of test certificates shall be sent along with each consignment,</p> <p>In addition, the supplier shall ensure to send one copy of test certificates along with the despatch documents to facilitate quick clearance of the material.</p> <p>The test certificates shall bear the following information:</p>		

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<p>AA 220 02 : unimpregnated Densified laminated Wood - (Rev.No.04) High Density BHEL order No. Batch/Lot No. Thickness, width & length Net weight/No of boards Test values obtained, and certificate for compliance with clauses 4, 7 to 10.</p> <p>12. PACKING AND MARKETING</p> <p>The laminated wood shall be suitably packed to prevent any damage during transit. Each package shall bear the following information.</p> <p>AA 22002 : Unimpregnated Densified Laminated Wood – High Density BHEL order No, Manufacturer's Name & Grade. Thickness, width & Length. No. of boards/Components. Net weight & Gross weight.</p> <p>13. REFERRED STANDARDS (Latest Publications Including Amendments):</p> <p>1. IS: 355 2. IS: 1708 3. AA 085 17 01</p>		

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<p>Sludge and oil Acidity:</p> <ol style="list-style-type: none"> 1. Conditioning: Condition the test piece for 168 hours in controlled atmosphere of 65 ± 5% RH and 27 ± 2° C. 2. Test Specimen: Cut the specimen to dimension of 75mm x 12.5mm x Thickness. <u>NOTE:</u> Thickness above 9 mm shall be machined to 9 mm. Both the Surfaces shall be machined evenly to achieve thickness of 9 mm. <p>3 Procedure: Into a 150 mm x 25 mm test tube weigh 25 g of transformer oil. Transformer oil complying with the requirements of IS 335 is suitable. Prepare the test specimen, weigh it to the nearest 0.01 g and introduce it into the oil. Lightly plug the mouth of the tube with cotton wool and place it in a constant temperature bath maintained at 100 + 0.5° C for 164±1 hour.</p> <p>Place a similar quantity of the same oil in a second tube and maintain this under the same conditions as a 'blank' sample.</p> <p>At the end of the specified heating period, remove the tubes from the bath and allow them to cool to room temperature. If it can be seen that delamination has occurred, the specimen has failed. If there is no visible delamination, determine the sludge content of the oil in which the pressboard has been immersed as follows.</p> <p>Pour the oil into a 600 ml beaker and wash the test tube and pressboard sample with n-heptane until oil-free, adding the washings to the oil in the beaker. Make the contents of the beaker upto approximately 300 ml with n- heptane. Cover the beaker with a watch glass and allow to stand in the dark for 24 hrs. at room temperature.</p> <p>Filter the solution through a tared, dried, sintered glass filter, of no. 4 filter transferring all the sediment to the filter with the aid of n-heptane from a wash-bottle. Dry the filter at 105 ± 2°C to constant mass. Express the amount of sediment as a percentage of the original sample mass.</p> <p>Make the filtrate up to 500 ml in a measuring cylinder with n-heptane. Make the 'blank' sample up to 500 ml in a second cylinder. Determine the acid values of the heptane solutions as follows.</p>		

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<p>Place 60 ml toluene and 40 ml industrial methylated spirits (66 overproof) in a 600 ml conical flask. Add 2 ml to 3 ml Alkali blue 6B indicator solution (2%by mass in industrial methylated spirits and one drop of 0.1N hydrochloric acid). Neutralize this mixture, with 0.1N alcoholic potassium hydroxide(KOH), to give a red colour which persists for 15 s. Add 100 ml of the above filtrate to the neutralized solvents and titrate to the same end point with the 0.1 N alcoholic KOH. Repeat the titration on 100 ml of the 'blank' solution.</p> <p>Results : Calculate the increase in the acid value of the oil per gram of pressboard in mg KOH/g from the expression.</p> $\text{Increase in acid value} = \frac{(t_2 - t_1) \times 5.61 \times 5}{W}$ <p>Where</p> <p>t_1 is the number of milliliters of 0.1 N KOH required neutralize 100 ml n-heptane in blank solution ;</p> <p>t_2 is the number of milliliters of 0.1 N KOH required neutralize 100 ml of filtrate; and</p> <p>W is the sample mass of laminated pressboard (grams)</p> <p>Report the acid value of the 'blank' oil together with the increase in acid value due to the sample as calculated from the above equation. Report also the percentage sludge produced by the sample.</p>		