



भारत हेवी इलेक्ट्रिकल्स लिमिटेड
Bharat Heavy Electricals Ltd.,
(A Government of India undertaking)
Electronics Division

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CE: PR: 003- Rev 03

PB 2606 , Mysore Road Bangalore , 560026 INDIA

SPECIAL COMMERCIAL CONDITIONS OF CONTRACT

Reference is brought to BHEL's Instructions to Bidders (Document Ref: CE: PR: 001- Rev 05) and General Commercial Conditions for Contract (Document Ref: CE: PR: 002- Rev 04).

These two documents along with Special Conditions of Contract annexed to this RFQ will form an integral part of the contract as and when the RFQ culminates into a Purchase Order / Contract.

RFQ No.	: ATLNIC0016
RFQ Date	: As per E-procurement website
RFQ Due Date	: As per E-procurement website
Customer	: M/s TANGEDCO
Consultant	: M/s DESEIN
Project	: Ennore 2x660 MW
Item Description	: Mechanical Lab Items

Kindly submit your quotation as **two part bid** (Pre-Qualification Criteria & Techno-Commercial bid-1st part & Price bid-2nd Part) in E-Procurement System portal: <https://eprocurebhel.co.in> within the Due- Date of _____ As per E-procurement website _____ before _____ As per E-procurement website _____ hours IST and note that tenders will be opened on the same day at _____ As per E-procurement website _____ hours IST.

Purchase Executives: Clarifications with regard to the tender shall be addressed to purchase officers whose e-mail IDs are given below:

sathishkumars@bhel.in or atulsood@bhel.in

Splitting of tendered quantity to MSE vendors for Purchase preference: Non-Splitable

Destination: For Indigenous scope of supply, items are to be directly despatched to BHEL site office/stores located at Ennore 2x660MW STPP, VAYALUR BRPO, MINJUR PO (PIN 601203), State Tamil Nadu. Detailed Consignee details will be issued by BHEL along with Despatch Clearance.

Terms of Delivery:

- **Indigenous scope of supply:** Ex-works, _____ <indicate station of dispatch> _____ (including Packing & Forwarding charges but excluding Taxes).

Under-mentioned details shall be provided against indigenous supplies & services:

- a. GSTIN of place of supply : _____
- b. HSN (Harmonized System of Nomenclature) code : _____
Applicable tax and Rate : _____ & _____
- c. GSTIN of place of supply of service : _____
- d. SAC (Service Accounting Code) : _____
Applicable tax and Rate : _____ & _____
- e. GeM Seller ID mandatorily required for PO placement: _____
- f. MSE vendor : Yes-MSE supporting documents enclosed/No

(If MSE, supporting documents such as Udyam certificate to be enclosed)

I. Bidders to mandatorily provide confirmation/compliance for the under-mentioned terms:

SL NO.	TERMS	BHEL ACCEPTABLE TERM	BIDDER'S CONFIRMATION	REMARKS, if any
01	Reverse Auction (RA).	BHEL shall be resorting to Reverse Auction (Guidelines as available on https://www.bhel.com/guidelines-reverse-auction-2024) for this tender. RA shall be conducted among all the techno-commercially qualified bidders. Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered as initial bids of bidders in 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.	AGREE	
02	Delivery Period	Within 251 days from the date of placement of Purchase Order. Delay in contractual delivery will attract Penalty /Liquidated Damages(LD) as per GCC Clause no.:04.b.	AGREE	
03	Terms of Payment at the time of material supply	Refer Clause "F" of Instructions to Bidder for BHEL-EDN standard Payment terms and loading factors applicable for non-compliance against payment terms: A) Indigenous Procurement: i) Supply Only ii) Supply with Service(s) B) Import Procurement C) High Sea Sales Procurement Note: MSME vendors may opt to get payment through Trade Receivables electronic Discounting System (TReDS)	AGREE	
04	Declaration of local content	'Local content' means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent. (Refer Clause 'A' Sl. No. 12 of Instructions to Bidders). The 'Class-I local supplier' shall be required to indicate percentage of local content and provide certification that the item offered meets the local content requirement for 'Class-I local supplier'.	Percentage of local content: _____ % Details of the Location(s) at which the local value addition is made: _____	

II. Bidder to note that Deviations shall not be permitted for the below mentioned terms and are deemed to be complied. In case of non-compliance/deviation, offer shall be liable for rejection:

(1) a) **Submission of Engineering documents post PO as indicated in Cl: 04 of GCC:** After award of contract, Successful bidder shall submit complete set of documents (like drawings, bill of materials, datasheets, catalogues, quality plan, etc. as called in tender specification) for approval, within **21** days from the date of award of contract. Buyer shall issue manufacturing clearance along with approved documents within **60** days after receipt of documents from seller. Any delay by buyer/consignee in providing approved documents beyond specified period shall be on the part of buyer and BHEL will extend the delivery period for such period of delay.

In case of any corrections in documents to be incorporated by seller for approval of document based on end-user/consultant/buyer comments, revised documents have to be submitted by seller incorporating the comments within **7** days from the date of receipt of the same.

Seller shall be required to commence manufacturing only after receipt of approved documents from BHEL.

b) **Extension of Delivery Period:** Refer ***Cl.04 b) Extension of Delivery Period of GCC.***

(2) **Validity:** The offer will be valid for a period of **90** days from the date of Part-I bid opening and in case of Negotiation/ Counter-offer/Reverse Auction, price validity will apply afresh for a period of **60** days from the date of according final price by bidder (or) up to original validity period, whichever is later.

(3) **Warranty:** **24** months from the date of delivery of goods.

(4) a) **Pre-despatch inspection at Seller premises as indicated in Cl: 06 a) of GCC:** While bidding, the sellers should take into account **10** days for arranging inspection from the date of email offering the goods for inspection. Any delay in arranging inspection beyond the specified period due to reasons not attributable to seller, shall be on the part of buyer and BHEL will extend the delivery period for such period of delay.

b) **Material despatch clearance certificate (MDCC):** Seller should take into account **10** days for issuance of despatch clearance by BHEL from the date of successful inspection report. Any delay in issue of MDCC beyond the specified period shall be on the part of buyer and BHEL will extend the delivery period for such period of delay.

(5) **Despatch Documents:** Complete set of despatch documents (original + 1 photocopy set) as per Purchase Order shall be forwarded to Purchase Executive/BHEL directly. Depending upon the project/customer demands, Despatch documents may include one (or) more documents from the following:

Invoice (01 original and 01 copy with original sign & seal / digitally signed invoice), Lorry Receipt (L/R), Packing List, NIL Short-Shipment Certificate, Warranty certificate, insurance intimation letter, E-way bill (Part-A & B), original POD (Proof of Delivery) on L/R etc.

The precise list of despatch documents needed for the project will be specified in the Purchase Order. One set of Invoice, Packing List, Lorry Receipt, E-way bill with Part-A, B details shall be e-mailed immediately to BHEL-EDN at the time of despatch.

Note: Detailed Packing List should indicate package-wise content details and also Net & Gross weight of each package.

(6) **Freight Charges:** Freight charges shall be to vendor's account. Bidder to quote reasonable Freight charges along with applicable tax, in price bid.

(7) **Evaluation criteria to determine L1 bidder:** Items will not be split on item-wise lowest offer. Evaluation of the lowest bidder will be done as a combined package basis. The Procuring Entity reserves its right to grant preferences to eligible Bidders under various Government Policies/ directives (policies relating to Make in India, MSME etc.)

a. Preference to Micro & Small Enterprises (MSEs): Purchase preference will be given to MSEs as defined in *Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012* dated 23.03.2012 issued by Ministry of MSME (and its subsequent Orders/Notifications issued by concerned Ministry) & the latest *Office Memorandum* issued by Department of Expenditure dt:18.05.2023.

If the bidder wants to avail the Purchase preference, the bidder must be the manufacturer of the offered product in case of bid for supply of goods. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product.

Bidder shall furnish the following declaration;

MSE declaration	Any Bidder falling under the MSE category shall furnish UDYAM Registration certificate in support of the same along with their techno-commercial offer. Note: If the bidder does not furnish the above in the tender, the offer shall be processed construing that the bidder does not fall under the MSE category.
MSE Category declaration	If the bidder belongs to any of the below MSE category, the bidder to mention Social Category and Gender in the REMARKS column and furnish UDYAM Registration certificate containing these details in support of the same along with their techno-commercial offer a. SC/ST Owned b. Women Owned Note: If the bidder does not furnish the above in the tender, the offer shall be processed construing that the bidder does not fall under the above category.

b. Preference to Make in India (MII) products: Preference shall be given to Class 1 local supplier as defined in public procurement (Preference to Make in India) order 2017 as amended from time to time (and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products) & the latest *Office Memorandum* issued by Department of Expenditure dt:18.05.2023 and Revision dt.19-07-2024.

{‘Class-I local supplier’ means a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%, as defined under Public procurement order no. P-45021/2/2017-PP (BE-II) dt.: 16.09.2020 and Revision dt.19-07-2024.

‘Class-II local supplier’ means a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%, as defined under Public procurement order no. P-45021/2/2017-PP (BE-II) dt.: 16.09.2020 and Revision dt.19-07-2024}.

In the event of any Nodal Ministry prescribing higher or lower margin of purchase preference and/or higher or lower percentage of local content in respect of this procurement, same shall be applicable.’}

If the bidder wants to avail the Purchase preference, the bidder must upload a certificate from the OEM regarding the percentage of the local content and the details of locations at which the local value addition is made along with their bid, failing which no purchase preference shall be granted.

Note: For this procurement, the local content to categorize a supplier as a Class I local supplier/ Class II local Supplier/ Non local supplier and purchase preference to Class I local supplier, is as defined in Public Procurement (Preference to Make in India), Order 2017 dated 19.07.2024 issued by DPIIT. In case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of Part-II bids against this NIT.

Penal provisions for false self-declaration of MII, in case of Contract more than Rs.10Crs.

For contract valuing more than Rs.10 Crores, local content (in case of self-declaration certification submitted by bidders at the time of tendering), the contractor/ supplier shall be required to give local content certification duly certified by cost/chartered accountant in practice, within 120 days from the date of release of the Purchase order by BHEL. In case the contractor/ supplier does not meet the stipulated local content requirement and the category of the supplier changes from Class-I to Class-II/Non-local or from Class-II to Non-local, a penalty upto 10% of the contract value may be imposed. However, contract once awarded shall not be terminated on this account.

Default margin of purchase preference shall be 20% to local suppliers with default minimum local content of 50%.

Operation methodology of Purchase preference clause to MSE & MII bidders is as detailed under clause:4. c. b) in the Office Memorandum issued by Department of Expenditure dt:18.05.2023 (ref. Annexure-VIII of ITB).

Note: In case of negotiations, the margin of purchase preference (20% for Class-I Non-MSE or 15% for MSE) shall be based on pre-negotiated L1 price and the eligible Class-I & MSE local bidder will have to match the negotiated L1 price.

Note: Non-Local suppliers (with local content < 20%) are also eligible to participate in this tender.

(8) **Performance security:** Performance of the contract, Performance Bank Guarantee (PBG) or Security Deposit (SD), hereafter referred as performance security has to be submitted by successful bidder for **05%** of the contract value.

CPBG has to be furnished within **05** Weeks after notification of the award and it should remain valid for a period of **60** days beyond the date of completion of all contractual obligations, including warranty obligations.

Refer Clause "H" of Instructions to Bidders. Also note that CPBG should be in the format specified in Annexure VII of ITB and no deviation to this format will be allowed.

Modes of deposit:

a) Performance security may be furnished in the following forms:

(i) Local cheques of Scheduled Banks (subject to realization)/ Pay Order/Demand Draft/ Electronic Fund Transfer in favour of BHEL.

(ii) Bank Guarantee from Scheduled Banks/Public Financial Institutions as defined in the Companies Act.

(iii) PBG should be in the format specified in Annexure VII of ITB and no deviation to this format will be allowed.

(iv) Fixed Deposit Receipt issued by Scheduled Banks/Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL).

(iv) Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Contractor furnishing the security and duly endorsed/hypothecated/pledged, as applicable, in favour of BHEL).

(v) Insurance Surety Bond.

(Note: BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith)

b) The Performance security will be forfeited and credited to BHEL's account in the event of a breach of contract by the supplier.

c) Performance security shall be refunded to the supplier without interest, after duly performing and completing the contract in all respects but not later than 60 days of completion of all such obligations including the warranty under the contract.

d) The Performance security shall not carry any interest.

e) **CPBG/PBG should be mandatorily submitted along with SFMS (Structured Financial Messaging System).**

(9) **Breach of Contract, Remedies & Termination:** In case of breach of contract (failure of supplier), wherever the value of Performance security available with BHEL against the said contract is at least 10% of the contract value, the same shall be encashed.

In case the value of the security instruments available is less than 10% of the contract value, the balance amount shall be recovered from other financial remedies (i.e. available bills of the contractor, retention amount, etc. with BHEL) or legal remedies be pursued.

Further, levy of liquidated damages, debarment, termination, de-scoping, short-closure, etc. shall be applied as per provisions of the contract.

(10) **Erection Supervision & Commissioning - Evaluation methodology:**

Range of procurement value	Minimum percentage of basic material value proposed for Erection Supervision & Commissioning charges
Up to Rs. 2.50 crs.	05%
Greater than Rs. 2.50 crs. and lesser than Rs. 10 crs.	03% (or) Rs.12.50 lakhs, whichever is higher.
Greater than Rs. 10 crs. and lesser than Rs. 20 crs.	02% (or) Rs.30 lakhs, whichever is higher.
Greater than Rs. 20 crs.	01.50% (or) Rs.40 lakhs, whichever is higher.

Depending on the material quotation value, the bidder will have to quote the corresponding Erection Supervision & Commissioning charges for the respective slab/range as per above table. In case the quoted total Erection Supervision & Commissioning value is less than above stipulated charges, BHEL shall evaluate Bidders offered Price deducting differential amount from main supply and apportioning towards Erection Supervision & Commissioning charges.

Payment terms for E&C charges: 100% E&C charges along with tax as applicable, will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of E&C.

Note: Wherever bidders doesn't agree for such apportioning, the differential charges shall be retained from main supply invoice and retention amount will be paid after successful completion of Erection & Commissioning.

(11) **Based on the under-mentioned declarations of Bidder as insisted under Rule 144(Xi) of General Financial Rules, 2017 amendment dt. 24.02.2023, eligibility of offer will be ascertained in the tender:**

“I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that our firm is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that our firm fulfils all requirements in this regard and is eligible to be considered.”

Note: Wherever applicable, evidence of valid registration by the Competent Authority shall be attached.

Additional declaration by Bidder in the cases of specified Transfer of Technology (ToT):

“I have read the clause regarding restrictions on procurement from a bidder having Transfer of Technology (ToT) arrangement. I certify that our firm does not have any ToT arrangement requiring registration with the Competent Authority.”

OR

“I have read the clause regarding restrictions on procurement from a bidder having Transfer of Technology (ToT) arrangement. I certify that our firm has valid registration to participate in this procurement.”

(12) **Integrity Pact:** Not Applicable

(13) **EMD/Bid security:** Not Applicable

(14) Declaration regarding ‘Conflict of Interest among Bidders/Agents’ should be submitted as part of the tender as per attached format.

(15) **Grievance Redressal Mechanism:**

To promote transparency and ensure fair treatment of all bidders, a structured Grievance Redressal Mechanism is in place to address any concerns or issues arising during the tendering process or in subsequent business dealings with the company.

Suppliers/Contractors are requested to follow the below escalation process for grievance resolution:

1. **First Level:** Any grievance should initially be addressed to the designated Dealing Officer, whose contact details are provided in the Notice Inviting Tender (NIT)/Contract.

2. **Second Level:** If the issue remains unresolved, it may be escalated by lodging a formal grievance through the SUVIDHA Portal: <https://suvidha.bhel.in/suvidha/>.

Responses will be provided in accordance with the defined escalation matrix.”

(16) **For goods / works / services on Indian Suppliers / Contractors:** Irrespective of the value of the invoice amount, the supplier/ contractor should necessarily upload the invoice details on BHEL SUVIDHA portal at <https://suvidha.bhel.in/suvidha/>, prior to despatch/raising invoice. All documents as per contract checklist, along with additional documents (if any), must be uploaded on the portal. It is mandatory that tax invoices with a net amount (including taxes) exceeding Rs five lakhs uploaded on the portal are digitally signed using a Class 3 Digital Signature Certificate (DSC) issued by a licensed Certifying Authority. Submission of invoice document in hard copy is allowed for invoices with a net amount (including taxes) equal to and upto Rs five lakhs in case the requirement for digitally signed invoice is not explicitly mentioned in the contract checklist.

The Invoice will not be accepted in absence of the above

With this, we hereby confirm that all the terms & conditions as indicated in Instructions to Bidders (Document Ref: CE: PR: 001- Rev 05) & General Commercial Conditions for Contract (Document Ref: CE: PR: 002- Rev 04) are accepted without any deviation.

On Bidder Letter Head

Date:

To,
M/s Bharat Heavy Electricals Ltd.
Electronics Division, Mysore Road,'
Bangalore – 560026

Sub: Declaration regarding 'Conflict of Interest among Bidders/Agents'

Ref: BHEL Tender / RFQ / NIT Number

Bidders having a conflict of interest shall not be eligible to participate in the tender process. In this regard, following declaration regarding 'conflict of interest' should be signed by the authorized signatory of the bidder and submitted as part of the tender.

Treatment of cases regarding conflict of interest:

The bidder notes that a conflict of interest would said to have occurred in the tender process and execution of the resultant contract, in case of any of the following situations:

- i) If its personnel have a close personal, financial, or business relationship with any personnel of BHEL who are directly or indirectly related to the procurement or execution process of the contract, which can affect the decision of BHEL directly or indirectly;
- ii) The bidder (or his allied firm) provided services for the need assessment/procurement planning of the tender process in which it is participating;
- iii) Procurement of goods directly from the manufacturers/suppliers shall be preferred. However, if the OEM/principal insists on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer/supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer/supplier or the manufacturer/supplier could bid directly but not both. In case bids are received from both manufacturer/supplier and the agent, bid received from the agent shall be ignored. However, this shall not debar more than one authorised distributor (with/ or without the OEM) from quoting equipment manufactured by an Original Equipment Manufacturer (OEM) in procurements under a Proprietary Article Certificate.
- iv) A bidder participates in more than one bid in this tender process. Participation in any capacity by a Bidder (including the participation of a Bidder as a partner/ JV member or sub-contractor in another bid or vice-versa) in more than one bid shall result in the disqualification of all bids in which he is a party. However, this does not limit the participation of an entity as a sub-contractor in more than one bid if he is not bidding independently in his own name or as a member of a JV.

The Bidder declares that they have read and understood the above aspects, and the bidder confirms that such conflict of interest does not exist and undertakes that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with the other Bidder(s), in this regard. 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. In case, the Bidder is found having indulged in above activities, the same will be considered as a violation of the tender conditions, and suitable action shall be taken by BHEL as per extant policies/guidelines.

For M/s

Authorized Signatory

(with company seal & Name)



ભારતી હેવી ઇલેક્ટ્રિકલ્સ લિમિટેડ
Bharat Heavy Electricals Ltd.,

(A Government of India undertaking)
Electronics Division

PB 2606, Mysore Road, Bengaluru, 560 026, INDIA

CE:PR:001- Rev 05

INSTRUCTIONS TO BIDDERS

Bidder is requested to read the instructions carefully and submit their quotation taking into consideration of all the points:

A. GENERAL INSTRUCTIONS:

1. Any Purchase Order resulting from this enquiry shall be governed by the Instructions to Bidders (document reference: CE: PR: 001 – Rev 05), General Conditions of Contract (document reference: CE: PR: 002 - Rev 04) and Special Conditions of Contract, if any, of the enquiry.
2. Any deviations from or additions to the “General Conditions of Contract” or “Special Conditions of Contract” require BHEL’s express written consent. The general terms of business or sale of the bidder shall not apply to this tender.
3. Regret letter (either through post or by mail or by EPS) indicating reasons for not quoting must be submitted without fail, in case of non-participation in this tender.

Supplier shall be liable for removal as a registered vendor of BHEL when the supplier fails to quote against four consecutive tender enquiries for the same item or all enquiries in last two years for the same item, whichever is earlier.

4. Procurement directly from the manufacturers is preferred. However, if the OEM/ Principal insist on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer/ supplier in the same tender.

Moreover, either the agent could bid on behalf of the manufacturer/ supplier or the manufacturer/ supplier could bid directly but not both. Agent/Representative authorized by the OEM/Principal in turn cannot further sub authorize any other firm for submitting the offer or for placement of order.

In case bids are received from the manufacturer/ supplier and his agent, bid received from the agent shall be ignored.

5. Consultant / firm (and any of its affiliates) shall not be eligible to participate in the tender/s for the related goods for the same project if they were engaged for consultancy services for the same project.
6. If an Indian representative/associate/liaison office quotes on behalf of a foreign based bidder, such representative shall furnish the following documents:
 - a. Authorization letter to quote and negotiate on behalf of such foreign-based bidder.
 - b. Undertaking from such foreign based bidder that such contract will be honored and executed according to agreed scope of supply and commercial terms and conditions.
 - c. Undertaking shall be furnished by the Indian representative stating that the co-ordination and smooth execution of the contract and settlement of shortages/damages/replacement/repair of imported scope

till the equipment is commissioned and handed over to customer will be the sole responsibility of the Indian representative/associates/agent/liaison office.

- d. Refer **Annexure I** on “Guidelines for Indian Agents”.
- 7. In case of imported scope of supply, customs clearance & customs duty payment will be to BHEL account after the consignment is received at Indian Airport /Seaport. Bidders must provide all original documents required for completing the customs clearance along with the shipment.
Warehousing charges due to incomplete or missing documentation will be to supplier's account. All offers for imported scope of supply by air, must be made from any of the gateway ports (within the country) indicated (**Refer Annexure II**).
- 8. The offers of the bidders who are on the banned list and also the offers of the bidders, who engage the services of the banned firms, shall be rejected. The list of the banned firms is available on BHEL website: http://www.bhel.com/vender_registration/vender.php
- 9. Business dealings with bidders will be suspended if they are found to have indulged in any malpractices/misconduct which are contrary to business ethics like bribery, corruption, fraud, pilferage, cartel formation, submission of fake/false/forged documents, certificates, information to BHEL or if they tamper with tendering procedure affecting the ordering process or fail to execute a contract, or rejection of 3 consecutive supplies or if their firms / works are under strike/lockout for a long period. Bidder may refer “Guidelines for Suspension of Business Dealings with Suppliers/ Contractors” available on <https://bhel.com/guidelines-suspension-business-dealings-supplierscontractors> for more details.

The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). 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. In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies / guidelines.

- 10. 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.edn.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to your notice.

- 11. Offer is to be submitted in English language only.
- 12. For this procurement, the local content to categorize a supplier as a Class-I local supplier/ Class-II local supplier/ Non-local supplier and purchase preference to Class-I local supplier, is as defined in Public procurement (Preference to Make in India), Order 2017 dated 16.09.2020 issued by DPIIT.

In case of subsequent Orders issued by the Nodal Ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of price bids against this NIT. Default margin of purchase preference shall be 20% for Class-I local supplier only.

- 13. The Bidder shall mandatorily submit Declaration as mentioned under Rule 144(xi) of General Financial Rules, 2017 amendment dt 23.07.2020 issued by Ministry of Finance, Govt. of India. Where applicable, evidence of valid registration by the Competent Authority shall be attached.

The Competent Authority for the purpose of registration under this Order shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT). Refer Annexure-X for 'Restrictions under Rule 144(Xi) of General Financial Rules,2017 amendment dt: 23.07.2020'.

B. GUIDELINES FOR PREPARATION OF OFFER:

1. Quotation shall be submitted in Single Part Bid, Two Part Bid or Three Part Bid, as called for in the tender:
 - **SINGLE PART BID:** Technical and Commercial Bid with prices along with price summary & filled in BHEL Standard Commercial terms and conditions in a single sealed envelope.
 - **TWO PART BID:** Unpriced offer i.e. "Techno-commercial Bid" with filled in BHEL Standard Commercial terms and conditions in a sealed envelope **along with the copy of the "Price Bid" without the prices** should be enclosed in one cover and the cover must be super scribed "**Techno-commercial offer**) and Priced offer i.e. "Price Bid" containing price summary in a separate sealed envelope and must be super scribed "**Price Bid**".

Both these envelopes shall be enclosed in a single sealed envelope superscribed with enquiry number, due date of tender and any other details as called for in the tender document.

- **THREE PART BID:** Pre-qualification Bid (Part-I), Techno Commercial Bid with filled in BHEL Standard Commercial terms and conditions (Part-II), and Price Bid (Part-III). All three envelopes shall be enclosed in a single sealed envelope superscribed with enquiry number, due date of tender and any other details as called for in the tender document.

If any of the offers (Part I, Part II or Part III) are not submitted before the due date and time of submission (or) if any part of the offer is incomplete, the entire offer of the bidder is liable for rejection.

2. Supplier shall ensure to superscribe each envelope with RFQ number, RFQ Date, RFQ Due date and time, Item Description and Project clearly & boldly. Also mention on the envelope whether it is "Techno Commercial Bid" or "Price Bid" or "Pre-Qualification Bid".

Please ensure complete address, department name and purchase executive name is mentioned on the envelope (before dropping in the tender box or handing over) so that the tender is available in time for bid opening.

3. BHEL standard Commercial Terms and Conditions (duly filled, signed & stamped) must accompany Technical-Commercial offer without fail and should be submitted in original only.

The above indicated submission of Offers in "sealed envelope/hard copy" as mentioned in points B.1-B.3 is applicable for tenders that are not floated through E-Procurement System (EPS).

4. Validity: Unless otherwise specified in SCC (special commercial conditions of contract), the offer will be valid for a period of 90 days from the date of Part-I bid opening and in case of Negotiation/Counter-offer/Reverse Auction, price validity will apply afresh for a period of 60 days from the date of according final price by bidder (or) up to original validity period, whichever is later.

5. Any of the terms and conditions not acceptable to supplier, shall be explicitly mentioned in the Techno-Commercial Bid.

If no deviations are brought out in the offer it will be treated as if all terms and conditions of this enquiry are accepted by the supplier without deviation.

6. Deviation to this specification/item description, if any, shall be brought out clearly indicating "DEVIATION TO BHEL SPECIFICATION" without fail, as a part of Techno-Commercial Bid.
If no deviations are brought out in the offer it will be treated as if the entire specification of this enquiry is accepted without deviation.
7. Suppliers shall submit one set of original catalogue, datasheets, bill of materials, dimensional drawings, mounting details and/or any other relevant documents called in purchase specification as part of Technical Bid.
8. "Price Bid" shall be complete in all respects containing price break-up of all components along with all applicable taxes and duties, freight charges (if applicable) etc. Once submitted no modification / addition / deletion will be allowed in the "Price Bid." Bidders are advised to thoroughly check the unit price, total price to avoid any discrepancy.
9. In addition, bidder shall also quote for erection & commissioning charges/erection supervision & commissioning charges (E&C service charges), documentation charges, testing Charges (type & routine), training charges etc. if & as applicable along with corresponding tax. The price summary must indicate all the elements clearly.
10. Wherever applicable, bidders should indicate "Lumpsum" Erection and Commissioning (or) Erection Supervision and Commissioning charges, as applicable (including To & Fro Fare, Boarding, Lodging, Local Conveyance etc.) for carrying out E&C activity and further handing over to customer.
The quotation shall clearly indicate scope of work, likely duration of commissioning, pre-commissioning checklist (if any).
11. Wherever bidders require PAC (Project Authority Certificate)/applicable certificates for import of raw materials, components required for DECC, EPCG Power Projects, Export Projects or other similar projects wherein supplies are eligible for customs duty benefits, lists and quantities of such items and their values (CIF) has to be mentioned in the offer. Prices must be quoted taking into account of such benefits.
12. Prices should be indicated in both figures & words. Bid should be free from correction/overwriting, using corrective fluid, etc. Any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else bid shall be liable for rejection.
Any typographical error, totalling mistakes, currency mistake, multiplication mistake, summing mistakes etc. observed in the price bids will be evaluated as per **Annexure III** "Guidelines for dealing with Discrepancy in Words & Figures – quoted in price bid" and BHEL decision will be final.
13. Documents submitted with the offer shall be signed and stamped in each page by authorized representative of the bidder. However, this requirement is not mandatory for offers uploaded through E-Procurement System (EPS).

C. GUIDELINES FOR OFFER SUBMISSION:

The under-mentioned clauses 1, 2&3 will not be applicable for EPS tenders.

1. Offers / Quotations must be dropped in tender box before 13.00 Hrs. on or before due date mentioned in RFQ. The offers are to be dropped in the proper slot of the Tender Box kept in tender opening room near reception.

Tenders are opened on 3 days in a week (Monday/Wednesday/Friday).

2. E-Mail/ Internet/EDI offers received in time shall be considered only when such offers are complete in all respects. In case of offers received through E-mail, please send the offer to the email ID specified in the SCC document of the tender.

3. Offers of Vendors who already have a valid Technical/Commercial MOU with BHEL-EDN for the items of the RFQ shall mention the relevant MOU reference no. and give only such other details not covered in the MOU.
4. In cases where tender documents are bulky, or due to some reasons tender documents are required to be submitted by hand or through posts/couriers, the offers are to be handed over either of the two purchase officers whose names are mentioned in the SCC document of tender RFQ.
5. Tenders will be opened on due date, time and venue as indicated in the RFQ in the presence of bidders at the venue indicated in the RFQ. For EPS tenders, e-mail notifications will be automatically generated and forwarded to registered e-mail ID/s of bidders during opening of tenders.
6. Bidder will be solely responsible:
 - a. for submission of offers before due date and time. Offers submitted after due date and time will be treated as "Late offers" and will be rejected.
 - b. for depositing offers in proper sealed condition in the tender box. If the bidder drops the tender in the wrong box (or) if the tender document is handed over to the wrong person, BHEL will not be responsible for any such delays.
 - c. for offers received through email etc., suppliers are fully responsible for lack of secrecy on information and ensuring timely receipt of such offers in the tender box before due date & time (This clause will not be applicable for EPS tenders).

The above indicated submission of Offers as mentioned in points 6.a-6.c is applicable for tenders that are not floated through online procurement portal considered by BHEL.

- d. In case of e-tender, all required documents should be uploaded before due date and time. Availability of power, internet connections, system/software requirements etc. will be the sole responsibility of the bidder.

Wherever assistance is needed for submission of e-tenders, help-line numbers as available in the website of service provider of BHEL may be contacted.

Purchase Executive/ BHEL shall not be responsible for any of the activities relating to submission of offer.

D. PROCESSING OF OFFERS RECEIVED:

1. Any discount/ revised offer submitted by the supplier on its own shall be accepted provided it is received on or before the due date and time of offer submission (i.e. Part-I bid).
The discount shall be applied on pro-rata basis to all items unless specified otherwise by the bidder.
2. Changes in offers or Revised offers given after Part-I bid opening shall not be considered as a part of the original offer unless such changes/revisions are requested by BHEL.
In case of withdrawal of any Technical/Commercial deviation(s) by the bidder before opening of price bids/conducting the Reverse Auction, revision of price/price impact bid, if any will not be accepted.
3. In case there is no change in the technical scope and/ or specifications and/ or commercial terms & conditions, the supplier will not be allowed to change their price bid after technical bids are opened (after the due date and time of tender opening).
4. In case of changes in scope and/ or technical specifications and/ or commercial terms & conditions by BHEL

and it accounts for price implications from bidders, all techno-commercially acceptable bidders shall be asked by BHEL (after freezing the scope, technical specifications and commercial terms & conditions) to submit the impact of such changes on their price bid.

Impact price will be applicable only for changes in technical specification / commercial conditions by BHEL. The impact price must be submitted on or before the cut-off date specified by BHEL and the original price bid and the price impact bid will be opened together at the time of price bid opening.

5. Un-opened bids (including price bids) will be returned to the respective bidders after release of Purchase order.

Regarding Offers for EPS tenders that get rejected on PQC/ techno-commercial grounds, the bids for the subsequent parts will not be opened i.e., both technical bid and price bid (Parts-II & III) will not be opened in case of rejection on PQC ground and price bid (Part-II/Part-III, as applicable) will not be opened in case of rejection on techno-commercial ground.

6. After receipt of Purchase Order, supplier should submit required documents viz., specified drawings, bill of materials, datasheets, catalogues, quality plan, test procedure, type test report, O & M Manuals and/or any other relevant documents as per Specification/Purchase Order, as and when required by BHEL/Customer.
7. Any deviation to the terms and conditions not mentioned in the quotation by supplier in response to this enquiry will not be considered, if put forth subsequently or after issue of Purchase Order, unless clarification is sought for by BHEL and agreed upon in the Purchase Order.
8. Evaluation shall be on the basis of delivered cost (i.e. "Total Cost to BHEL").

"Total Cost to BHEL" shall include total basic cost, packing & forwarding charges, taxes and/or duties (as applicable), freight charges, taxes on Services, customs clearance charges for imported items, any other cost indicated by bidder for execution of the contract and loading factors (for non-compliance to BHEL Standard Commercial Terms & Conditions).

Benefits arising out of Nil Import Duty on DEEC, EPCG, DFIA Projects, Physical Exports or such 100% exemptions (statutory benefits), project imports, customer reimbursements of statutory duties (like Basic Customs Duty and Cess on customs duty), Input tax credits as applicable will also be taken into account for arriving at the Total cost to BHEL (wherever applicable and as indicated in SCC document of tender).

For EPS tenders, it shall be noted that the prices (including discounts) vis-a-vis currency quoted in EPS portal only will be considered as Final for the purpose of evaluation of the lowest bidder.

Bidder shall ensure to indicate the applicable taxes against each line item in online portal, failing to which the same will be considered as inclusive/NIL.

In the course of evaluation, if more than one bidder happens to occupy L-1 status, effective L-1 will be decided by soliciting discounts from the respective L-1 bidders.

Incase more than one bidder happens to occupy the L-1 status even after soliciting discounts, the L-1 bidder shall be decided by a toss/draw of lots, in the presence of the respective L-1 bidder(s) or their representative(s).

Ranking will be done accordingly. BHEL's decision in such situations shall be final and binding.

9. The evaluation currency for this tender shall be INR. For evaluation of offers in foreign currency, the exchange rate (TT selling rate of SBI) shall be taken as under:

Single part bids: Date of tender opening

Two/three part bids: Date of Part-I bid opening

Reverse Auction: Date of Part-I bid opening

In case of Performance Bank Guarantee (PBG) also, exchange rate will be considered as mentioned above for converting foreign currency to Indian currency and vice versa.

If the relevant day happens to be a bank holiday, then the exchange rate as on the previous working day of the bank (SBI) shall be taken.

10. Ranking (L-1, L-2 etc.) shall be done only for the techno-commercially acceptable offers.

E. INFORMATION ON PAYMENT TERMS:

1. All payments will be through Electronic Fund transfer (EFT). Vendor has to furnish necessary details as per BHEL standard format (**Refer Annexure IV**) for receiving all payments through NEFT. (Applicable for Indian vendors only).

2. In case of High Sea Sales transaction, customs clearance of the consignment landed on Indian Sea/Air ports will be done by BHEL based on the original HSS documents provided by vendors.

All warehousing charges due to delay in submission of complete and or correct HSS documents to BHEL will be to supplier's account only. Such recovery will be made out of any of the available bills (**Refer Annexure V**).

3. Statutory deductions, if any, will be made and the deduction certificate shall be issued.

A. In case vendor does not provide PAN details, the TDS deduction shall be at the maximum percentage stipulated as per the provisions of Income Tax Act.

In addition to the above, Foreign vendors shall also submit relevant details of their bankers like Swift Code, Banker's Name &Address etc.

B. TDS deduction as per section 51 of CGST Act,2017 shall be applicable as per Gazette Notification No. 50/2018-Central Tax, Dated: 13th September 2018. TDS deduction is also applicable on purchase of goods as per the latest notification under section 194Q, and subsequent notification(s) as and when released by Govt. authorities.

4. Procurement of Goods/ Works/ Services/ Consultancy Services [under clause relating to "Income Tax and Corporate Tax" or "TDS" of Model ITBs]

a) Provision w.r.t. TDS on Purchase of Goods under section 194Q of Income Tax Act applicable from 01.07.2021 is as under:

i. TDS as applicable will be deducted by BHEL under section 194Q of the Income Tax Act, 1961 on Purchases exceeds, the amount of Rupees. 50 Lakhs or limit defined therein from time to time during the financial year under the Indian Income Tax act 1961.

ii. Since BHEL is liable to deduct Income Tax TDS under section 194Q, the provision of TCS as per section 206C(1H) of the Income Tax Act, 1961 shall not be applicable.

b) Higher rate of TDS for non-filers of ITR as per Section 206AB of Income Tax Act, 1961, in case of any vendor who does not filed their Income Tax Return for both of the two previous years preceding to current year and aggregate amount of TDS is more than or equal to Rs. 50,000/- in each of those previous two years (or limit defined by Govt. from time to time), then TDS will be deducted at the higher of following rates:

(i) Twice the rate mentioned in relevant TDS section.

(ii) Twice the rate or rates in force
 (iii) 5%

5. Incomplete documentation will not be accepted. Delayed submission of invoice / documents may result in corresponding delay in payment. In this connection, request to also refer clause: G (Refer Page.11) about invoicing & payment formalities under GST regime.

Applicable documents shall be submitted to the purchaser at the time of execution of supplies/services for availing GST input credits.

6. Bank charges of Seller's bank shall be to Seller's account and bank charges of Owner's bank other than Bill collection charges shall be to owner's account. Bill collection charges will be borne by Seller.

F. STANDARD PAYMENT TERMS OF BHEL-EDN:

<u>PURCHASE ORDERS FOR:</u>	<u>SUPPLY WITH SERVICE(S)</u>	<u>SUPPLY ONLY</u>
<u>INDIGENOUS PROCUREMENT</u>	<p>i. 100% payment of the basic price of Goods with 100% GST on the goods price will be paid in 45 days of Delivery of consignment or 15 days from the date of submission of complete set of documentation, whichever is later. (or)</p> <p>ii. 100% payment of the basic price of Goods with 100% GST on the goods price will be paid against Letter of Credit with usance period of 120 days from Delivery of consignment against submission of complete set of documents. LC processing charges viz., opening, amendment / discrepancy (if & as applicable) will be to supplier's account.</p> <p><u>Note:</u> In case PBG is not furnished, only 90% payment will be released against 100% claim without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.</p>	<p>i. 100% payment of the basic price of Goods with 100% GST on the goods price will be paid in 45 days of Delivery of consignment or 15 days from the date of submission of complete set of documentation, whichever is later. (or)</p> <p>ii. 100% payment of the basic price of Goods with 100% GST on the goods price will be paid against Letter of Credit with usance period of 120 days from Delivery of consignment against submission of complete set of documents. LC processing charges viz., opening, amendment / discrepancy (if & as applicable) will be to supplier's account.</p>

<u>IMPORT PROCUREMENT</u>	<p>100% payment of the basic price of Goods will be paid against usance draft of 45 days from arrival of consignment at destination as per contractual INCOTERMS against submission of complete set of documents.</p> <p><u>Note:</u> In case PBG is not furnished, only 90% payment will be released against 100% claim without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.</p>	<p>100% payment of the basic price of Goods will be paid against usance draft of 45 days from arrival of consignment at destination as per contractual INCOTERMS against submission of complete set of documents.</p>
<u>HIGH-SEA SALES PROCUREMENT</u>	<p>i) 100% payment of the basic price of Goods will be paid in 45 days from arrival of consignment at destination (in India as per contractual INCOTERMS) or 15 days from the date of submission of complete set of dispatch documents, whichever is later. (or)</p> <p>ii) 100% payment of the basic price of Goods with 100% GST on the goods price will be paid against Letter of Credit with usance period of 120 days from arrival of consignment at destination (in India as per contractual INCOTERMS) against submission of complete set of documents. LC processing charges viz., opening, amendment / discrepancy (if & as applicable) will be to supplier's account.</p> <p><u>Note:</u> In case PBG is not furnished, only 90% payment will be released against 100% claim without the consent of Vendor. This 10% basic amount withheld towards PBG will be paid either against submission of supplementary invoice & Original PBG (or) against supplementary invoice without PBG after expiry of Warranty period.</p>	<p>i) 100% payment of the basic price of Goods will be paid in 45 days from arrival of consignment at destination (in India as per contractual INCOTERMS) or 15 days from the date of submission of complete set of dispatch documents, whichever is later. (or)</p> <p>ii) 100% payment of the basic price of Goods with 100% GST on the goods price will be paid against Letter of Credit with usance period of 120 days from arrival of consignment at destination (in India as per contractual INCOTERMS) against submission of complete set of documents. LC processing charges viz., opening, amendment / discrepancy (if & as applicable) will be to supplier's account.</p>

1. Erection and Commissioning:

Evaluation methodology: Unless and otherwise specified in SCC, E&C charges should not be less than 10% of the main supply value. In case the quoted total E&C value is less than 10% of the main supply value, BHEL shall evaluate Bidders Price deducting differential amount from main supply price proportionally from all items and apportioning towards E&C charges.

Payment term: 100% E&C charges along with tax as applicable, will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of E&C.

2. Erection Supervision and Commissioning:

Evaluation methodology: Unless and otherwise specified in SCC, E,S&C charges should not be less than 5% of the main supply value. In case the quoted total E&C value is less than 5% of the main supply value, BHEL shall evaluate Bidders Price deducting differential amount from main supply price proportionally from all items and apportioning towards E,S&C charges.

Payment term: 100% E,S&C charges along with tax as applicable, will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of E,S&C.

3. Comprehensive Annual Maintenance Contract:

Evaluation methodology: Unless and otherwise specified in SCC, CAMC will be applicable for a period of 04 years from the date of expiry of warranty period (or) from the date of completion of commissioning of equipment, whichever is later and the total CAMC value should not be less than 20% of the main supply value. In case the quoted total CAMC value is less than 20% of the main supply value, BHEL shall evaluate Bidders Price deducting differential amount from main supply price proportionally from all items and apportioning towards CAMC charges.

Payment terms: 100% CAMC charges along with tax as applicable, will be paid in 15 days from the date of submission of supplementary invoice/documents against proof of completion of CAMC on yearly basis.

4. Terms of Payment for Training: 100% payment will be made in 45 days from the date of completion of Training or 15 days from the date of submission of complete set of invoice along with documentary evidence, whichever is later.

LOADING FACTORS FOR DEVIATION IN PAYMENT TERMS (APPLICABLE FOR IMPORT PROCUREMENT ONLY):

- 1) For offers received with Sight draft payment term in place of Usance draft, loading applicable will be 1.0% of basic value.
- 2) For offers received with Letter of Credit payment term with Usance of 45 days, loading applicable will be 2.5% of basic value.
Additional loading of 2% will be applicable for payment term as Letter of Credit at Sight.
5. Any payment term with credit period of less than 45 days for indigenous supply/HSS and any other variation of payment terms are liable for rejection.
6. Standard payment terms indicated in Clauses: F (a), (b), (c), (d), (e), (f), (g), (h), (i) & (j) will not attract any loading.

Note 1: Basic value of Purchase Order mentioned above will include all components of the purchase order and will exclude only taxes, duties, freight, training charges, E&C/E,S&C and AMC charges (wherever applicable). Wherever the Purchase Order is split into import portion and indigenous portion of supply, minimum % to be quoted for Services, wherever mentioned, will be of both purchase order values put together.

Note 2: In case of multiple packages/units in a power plant, payment of E&C/E,S&C charges will be processed on pro-rata basis.

Note 3: No deviation will be permitted from the duration of Guarantee/Warranty and/or Comprehensive Annual Maintenance Contract period specified in SCC.

Note 4: Indigenous bidder may opt to quote with payment through Letter of Credit with usance period of 120 days. Bank charges of seller's bank shall be to seller's account and bank charges of BHEL's bank other than bill collection charges shall be to BHEL's account. Bill collection charges will be borne by seller.

G. Terms & Conditions to be complied under GST regime:

1. All invoices to contain BHEL-EDN (buyer) GSTIN number: 29AAACB4146P1ZB. However for CGST +SGST/UGST billing outside the state of Karnataka, invoice has to be generated with BHEL's Nodal Agency GSTIN number. Address of Nodal Agency along with GSTIN number will be provided by BHEL at the time of issuing dispatch clearance.
2. The Bidder shall mention Bidder's GSTIN number in all quotations and Invoices submitted.
3. The Bidder shall also mention HSN (Harmonized System of Nomenclature) / SAC (Services Accounting Code) mandatorily in all quotations and invoices submitted.
4. Invoice submitted should be in the format as specified under GST Laws viz., all details as mentioned in Invoice Rules like GST registration number(GSTIN), invoice number with date of issue, quantity, rate, value, taxes with nomenclature – CGST, SGST, UGST, IGST mentioned separately, HSN Code / SAC Code etc. Invoice should be submitted in original for buyer plus duplicate for credit availment.
5. Payment of GST to Vendor will be made only if it is matching with data uploaded by the Vendor in GST portal.
6. For invoices paid on Reverse charge basis – “Tax payable on reverse charge basis” to be mentioned on the invoice.
7. In case GST credit is delayed/denied to BHEL due to non/delayed receipt of goods and/or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount will be recoverable from vendor along with interest levied/ leviable on BHEL.
8. In case vendor delays declaring such invoice in his return and GST credit availed by BHEL is denied or reversed subsequently as per GST law, GST amount paid by BHEL towards such ITC reversal as per GST law will be recoverable from vendor/contractor along with interest levied/ leviable on BHEL.
9. Vendor should intimate BHEL immediately on the same date of invoicing without any delay.
10. In case of discrepancy in the data uploaded by supplier in the GSTN portal or in case of any shortages or rejection in the supply, then BHEL will not be able to avail the tax credit and will notify the supplier of the same. Supplier has to rectify the data discrepancy in the GSTN portal or issue credit note (details to be uploaded in GSTN portal) for the shortages or rejections in the supplies, within the calendar month notified by BHEL.
11. Bidders to note that Rules & Regulations pertaining to E-way bill system are to be strictly adhered to, as and when notified by Govt. authorities.
12. As per Notification 88/2020-Central Tax dated 10th November 2020 (applicable w.e.f. 01 January 2021), the turnover for applicability of E-invoicing provisions has been reduced from 500 crores to 100 crores. In other words, registered person [other than a SEZ unit and those referred in Rule 54(2), 54(3), 54(4) and 54(4A) of the CGST Rules], whose aggregate turnover in any preceding financial year from 2017-18 onwards exceeds 100 crores, is required to comply with the requirement of IRN and QR code in respect of supply of goods or services or both to a registered person or for exports.

H. Performance bank guarantee (PBG):

Performance bank guarantee (PBG) will be applicable as called in the tender documents. Unless otherwise specified in the SCC, the PBG against performance of the contract shall be valid for a period of 24 months from the date of delivery of goods + claim period of 03 months, for a value equal to 10 % of the basic value of the purchase order which will include all components of the purchase order and will exclude only taxes, duties, freight, training charges, E&C/E,S&C and AMC charges (wherever applicable).

1. The BG issued in Indian Rupees by Banks in India is to be executed on Non-Judicial Stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the State(s) where the BG is submitted or is to be acted upon or the rate prevailing in the State where the BG was executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Vendor/Bank issuing the guarantee.
2. No deviation for the duration and value of PBG will be permitted.
3. PBG shall be from any of the BHEL consortium of bankers (**refer Annexure VI**).
4. PBGs from nationalized banks are also acceptable.
5. PBG should be sent directly by the bank to the dealing executive mentioned in the purchase order located at the address mentioned in the purchase order.
6. PBG should be in the format specified (**refer Annexure VII**). No deviation to this format will be allowed. However in case BHEL changes the PBG format, bidder shall honor the same.
7. Bank Guarantee should be enforceable in Bangalore.
8. In Case of Bank Guarantees submitted by Foreign Vendors-
 - a. From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India) can be accepted subject to the condition that the Bank Guarantee should be enforceable in Bangalore.
 - b. From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor Country's Bank)
 - b.1 Please note that Bank Guarantee issued by any of the Consortium Banks only will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter-Guarantee by Foreign Bank in favor of the Indian Bank's (BHEL's Consortium Bank) branch in India. It shall be noted that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor.
 - b.2 In case, Foreign Vendors intend to provide BG from Overseas Branch of our Consortium Bank (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at sl.no. b.1 is required to be followed.
 - b.3 The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time).
9. Expired PBGs will be returned only after expiry of the claim period.
10. PBG shall not be applicable for spares.

I. PURCHASE PREFERENCE FOR MSE(MICRO AND SMALL ENTERPRISES) VENDORS:

Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the bidder must be the manufacturer of the offered product in case of bid for supply of goods.

Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product. Purchase preference to Micro and Small Enterprises clause in the bid, the same will get precedence over this clause.

a. If tendered quantity is Splittable: In tender, participating MSEs quoting price within price band of L1+15 percent shall also be allowed to supply a portion of requirement by bringing down their price to L1 price in a situation where L1 price from someone other than a MSE and such MSE shall be allowed to supply at least 25% of total tendered value. In case of more than one such MSE, the supply shall be shared proportionately (to tendered quantity).

- 3% of the 25% will be earmarked for women owned MSEs.
- 25% of the 25% (i.e., 6.25% of the total enquired quantity) will be earmarked for SC/ST owned MSE firms.
- In case where no SC/ST category firms have not participated in the tender, the 6.25% of earmarked quantity for SC/ST owned MSE firms will be distributed among the other eligible MSE vendors who have participated in the tender.

b. If tendered quantity is Non-Splittable: If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L-1+ 15% of margin of purchase preference /price band defined in relevant policy, such Seller shall be given opportunity to match L-1 price and contract will be awarded for 100% of total value.

J. INTEGRITY COMMITMENT IN THE TENDER PROCESS, AND EXECUTION OF CONTRACTS:

1. Commitment by BHEL: BHEL commits to take all measures necessary to prevent corruption in connection with the Tender process and execution of the Contract. BHEL will, during the tender process, treat all bidder / suppliers in a transparent and fair manner, and with equity.
2. Commitment by Bidder(s)/ Contractor(s):
 - a. The Bidder(s)/ Contractor(s) commit(s) to take all measures to prevent corruption and will not directly or indirectly try to influence any decision or benefit which he is not legally entitled to.
 - b. The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding or any actions to restrict competition.
 - c. The Bidder(s)/ Contractor(s) will not commit any offence under the relevant Acts. 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 BHEL as part of business relationship.
 - d. 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 and shall adhere to the relevant guidelines issued from time to time by Government of India/ BHEL.

If the Bidder(s) / Contractor(s), before award or during execution of the Contract commit(s) a transgression of the above or in any other manner such as to put his reliability or credibility in question, BHEL is entitled to disqualify the Bidder(s) / Contractor (s) from the tender process or terminate the contract and/ or take suitable action as deemed fit.

K. 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.

For details of Independent External Monitors (IEMs) on the present panel appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL, kindly refer BHEL website www.bhel.com

- 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 the IP for Role and Responsibilities of IEMs (Annexure IX). 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 IEM/s 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 indicated in SCC document of tender.

L. Conflict of Interest among Bidders/Agents:

"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 authorise 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*
- 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.”*

Annexure I

Guidelines for Indian Agents

- **Definition of Indian Agent:** An Indian Agent of foreign principal is an individual, a partnership, an association of persons, a private or public company, that carries out specific obligation(s) towards processing of BHEL tender or finalization or execution of BHEL's contract on behalf of the foreign supplier.

In case of yes, vendor to note the following and reply accordingly:

- i. BHEL shall deal directly with foreign vendors, wherever required, for procurement of goods. However, if the foreign principal desires to avail of the services of an Indian agent, then the foreign principal should ensure compliance to regulatory guidelines - which require mandatory submission of an Agency Agreement.
- ii. It shall be incumbent on the Indian agent and the foreign principal to adhere to the relevant guidelines of Government of India, issued from time to time.
- iii. The Agency Agreement should specify the precise relationship between the foreign OEM / foreign principal and their Indian agent and their mutual interest in the business. All services to be rendered by agent/ associate, whether of general nature or in relation to the particular contract, must be clearly stated by the foreign supplier/ Indian agent. Any payment, which the agent or associate receives in India or abroad from the OEM, whether as commission or as a general retainer fee should be brought on record in the Agreement and be made explicit in order to ensure compliance to laws of the country.
- iv. Any agency commission to be paid by BHEL to the Indian agent shall be in Indian currency only.
- v. Tax deduction at source is applicable to the agency commission paid to the Indian agent as per the prevailing rules.
- vi. In the absence of any agency agreement, BHEL shall not deal with any Indian agent (authorized representatives / associate / consultant, or by whatever name called) and shall deal directly with the foreign principal only for all correspondence and business purposes.
- vii. The "Guidelines for Indian Agents of Foreign Suppliers" enclosed at annexure -'A' shall apply in all such cases.

viii. The supply and execution of the Purchase Order (including indigenous supplies/ service) shall be in the scope of the OEM/ foreign principal. The OEM/ foreign principal should submit their offer inclusive of all indigenous supplies/ services and evaluation will be based on 'total cost to BHEL'. In case OEM/ foreign principal recommends placement of order(s) towards indigenous portion of supplies/ services on Indian supplier(s)/ agent on their behalf, the credentials/ capacity/ capability of the Indian supplier(s)/ agent to make the supplies/ services shall be checked by BHEL as per the extant guidelines of Supplier Evaluation, Approval & Review Procedure (SEARP), before opening of price bids. In this regard, details may be checked as per Annexure-B (copy enclosed). It will be the responsibility of the OEM/ foreign principal to get acquainted with the evaluation requirements of Indian supplier/ agent as per SEARP available on www.bhel.com.

The responsibility for successful execution of the contract (including indigenous supplies/ services) lies with the OEM/ foreign principal. All bank guarantees to this effect shall be in the scope of the OEM/ foreign principal.

—X—

Vendor's Signature with Seal

Guidelines for Indian Agents of Foreign Suppliers

- 1.0 There shall be compulsory registration of agents for all Global (Open) Tender and Limited Tender. An agent who is not registered with BHEL shall apply for registration in the registration form in line with SEARP.
- 1.1 Registered agents will file an authenticated Photostat copy duly attested by a Notary Public/Original certificate of the Principal confirming the agency agreement and giving the status being enjoyed by the agent and the commission/ remuneration/ salary/ retainership being paid by the principal to the agent before the placement of order by BHEL.
- 1.2 Wherever the Indian representatives have communicated on behalf of their principals and the foreign parties have stated that they are not paying any commission to the Indian agents, and the Indian representative is working on the basis of salary or as retainer, a written declaration to this effect should be submitted by the party (i.e. Principal) before finalizing the order.
- 2.0 **Disclosure of particulars of agents/ representatives in India, if any.**
- 2.1 **Tenderers of Foreign nationality shall furnish the following details in their offers:**
 - 2.1.1 The Bidder(s)/ Contractor(s) of foreign origin shall disclose the name and address of the agents/ representatives in India if any and the extent of authorization and authority given to commit the Principals. In case the agent/ representative be a foreign Company, it shall be confirmed whether it is existing Company and details of the same shall be furnished.
 - 2.1.2 The amount of commission/ remuneration included in the quoted price(s) for such agents/ representatives in India.
 - 2.1.3 Confirmation of the Tenderer that the commission/ remuneration, if any, payable to his agents/ representatives in India, may be paid by BHEL in Indian Rupees only.
- 2.2 **Tenderers of Indian Nationality shall furnish the following details in their offers:**
 - 2.2.1 The Bidder(s)/ Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any, indicating their nationality as well as their status, i.e. whether manufacturer or agents of manufacturer holding the Letter of Authority of the Principal specifically authorizing the agent to make an offer in India in response to tender either directly or through the agents/ representatives.
 - 2.2.2 The amount of commission/ remuneration included in the price (s) quoted by the Tenderer for himself.
 - 2.2.3 Confirmation of the foreign principals of the Tenderer that the commission/ remuneration, if any, reserved for the Tenderer in the quoted price(s), may be paid by BHEL in India in equivalent Indian Rupees on satisfactory completion of the Project or supplies of Stores and Spares in case of operation items.
- 2.3 In either case, in the event of contract materializing, the terms of payment will provide for payment of the commission/ remuneration, if any payable to the agents/ representatives in India in Indian Rupees on expiry of 90 days after the discharge of the obligations under the contract.
- 2.4 Failure to furnish correct and detailed information as called for in paragraph 2.0 above will render the concerned tender liable to rejection or in the event of a contract materializing, the same liable to termination by BHEL. Besides this there would be a penalty of banning business dealings with BHEL or damage or payment of a named sum.

ANNEXURE - II
LIST OF INTERNATIONAL GATEWAY AIRPORTS

For air based consignment, terms of delivery will be on FCA basis from following listed airports only. Vendors are requested to verify this list for use before submission of offer.

SCHEDULE NO	COUNTRY	CURRENCY CODE	AIRPORT
D01	UK	GBP	LONDON (HEATHROW)
D02	UK	GBP	NEW CASTLE
D03	UK	GBP	OXFORD, CHETLAM
D04	UK	GBP	BRISTOL, WELLINGBOROUGH
D05	UK	GBP	BIRMINGHAM
D06	UK	GBP	EAST MIDLANDS
D07	UK	GBP	MANCHESTER
D08	UK	GBP	LEEDS
D09	UK	GBP	GLASGOW
D10	FRANCE	EURO	PARIS (ROISSY) & LYON
D11	SWEDEN	EURO	STOCKHOLM
D12	SWEDEN	EURO	GOTHENBERG & MALMO
D13	ITALY	EURO	ROMA, MILAN
D14	ITALY	EURO	TURIN, BOLOGNA, FLORENCE
D15	NETHERLANDS	EURO	AMSTERDAM, ROTTERDAM
D16	AUSTRIA	EURO	VIENNA, LINZ, GRAZ
D17	BELGIUM	EURO	ANTWERP, BRUSSELS
D18	DENMARK	DKK	COPENHAGEN
D19	JAPAN	JPY	TOKYO, OSAKA
D20	SINGAPORE	SGD	SINGAPORE
D21	CANADA	CAD	TORONTO
D22	CANADA	CAD	MONTREAL
D23	USA	USD	NEW YORK, BOSTON
D24	USA	USD	CHICAGO
D25	USA	USD	SAN FRANCISCO, LOS ANGELES
D26	USA	USD	ALANTA, HOUSTON
D27	GERMANY	EURO	MUNICH, KOLN, DUSSELDORF, HANNOVER, HAMBURG, STUTTGART, DAMSTADT, MANIHIEM, NURUMBERG
D28	GERMANY	EURO	FRANKFURT
D29	GERMANY	EURO	BERLIN
D30	SWITZERLAND	SFR	BASLE, ZURICH, GENEVA
D31	SPAIN	EURO	BARCELONA
D32	AUSTRALIA	AUD	SYDNEY
D33	AUSTRALIA	AUD	MELBOURNE
D34	AUSTRALIA	AUD	PERTH
D35	CZECH	EURO	PRAGUE
D36	HONG KONG	HKD	HONG KONG
D37	NEW ZELAND	NZD	AUCKLAND
D38	RUSSIA	USD	MOSCOW
D39	SOUTH KOREA	USD	KIMPO INTERNATIONAL, INCHEON
D40	FINLAND	EURO	HELSINKI
D41	ROMANIA	EURO	BUCHAREST
D42	NORWAY	EURO	OSLO
D43	IRELAND	EURO	DUBLIN
D44	ISRAEL	USD	TEL AVIV
D45	UAE	USD	DUBAI
D46	OMAN	USD	MUSCAT
D47	EGYPT	USD	CAIRO
D48	TAIWAN	USD	TAIPEI
D49	UKRAINE	USD	KIEV
D50	CHINA	USD	SHANGHAI, SHENZHEN
D51	PHILIPINES	USD	MANILA
D52	MALAYSIA	USD	KUALALUMPUR, PE NANG
D53	CYPRUS	USD	LARNACA
D54	SOUTH AFRICA	USD	JOHANNESBERG, DURBAN
D55	SLOVAKIA	EURO	BARTISLOVA
D56	SAUDI ARABIA	SAR	RIYADH
D57	TURKEY	EURO	ISTANBUL
D58	THAILAND	USD	BANGKOK
D59	BRAZIL	USD	SAO PAULO, RIO DE JANEIRO

ANNEXURE – III
DISCREPANCY IN WORDS & FIGURES – QUOTED IN PRICE BID

Following guidelines will be followed in case of discrepancy in words & figures-quoted in price bid:

- (a) If, in the price structure quoted for the required goods/services/works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.
- (b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- (c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.
- (d) If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date upto which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the purchaser, the bid is liable to be ignored.

ANNEXURE - IV
Electronic Funds Transfer (EFT) OR
Paylink Direct Credit Form

Please Fill up the form in **CAPITAL LETTERS** only.

TYPE OF REQUEST(Tick one): CREATE CHANGE

BHEL Vendor / Supplier Code:

Company Name :

Permanent Account Number(PAN):

Address

<input type="text"/>

City:

PINCODE

STATE

Contact Person(s)

Telephone No:

Fax No:

e-mail id:

<input type="text"/>	<input type="text"/>

1 Bank Name:

2 Bank Address:

<input type="text"/>

3 Bank Telephone No:

4 Bank Account No:

5 Account Type: Savings/Cash Credit

6 9 Digit Code Number of Bank and branch appearing on MICR cheque issued by Bank

7 Bank IFSC Code(applicable for NEFT)

8 Bank IFSC code(applicable for RTGS)

<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>

(Indian Financial System Code)

- A I hereby certify that the particulars given above are true, correct and complete and that I, as a representative for the above named Company, hereby authorise BHEL, EDN, Bangalore to electronically deposit payments to the designated bank account.
- B If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold BHEL / transferring Bank responsible.
- C This authority remains in full force until BHEL, EDN, Bangalore receives written notification requesting a change or cancellation.
- D I have read the contents of the covering letter and agree to discharge the responsibility expected of me as a participant under ECS / EFT.

Date:

Authorised Signatory:

Designation:

Telephone No. with STD Code

Company Seal

Bank Certificate

We certify that _____ has an Account No _____ with us and we confirm that the bank details given above are correct as per our records.

Date:

(.....)

Signature

Place:

Please return completed form along with a blank cancelled cheque or photocopy thereof to:

Bharath Heavy Electricals Ltd,

Attn:

Electronics Division, Mysore Road,

BANGALORE - 560 026

In case of any Querry, please call concerned purchase executive.

ANNEXURE - V
PRESENT PROCEDURE FOR SALE IN TRANSIT (HIGH SEA SALES)

In case of High Sea Sales, vendor should submit following documents:

1. ORIGINAL HIGH SEA SALES AGREEMENT

- Sale agreement (on Rs. 200/- non-judicial stamp paper & notarised with 2 witnesses with identity) has to be signed between BHEL and the Party importing material. The date of the sale documents should be in between the date of House Air Way Bill / Bill of Lading and before landing of the goods in Indian origin.
- Following shall be included in the High Sea Sales Agreement:
"THE BUYER ALSO UNDERTAKE DISCHARGES, THE OBLIGATION AND FULFILLMENT OF CONDITIONS, IF ANY, ATTACHED TO THE IMPORTATION, ASSESSMENT AND CLEARANCE OF THE GOODS IN TERMS CUSTOMS TARIFF ACT 1975, THE CUSTOMS ACT 1962 & RULES & REGULATIONS MADE THERE UNDER AND OTHER RELEVANT ACTS, ORDERS, NOTIFICATIONS".

2. ORIGINAL INVOICES: INDIGENOUS RUPEE INVOICE & FOREIGN CURRENCY INVOICE

- Prices should be C.I.F., designated airport/seaport basis.
- I.E.C., C.S.T., K.S.T. Nos. to be mentioned.
- Description of item (Nomenclature), Unit & Quantity in both the Foreign Currency & the Indigenous Invoice in Rupee shall be exactly as per Purchase Order Description of item, Quantity and Unit. The Indigenous Invoice value shall be exactly as per Purchase Order value.
- Seller should give Foreign Currency Invoice from the original consignor. The Foreign Currency Invoice value should be at least 2% (two per cent) less than the Indigenous Rupee Invoice value in equivalent foreign currency.

4. ORIGINAL HOUSE AIR WAY BILL/ BILL OF LADING

- The sale agents should duly endorse House Air Way Bill (HAWB) for air shipments or original Bill of Lading (O.B.L.) for sea shipments and Foreign Currency Invoice in favour of BHEL-EDN.

5. ORIGINAL CARGO ARRIVAL NOTICE FROM FORWARDER.

6. ORIGINAL DELIVERY ORDER ISSUED IN NAME OF BHEL-EDN.

7. ORIGINAL PACKING LIST.

8. A LETTER TO THE COMMISSIONER OF CUSTOMS FOR EFFECTING ABOVE SALE.

9. A LETTER TO THE DEPUTY ASSESSOR (OCTROI) FOR EFFECTING ABOVE SALE IN FAVOUR OF BHEL.

REMARKS: In case vendor needs any clarifications on the above, the same may be sought in writing.

SI No	Name of Bank
1	State Bank of India
2	Canara Bank
3	IDBI Bank Limited
4	ICICI Bank Limited
5	HDFC Bank Limited
6	Axis Bank
7	IndusInd Bank Limited
8	Bank of Baroda
9	Exim Bank
10	Indian Bank
11	Punjab National Bank
12	Union Bank of India
13	Yes Bank Limited
14	RBL Bank Ltd.
15	Indian Overseas Bank
16	Kotak Mahindra Bank Limited
17	Federal Bank Limited
18	Hongkong and Shanghai Banking Corporation Ltd

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at _____¹ through its Unit at.....(name of the Unit) having awarded to (Name of the Vendor / Contractor / Supplier) with its registered office at _____² hereinafter referred to as the 'Vendor / Contractor / Supplier', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No.....dated³ valued at Rs.....⁴ (Rupees -----)/FC.....(in words.....) for⁵ (hereinafter called the 'Contract') and the Vendor / Contractor / Supplier having agreed to provide a Contract Performance Bank Guarantee, equivalent to% (.... Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we,(hereinafter referred to as the Bank), having registered/Head office at and inter alia a branch at being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer any sum or sums upto a maximum amount of Rs -- -----⁶ (Rupees -----) without any demur, immediately on first demand from the Employer and without any reservation, protest, and recourse and without the Employer needing to prove or demonstrate reasons for its such demand.

Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____.

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Vendor / Contractor / Supplier in any suit or proceeding pending before any Court or Tribunal, Arbitrator or any other authority, our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment thereunder and the Vendor / Contractor / Supplier shall have no claim against us for making such payment.

We thebank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract/satisfactory completion of the performance guarantee period as per the terms of the Contract and that it shall continue to be enforceable till

all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

WeBANK further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Vendor / Contractor / Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Vendor / Contractor / Supplier and to forbear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Vendor / Contractor / Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Vendor / Contractor / Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Vendor / Contractor / Supplier and notwithstanding any security or other guarantee that the Employer may have in relation to the Vendor / Contractor / Supplier's liabilities.

This Guarantee shall remain in force upto and including.....⁷ and shall be extended from time to time for such period as may be desired by Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Vendor / Contractor / Supplier but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof.

Unless a demand or claim under this guarantee is made on us in writing on or before the⁸we shall be discharged from all liabilities under this guarantee thereafter.

We, BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed.....⁶
- b) This Guarantee shall be valid up to⁷
- c) Unless the Bank is served a written claim or demand on or before⁸ all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

For and on behalf of
(Name of the Bank)

Dated.....

Place of Issue.....

¹ NAME AND ADDRESS OF EMPLOYER i.e Bharat Heavy Electricals Limited

² NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER.

³ DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE

⁴ CONTRACT VALUE

⁵ PROJECT/SUPPLY DETAILS

⁶ BG AMOUNT IN FIGURES AND WORDS

⁷ VALIDITY DATE

⁸ DATE OF EXPIRY OF CLAIM PERIOD

Note:

1. Units are advised that expiry of claim period may be kept 3-6 months after validity date. It may be ensured that the same is in line with the agreement/ contract entered with the Vendor.
2. The BG should be on Non-Judicial Stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the State(s) where the BG is submitted or is to be acted upon or the rate prevailing in the State where the BG was executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Vendor/Contractor/Supplier /Bank issuing the guarantee.
3. In line with the GCC, SCC or contractual terms, Unit may carry out minor modifications in the Standard BG Formats. If required, such modifications may be carried out after taking up appropriately with the Unit/Region's Law Deptt.
4. In Case of Bank Guarantees submitted by Foreign Vendors-
 - a. From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India) can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.
 - b. From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)
 - b.1 In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by any of the Consortium Banks only will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank's (BHEL's Consortium Bank) branch in India. It is advisable that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.
 - b.2 In case, Foreign Vendors intend to provide BG from Overseas Branch of our Consortium Bank (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at sl.no. b.1 will required to be followed.
 - b.3 The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time). The BG Format provided to them should clearly specify the same.

Annexure-VIII

F. No. DPE/3(3)/10-Fin.
Government of India
Ministry of Finance
Department of Public Enterprises

Block No. 14, CGO Complex,
Lodi Road, New Delhi-110003
Dated the 29th May, 2023

To,

Chief Executives of all CPSEs

Subject:- Concurrent application of Public Procurement Policy for Micro and Small Enterprises Order, 2012 and Public Procurement (Preference to Make in India) Order, 2017 - regarding

Sir/Madam,

The undersigned is directed to forward herewith a copy of Department of Expenditure O.M. dated 18th May, 2023 on the subject mentioned above for information and strict compliance.

Encl : As stated


(Kailash Bhandari)
Deputy Director
Tel: 2436-6247

Copy to :- Shri Kanwalpreet, Director, Department of Expenditure, Room No. 264-C, North Block, New Delhi.

No.F.1/4/2021-PPD
Government of India
Ministry of Finance
Department of Expenditure
Public Procurement Division

264-C, North Block, New Delhi.
18.05.2023.

OFFICE MEMORANDUM

Subject: Concurrent application of Public Procurement Policy for Micro and Small Enterprises Order, 2012 and Public Procurement (Preference to Make in India) Order, 2017.

The undersigned is directed to refer two Preferential Procurement Orders mandated for the Public Procurement in India, namely:

- i. Public Procurement Policy for Micro and Small Enterprises (MSEs) Order dated 23.03.2012 (PPP-MSE Order) issued by Ministry of Micro, Small and Medium Enterprises (MoMSME) in exercise of the powers conferred in Section 11 of the MSME Development Act, 2006. (Last revised on 09.11.2018)
- ii. Public Procurement (Preference to Make in India) Order, 2017 (PPP-MII order), under Rule 153(iii) of the General Financial Rules (GFRs) 2017, approved by the Cabinet. Implementation of this PPP-MII order is monitored by Department for Promotion of Industry and Internal Trade (DPIIT). (Last revised on 16.09.2020.)

2. It has been brought to the notice of this Department that concurrent application of these two orders are creating confusion to the procuring entities and different procuring entities interpret them differently. In order to bring predictability both to the procuring entities as well as bidders, following guidelines are being issued.

Guidelines

3. The Class-I local suppliers, under PPP-MII Order, participating in any government tender, may or may not be MSEs, as defined under the MSME Act. Similarly, MSEs participating in any government tender, may or may not be Class-I local suppliers. Suppliers may be categorised in following four broad categories for consideration or applicability of purchase preference:

Category	Terminology
Supplier is both MSE & Class-I local supplier.	“MSE Class-I local supplier”
Supplier is MSE but not Class-I local supplier.	“MSE but non-Class-I local supplier”
Supplier is not MSE but is Class-I local supplier.	“Non-MSE but Class-I local supplier”
Supplier is neither MSE nor Class-I local.	“Non-MSE non-Class-I local supplier”

4. The applicability of PPP-MSE Order and PPP-MII Order in various scenarios, involving simultaneous purchase preference to MSEs and Class-I local suppliers under PPP-MSE Order and PPP-MII Order respectively, shall be as under:

- a) *Items covered under Para 3(a) of PPP- MII Order, 2017 for which Nodal Ministry has notified sufficient local capacity and competition:* For these items, only Class-I local suppliers are eligible to bid irrespective of purchase value. Hence, Class-II local suppliers or Non-local suppliers, including MSEs which are Class-II local suppliers/ Non-local suppliers, are not eligible to bid. Possible scenarios can be as under:
 - (i) L-1 is “MSE Class-I local supplier” - 100% of the tendered quantity is to be awarded to L-1.
 - (ii) L-1 is “Non-MSE but Class-I local supplier” - Purchase preference is given to MSEs as per PPP-MSE Order. Balance quantity is to be awarded to the L-1 bidder.
- b) *Items reserved exclusively for procurement from MSEs as per PPP-MSE Order:* These items are reserved exclusively for purchase from MSEs. Hence, non-MSEs are not eligible to bid for these items. Possible scenarios can be as under:
 - (i) L-1 is “MSE Class-I local supplier” - 100% of the tendered quantity is to be awarded to L-1.
 - (ii) L-1 is “MSE non-Class-I local supplier” - Purchase preference is to be given to Class-I local supplier as per PPP-MII Order. Balance quantity, is to be awarded to L-1 bidder.
- c) *If items are neither notified for sufficient local capacity nor reserved for MSEs, then the process will be as follows:*
 - c (a) Items covered under Para 3A(b) of PPP-MII Order are divisible items and both MSEs as well as Class-I local suppliers are eligible for purchase preference. Possible scenarios can be as under:
 - (i) L-1 is “MSE Class-I local supplier” - 100% of the tendered quantity is to be awarded to L-1.
 - (ii) L-1 is “Non-MSE but Class-I local supplier” - Purchase preference is to be given to MSEs, if eligible, as per PPP-MSE Order. Balance quantity is to be awarded to L-1 bidder.
 - (iii) L-1 is “MSE but non-Class-I local supplier” - Purchase preference is to be given to Class-I local suppliers, if eligible, as per PPP-MII Order. Balance quantity is to be awarded to L-1 bidder.
 - (iv) L-1 is “Non-MSE non-Class-I local supplier” - Purchase preference is to be given to MSEs as per PPP-MSE Order. Thereafter, purchase preference is to be given to Class-I local suppliers for “50% of the tendered quantity minus quantity allotted to MSEs

above" as per PPP- MII Order. For the balance quantity, contract is to be awarded to L-1 bidder. (Kindly refer to the illustrative example in the annexure).

c (b) Items covered under Para 3A(c) of PPP-MII Order, 2017 are non-divisible items and both MSEs as well as Class-I local suppliers are eligible for purchase preference. Possible scenarios can be as under:

- (i) L-1 is "MSE Class-I local supplier" - Contract is awarded to L-1.
- (ii) L-1 is not "MSE Class-I local supplier" but the "MSE Class-I local supplier" falls within 15% margin of purchase preference - Purchase preference is to be given to lowest quoting "MSE Class-I local supplier". If lowest quoting "MSE Class-I local supplier" does not accept the L-1 rates, the next higher "MSE Class-I local supplier" falling within 15% margin of purchase preference is to be given purchase preference and so on.
- (iii) If conditions mentioned in sub paras (i) and (ii) above are not met i.e. L-1 is neither "MSE Class-I local supplier" nor "MSE Class-I local supplier" is eligible to take benefit of purchase preference, the contract is to be awarded/ purchase preference to be given in different possible scenarios as under:
 - A. L1 is "MSE but non-Class-I local supplier" or "Non-MSE but Class-I local supplier" – Contract is be awarded to L1.
 - B. L1 is "Non-MSE non-Class-I local supplier" - First purchase preference to be given to MSE as per PPP-MSE Order. If MSE not eligible/ does not accept - purchase preference to be given to Class- I Local supplier as per PPP-MII Order. If Class-I Local supplier also not eligible/ does not accept – contract to be awarded to L-1.

d) *Items reserved for both MSEs and Class-I local suppliers:* These items are reserved exclusively for purchase from MSEs as well as Class-I local suppliers. Hence, only "MSE Class-I local supplier" are eligible to bid for these items. Non-MSEs/Class-II local suppliers/ Non-local suppliers cannot bid for these items. Hence the question of purchase preference does not arise.

e) Non-local suppliers, including MSEs falling in the category of Non-local suppliers, shall be eligible to bid only against Global Tender Enquiry.

01/5/2023
(Kanwalpreet)
Director

Tel.: -223093811; email: - kanwal.irss@gov.in

To

1. Secretaries of all Central Government Ministries/ Departments.
2. Secretary Department of Public Enterprises with a request for issuing suitable instructions to all Central Public Sector Enterprises in this regard.

Annexure**Example explaining applicability in scenario explained in para 4 c (a)(iv)**

(Scenario: Divisible items, both MSEs as well as Class-I local suppliers eligible for purchase preference and L-1 is “Non-MSE non-Class-I local supplier”)

Item – Desktop computer

Qty – 50 Nos.

Details of bids received

Sr. No.	Name of bidder	Rates quoted	Price Ranking	Status of bidder
1.	A	100	L1	“Non-MSE non- Class-I local supplier”
2.	B	110	L2	“Non-MSE but Class-I local supplier”
3.	C	112	L3	“MSE but non- Class-I local supplier”
4.	D	115	L4	“Non-MSE but Class-I local supplier”
5.	E	118	L5	“MSE but non- Class-I local supplier”
6.	F	120	L6	“MSE Class-I local supplier”

1. In this case, first purchase preference is to be given to MSEs as per PPP-MSE Order for 25% of tendered quantity of 50 Nos. i.e. 12.5 Nos. (rounded off to the next whole number say 13 Nos). Accordingly, invite L3 (bidder C), whose quoted rates falls within 15% margin of purchase preference to match L1 price i.e. Rs. 100/- for quantity of 13 Nos. Bidder “E” and “F”, although MSEs, will not get purchase preference since their quoted rates don’t fall within 15% margin of purchase preference. Bidder C will be considered for order of 13 Nos. on confirmation of reduction of price.
2. For 50% of balance quantity of 37 number (tendered quantity of 50 – 13 awarded to bidder C; assuming bidder C has confirmed to accept L1 rates), purchase preference will be given to lowest Class-I local supplier as per PPP-MII Order. Accordingly, bidder B will be invited to match L-1 price for 50% of 37 Nos i.e. 18.5 (say 19 Nos of computers). If bidder “B” does not accept the L1 price i.e. price of Rs. 100/- per unit, next higher Class-I local supplier falling within 20% margin of purchase preference, i.e. bidder “D”, may be invited to match L-1 price for 19 Nos. of computers and so on.
3. For remaining quantity i.e. 18 Nos (50-13-19), the contract will be awarded to lowest quoting bidder i.e. Bidder “A”, who is L-1 in the example.

Annexure-X

Restrictions under Rule 144(xi) of General Financial Rules, 2017 amendment dt: 23.07.2020

- I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.
- II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. "Bidder from a country which shares a land border with India" for the purpose of this Order means :-
 - a. An entity incorporated, established or registered in such a country; or
 - b. A subsidiary of an entity incorporated, established or registered in such a country; or
 - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
 - d. An entity whose *beneficial owner* is situated in such a country; or
 - e. An Indian (or other) agent of such an entity; or
 - f. A natural person who is a citizen of such a country; or
 - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- IV. The *beneficial owner* for the purpose of (iii) above will be as under:
 1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.
Explanation--
 - a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company;
 - b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
 2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;

3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.

(On Company Letter Head)

FORM NO. 10F

[See sub-rule (1) of rule 21AB]

Information to be provided under sub-section (5) of section 90 or sub-section (5) of section 90A of the Income-tax Act, 1961

I..... son/daughter of Mr in the capacity of.....
(Designation) do provide the following information, relevant to the previous year 2021-22 in case of for the purposes of sub-section (5) of section 90/section 90A:-

Sl.No.	Nature of information	Details
(i)	Status (individual; company, firm etc.) of the assessee	Company
(ii)	Permanent Account Number (PAN) of the assessee if allotted	
(iii)	Nationality (in the case of an individual) or Country or specified territory of incorporation or registration (in the case of others)
(iv)	Assessee's tax identification number in the country or specified territory of residence and if there is no such number, then, a unique number on the basis of which the person is identified by the Government of the country or the specified territory of which the assessee claims to be a resident

(v)	Period for which the residential status as mentioned in the certificate referred to in sub-section (4) of section 90 or sub-section (4) of section 90A is applicable	<u>2021-22</u>
(vi)	Address of the assessee in the country or territory outside India during the period for which the certificate, mentioned in (v) above, is applicable

I have obtained a certificate to in sub-section (4) of section 90 of sub-section (4) of section 90A from the Government of..... (name of country or specified territory outside India)

Signature:.....

Name:.....

Address:.....

Email ID:.....

Contact Number.....

Permanent Account Number:.....

Verification

I..... do hereby declare that to the best of my knowledge and belief what is stated above is correct complete and is truly stated. Verified today the..... day of.....

Signature of the person providing the information

Place:.....

(On Company Letter Head)

No Business Connection or Permanent Establishment Certificate

Date

To

Bharat Heavy Electricals Limited
Electroncis Division, PB NO. 2606,
Mysore Road, Bangalore
India - 560026

Sir,

Sub: No Business Connection or Permanent Establishment declaration for FY 2021-22

This is to certify that (Name of the supplier) is a company incorporated in(country) and does not have any business connection in India as per the provision of Section 9 of the Income Tax Act 1961 or any Permanent Establishment as defined in Article 5 of the India and(country) DTAA.

We hereby certify that we will notify BHEL in case of any change in the status as certified above.

For

Authorised Signatory

(Note – Please refer definition of the Business Connection on reverse and Permanent Establishment in the relevant DTAA)

"Business connection" as defined in Section 9 of the Income Tax Act shall include any business activity carried out through a person who, acting on behalf of the non-resident,—

- (a) has and habitually exercises in India, an authority to conclude contracts on behalf of the non-resident or habitually concludes contracts or habitually plays the principal role leading to conclusion of contracts by that non-resident and the contracts are—
 - (i) in the name of the non-resident; or
 - (ii) for the transfer of the ownership of, or for the granting of the right to use, property owned by that non-resident or that non-resident has the right to use; or
 - (iii) for the provision of services by the non-resident; or
- (b) has no such authority, but habitually maintains in India a stock of goods or merchandise from which he regularly delivers goods or merchandise on behalf of the non-resident; or
- (c) habitually secures orders in India, mainly or wholly for the non-resident or for that non-resident and other non-residents controlling, controlled by, or subject to the same common control, as that non-resident:

Provided that such business connection shall not include any business activity carried out through a broker, general commission agent or any other agent having an independent status, if such broker, general commission agent or any other agent having an independent status is acting in the ordinary course of his business :

Provided further that where such broker, general commission agent or any other agent works mainly or wholly on behalf of a non-resident (hereafter in this proviso referred to as the principal non-resident) or on behalf of such non-resident and other non-residents which are controlled by the principal non-resident or have a controlling interest in the principal non-resident or are subject to the same

common control as the principal non-resident, he shall not be deemed to be a broker, general commission agent or an agent of an independent status

For the removal of doubts, it is hereby clarified with explanation-2A, that the significant economic presence of a non-resident in India shall constitute "business connection" in India and "significant economic presence" for this purpose, shall mean—

- (a) transaction in respect of any goods, services or property carried out by a non-resident in India including provision of download of data or software in India, if the aggregate of payments arising from such transaction or transactions during the previous year exceeds such amount as may be prescribed; or
- (b) systematic and continuous soliciting of business activities or engaging in interaction with such number of users as may be prescribed, in India through digital means:

Provided that the transactions or activities shall constitute significant economic presence in India, whether or not,—

- (i) the agreement for such transactions or activities is entered in India; or
- (ii) the non-resident has a residence or place of business in India; or
- (iii) the non-resident renders services in India:

Thresholds for the purposes of significant economic presence.

11UD. (1) For the purposes of clause (a) of Explanation 2A to clause (i) of sub-section (1) of section 9, the amount of aggregate of payments arising from transaction or transactions in respect of any goods, services or property carried out by a non-resident with any person in India, including provision of download of data or software in India during the previous year, shall be two crore rupees;

(2) For the purposes of clause (b) of Explanation 2A to clause (i) of sub-section (1) of section 9, the number of users with whom systematic and continuous business activities are solicited or who are engaged in interaction shall be three lakhs.

To,
M/s Bharat Heavy Electricals Ltd.,
Electronics Division P.B. No. 2606
Mysore Road, Bangalore –560 026
~~Ph. No.: 080 2699 8994~~

Ref –

Subject: Declaration as a Compliance of Restrictions under Rule 144 (xi) of GFR 2017 as per DOE Order (Public Procurement No.4) dated 23.02.2023 (as amended from time to time).

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that our firm is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that our firm fulfils all requirements in this regard and is eligible to be considered.

On Bidder Letter Head

Date:

To,

M/s Bharat Heavy Electricals Ltd.

Electronics Division, Mysore Road,'

Bangalore – 560026

Sub: Model Clause / Certificate as per clause 9 (a) of Revised Public Procurement (Preference to Make in India Order, 2017 of DPIIT dated 19.07.2024

Ref: BHEL Tender / RFQ / NIT Number

I (authorized signatory for M/s a 'Class-I Local Supplier' / 'Class-II Local Supplier' at the time of tender, bidding or solicitation hereby confirm that the item meets the Local Content requirement for 'Class-I Local Supplier' / 'Class-II Local Supplier' .

Tick appropriate option & cut the other one:

1) We are the reseller/distributor of the quoted product and the Local Content percentage is
Break up of Local value addition to be furnished below (inclusive of Taxes):

a)

b)

c)

OEM certificate for country of origin to be submitted for above.

2) We are not the reseller/distributor of the quoted product and the Local Content percentage is
.....

The address is as below, where the local content / value addition is made:

[Factory Address]

For M/s

Authorized Signatory

(with company seal & Name)



ભારત હેવી ઇલેક્ટ્રિકલ્સ લિમિટેડ
Bharat Heavy Electricals Ltd.,

(A Government of India undertaking)
Electronics Division

PB 2606, Mysore Road Bengaluru, 560026 INDIA

CE: PR: 002- Rev 04

GENERAL COMMERCIAL CONDITIONS FOR CONTRACT

These 'General Commercial Conditions for Contract for Purchase' herein after referred to as GCC apply to all enquiries, tenders, requests for quotations, orders, contracts and agreements concerning the supply of goods and the rendering of related services (hereinafter referred to as "deliveries") to Bharat Heavy Electricals Limited and any of its units, regions or divisions (hereinafter referred to as "BHEL" or the Purchaser) or its projects/ customers.

Any deviations from or additions to these GCC require BHEL's express written consent. The general terms of business or sale of the vendor shall not apply to BHEL. Acceptance, receipt of shipments or services or effecting payment shall not mean that the general terms of business or sale of the vendor have been accepted.

Orders, agreements and amendments thereto shall be binding if made or confirmed by BHEL in writing. Only the Purchasing department of BHEL is authorized to issue the Purchase Order or any amendment thereof.

Definitions: Throughout these conditions and in the specifications, the following terms shall have the meanings assigned to them, unless the subject matter or the context requires otherwise.

- a) 'The Purchaser' means Bharat Heavy Electricals Limited, Electronics division, Mysore road, Bengaluru 560 026, a Unit of Bharat Heavy Electricals Limited (A Govt. of India Undertaking) incorporated under the Companies Act having its registered office at BHEL House, Siri Fort, New Delhi-110049, India and shall be deemed to include its successors and assigns. It may also be referred to as BHEL.
- b) 'The vendor' means the person, firm, company or organization on whom the Purchase Order is placed and shall be deemed to include the vendor's successors, representative heirs, executors and administrator as the case may be. It may also be referred to as Seller, Contractor or Supplier.
- c) 'Contract' shall mean and include the Purchase Order incorporating various agreements, viz. tender/ RFQ, offer, letter of intent/acceptance/ award, the General Conditions of Contract and Special Conditions of Contract for Purchase, Specifications, Inspection/ Quality Plan, Schedule of Prices and Quantities, Drawings, if any enclosed or to be provided by BHEL or his authorized nominee and the samples or patterns if any to be provided under the provisions of the contract.
- d) 'Parties to the Contract' shall mean the 'The Vendor' and the Purchaser as named in the main body of the Purchase Order.

Order of Precedence:

In case of any inconsistency or contradiction between any of the documents, the order of precedence shall be Purchase Order, LOI / LOA, Special Conditions of Contract and General Conditions of Contract for commercial conditions; and specific agreement on technical conditions, RFQ/offer and specification for Technical Conditions.

Interpretation:

In the contract, except where the context requires otherwise:

- a) words indicating one gender include all genders;
- b) words indicating the singular also include the plural and words indicating the plural also include the singular;

- c) provisions including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing, and
- d) "Written" or "in writing" means hand-written, type-written, printed or electronically made, and resulting in a permanent record.

Applicable Conditions:

1. **Price Basis:** All prices shall be firm until the purchase order is executed / completed in all respects. No price variations / escalation shall be permitted. For any delay at BHEL end towards issuing clearance for supply of spares for reasons attributable to BHEL/Customer, Contractor shall honor the PO prices for additional 01 year period from the date of expiry of contractual schedule and delivery schedule will be extended for such period of delay at BHEL end.
2. **Ordering and confirmation of Order:** Vendor shall send the order acceptance on their company letter head/ through e-mail within a week from the date of receipt of Purchase Order or such other period as specified/ agreed by BHEL. BHEL reserves the right to revoke the order placed if the order confirmation differs from the original order placed. The acceptance of goods/services/supplies by BHEL as well as payments made in this regard shall not imply acceptance of any deviations.
The purchase order will be deemed to have been accepted if no communication to the contrary is received within one week (or the time limit as specified/agreed by BHEL) from the date of receipt of the purchase order.
3. **Documentation:** After receipt of Purchase Order, vendor should submit necessary documents (if & as applicable) like drawings specified, bill of materials, datasheets, catalogues, quality plan, test procedure, type test report, O & M Manuals and/or any other relevant documents as per Specification/Purchase Order, as and when required by BHEL/Customer.
At any stage within the contract period, the vendor shall notify of any error, fault or other defect found in BHEL's documents /specifications or any other items for reference. If and to the extent that (taking account of cost and time) any vendor exercising due care would have discovered the error, fault or other defect when examining the documents/specifications before submitting the tender, the time for completion shall not be extended. However if errors, omissions, ambiguities, inconsistencies, inadequacies or other defects are found in the vendor's documents, they shall be corrected at his cost, notwithstanding any consent or approval.
4. **Penalty:**
 - a. **Submission of Engineering documents as per PO:** After award of contract, Successful bidder shall submit complete set of documents (like drawings, bill of materials, datasheets, catalogues, quality plan, etc. as called in tender specification) for approval, within 14/21 days (as specified in SCC/Purchase Order) from the date of award of contract. Buyer shall issue manufacturing clearance along with approved documents within 60/75 days (as specified in SCC/Purchase Order) after receipt of documents from seller. Any delay by buyer/consignee in providing approved documents beyond specified period shall be on the part of buyer and BHEL will extend the delivery period for such period of delay.
In case of any corrections in documents to be incorporated by seller for approval of document based on end-user/consultant/buyer comments, revised documents have to be submitted by seller incorporating the comments within 07/14 days (as specified in SCC) from the date of receipt of the same.
Seller shall be required to commence manufacturing only after receipt of approved documents from BHEL.
 - b. **Liquidated Damages (LD):** Delivery will commence from the date of placement of Purchase Order. If the seller fails to deliver any or all of the Goods within the original/re-fixed delivery period(s) specified in the contract, the Buyer will be entitled to deduct/recover the Liquidated damages for the delay @ 0.5% of the contract value of delayed quantity per week or part of the week of delayed period as pre-estimated damages not exceeding 10% of the contract value of the delayed quantity without any controversy/dispute of any sort whatsoever. GST as applicable will be recovered along with LD amount.

Extension of Delivery Period: Buyer may, on request of the Seller or otherwise, extend the delivery date subject to Force Majeure conditions and/or also on the ground/reasons of delay attributable to the Buyer / Consignee.

5. Contract variations (Increase or decrease in the scope of supply): BHEL may vary the contracted scope as per requirements at site. If vendor is of the opinion that the variation has an effect on the agreed price or delivery period, BHEL shall be informed of this immediately in writing along with technical details. Where unit rates are available in the Contract, the same shall be the basis for such additional work. Vendor shall not perform additional work before BHEL has issued written instructions/ amendment to the Purchase Order to that effect. The work which the vendor should have or could have anticipated in terms of delivering the service(s) and functionality (i.e.) as described in this agreement, or which is considered to be the result of an attributable error on the vendor's part, shall not be considered additional work.
6. a. Pre-dispatch inspection at seller premises: Before dispatch, the goods will be inspected by Buyer/ Consignee or their Authorized Representative or by Nominated External Inspection Agency (independently or jointly with Buyer or Consignee as decided by the Buyer) at the seller premises (or at designated place for inspection as declared / communicated by the seller) for their compliance to the contract specification. For in-house testing, the sellers will provide necessary facilities free of cost. Seller shall notify the Buyer through e-mail about readiness of goods for pre-dispatch inspection and Buyer shall notify the Seller about the Authorized Representative / Nominated External Inspection Agency and the date of testing. Scope of inspection is limited to 'approved quality plan or QA checklist or Purchase Specification'. While bidding the sellers should take into account 12 days (unless otherwise specified in SCC) for arranging inspection from the date of email offering the goods for inspection. Any delay in arranging inspection beyond the specified period due to reasons not attributable to seller, shall be on the part of buyer and BHEL will extend the delivery period for such period of delay.

 b. Material Dispatch Clearance Certificate (MDCC): Seller should take into account 10 days (unless otherwise specified in SCC) for issuance of dispatch clearance by BHEL from the date of successful inspection report. Any delay in issue of MDCC beyond the specified period shall be on the part of buyer and BHEL will extend the delivery period of such period of delay.
- BHEL reserves the right for conducting repeat test, if required. All costs related to inspections & re-inspections shall be borne by vendor. Whether the Contract provides for tests on the premises of the vendor or any of his Sub-contractor/s, vendor shall be responsible to provide such assistance, labour, materials, electricity, fuels, stores, apparatus, instruments as may be required and as may be reasonably demanded to carry out such tests efficiently. Cost of any type test or such other special tests shall be borne by BHEL only if specifically agreed to in the purchase order.
7. Transit Insurance: Transit insurance coverage between vendor's works and project site shall be to the account of BHEL, unless specifically agreed otherwise. However, vendor shall send intimation directly to insurance agency (as mentioned in dispatch instructions issued by BHEL) through fax/courier/e-mail, immediately on dispatch of goods for covering insurance. A copy of such intimation sent by vendor to insurance agency shall be given to BHEL along with dispatch documents. Dispatch documents will be treated as incomplete without such intimation copy. BHEL shall not be responsible for sending intimations to insurance agency on behalf of the vendor.
8. Mode of dispatch:

Indigenous Scope: By road on Door Delivery Consignee Copy attached basis through your approved transporter (unless otherwise indicated in Dispatch Instructions), only on receipt of Despatch Clearance from BHEL.

Imported Scope: By Air/Sea through BHEL approved Freight Forwarder/supplier approved Consolidator respectively as per agreed contractual terms, only on receipt of Dispatch Clearance from BHEL.
9. Changes in Statutory levies:

If any rates of Tax are increased or decreased, a new Tax is introduced, an existing Tax is abolished, or any change in interpretation or application of any Tax occurs in the course of the execution of Contract, which was or will be assessed on the bidder in connection with performance of the Contract, an equitable

adjustment of the Contract Price shall be made to fully take into account any such change by addition to the Contract Price or deduction there from, as the case may be. However, these adjustments would be restricted to direct transactions between BHEL and the bidder /agent of foreign bidder (if applicable). These adjustments shall not be applicable on procurement of raw materials, intermediary components etc. by the bidder /agent.

10. Availing duty/tax exemption benefits by bidder, wherever applicable: BHEL shall issue the required Certificate/s, as per relevant policies of the Govt. of India, to facilitate the bidders to avail any such benefits under the Contract. In case of failure of the bidders to receive the benefits partly or fully from the Govt. of India and/or in case of any delay in receipt of such benefits, BHEL shall neither be liable nor responsible in any manner whatsoever.
11. Taxes against sub-vendor dispatches: All taxes/levies, as applicable in respect of all components, equipments and material to be despatched directly from the sub-vendor's works to Site irrespective of the fact whether such taxes and levies are assessable and chargeable on Vendor or the BHEL, shall be to the vendor's account and no separate claim in this regard will be entertained by BHEL.
12. High Sea Sales (HSS): Customs clearance of the consignment landed on Indian Sea/Air ports will be done by BHEL based on the original HSS documents provided by vendors. Any delay in submission of complete/correct HSS documents to BHEL may incur demurrage charges. All demurrage charges on account of incomplete /incorrect HSS documents submission by vendor will be to vendor's account and all such charges will be recovered from any of the available vendor bills with BHEL.
13. Packaging and dispatch: The Seller shall package the goods safely and carefully and pack them suitably in all respects considering the peculiarity of the material for normal safe transport by Sea/ Air / Rail/ Road to its destination suitably protected against loss, damage, corrosion in transit and the effect of tropical salt laden atmosphere. The packages shall be provided with fixtures/ hooks and sling marks as may be required for easy and safe handling. If any consignment needs special handling instruction, the same shall be clearly marked with standard symbols / instructions. Hazardous material should be notified as such and their packing, transportation and other protection must conform to relevant regulations. The packing, shipping, storage and processing of the goods must comply with the prevailing legislation and regulations concerning safety, the environment and working conditions. Any Imported/Physical Exports items packed with raw/ solid wood packing material should be treated as per ISPM – 15 (fumigation) and accompanied by Phytosanitary/ Fumigation certificate. If safety information sheets (MSDS – Material Safety Data Sheet) exist for an item or the packaging, vendor must provide this information without fail along with the consignment. Each package must be marked with Consignee name, Purchase order number, Package number, Gross weight and net weight, dimensions (LxBxH) and Seller's name. Packing list of goods inside each package with PO item number and quantity must also be fixed securely outside the box to indicate the contents of each box. Total number of packages in the consignment must also be indicated in the packing list. Separate packing & identification of items should be as follows.
 1. Main Scope - All items must be tagged with part no. & item description.
 2. Commissioning accessories/spares - All items must be tagged with part no. & item description.
 3. Mandatory spares - All items must be tagged with part no. & item description.
 Nevertheless, vendor shall adhere to dispatch & packing instructions issued by BHEL at the time of dispatch.
14. Assignment of Rights & Obligations; Subcontracting: Vendor is not permitted to subcontract the delivery or any part thereof to third party or to assign the rights and obligations resulting from this agreement in whole or in part to third parties without prior written permission from BHEL. Any permission or approval given by the BHEL shall, however, not absolve the vendor of the responsibility of his obligations under the Contract.
15. Progress report: Vendor shall render such report as to the progress of work and in such form as may be called for by the concerned purchase officer from time to time. The submission and acceptance of such reports shall not prejudice the rights of BHEL in any manner.

16. Non-disclosure and Information Obligations: Vendor shall provide with all necessary information pertaining to the goods as it could be of importance to BHEL. Vendor shall not reveal any specified confidential information that may be divulged by BHEL to Vendor's employees not involved with the tender/ contract & its execution and delivery or to third parties, unless BHEL has agreed to this in writing beforehand. Vendor shall not be entitled to use the BHEL name in advertisements and other commercial publications without prior written permission from BHEL.

17. Cancellation /Termination of contract: BHEL shall have the right to completely or partially terminate the agreement by means of written notice to that effect. Termination of the Contract, for whatever reason, shall be without prejudice to the rights of the parties accrued under the Contract up to the time of termination. BHEL shall have the right to cancel/foreclose the Order/ Contract, wholly or in part, in case it is constrained to do so on account of any decline, diminution, curtailment or stoppage of the business.

18. Risk Purchase Clause: In case of failure of supplier, BHEL at its discretion may make purchase of the materials / services not supplied / rendered in time at the RISK & COST of the supplier. Under such situation, the supplier who fails to supply the goods in time shall be wholly liable to make good to BHEL any loss due to risk purchase.

In case of items demanding services at site like erection and commissioning, vendor should send his servicemen/representatives within 7 days from the service call. In case a vendor fails to attend to the service call, BHEL at its discretion may also make arrangements to attend such service by other parties at the **RISK & COST** of the supplier. Under such situation the supplier who fails to attend the service shall be wholly liable to make good to BHEL any loss due to risk purchase/service including additional handling charges due to the change.

19. Shortages: In the event of shortage on receipt of goods and/or on opening of packages at site, all such shortages, caused by supplier's act or omission, shall be made good at the cost of seller within a reasonable time that BHEL may allow from such intimation.

Transit Damages: In the event of receipt of goods in damaged condition or having found them so upon opening of packages at site, supplier shall make good of all such damages within a reasonable time from such intimation by BHEL. In case BHEL raises an insurance claim, the cost of material limited to insurance settled amount less handling charges will be reimbursed to supplier.

20. Remedial work: Notwithstanding any previous test or certification, BHEL may instruct the vendor to remove and replace materials/goods or remove and re-execute works/services which are not in accordance with the purchase order. Similarly, BHEL may ask the vendor to supply materials or to execute any services which are urgently required for any safety reasons, whether arising out of or because of an accident, unforeseeable event or otherwise. In such an event, Vendor shall provide such services within a reasonable time as specified by BHEL.

21. Indemnity Clause: Vendor shall comply with all applicable safety regulations and take care for the safety of all persons involved. Vendor is fully responsible for the safety of its personnel or that of his subcontractor's men / property, during execution of the Purchase Order and related services. All statutory payments including PF, ESI or other related charges have to be borne by the vendor. Vendor is fully responsible for ensuring that all legal compliances are followed in course of such employment. Vendor shall fully indemnify and keep indemnified BHEL against all claims of whatsoever nature arising during the course and out of execution of this Order/Contract.

22. Product Information, Drawings and Documents: All specified drawings, technical documents or other technical information received by Vendor from BHEL or vice versa shall not, without the consent of the other party, be used for any other purpose than that for which they were provided. They may not, without the consent of the Disclosing party, otherwise be used or copied, reproduced, transmitted or communicated to third parties. All information and data contained in general product documentation, whether in electronic or any other form, are binding only to the extent that they are by reference expressly included in the contract. Vendor, as per agreed date/s but not later than the date of delivery, provide free of charge information and drawings which are necessary to permit and enable BHEL to erect, commission, operate and maintain the product. Such information and drawings shall be supplied in as many numbers of copies as may be agreed upon.

All intellectual properties, including designs, drawings and product information etc. exchanged during the formation and execution of the Contract shall continue to be the property of the disclosing party.

23. **Intellectual Property Rights, Licenses:** If any Patent, design, Trade mark or any other intellectual property rights apply to the delivery (goods/related service) or accompanying documentation shall be the exclusive property of the Vendor and BHEL shall be entitled to the legal use thereof free of charge by means of a non-exclusive, worldwide, perpetual license. All intellectual property rights that arise during the execution of the Purchase Order/ contract for delivery by vendor and/or by its employees or third parties involved by the vendor for performance of the agreement shall belong to BHEL. Vendor shall perform everything necessary to obtain or establish the above mentioned rights. The Vendor guarantees that the delivery does not infringe on any of the intellectual property rights of third parties. The Vendor shall do everything necessary to obtain or establish the alternate acceptable arrangement pending resolution of any (alleged) claims by third parties. The Vendor shall indemnify BHEL against any (alleged) claims by third parties in this regard and shall reimburse BHEL for any damages suffered as a result thereof.
24. **Force Majeure:** If at any time during the continuance of the contract, the performance in whole or in part by either party of any obligation under this Contract shall be prevented or delayed by the reasons of any war, hostility, acts of the public enemy, epidemics, civil commotion, sabotage, fires, floods, explosion, quarantine restrictions, strikes, lockouts or act of God provided notice of happening of such event duly evidenced with documents is given by one party to the other within 10 days from the date of occurrence thereof, neither party shall be by reasons of such event, be entitled to terminate the contract nor shall either party have any claim for damages against the other in respect of such non-performance after such event has come to an end or ceased to exist and the decision of the Buyer as to whether the deliveries have been so resumed or not, shall be final and conclusive.
If force majeure applies, dates by which performance obligations are scheduled to be met will be extended for a period of time equal to the time lost due to any delay so caused.
Notwithstanding above provisions, in an event of Force Majeure, BHEL reserves for itself the right to cancel the order/ contract, wholly or partly, in order to meet the overall project schedule and make alternative arrangements for completion of deliveries and other schedules.
25. **Warranty:**
Wherever required, and so provided in the specifications/ Purchaser Order, the Seller shall ensure that the goods supplied shall comply with the specifications laid down, for materials, workmanship and performance.
Unless otherwise specified in SCC, warranty period shall be applicable for a period of 24 months from the date of delivery of goods or 18 months from the date of commissioning of goods, whichever is earlier.
The warranty period as described above shall apply afresh to replaced, repaired or re-executed parts of a delivery. Unless otherwise specifically provided in the Purchase Order, Vendor's liability shall be co terminus with the expiration of the applicable warranty period.
26. **Limitation of Liability:** Vendor's liability towards this contract is limited to a maximum of 100% of the contract value and consequential damages are excluded. However the limits of liability will have no effect in cases of criminal negligence or wilful misconduct.
The total liability of Vendor for all claims arising out of or relating to the performance or breach of the Contract or use of any Products or Services or any order shall not exceed the total Contract price.
27. **Liability during warranty:** Vendor shall arrange replacement / repair of all the defective materials / services under its obligation during the warranty period. The rejected goods shall be taken away by vendor and replaced / repaired. In the event of the vendor's failure to comply, BHEL may take appropriate action including disposal of rejections and replenishment by any other sources at the cost and risk of the vendor. In case, defects attributable to vendor are detected during Warranty period or where the commissioning call is issued within the warranty period, vendor shall be responsible for replacement/ repair of the goods as required by BHEL at vendor's cost even after expiry of warranty period.
Further if the equipment or any part thereof cannot be used by reason of such defect and/or making good of such defect, the warranty period of the equipment or such part, as the case may be, shall be extended by a period equal to the period during which the equipment or such part cannot be used by BHEL because of any of the aforesaid reasons. Upon correction of the defects in the facilities or any part thereof by

repair/replacement, such repair/replacement shall have the warranty period for a period of twelve (12) months from the time such replacement/repair of the equipment or any part thereof has been completed.

28. **Liability after warranty period:** At the end of the warranty, the Vendor's liability ceases except for latent defects. For the purpose of this clause, latent defects shall be the defects inherently lying within the material or arising out of design deficiency which do not manifest themselves during the warranty Period, but later. The Contractor's liability for latent defects warranty for the equipment including spares shall be limited to a period of six months from the end of the warranty period of the respective equipment including spares or first time commissioning, whichever is later but not later than one (01) year from the date of expiry of warranty period.
29. **Compliance with Laws:** Vendor shall, in performing the contract, comply with all applicable laws. The vendor shall make all remittances, give all notices, pay all taxes, duties and fees, and obtain all permits, licences and approvals, as required by the laws in relation to the execution and completion of the contract and for remedying of any defects; and the Contractor shall indemnify and hold BHEL harmless against and from the consequences of any failure to do so.
30. **Settlement of Disputes:** Except as otherwise specifically provided in the Purchase Order, decision of BHEL shall be binding on the vendor with respect to all questions relating to the interpretation or meaning of the terms and conditions and instructions herein before mentioned and as to the completion of supplies/work/services, other questions, claim, right, matter or things whatsoever in any way arising out of or relating to the contract, instructions, orders or these conditions or otherwise concerning the supply or the execution or failure to execute the order, whether arising during the schedule of supply/work or after the completion or abandonment thereof. Any disputes or differences among the parties shall to the extent possible be settled amicably between the parties thereto, failing which the disputed issues shall be settled through arbitration. Vendor shall continue to perform the contract, pending settlement of dispute(s).

31. **Arbitration Clause in case of Contract with vendors other than Public Sector Enterprise (PSE) or a Government Department:**

Arbitration & Conciliation:

The parties shall attempt to settle any disputes or difference arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract, or in connection with this contract through friendly discussions. In case no amicable settlement can be reached between the parties through such discussions, in respect of any dispute; then, either Party may, by a notice in writing to the other Party refer such dispute or difference to the sole arbitration of an arbitrator appointed by Head of the BHEL-EDN. Such Sole Arbitrator appointed, shall conduct the arbitration in English language.

The Arbitrator shall pass a reasoned award and the award of the Arbitration shall be final and binding upon the Parties.

Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be Bengaluru.

The cost of arbitration shall be borne as decided by the Arbitrator upon him entering the reference.

Subject to the Arbitration Clause as above, the Courts at Bengaluru alone shall have exclusive jurisdiction over any matter arising out of or in connection with this Contract.

Notwithstanding the existence or any dispute or differences and/or reference for the arbitration, the parties shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and efficiency in a professional manner except where the Contract has been terminated by either Party in terms of this Contract.

Arbitration Clause in case of Contract with a Public Sector Enterprise (PSE) or a Government Department:

In the event of any dispute or difference relating to the interpretation and application of the provisions of the Contract, such dispute or difference shall be referred by either party for Arbitration to the Sole

Arbitrator in the Department of Public Enterprises to be nominated by the Secretary to the Government of India in-charge of the Department of Public Enterprises. The Arbitration and Conciliation Act, 1996 shall not be applicable to arbitration under this clause. The award of the Arbitrator shall be binding upon the parties to the dispute, provided, however, any Party aggrieved by such Award may make further reference for setting aside or revision of the Award to the Law Secretary, Department of Legal Affairs, Ministry of Law and Justice, Government of India. Upon such reference the dispute shall be decided by the Law Secretary or the Special Secretary or Additional Secretary when so authorized by the Law Secretary, whose decision shall bind the Parties hereto finally and conclusively. The Parties to the dispute will share equally the cost of arbitration as intimated by the Arbitrator.'

32. Applicable Laws and Jurisdiction of Courts: Prevailing Indian laws both substantive and procedural, including modifications thereto, shall govern the Contract. Subject to the conditions as aforesaid, the competent courts in Bengaluru alone shall have jurisdiction to consider over any matters touching upon this contract.
33. General Terms: That any non-exercise, forbearance or omission of any of the powers conferred on BHEL and /or any of its authorities will not in any manner constitute waiver of the conditions hereto contained in these presents.

That the headings used in this agreement are for convenience of reference only.
That all notices etc., to be given under the Purchase order shall be in writing, type script or printed and if sent by registered post or by courier service to the address given in this document shall be deemed to have been served on the date when in the ordinary course, they would have been delivered to the addressee.

34. Clause reserved.

35. NO CLAIM FOR INTEREST OR DAMAGE:

- 1) Interest on Money due to the Seller/Supplier/Vendor: Vendor shall not be entitled to any interest or damage in case of any delay on the part of the BHEL to pay the amount due upon measurement or as per Contract or otherwise. Vendor shall also not be entitled to interest upon any guarantee / security / retention money or payments in arrears or upon any balance which may on the final settlement of his account be due to him.
- 2) No Claim for Interest or Damage: No claim for interest or damage will be entertained or be payable by BHEL in interest of any amount or balance which may be lying with BHEL or may become due upon settlement/adjudication of any dispute, difference or misunderstanding between the parties by way of arbitration or court proceedings or otherwise or in respect of any delay or omission on the part of the Employer in making intermediate or final payment or in respect of any amount / damage which may be claimed through arbitration or court proceedings or in any other respect whatsoever.

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PROJECT	ENNORE 2X660 MW
CUSTOMER	M/S TANGEDCO
CONSULTANT	M/S DESEIN

**PURCHASE SPECIFICATION FOR
MAINTENANCE & CALIBRATION EQUIPMENT
(MECHANICAL)**

Section-A

General Instructions to Bidders

Section-B

Pre-Qualification Requirements (PQR) of Bidders for Laboratory Instruments

Section-C

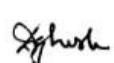
1.0 GENERAL REQUIREMENT

2.0 TECHNICAL SPECIFICATION

3.0 BILL OF MATERIAL

4.0 ITEM WISE SUB – VENDOR / MANUFACTURER LIST

5.0 PACKAGING SPECIFICATION, REF. ED 049 00 92, REV. 05

		REVISION: 00	APPROVED  D. GHOSH		
			PREPARED 	ISSUED 416	DATE 28/11/2025



SECTION- A

GENERAL INSTRUCTIONS TO BIDDERS:

All required documents against this Tender/Specification shall be submitted in English only.

Introduction: Bidders are required to offer SWAS to be used in Power Plant applications.

In order to accept the Technical offers / proposals from Bidders for the project mentioned in this Specification (refer Section C), certain Pre-qualification criteria are required to be met by Bidder.

Pre-qualification requirements are clearly mentioned in Section-B of this Specification. Bidder to read the same carefully and submit the details/documents required for BHEL's acceptance.

In case Bidder does not include the details or meet the requirements of Pre-qualification requirements, their offer will be summarily rejected and Bidder's Technical offers will not be evaluated.

Bidders are required to submit offers as detailed below:

- A. Documents pertaining to Pre-Qualification requirements for Section-B along with point-wise compliance.
- B. Technical offers/proposals for the Project, whose requirements are mentioned in Sections C to be submitted along with point-wise compliance.

Note 1:- Whenever required during evaluation of PQR and Technical offers/bids, vendor is required to be present at BHEL Electronic Division, Bangalore, for discussions. Further in the event of order, during approval of the Vendor documents by End users/Customers, Vendor shall accompany BHEL representative for discussions.

Note 2:- Technical clarifications/deviations w.r.t specifications including PQR shall be discussed with only those vendors who quote for this tender. Bidder shall furnish Clause-wise compliance / deviation list along with the offer, which is mandatory for evaluating the offer. The deviations to be clearly mentioned in the offer and acceptance of these deviations will be subject to customer/BHEL approval. If Bidder incurs any additional cost for the withdrawal of any deviation, the same shall be borne by the bidder without any cost implication to BHEL.



SECTION- B

Pre-Qualification Requirements (PQR) of Bidders for Laboratory Instruments:

1. Vendor should have supplied Lab instruments equipment to process plant/ refinery/ Power Plant / nuclear plant / testing Lab etc.
2. Vendor should be in business of supplying Lab instrument equipment for at least last two (2) years from the date bid opening.
3. Minimum One no. purchase order for Lab instrument equipment shall be submitted which should not be more than 5 years old from date of bid opening for establishing continuity in business.
4. The Bidder based outside India, who are making offer for this tender shall have authorised representatives in India for support related to documentation, commissioning & any other coordination work. Please provide supporting details.
5. Bidder has to submit letter of undertaking stating that they will take care of service Requirements till guarantee / warranty period / commissioning & Demonstration and handing over whichever is later for all items.
6. Bidder should have a clean track Record, i.e., the Bidder should not be under Hold or blacklist by any of the BHEL units/any Govt. of India PSU / Govt. of India as on bid submission date. To this effect a declaration should be given by the bidder.
7. **Important note:** - In case Bidder does not submit details mentioned in above clauses or meet the requirements of Pre-qualification requirements, Offers will be summarily rejected and Bidder's Technical offers/proposals will not be evaluated. Please read carefully the General instructions in **Section-A** of this specification.



SECTION- C

1.0 GENERAL REQUIREMENT

- 1.01 All electronic portable instruments shall be powered from rechargeable battery system. Battery charger suitable for the instrument shall also be supplied which can be in-built or standalone type.
- 1.02 Electrical power supply requirement of the instruments offered under this specification shall be 240 V AC, 50 Hz, single phase.
- 1.03 All the microprocessor based maintenance and calibration instruments shall have provision for data logging facility for keeping calibration/maintenance record with proper communication facility to down load these data on the Lab work station.
- 1.04 The Vendor shall submit with the proposal a full list, full description and detail specification, photograph and catalogue drawing as required of testing/maintenance equipment/tools offered. Information for the items offered shall include (as applicable) working principle, power supply and other utility details, dimensional details, mounting details, accuracy, recommendation for installation, storage etc.
Technical literatures/ catalogs shall be submitted in softcopy only.
- 1.05 The Vendor shall provide all the necessary accessories with test instruments/devices, durable boxes of convenient size with various instrument devices, small tool, accessories, **test leads, Indian connector power plug, tubes, fittings, leather carrying cases, instrument carrying box** or equivalent, etc. for all portable equipment as recommended by the manufacturer.
- 1.06 The Vendor shall include a complete list of spare parts for these testing/calibrating instruments/devices in the list of recommended spare parts. The Vendor shall render guarantee for easy availability of all the spare parts required especially for the components which are prone to failure.
- 1.07 The Vendor shall repair the defective instruments/devices free of cost within the warranty period.
- 1.08 Bidder shall ensure with appropriate documentation that direct service/support from the M&C item supplier/manufacturer shall be available to the owner for all M&C items for a minimum period of 5 years after the expiry of defect liability period.
- 1.09 The Vendor shall ensure that all the consumables like batteries, recorder pens, special papers etc, for the testing/calibration or instruments/devices shall be easily available for the life of the project.
- 1.10 The calibration standards of all M&C equipments furnished under this subsection shall be traceable to National Bureau of Standards, USA or NPL, India or to the applicable standards existing in the country where the equipment is manufactured and tested. The vendor shall include traceable calibration certificate from accredited laboratory, test reports etc. as per the BOM at clause 3.0.
- 1.11 In the event of order vendor have to submit datasheets with catalogs and a layout of C&I Laboratory in soft copy (PDF / AUTOCAD) for end-user's approval.
- 1.12 In the event of approval of datasheet, vendor has to submit calibration & test certificate for end-user's approval.
- 1.13 Packing shall be as per guidelines provided at BHEL specification ref. ED 049 00 92, rev. 05 attached herewith.
- 1.14 In the event of dispatch clearance vendor have to submit installation, operation & maintenance manuals for each items (2 sets of hardcopies along with the equipment to site) along with the soft copy for electronic transmittal.
- 1.15 Commissioning & demonstration of all instruments at site is under vendor's scope.



- 1.16 Vendors to offer in-compliance to the item-wise sub-vendor / manufacturer list, at clause 4.0. Discussions will be held only with participating bidders.
- 1.17 Measuring/testing instruments, along with allied accessories shall be suitable for continuous operation (both indoor and outdoor installations as applicable).
- 1.18 The various equipments / devices, tools, accessories etc., shall be furnished (in applicable cases) with suitable and durable boxes of convenient size, complete with necessary packing etc. in order to have safe storage when not in use.
- 1.19 The Bidder shall supply testing instruments/ devices, specified hereinafter, for meeting the requirement of the power plant. The Bidder shall be responsible for proper functioning of supplied items, to check and make any necessary additions/tools as required for proper maintenance and testing of the installed instruments and controls. The Bidder shall also be responsible for erection and commissioning the test equipment where applicable.
- 1.20 It is obligatory to the Bidder to furnish a complete list of spare parts for these testing/calibrating, instruments/devices. The Bidder shall render guarantee for easy availability of all the spare parts required, especially for the components, which are prone to failure.
- 1.21 The Bidder shall repair the defective instruments/devices free of cost within the guaranteed period or replace the same if required.
- 1.22 Computer Aided Calibration system offered, shall meet the demands of high precision transfer / secondary standards for automatic testing & calibration of temperature, pressure & electrical parameters in quick time and for issuance of simple, error free, reliable, fully traceable calibration certificates conforming to ISO standards / Protocol. Complete lab softwares with life time validity shall be provided by bidder, which shall be loaded on Lab operating station and Lab laptop parallelly. Any lab software mentioned or not shall be provided by bidder. Any software required for any lab instrument/equipment shall also be provided by bidder.
- 1.23 Measuring/testing instruments, along with allied accessories shall be suitable for continuous operation (both indoor and outdoor installations as applicable).
- 1.24 All the calibration instruments shall be provided with RS232C port for Lab WORK STATIONS & laptop interface with their own interfacing cables & software.
- 1.25 All the portable type lab instruments shall be provided with own rechargeable battery & charger.
- 1.26 The scope shall include the arrangement and installation of instrument workshop equipment supply and connection of all electric power supply including air distribution system.

2.0 TECHNICAL SPECIFICATION

2.01 Pneumatic Test Bench (PR0800000030, Qty.: 1 No.)

The pneumatic test bench made of anodized aluminium and modular in design, enabling easy change of arrangement / layout as and when required, shall be provided. The test bench shall be complete with shut-off valves, air filter-cum-pressure regulators and pressure gauges for testing E/P converters, pneumatic transmitters, controllers, power cylinders, control valves etc.

Test Bench shall have provision to get the Instruments air from Plant Instrument Air compressor or alternatively from industrial grade oil free air compressor. The dimension for the test bench shall be approximately 2000mm x 800mm x 800mm (LxWxH). The test bench shall be furnished as per the following general specification:

- (a) Complete with regulated air supply outlet of 0-20 psi and 0-30 psi, display plate with two four and half digit digital pressure indicator of range vacuum to 20,000 mm WG and 0-30 psi, accuracy 0.1+/-0.05% of F.S.
- (b) Complete with built-in selector for read out in 5 engg. units i.e. kg/sq.cm., psi, mmWcl, bar, mmHg.



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- (c) Complete with overload protection valve
- (d) Complete with control plate with mimic panel incorporating three precision pressure regulators, filter reducing unit for the air supply, three 150 mm dial pressure gauges having ranges 0-2, 0-4, 0-10 Kg/cm² respectively and accuracy $\pm 0.25\%$ full scale.
- (e) Complete with Actuator testing stand with accessories like E/P convertor, regulators and pneumatic lines etc.
- (f) Test Bench shall also include the following:

Sno.	Items	Qty
i.	DC voltage power pack (220V)	1
ii.	DC voltage stabilizer 0-60V	1
iii.	4½ digit digital multimeter (Accuracy :0.1%)	1
iv.	0 - 260 V AC socket	1
v.	220 V DC socket	1
vi.	0 - 60 V DC socket	1
vii.	Current source (0 - 55 mA)	1
- (g) The standard high accuracy resistors shall be included to load and measure the current output of devices.
- (h) Necessary control devices for voltage and current adjustments control, switches for power supplies to feeders, isolation etc., shall be included.
- (i) All electric circuits shall be protected against overload by fuses, whose holders are located on front of the panel. All electrical Circuits and metal structures shall be properly grounded. Pneumatic test bench should have instrument earth tapping points.
- (j) The test bench shall be complete with overload protection valve, precision pressure regulators, filter reducing unit for the air supply and all necessary accessories Including 1 set supports for instrument under test, desk with drawers etc.
- (k) Complete with set of supports for the instrument under test, desk with minimum three (3) drawers (fitted with lock), board on back of the bench top with electric fittings – sockets and colour coded banana jacks for each kind of voltage, one 20-watt fluorescent lamp and all other necessary accessories.
- (l) Complete with calibration software for record keeping and report generation
- (m) Integrated with desktop PC & Laserjet Printer (A4 size)
- (n) The Vendor shall be responsible for connection of instrument air line from his tapping point and also keep provision of giving supply from Air-Sets also. Vendor must ensure that the consumption of air in the test bench is within the design capacity of the above tapping/piping or source.

2.02 Portable Calibrator for Vacuum (PR0680000836, Qty.: 1 No.)

Range	:	- 14.2 to 0 psi
Accuracy	:	$\pm 0.025\%$ FS
Display	:	7 segment LCD with 4½ digit
mA Input	:	4-20 mA
Power supply	:	Chargeable Battery
Accessories	:	Charger/Adapter Test Leads Carrying Case Manual

2.03 U – Tube Manometer (PR0680000372, Qty.: 2 Sets)



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Item No.	Range of U – Tube Manometer	Total Quantity for 2 Sets
1	0- 1000 mmw _c (- 500 mmw _c to + 500 mmw _c)	2 No.
2	0- 2500 mmw _c (- 1250 mmw _c to + 1250 mmw _c)	2 No.

- a) This type of manometer shall be mercury filled clear Borosilicate glass U tube intended to be used for low static differential pressures or vacuum.
- b) The scale shall be graduated in mm and smallest division shall be 1mm.
- c) Zero adjustment facility shall be provided.
- d) The manometer shall be tested for safe operation up to 7.0 Kg/cm² pressure.
- e) All 'wetted parts & fitting's material other than U tube & manifold shall be 304SS.
- f) All required accessories such as 3 valve manifold, tripod stand, spirit level etc. shall be provided.
- g) Cases shall be of Aluminum on three sides and aluminum cover with clear acrylic front.
- h) Packing material shall be Teflon.
- i) End connection shall be 1/2 NPT (F), with check valves.
- j) The scale shall be provided with vernier arrangement.
- k) Liquid drain plug shall be provided.
- l) Coloured liquid & storing bottle, fillup pump, fill up funnel and nylon tubes shall also be included.

2.04 Inclined Tube Manometer (PR0680000453, Qty.: 2 Sets)

Item No.	Range of Inclined Manometer	Total Quantity for 2 Sets
1	0- 50 mmw _{c1}	2 No.
2	0- 100 mmw _{c1}	2 No.
3	0-200 mmw _{c1}	2 No.

- a) Portable inclined tube manometers of free standing type for above ranges shall be supplied by bidder.
- b) The scale shall be graduated in mm and accuracy shall be 0.1 % of FSD.
- c) This type of manometer shall be mercury filled clear Borosilicate glass U tube intended to be used for measurements of draft, air velocity and air pressure around atmospheric pressure.
- d) Indicating tube and oil chambers shall be drilled and reamed in a solid block of clear acrylic plastic material.
- e) Cases shall be as per OEM standard specifications.
- f) These manometers shall have leveling screw at the bottom and spirit level bubbles for accurate leveling.
- g) Packing material shall be Teflon.
- h) Each manometer shall be complete with connecting tubes, 1/2" NPT process adaptors, range scale, tube chamber, fillup pump(syringe type), fill up funnel, mounting box, zero adjustment, aspirator(squeezing type), manometer liquid & drain plugs etc.
- i) All 'wetted parts & fitting's material other than U tube & manifold shall be 304SS.
- j) 3 valve manifold of 304SS, shall also be provided.

2.05 Test Manometer (PR0680000364, Qty.: 2 Nos.)

- a) This type of manometer shall incorporate mercury well and extended 1500mm transparent plastic tube with graduated scale for the measurement of pressure.
- b) The scale shall be graduated in both mm of Hg and Kg/cm² and shall be compensated for liquid level changes within the manometer well.



- c) The vent or vacuum connection at the top of the extended tube shall include an in-line liquid check valve to prevent mercury spills.
- d) The manometer shall be tested for safe operation up to 17.5 Kg/cm² pressure.
- e) The manometer body shall be of steel channel construction and moisture proof.

2.06 Digital Manometer (PR0680000860, Qty.: 2 Nos.)

- a) The range shall be 0.2 to 2 kg/cm² and accuracy shall be 0.25% or better.
- b) Ranging from -10,000 to +10,000 mmwc
- c) It shall be usable for high and low differential pressure instrument.
- d) It shall have large dual LCD with back light
- e) It shall have USB & Computer interface with RS 485 male connector.
- f) Battery operaed digital manometer mainly use for air and gas (vacuum) services.

2.07 Dead Weight Tester (PR0680000267, Qty.: 1 No.)

- a) Applicable Standard : ASME PTC 19. 2-1964 except as modified in this specification.
- b) Type : Dual range (High Range & Low Range) allowing an automatic change of scale of 10:1 ratio.
- c) Piston Material : Hardened 420 SS
- d) Ranges : 1-60 & 60-600 Kg/cm²
- e) Accuracy : ± 0.015 percent of actual reading
- f) Calibration : $\pm 0.01\%$ traceable to NBS
- g) Connection : Suitable for 1/8, 1/4, 3/8 and 1/2 inch NPT
- h) Accessories :
 - i. Following weights of each type shall be provided:
 - a. 10 & 100Kg/sq.cm 4nos.
 - b. 9 & 90kg/sq.cm 1no.
 - c. 5 & 50kg/sq.cm 1no.
 - d. 2 & 20 kg/sq.cm 2nos.
 - e. 1 & 10kg/sq.cm 1no.
 - f. 0.5 & 5 kg/sq.cm 1no.
 - g. 0.2 & 2 kg/sq.cm 2nos.
 - h. 0.1 & 1 kg/sq.cm 1no.
 - i. 0.05 & 0.5 kg/sq.cm 1no.
 - j. 0.02 & 0.2 kg/sq.cm 2nos.
 - k. 0.01 & 0.1 kg/sq.cm 1no.
 - ii. Tools like wrenches, spanners etc.
 - iii. Hard storage Carrying case
 - iv. Oil filters to prevent contamination and wear
 - v. Spirit level, spare seals, keys, spare oil
 - vi. Instruction manual
 - vii. Software & hardware for interfacing.
Software shall be provided to correct for effect of environment factors such as gravity & temperature to determine the pressure generated by dead weight tester.
- i) Application : Laboratory calibration of pressure and differential pressure gauges/ transmitters, pneumatic transmitters and controllers.

2.08 Vacuum Tester (PR0680000488, Qty.: 1 No.)



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a) Applicable Standard : ASME PTC 19. 2-1964 except as modified in this specification.

b) Type : Air operated, dead weight type vacuum tester.

c) Piston Material : Hardened 420 SS

d) Ranges : 50-1000 mbar

e) Accuracy : $\pm 0.025\%$ or better for range 125-1000 mbar.

f) Accessories : i. Following weights shall be provided:
a. 1 weight corresponding to 5 mbar
b. 3 weights corresponding to 20 mbar
c. 2 weights corresponding to 10 mbar
d. 6 weights corresponding to 50 mbar
e. 6 weights corresponding to 100 mbar
f. Any other weights, as recommended by the OEM.

ii. Leveling screw, gauge post, spirit level, vacuum adapter, spanners, pointer remover, pointer punch, 1/2 inch, 1/4 inch and 1/8 inch NPT adapters, dust cover, adapter seals

iii. Hard storage Carrying case

iv. Instruction manual

**2.09 Standard Pressure Gauges (PR0160000050, Qty.: 1 Set=13 Nos
Total 2 Set = 26 Nos.)**

a) Applicable Standard : ASME PTC 19. 2-1964 except as modified in this specification.

b) Type : Bourdon tube

c) Material :
- Bourdon : 316 SS
- Movement : 316 SS
- Case : Die-cast aluminum/carbon steel

d) Dial Size : 300 mm

e) Scale details : Graduations in black lines on white dial

f) Ranges : Following Standard Pressure Gauges shall be provided:
a. (-) 1 to (+) 1 Kg/cm²
b. 0-1.6 Kg/cm²
c. 0-2.5 Kg/cm²
d. 0-4 Kg/cm²
e. 0-6 Kg/cm²
f. 0-10 Kg/cm²
g. 0-16 Kg/cm²
h. 0-25 Kg/cm²
i. 0-40 Kg/cm²
j. 0-60 Kg/cm²
k. 0-250 Kg/cm²
l. 0-400 Kg/cm²
m. 0.2-1 Kg/cm²

g) Accuracy : ± 0.1 percent

h) Connection : Quarter (1/4) inch NPT Male bottom

i) Application : For field testing of pressure instruments and Calibration of pressure instruments



2.10 Hydraulic Pressure Gauge Tester (PR0680000313, Qty.: 2 No.)

Hydraulic Pressure Gauge Tester shall also be provided to compare the gauge under test with above mentioned standard Pressure Gauges and shall be designed for use with a light hydraulic mineral oil for pressure up to 1200 Kg/cm² with accuracy of 0.015% of reading.

2.11 Mercury Thermometers (PR0680000380, Qty.: 1 Set=13 Nos Total 2 Set = 26 Nos.)

- a) Applicable Standard : National Bureau of Standards & ASTM PTC 19.3-1961
- b) Type
 - Bulb/ Stem : Mercury in Glass
 - Scale : Mercury in glass Red reading mercury tubing with figures and graduations clear bold and precisely placed.
- c) Material
 - Bulb/ Stem : 316 SS
 - Scale : Hardened Borosilicate Glass
- d) Range : Following Mercury Thermometers shall be provided:
 - a. (-) 30 to (+) 20 °C
 - b. 0 to 50 °C
 - c. 50 to 100 °C
 - d. 100 to 150 °C
 - e. 150 to 200 °C
 - f. 200 to 250 °C
 - g. 250 to 300 °C
 - h. 300 to 350 °C
 - i. 350 to 400 °C
 - j. 400 to 450 °C
 - k. 450 to 500 °C
 - l. 500 to 550 °C
 - m. 550 to 600 °C
- e) Accuracy : ± 0.5 of graduation
- f) Graduation : 0.1 °C for lower range & 1 °C for range > 200 °C
- g) Connection : M 20 x 1.5
- h) Application : For field testing of performance of local instruments.

2.12 Flowmeter Calibrator (PR0680000283, Qty.: 3 Nos. {1 No. of each Range})

- a) Accuracy : +/- 2%
- b) Range : Following Flowmeter Calibrators shall be provided:
 - i. 0 – 1000 mmwcl
 - ii. 0 – 6000 mmwcl
 - iii. 0 – 30000 mmwcl



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c) Display : 3-digit LCD

2.13 Digital Thermograph / Hygrometer (PR0680000801, Qty.: 1 No.)

A microprocessor driven thermograph/hygrometer with inbuilt sensor powered by rechargeable batteries shall be provided. Suitable charger (inbuilt / standalone type) shall also be provided. This shall be able to display temperature and RH simultaneously, Maximum/Minimum memory for RH & temp. and Temperature Compensated RH measurement.

The Digital Thermograph/Hygrometer shall meet as a minimum the following requirements.

a) Range : -20°C to + 50°C
2% RH to 98% RH

b) Temperature Sensor : Thermistor

c) Humidity Sensor : Resistive Polymer

d) Resolution : 0.1°C, 1% RH

e) Accuracy : Temp. \pm 1°C
Humidity \pm 5%

2.14 Portable Flue Gas Analyser (PR0280000073, Qty.: 1 Set with each type of Sensor)

The Bidder shall furnish one no. microprocessor based portable gas analyser for field determination of the individual quantities of carbon monoxide, oxygen, NO, NO₂, SO₂ and hydrocarbons from flue gas samples. All hardware, Gas Cylinders for calibration and chemicals required for operation of the analyser shall be furnished.

a) Accuracy : O₂ = Better than \pm 0.5%
CO/SO₂/NO/NO₂ = Better than \pm 2%

b) Ranges : Following Gas Analyser ranges shall be provided:
CO = 0 – 2000 ppm
O₂ = 0 – 25% vol.
NO = 0 – 4000 ppm
NO₂ = 0 – 100 ppm
SO₂ = 0 – 2000 ppm

c) Indication : Digital LCD display

d) Power Requirement : 4 nos. 1.5 V rechargeable Ni Cd battery

e) Accessories : Leather case probe filter aspirator
data logger, 4 nos. rechargeable battery

f) Interface : RS232, Galvanically isolated with Software & hardware for interfacing.

2.15 Aneroid Barometer (PR0680000240, Qty.: 1 No.)



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a) Range	: 660 to 800 mmHg
b) Accuracy	: 0.33% of full scale
c) Sensitivity	: 0.2% of full scale
d) Scale Length	: 16" through 1 pointer revolution
e) Dial Diameter	: 4"/6"
f) Dial Calibration	: Two sets of graduations / calibration on a single dial i.e. mm Hg and inches Hg
g) Minimum Graduation	: 0.5 mm and 0.02" respectively

2.16 Miscellaneous Items (MECH-LAB-ITEMS, Qty.: 1 Set)

a) Aluminum Ladder (Qty. 1 No.)

One no. 2 sided Folding Aluminum ladder (height 180 cm or better) for maintenance and mounting bracket for ladder shall be provided by bidder.

b) Bidder shall include the items given below as miscellaneous to be supplied for instruments shop. Minimum requirements are stipulated here under the following table:-

Sl. No.	Description	Size / Range	Qty.
1	Hand operated wire wrap tool	---	1 No.
2	Magnetic screw driver	---	1 No.
3	SS & copper tube cutter/blender	---	1 No.
4	Electrically operated wire wrap	0.2 mm to 1 mm	1 No.

2.17 Standard Tool Box (PR0760000000, Qty.: 6 Set)

Each set of Standard tool box must include the following tools:

a) Mallet	: 1 No.
b) Hammer	: 1 No. of each type
c) Adjustable Spanner	: 1 No.
d) File	: 1 No. each Flat, Semi-Circle, Round type
e) Teflon Tape	: 2 Nos.
f) Insulation Tape	: 2 Nos.
g) Allen key (mm)	: 2 Nos.
h) Allen key (inches)	: 2 Nos.
i) Soldering Lead	: 2 Nos.
j) Vernier Calliper (digital indicator)	: 1 No.
k) Screw Gauge	: 1 No.
l) Spirit Level	: 1 No.
m) Thread Pitch Gauge for Male/Female thread	: 1 No.

2.18 Panel Wiring Tool Kit (PR0900003413, Qty.: 5 Set)

Each set of Panel Wiring Tool Kit must include the following:

a) Combination pliers (straight)	: 1 No.
b) Crimping tool (up to 6 sq. mm)	: 1 No.
c) Stripping tool (up to 10 sq. mm)	: 1 No.



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- d) Stripping tool : 1 No.
(up to 40 sq. mm)
- e) Insulation removal tool : 1 No.
- f) Cutting tool : 1 No.
(up to 50 sq. mm)
- g) Flat bladed screw driver : 1 No.
uninsulated,
- h) Flat bladed screw driver : 1 No.
insulated
- i) Star type screwdriver : 1 No.
- j) Torque screw driver : 1 No.
- k) Universal control cabinet : 1 No.
key
- l) Electrician plier (AC/DC) : 1 No.
- m) Tool kit bag : 1 No.
- n) Crimping Tool : 1 No.
- o) Stripping Tool : 1 No.

2.19 Tool Maker Clamp Jaw (PR0760000018, Qty.: 2 Sets includes 1 No. of each Size)

Tool Maker Clamp Jaw of total 2 Nos. of following sizes shall be provided:

- a) Size : 50 mm wide = 1 No.
100 mm wide = 1 No.

2.20 Trimmer & Alignment Tool Kit (PR0900004746, Qty.: 1 Set)

Precision Plastic Trimmer Tool Set. Thermoplastic tip material.

2.21 Coil Winding Machine (PR0680000259, Qty.: 1 No.)

Coil winding machine, single phase motor driven, to wind wires of diameter 0.001" to 0.036".

2.22 Pressure & Differential Pressure Calibrator-Portable (PR0680000828, Qty.:2 Nos.)

- a) Type : Precision Electronic with digital display
- b) Ranges : Each calibrator shall be provided to measure following ranges
(individual module for each range shall be provided for each Calibrator):
 - i. 0-500 mmwcl – Total 2 nos for 2 Calibrators
 - ii. 0-2500 mmwcl – Total 2 nos for 2 Calibrators
 - iii. 0-1.6 kg/cm² g- Total 2 nos for 2 Calibrators
 - iv. 1.6-10 kg/cm² g- Total 2 nos for 2 Calibrators
 - v. 0 – 250 Kg/cm² g- Total 2 nos for 2 Calibrators
 - vi. 0 – 400 Kg/cm² g- Total 2 nos for 2 Calibrators
- c) Accuracy : $\pm 0.002\% \text{ F.S.} + (\pm 0.05 \% \text{ of Reading})$
- d) Resolution : 1 mm
- e) Over Range Protection : 20 percent of span
- f) Pressure Sensing : Capacitive transducer element
- g) Display
 - Type : LCD
 - Digit : 5
- h) Function : Display for actual value and percentage error
- i) Other Functions : 1. 24V DC supply for two wire transmitter



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2. Contact monitoring for switch devises
3. Capability to read negative pressures upto (-) 0.8 kg/cm²

j) Power Supply : 240/230 V AC, 50 Hz with rechargeable Ni-Cd batteries
k) Operating Temperature : 60 deg.C
l) Pressure Connection : 1/8 and 1/4 inch BSP and NPT
m) Accessories :

1. Calibration pressure pump to meet complete range
2. Current output modules
3. Instruction Manuals
4. Carrying case

n) Application : Calibration of pressure/diff.pr. transmitters, pressure switches and converters etc.

2.23 Pressure & Differential Pressure Calibrator-Table Mounted (PR0680000852, Qty.:2 Nos)

a) Type : Precision Electronic with digital display
b) Ranges : Each calibrator shall be provided to measure following ranges:
(individual module for each range shall be provided for each Calibrator):

- i. 0-500 mmwcl- Total 2 nos for 2 Calibrators
- ii. 0-2500 mmwcl - Total 2 nos for 2 Calibrators
- iii. 0-1.6 kg/cm² g- Total 2 nos for 2 Calibrators
- iv. 1.6-10 kg/cm² g- Total 2 nos for 2 Calibrators
- v. 0 – 250 Kg/cm² g- Total 2 nos for 2 Calibrators
- vi. 0 – 400 Kg/cm² g- Total 2 nos for 2 Calibrators

c) Accuracy : $\pm 0.002\%$ F.S. + ($\pm 0.05\%$ of Reading)
d) Resolution : 1 mm
e) Over Range Protection : 20 percent of span
f) Pressure Sensing : Capacitive transducer element
g) Display :
- Type : LCD
- Digit : 5

h) Function : Display for actual value and percentage error
i) Other Functions :

1. 24V DC supply for two wire transmitter
2. Contact monitoring for switch devises
3. Capability to read negative pressures upto (-) 0.8 kg/cm²

j) Power Supply : 240/230 V AC, 50 Hz with rechargeable Ni-Cd batteries
k) Operating Temperature : 60 deg.C
l) Pressure Connection : 1/8 and 1/4 inch BSP and NPT
m) Accessories :

1. Calibration pressure pump to meet complete range
2. Current output modules
3. Instruction Manuals
4. Carrying case

n) Application : Calibration of pressure/diff.pr. transmitters, pressure switches and converters etc.

2.24 Vacuum Calibrator Table Mounted (PR0680000844, Qty.: 1 No.)

a) Range : - 12 to 0 psi
b) Accuracy : $\pm 0.025\%$ FS



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c) Display	: LCD Seven Segment
d) mA Input	: 4-20 mA
e) Power Supply	: 9V Alkaline Battery
f) Accessories	: 1. Charger/Adapter 2. Calibration Vacuum Pump 3. Test Leads 4. Carrying Case 5. Instruction Manual

2.25 Pressure & Vacuum Air Pump (PR0680000470, Qty.: 1 Set)

a) Type	: Double stage, combination Pressure and Vacuum Pump
b) Range – Pressure	: Upto 10 kg/cm ² for continuous duty
c) Range – Vacuum	: Upto 760 mm of mercury
d) Capacity	: 0.03 mm ³ per minute at 1 kg/cm ²
e) Drive	: Fan cooled motor suitable for 415V, 50 Hz, 3 phase AC power supply with cable and starter.
f) Accessories	: 1. Bleeder valves in inlet outlet lines for desired vacuum or pressure setting 2. 50 mm dial pressure gauge of range 0- 25 kg/cm ² 3. 50 mm dial vacuum gauge of range 0- 760 mm of mercury 4. Lubricator exhaust trap 5. Hose nipples 6. Intake filters 7. Other necessary accessories
g) Application	: Calibration of draft gauges, vacuum gauges / Transmitters and compound gauges.
h) Other Particular	: Pump seals shall be self-adjusting type without packing.

2.26 Air Set (PR0680000232, Qty.: 2 Nos.)

a) Filter element	: 5 micron sintered bronze filter element
b) Max. primary pressure	: 17.5 kg/cm ²
c) Secondary pressure	: 0-4 kg/cm ²
d) Connection	: 1/4" NPT (F)
e) Accessory	: O/P Gauge

2.27 Portable Electro-Pneumatic Calibrator (PR0680000410, Qty.: 4 Nos. {1No. of each Range})

Ranges	: Electro-Pneumatic Calibrator of below ranges shall be provided: i. 0 – 2 bar ii. 0 – 10 bar iii. 0 – 40 bar iv. 0 – 200 bar
--------	-------------------------------------------------------------------------------------------------------------------------------------------

The electro-pneumatic calibrator shall provide an accurate and convenient means for calibration of electronic and pneumatic instrumentation. Each calibrator shall have the following features as a minimum:

- a) Measurement & indication of pressure signal with accuracy of +1-0.05cc full scale.
- b) Generation of regulated pressure signal by using external air supply. In the absence of external air supply, the same shall be generated by a pressure and vacuum generator for low



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pressures. Suitable pressure generating unit (external) shall be provided for higher pressures.

- c) Measurement, generation and indication of current and voltage (mV, V and mA) signals.
- d) Digital read-out of electrical as well as pressure signals.
- e) Selection facility for reading pressure in five engineering units.
- f) Generation of DC supply voltage to electronic transmitters.
- g) Over pressure protection.
- h) The instrument shall have re-chargeable battery as power back-up and shall be complete with all accessories viz. Battery Charger etc.

2.28 Portable Ultrasonic Flowmeter (PR0280000937, Qty.: 2 Nos.)

This ultrasonic flow meter is used for non-intrusive flow measurement, indication, totalizing and transmitting of the flow in a full pipe.

- a) Sensors : Dual transmitting / receiving clamp-on, for pipes of size 50 mm to 1000 mm and other pipe size.
- b) Power : Built-in rechargeable battery and external charger.
- c) Data Storage : Internal data logger (which can be downloaded to a WORK STATIONS later).
- d) Measuring Range : 0 to + 0.3 to + 12 m/s
- e) Accuracy : +/- 1.0% of rate
- f) Response : 1 second
- g) Temperature : - 50 deg.C to 250 deg.C
- h) Display : Graphic LCD, Flow in m³/Hr. Velocity in m/sec.
- i) Totaliser : 12-digit LCD
- j) Battery : Usable continuously for 5 hours (min.)
- k) Printer : Fixed – internal automatic printout of Measured data
- l) Accessories : Power Adapter
SS Fastening belt
Propagation medium gel
Carrying case
Instructions for use

2.29 Surface Pyrometer (PR0680000445, Qty. 1 Set) Consisting of following:

a. Portable Infrared Radiation Thermograph (Qty.: 1 No.)

Portable infrared thermometer shall be provided for detecting infrared radiated by all bodies above 0°C. The item shall be powered by 1.5V AA battery and emissivity control and display hold shall also be provided.

- a) Temperature Range : - 30°C to 2000°C
- b) Resolution : 0.1°C (below 200°C)
1°C (above 200°C)
- c) Accuracy : +/- 1% reading or +/- 3°C, whichever is greater.
- d) Repeatability : +/- 0.5/1% reading +/- 1 digit
- e) Spectral Response : 8 - 14 microns
- f) Response Time : 500 m. sec
- g) Emissivity : 0.95



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h) Power Source : 9V alkaline or lithium battery

i) Accessories : Lens Cap
Data Log facility
Batteries
Battery chargers
Safety wrist straps
Output interfacing cable
Carrying Case
Instruction Manual

b. PORTABLE INFRARED RADIATION THERMOMETERS (Qty. 1 No.)

Portable infrared thermometer shall be provided for detecting infrared radiated by all bodies above 0°C. The item shall be powered by 1.5V AA battery and emissivity control and display hold shall also be provided.

a) Temperature Range : -30°C to 2000 °C

b) Resolution : - 0.1°C (below 200°C) 1°C (above 200°C)

c) Accuracy : +1% rdg or +3°C, whichever is greater

d) Repeatability : +0.5/1% rdg +1 digit

e) Spectral Response : 8-14 microns

f) Response Time : 500 m.sec

g) Emissivity : 0.95

h) Power Source : 9V alkaline or lithium battery

i) Accessories : Lens Cap
Data Log facility
Batteries
Battery chargers
Safety wrist straps
Output interfacing cable
Carrying Case
Instruction Manual

2.30 Portable H2 Gas Analyser (Microprocessor based) (PR0280000405, Qty.: 1 No.)

a) Case Purity : 0 to 100% H2 in Air

b) Purge : 0 to 100% H2 in CO2
0 to 100% air in CO2

c) Hydrogen Flow Rate : 100 to 700 CC/min

d) Output Signal : 4-20 m Amp

e) Display : Digital with Gas Purity in real time.

f) Power : With rechargeable battery

g) Accessory : As required i.e Flowmeter, Flow Control Valve, Pump

2.31 Industrial Grade Portable Vacuum Cleaner (PR0680000461, Qty.: 6 Nos.)

A compact, mains powered industrial grade Wet & Dry type portable vacuum cleaner designed for 240V AC, 50 Hz with all accessories shall be supplied.

a) Application : Blowing and sucking facility for cleaning the control panels, C&I Lab instruments, housekeeping of C&I Lab etc.



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2.32 Averaging Pitot tube (PR0680000399, Qty. 2 Nos.)

Type/Construction	: Pitot tube with direct mounting type on pipe
Materials	
Body	: SS316
Nipple	: SS316
Gaskets	: Teflon
Bolts & nuts	: SS316
Flange	: SS316
Process Connection	: 1 1/2" Flanged
Instrument connection	: 1/2" NPT (F) through needle valve
Length	: To suit the PA/SA/FD Duct off line flow measurement
Differential Pressure Range	: To suit the accurate flow
Accessories	: Bolts, Nuts, Cover plates, Adapter and Gaskets, SS tag plate as required

2.33 Oil Condition Monitor (PR0540000051, Qty.: 1 No.)

Oil Check Monitor (Portable) shall have following specifications:

- a) Suitable Oil types : Mineral and Synthetic oils
- b) Repeatability : +/-5%
- c) Readout : Green/red grading + numerical value (-999 to +999)
- d) Battery : 9V Alkaline type IEC 6LR61
- e) Battery lifetime : >150 hours or 3000 tests
- f) The monitor should track of mechanical wear and of any loss of the oil's lubricating properties.

2.34 Grinding Wheel (PR0900004568, Qty. 1 no of each type, Total 2 Sets)

Material	: i. Aluminium Oxide ii. Silicon Carbide
Grain Size	: Coarse, Medium, Fine, Very fine.
Grade	: Soft, Medium, Hard.
Wheel Structure	: Dense, Normal, Open.
Bond type	: Resinoid, Shellac, Rubber, Silicate, Vitrified.

2.35 Furniture for C&I Lab (PR0490000878, Qty 1 Set)

Two (2) nos. Workbench suitable for electronic work and pneumatic work with wood top approximate size 75 x 300 cms. with side drawers (fitted with lock) and board on back of the bench top with electric fittings. Workbench shall be fitted with all essential tools as describes above. Workbench shall also be fitted with electrical fittings – sockets and color coded banana jacks for each kind of voltage mentioned above and one 20-watt fluorescent lamp at each table.

Three (3) nos. teak wooden work table with thick laminated top size 1x2 meters. Eight (8) nos. high adjustable wheeled swivel chairs. Four (4) nos. vertical cabinets 1000 x 480 x 2000 mm made of sheet steel (Sheet thickness of 18 gauge) and equipped with safety locks. Four (4) nos. open shelf 1000 x 200 x 2000 mm with partitions made of steel shall be provided.



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3.0 BILL OF MATERIAL

Sl. No.	ITEM DESCRIPTION	Spec. clause	Vendor List sl.	BHEL Material Code	Certification	Quantity
1	Pneumatic Test Bench	2.01	26	PR0800000030	Test Reports	1 No.
2	Portable Calibrator for Vacuum	2.02	1	PR0680000836	Calibration Certificate	1 No.
3	U-Tube Manometer	2.03	2	PR0680000372	Test Certificate	2 Sets
4	Inclined -Tube Manometer	2.04	3	PR0680000453	Test Certificate	2 Sets
5	Test Manometer	2.05	4	PR0680000364	Test Certificate	2 Nos.
6	Digital Manometer	2.06	5	PR0680000860	Test Certificate	2 Nos.
7	Dead Weight Tester	2.07	6	PR0680000267	Test Certificate	1 No.
8	Vacuum Tester	2.08	6	PR0680000488	Test Certificate	1 No.
9	Standard Pressure Gauges	2.09	7	PR0160000050	Test Certificate	2 Sets
10	Hydraulic Pressure Gauge Tester	2.10	6	PR0680000313	Test Certificate	2 Nos.
11	Mercury Thermometer	2.11	8	PR0680000380	Certificate of Conformity	2 Sets
12	Flowmeter Calibrator	2.12	9	PR0680000283	Certificate of Conformity	3 Nos.
13	Digital Thermograph / Hygrometer	2.13	10	PR0680000801	Certificate of Conformity	1 No.
14	Portable Flue Gas Analyzer	2.14	11	PR0280000073	Test Report	1 Set
15	Aneroid Barometer	2.15	12	PR0680000240	Certificate of Conformity	1 No.
16	Miscellaneous Items	2.16	13	MECH-LAB-ITEMS	Certificate of Conformity	1 Set
17	Standard Tool Box	2.17	13f	PR0760000000	Certificate of Conformity	6 Sets
18	Panel Wiring Tool Kit	2.18	13i	PR0900003413	Certificate of Conformity	5 Sets
19	Tool Maker Clamp Jaw	2.19	13a	PR0760000018	Certificate of Conformity	2 Sets
20	Trimmer & Alignment Tool Kit	2.20	13c	PR0900004746	Certificate of Conformity	1 Set
21	Coil Winding Machine	2.21	13g	PR0680000259	Certificate of Conformity	1 No.
22	Pressure & Differential Pressure Calibrator-Portable	2.22	14	PR0680000828	Calibration Certificate	2 Nos.
23	Pressure & Differential Pressure Calibrator-Table Mounted	2.23	14	PR0680000852	Calibration Certificate	2 Nos.
24	Vacuum Calibrator Table Mounted	2.24	15	PR0680000844	Calibration Certificate	1 No.
25	Pressure & Vacuum Air Pump	2.25	16	PR0680000470	Test Certificate	1 Set
26	Air Set	2.26	17	PR0680000232	Certificate of Conformity	2 Nos.



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Sl. No.	ITEM DESCRIPTION	Spec. clause	Vendor List sl.	BHEL Material Code	Certification	Quantity
27	Portable Electro-Pneumatic Calibrator (1 No. each Range)	2.27	18	PR0680000410	Calibration Certificate	4 Nos.
28	Portable Ultrasonic Flowmeter	2.28	19	PR0280000937	Certificate of Conformity	2 No.
29.a	Portable Infrared Radiation Thermograph	2.29.a	29	PR0680000445	Certificate of Conformity	1 No.
29.b	Portable Infrared Radiation Thermometers	2.29.b	20	PR0680000445	Certificate of Conformity	1 No.
30	Portable H2 Gas Analyser	2.30	21	PR0280000405	Test Certificate	1 No.
31	Industrial Grade Portable Vacuum Cleaner	2.31	22	PR0680000461	Certificate of Conformity	6 Nos.
32	Averaging Pitot Tube	2.32	25	PR0680000399	Certificate of Conformity	2 No.
33	Oil Condition Monitor	2.33	23	PR0540000051	Certificate of Conformity	1 No.
34	Grinding Wheel	2.34	24	PR0900004568	Certificate of Conformity	2 Sets.
35	Furniture for C&I Lab	2.35	28	PR0490000878	Certificate of Conformity	1 Set
36	Erection and Commissioning of supplied lab items			EC-001		1 Set

Note: Certificate for each instrument shall be submitted as per the list above; deviation, if any, shall be mentioned in the offer.



**PURCHASE SPECIFICATION FOR
MAINTENANCE & CALIBRATION EQUIPMENT
(MECHANICAL)**

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4.0 ITEM WISE SUB – VENDOR / MANUFACTURER LIST

SL NO	Lab Instrument	MAKE
1	Portable Calibrator for Vacuum	Tinsley/ BEAMEX Scandura Eurotron Druck Time Electronics ITPL Wika - Germany AMETEK, DENMARK USA DH-BUDENBERG, FRANCE/UK
2	U-Tube Manometer	Dwyer/Meriam/Tinsley/Fitzer/ Yokogawa/ITPL
3	Inclined -Tube Manometer	Dwyer/Meriam/Tinsley/Fitzer/ Yokogawa/ ITPL
4	Test Manometer	Dwyer/Meriam/Tinsley/Fitzer/ Yokogawa/ITPL
5	Digital Manometer	Meriam /Tinsley/Fitzer/Yokogawa/ Cole Parmer/ Beamex/ Time Electronics / ITPL/AOIP AMETEK, DENMARK USA WIKA- Germany
6	a. Dead Weight Tester b. Vacuum Tester c. Hydraulic Pressure Gauge Tester	Tinsley/ Scandura/ BEAMEX/Budenberg/ Time Electronics / ITPL DH-BUDENBERG, FRANCE/UK AMETEK, DENMARK USA/ WIKA INSTRUMRNTS GERMANY
7	Standard Pressure Gauges	Ametek/Budenberg/Tinsley /Scandura/ Time Electronics / ITPL ASHCROFT INC ,USA/ WIKA INSTRUMRNTS GERMANY
8	Mercury Thermometers	Tinsley/Scandura/Brooklyn/Amarrell/ ITPL
9	Flow meter Calibrator	Tinsley/Odin/Ametek/E&H/Fuji/ITPL DWYER INSTRUMENTS INC, USA/YOKOGAWA JAPAN

10	Digital Thermograph/ Hygrometer	Extech/Rosemount/Brooklyn/Tinsley/ ITPL GE / COLE PARMER, USA/AMPROBE, USA
11	Portable Flue gas Analyser	Endee/Land/Bacharach/H & B/Eurotron TESTO GERMANY
12	Aneroid Barometer	Wallace/Tiernan/Brooklyn Novalynix/Transcat COLE PARMER, USA /GE
13	Miscellaneous Items	
a	Tool maker clamp jaw	ITPL / Beamex/Scandura/Taparia/RS components/Hitachi/Black& Decker
b	Hand operated wire wrap tool	ITPL / Beamex/Scandura/Taparia/RS components/Hitachi/Black& Decker
c	Trimmer & Alignment Tool Kit	ITPL / Beamex/Scandura/Taparia/RS components/Hitachi/Black& Decker
d	Magnetic screw driver	ITPL / Beamex/Scandura/Taparia/RS components/Hitachi/Black& Decker
e	SS & copper tube cutter/blender	ITPL / Beamex/Scandura/Taparia/RS components/Hitachi/Black& Decker
f	Standard tool box	ITPL / Beamex/Scandura/RS components/Hitachi/Black& Decker/Phoenix
g	Coil winding machine single phase motor driven to wind wires of dia 0.001" to 0.036".	ITPL / Beamex/Scandura/Taparia/RS components/BMP equipment's/Hitachi/Black& Decker
h	Electrically operated wire wrap (0.2 mm to 1 mm)	ITPL / Beamex/Scandura/Taparia/RS components/Hitachi/Black& Decker
i	Panel wiring tool Kit	WAGO / Phoenix / WEIDMULLER /ITPL
14	Pressure & Diff. Pressure Calibrator	Scandura/Tinsley/Eurotron/Yokogawa/BEAMEX/Time Electronics / ITPL / FLUKE CORPORATION, USA/ DRUCK, USA/ ASHCROFT INC, USA/WIKA INSTRUMENT, GERMANY/AMETEK, DENMARK USA/DH-BUDENBERG, FRANCE/UK/ AOIP, FRANCE L
15	Vacuum Calibrator	Scandura/Tinsley/Eurotron/Yokogawa/ BEAMEX/Time Electronics / ITPL FLUKE CORPORATION, USA/ DRUCK, USA/ ASHCROFT INC, USA/WIKA INSTRUMENT, GERMANY/AMETEK, DENMARK USA/DH-BUDENBERG, FRANCE/UK/ AOIP, FRANCE



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16	Pressure & Vacuum Air Pump	Scandura/Tinsley/Eurotron/Yokogawa/ BEAMEX/Time Electronics / ITPL/AOIP KNF NEUBERGER, USA/ BHARATH VACUUM PUMPS, INDIA /ELGI,INDIA
17	Air Set	Shavo-Norgen/ Placka/SMC Pneumatic FAIRCHILD INDUSTRIAL PRODUCTS/ ABB
18	Portable Electro-Pneumatic Calibrator	Tinsley/SMC Pneumatic/H&B (ABB)/MTL/P&F/Time Electronics / ITPL/AOIP
19	Portable Ultrasonic Flow meter	Fuji/E&H/ITPL/Dynasonic/Micronics/ GE / TESCO COMPUFLOW, USA
20	Portable Infrared Radiation Thermometers	ITPL/Extech/RAYTEK(Fluke) / MIKRON/ COLE – PARMER/Impac MINOLTA,USA/TESTO, GERMANY/FLUKE CORPORATION, USA
21	Microprocessor based Portable H2 Gas Analyser	Hach Ultra/Ametek/Codel/e one/Eurotron/ BACHARACH/ENDEE
22	Industrial portable Vacuum Cleaner	LG, Electrolux, Godrej, Morphy Richards, Panasonic. EUREKA FORBES, INDIA/BOSCH, GERMANY,INDIA/KARCHER, GERMANY
23	Oil Condition Monitor	Eaton/Precision Filtration/KITTIWAKE
24	Grinding Wheel	BOSCH/ REX
25	Averaging Pitot Tube	Dietrich (Fisher Rosemount), Micro-precision, Technomatic, DWYER/ VERIS INSTRUMENTS

26	Pneumatic Test bench	Tinsley / Scandura-Italy / Beamex/ Isothermal Technology Pvt Ltd(ITPL)
27	Oil Condition Monitor (additional vendor)	SKF
28	Furniture for C&I Lab	Pyrotech Workspace Solutions Pvt Ltd, Godrej and Boyce Manufacturing Co., Cosmos Media Products Pvt Ltd, Harmony Systems, Adarsha Control Systems Pvt Ltd., Featherlite Products Pvt Ltd.
29	Portable Infrared Radiation Thermograph	ITPL/Extech/RAYTEK(Fluke) / MIKRON/ COLE – PARMER/Impac/Nippon.

Note:

- 1.0 Vendors to offer items from above approved makes only.
- 2.0 Package vendor shall offer items from their principals. Only where items are not available then items can be chosen from one of the approved makes.

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5.0 PROCEDURE FOR PACKING OF CONTROL EQUIPMENTS USING PLYWOOD.

1. **PURPOSE:** To describe the materials and procedure for Packing.
2. **SCOPE:** Applicable for packing of control cubicles, loose items, spares of Control Equipment and Transmission System Control products.

3. MATERIALS

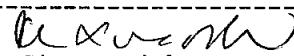
3.1. WOOD

3.1.1 For Inland contracts:

3.1.1.1 Plywood of Boiling Water Resistance (BWR) grade and termite, fungus proof as per IS: 303 of 12 mm thick for control cubicles, single and multi cubicles, loose items and spares cases. The plywood shall be bonded with high Quality Phenol Formaldehyde Synthetic Resin and specially treated with preservatives to repel termites and wood destroying organisms. The plywood shall with stand the stress caused by cyclic changes in weather conditions. It shall be durable and resistant to heat, sun and moisture. The sheets such procured shall have IS mark IS 303 and BWR grade stamped on it.

3.1.1.2 Silver oak wood of cross section 45x45 mm as support battens for Loose items, spares and single suit, two suit, three suit Cubicles and 70x45 mm for longer sections to be used. These Silver oak wood battens shall be treated with ASCU solution as defined in 4.0. In the case of plywood, treatment with ASCU solution need not be done.

Alternative to silver oak battens, Plywood support battens of suitable cross section and combination of thickness can also be used as per clause 3.1.1.4


 APPROVED : M. Sivaramaiah

 PREPARED: ISSUED: DATE:
 PGD/KPN STDS GROUP 30/03/13

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3.1.1.3

Plywood for general purposes i.e. moisture resistance or MR grade (Commercial ply wood) and termite, fungus proof as per IS: 303 of 9 mm / 12 mm thick for control cubicles, single and multi cubicles, loose items and spares cases. The plywood shall be bonded with high quality Phenol Formaldehyde Synthetic Resin and specially treated with preservatives to repel termites and wood destroying organisms. The plywood shall withstand the stress caused by cyclic changes in weather conditions. It shall be durable and resistant to heat, sun and moisture. The sheets such procured shall have IS mark IS 303 and MR grade stamped on it. 9 mm thick plywood can be used with additional plywood support/ reinforcement suitable battens both for small cases and also for panels. Support batten as indicated at 3.1.1.4 shall be used.

Sample drawings of panels & loose boxes are attached for ready reference.

[Fig : 10 to 13]

3.1.1.4 Support Battens:

Ply wood sheet of cross section 18 mm x (100 mm) for support batten for loose items, spares, and plywood sheet of cross section 18 mm thk x 100 to 150 mm width as support batten for standard panels up to 2450 x 1350 x 2500 mm panels. Support batten of plywood cross section 12 thk x 75 to 100 mm can also be used for small cases apart from 18 mm x 100 mm cross section. These plywood support battens can also be used in place of silver oak support battens as referred in clause 3.1.1.2. Additional support battens/ cross battens of suitable sizes are to be provided on need basis.

Sample drawings of panel's i.e. single suit, two suite and three suit cubicles are attached for ready reference [Fig: 10 to 13].

Special support battens for Rlys and similar panels:

Plywood of cross section 18 mm x 75mm x 3 no's at both bottom end and top end of front and back shoo's , and also at top portion of both corner shoo's for fixing with bolt and nut/ clamps, and 18 mm x 150 mm x 2 nos cross section as support batten/ slanting reinforcement batten on all sides. On need basis 18mm x 125 mm x 2 to 3 no's of plywood cross section can also be used additionally depending upon the size and weight of the panel.

Plywood shoo's can be fixed with both Bolts and mechanical latching clamps or combination of both as the case may be.

Sample drawings of panels are attached for ready reference.

[Fig : 8 & 9]

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3.1.2 For Export Contracts

3.1.2.1 Plywood of Marine grade as per IS: 710 of 9 / 12 mm Thick for control cubicles of single / two / three suite for loose items and spare cases. For suit of four and longer cubicle sections, 19mm thick is to be used.

It shall be highly resistant to attacks from fungi, termites and wood destroying organisms including marine borers. The plywood shall withstand the stress caused by cyclic changes in weather conditions. It shall be durable and resistant to heat, sun and moisture. The sheet shall have IS: 710 and marine grade marking.

3.1.2.2 Same as clause 3.1.1.2.

3.1.3 BHEL EDN will be carrying out test on ISI marked ply Wood whenever required.

3.2 Fasteners: M8 x 130 mm and M8 x 150 long zinc plated Bolts and M8 zinc plated nuts for fixing, and spring Washers or suitable size can also be used.

3.3 Nails: Nails of dia 3.15 mm and about 40 mm for nailing of plywood and silver oak batten. Suitable smaller size is to be used for other nailing.

3.4 Polyethylene sheet: The polyethylene sheets are used to make covers for the jobs individually. The material shall have a minimum thickness of 0.175 mm (175 microns).

The polyethylene sheet shall be clear and transparent manufactured out of virgin material. Reprocessed material shall not be used.

3.5 Bituminised water proof kraft paper - used for lining the inside of shookes of cubicles.

3.6 Bitumen coated Hessian polyethylene kraft paper used for lining the inside of top cover for cubicles and all inner and top sides for small boxes.

3.7 Rubberised Coirs- used for cushioning and to fill the gap inside packing boxes. The coir shall be about 100 mm wide and 25mm thick.

3.8 Foam rubber/U Foam - This is used for covering the delicate items. This material is normally provided by BHEL.

3.9 Thermocole(Expanded polystyrene) sheets - This is used for covering delicate items. This material is normally provided by BHEL.

3.10 Silica gel - shall be of indication type to conform to IS: 3401: shall be blue in colour while usage.

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3.11 Cotton bag - These are used for holding silica gel. The bags shall have the following matter indicated on them:

BHEL-EDN

BANGALORE-560026

**SILICA GEL
INDICATING TYPE**

BLUE	: ACTIVE
ROSE	: REDUCED ACTIVITY
WHITE	: NO ACTIVITY. TO BE REPLACED WITH FRESH SILICA GEL

3.12 Cotton / Plastic tape-This is used for tying small items and also to prevent vibrations of moving parts within the cubicles.

3.13 Polyethylene bags - These are to be used for keeping the packing slips. The bag shall be of size 70 mm X 100 mm (minimum).

3.14 Hessian cloth, twine thread, paint will have to be used in packing certain items.

3.15 Marking plate - This shall be of anodized aluminium sheet. Details and specifications are given in Fig-3.

3.16 Marking ink - Ink used shall be normally black in colour. The ink shall be indelible, non fading and non washable in water.

3.17 Packing Slip Holder - This shall be of galvanised iron tinned sheet / aluminium sheet.

3.18 Mechanical Latching clamps : For CLW Railway panels and similar Panels self locking clamps can also be used on need basis in conjunction with or apart from regular bolt and nut fixing arrangement. Sample drawing attached [refer Fig.7]. For reusable boxes, these clamps provides easy locking and unlocking arrangement. These clamps will be made available from BHEL in some cases.

3.19 Flex/Vinyl digital print media for labeling:
Labels made out of Flex/Vinyl/ other digital media shall be used for export contracts & some prestigious domestic contracts on need basis apart from existing present marking/ labeling system.

3.20 Aluminium foil for packing:
On need basis, suitable size & thickness of aluminium foil shall be used for packing of electronic panels and loose items for both indigenous & export contracts.

3.21 Pallets :
All cubicles are mounted on the pallets by BHEL. For loose items, HMI items & small cabinets for which no pallets are available, suitable size pallets have to be arranged by the contractor.

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4.0 Chemical treatment for silver oak preservation

4.1 The silver oak battens are to be treated with ASCU solution. For plywood wood treatment is not required.

4.2 The chemical used shall be ready mix ASCU paste. This consists of Arsenic, copper sulphate, sodium dichromate. This paste shall be mixed at the rate of 1 kg of paste per 10 liters of water. Alternate to this CCA can also be used as indicated at para 4.4

4.3 The chemical treatment shall be done at the premises of the contractor. A cement concrete tank of capacity to hold a minimum of 2000 liters of solution shall be constructed. The solution shall be prepared in the presence of BHEL- EDN's representative by contractor. The wooden battens shall be soaked in the solution for a minimum of 12 hours.

The solution shall be replenished after treating a maximum of 12 cubic meters of wood for 2000 liters of solution. A log book shall be maintained by the contractor to give the details of date of preparation of solution, quantity of solution prepared, quantity of chemicals used, quantity of wood treated and the details of replenishment.

Samples of solutions [only paste before mixing] shall be tested at the laboratories designated by BHEL. The testing fees to be paid to the laboratories will have to be borne by the contractor. The solution [paste] shall be tested as and when required.

4.4 Specifications for water soluble type wood preservatives:
Copper - Chromium - Arsenic [CCA]:

Copper - Chromium - Arsenic preservative formulation shall be as per IS : 10013 Part - II - 1981 shall consist of following active ingredients in nominal proportions by weight as shown below:

Arsenic Pentoxide	$AS_2O_5 \cdot 2H_2O$	12.5
Copper Sulphate	$CuSO_4 \cdot 5H_2O$	37.5
Sodium Dichromate	$Na_2Cr_2O_7 \cdot 5H_2O$	50.0
Or		
Potassium Dichromate	$K_2Cr_2O_7$	

5.0 Jointing of plywood- to the extent possible, single plywood sheet shall be used in case of equipment of large size, jointing is allowed as bellow.

5.1 The joining shall be as close to the center of equipment as possible, but not less than 500 mm from one edge.

5.2 While joining (2 or more plywood sheets), care shall be taken to fix the sheets in the direction of the grain structure.

5.3a For joining Plywood and Silver oak wooden batten:
 While joining, 2 sheets shall be kept close to each other and treated

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silver oak batten of 100 mm width and 45 mm thick to be used and nailed to both plywood sheets alternately (2 numbers) in zig-zag manner.

5.3b For Joining plywood with plywood sheets :

While joining, 2 sheets shall be kept close to each other and plywood sheet batten of minimum 100 to 200 mm width and 18 mm thick to be used depending upon the size of the box/ case and nailed to both plywood sheets alternately (2 numbers) in zig-zag manner. Suitable size nails to be used.

5.4 Jointing of silver oak batten : Only single length silver oak batten shall be used. In case of height or width of equipment is more than 2400 mm, jointing of batten is acceptable. The jointing of batten shall be such that two batten are kept together and one more batten of width & length of about 200 mm to be nailed on both the planks as in Clause 5.3 above.

5.5 The above jointing is to be done close to center of equipment.

6.0 Packing procedure

6.1 Packing of cubicles for inland contracts.

6.1.1 Packing to be done using materials given in clause 3.0.

6.1.2 The cubicles are fixed on wooden pallets. Hence the contractor need not arrange the bottom pallets.

6.1.3 Loose parts : All loose parts in the cubicles, shall be tied using cotton/ plastic tape. Wooden battens shall be provided wherever necessary.

6.1.4 Additional loose items which may be kept inside the cubicle.

a. The components which are removed from cubicle for loose shipping, such as meters shall be kept inside the cubicle individually kept in wooden box and tied firmly to the bottom of cubicle.

b. Other items which are given loose in addition to cubicle, shall be packed in separate boxes (like cables).

c. For transformer cubicles loose items shall be packed in separate boxes and these boxes may be tied firmly in bottom of cubicles.

d. Items which are bigger in size such as impulse tubes may be kept at the top of cubicles firmly bunched and tied.

6.1.5 Wooden batten : This batten shall be silver oak wood .In case of Cubicle which are not rectangular in shape like control desks, sufficient number of wooden rafters/ battens of proper size shall be provided to give strength to the package.

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6.1.6 Silica gel: Silica gel (as in 3.10) packed in cotton bag (as in 3.11) shall be kept at different place inside the cubicle as per BHEL-EDN directions. Each suit of cubicle shall provided with 1 kg of silica gel (for a suit of 4 cubicles, 4 kg of silica gel shall be used).

6.1.7 Polyethylene sheet covering: Cubicles shall be covered with polyethylene petticoat (sheet as in 3.4). This shall be tailor made to fit the cubicle. The sealing shall be such as not to allow any moisture to enter the cubicle. This sheet is to be folded to the bottom pallet with wooden planks on 2 larger sides.

6.1.8 After completion of this, the arrangement is as shown in Fig.1.

6.1.9 Rubberised coir: (as in 3.7) to be nailed from inner side of plywood after pasting kraft paper for full length with a pitch less than 500mm with a min. of 2 rows of cover is to be used.

6.1.10 Bituminised water proof kraft paper: (as in 3.5) to be pasted with glue on 4 inner sides of plywood. Whenever 2 pieces of kraft paper are used, the joint shall have an over lap of min 20 mm.

6.1.11 Bitumen coated Hessian polyethylene kraft paper (as in 3.6) to be nailed using nails (as in 3.3) on top cover inner surface. This sheet shall project outside on 4 sides by atleast 100 mm and shall be folded and nailed on to the sides. Joining of 2 sheets shall have an overlap of min 20 mm.

6.1.12 After completion of above steps, the arrangement shall be as given in Fig.2.

6.1.13 Marking Plate : One no (as in 3.15) shall be nailed to the front side of case, item as shown in Fig.3.

6.1.14 Case Marking : After complete packing, marking of various details and symbols as given by EDN shall be done using indelible ink (as in 3.16)

6.1.15 Packing Slip : Packing slip kept in polyethylene bag (as in 3.18) shall be placed inside the box at appropriate place before closing the top. in addition one more packing slip covered in polyethylene cover and packing slip holder (as in 3.17) shall be nailed to front or rear of shook.

6.1.16 At the end of this stage, the arrangement is as shown in Fig.4. Front and rear shook fixing arrangement to the bottom of the pallet is as shown in Fig.5

6.1.17 The lifting arrangement of the packed case is shown in Fig.6

6.2 Packing of cubicles for export contracts Procedure is same as that given in 6.1 except for the following changes:

- Two Polyethylene petticoat (as in 6.1.7) instead of one
- Fumigation may have to be done if required (BHEL Scope).

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6.3 Packing of empty Cubicles Procedure is same as that given in 6.1 except For following changes

- Bituminised kraft paper, bitumen coated Hessian polyethylene paper, silica gel need not be used.

6.4 Packing of loose items/spares for inland contracts

6.4.1 All the materials and procedure are same as in 6.1 except that :

- No joining of plywood and silver oak batten
- Inner sides of all 6 sides shall be nailed with bitumen coated Hessian polyethylene kraft paper (as in 3.6) using nails.
- Kraft paper (as in 3.5) is not required
- Silica gel quantity is 100 gm approx per box.
- Rubberised coir is to be nailed to inner surfaces of bottom 4 sides of box.
- Bottom plywood sheet / pallet shall be of 18 mm thick for all practical purposes and 12 mm thick for smaller boxes on need basis. Suitable bottom beams made out of plywood/ any other wood of suitable cross section 75x36 mm, 75x54 mm, 75x75 mm, 100x100 mm.
- Support battens of cross section 12x75 mm, 12x100mm, 18x75 mm, 18x100 mm can be used depending upon the size of the boxes. Plywood support battens can be used in the place of silver oak battens.
- Clause 6.1.10 is not applicable. Individual items to be sealed with polyethylene sheet(as in 3.4) and one full cover of polyethylene sheet covering of all items is to be made.

6.4.2 In few cases gabled roof (single or double gable) may have to be made, details of which will be given by EDN.

6.4.3 Internal Packing: Items that go into the box shall be packed using polyethylene sheet/ U foam/ thermocol sheets/air bubbled sheets/ paper cartoons and cotton tape. Any space left between the job and the sides and the top of the box shall be filled with rubberised coir/air bubbled sheet /thermocole to get proper cushioning effect. Certain items like transformers, reactors, breakers, etc shall be bolted to the bottom of the box using bolts, nuts and washers.

6.5 Packing of Loose items/ Spares for Export Contracts: Procedure is same as that given in 6.4 except for following changes:

- Two polyethylene covers to be provided,
- Fumigation may have to be done, if required, for which payment will be made by EDN.

6.6 Any other changes/ new methods/ alternative packing systems can be undertaken with prior information and approval from the dept. For other parameters and further details concerned agency may please be contacted.

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7.0 ACCEPTANCE CRITERIA OF PLYWOOD :

**PLYWOOD FOR GENERAL PURPOSE
GRADE FOR PACKING - AS PER IS:303**

1. Plywood sheets shall have IS:303 & BWR / MR grade stamped on each sheet.
2. Packing/contractor should give a certificate to this effect.
3. Contractor shall identify each sheet with their name/firm in suitable place.
4. Visual checks to be done by packing contractor and EDN-QC CE shipping.
5. For other parameters, testing will be done at authorised laboratories/institutions by EDN on sample basis.

7.1 FOR BWR GRADE : TABLE-1 QUALITY REQUIREMENTS OF PLYWOOD

S1 NO	Defect Category	Maximum Number of Defect Permitted on any one surface of panel (as applicable to Type A Surface of IS:303)
1.	Blister	Nil
2.	Check	Individual check not more than 50mm in length and the total length not more than 300mm/m ²
3.	Discoloration	Nil
4.	Dote	5cm/m ²
5.	Insect hole	Scattered up to 12 holes/m ²
6.	Joints	One joint for every multiple of 200mm provided no individual piece is less than 100mm in width
7.	Knots (dead)	2 up to 12mm dia/m ²
8.	Pin knots (dead)	2/m ²
9.	Pin knots (live)	No restriction
10.	Knots (tight)	6 up to 25mm dia/m ²
11.	Patches	4 patches/m sq provided they are all tight patches & do not mar the appearance

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12. Splits 2 splits each not more than 1mm wide and length not more than 100mm provided they are filled with suitable filler

13. Swirl Unlimited provided they do not mar the

7.2 FOR MR GRADE : TABLE - 2 QUALITY REQUIREMENTS OF PLYWOOD

S1 NO	Defect Category	Maximum Number of Defect Permitted on any one surface of panel (as applicable to Type A Surface of IS:303)
1.	Blister	Nil
2.	Check	Individual check not more than 100mm in length and the total length not more than 1000mm/m ²
3.	Discoloration	5 %
4.	Dote	15cm/m ²
5.	Insect hole	Scattered up to 24 holes/m ²
6.	Joints	: No restrictions
7.	Knots (dead)	4 up to 20mm dia/m ²
8.	Pin knots (dead)	: 6/m ²
9.	Pin knots (live)	No restriction
10.	Knots (tight)	: No Restrictions
11.	Patches	Any number provided they are all tight patches & do not mar the appearance
12.	Splits	3 splits each not more than 4 mm wide and length not more than 150 mm provided they are filled with suitable filler
13.	Swirl	NO restrictions

7.3 Thickness of Plywood sheets:

The plywood boards shall be of uniform thickness within specified tolerance limit specified. The faces of plywood boards shall be reasonably smooth.

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7.4 PERMISSIBLE DEFECTS:

Gaps in cores and cross-bands may be permitted except for 3 ply plywood, provided the width of the gap does not exceed 1mm in case of and 2 mm in case of plywood of more than 5 ply and provided such gaps, if more than one, shall be spaces not less than 80mm away from each other and are staggered not less than 50mm away as between ply, the next ply having the same grain direction.

7.5 WORKMANSHIP AND FINISH:

The plywood boards shall be of uniform thickness.

The faces of plywood boards shall be reasonably smooth and face veneers shall be reasonably uniform thickness.

7.6 TESTS:

For testing any other mechanical property of general purpose plywood, Subject to agreement between the purchaser and the supplier, reference shall be made to the provisions of IS 1734 Part 1 and 20)

8.0 Details of Drawings / Figures attached:

- Fig- 1 : Packing of panel - Preparation
- Fig- 2 : Shookes preparation
- Fig- 3 : Marking Plate
- Fig- 4 : Packed panel with plywood and silveroak battens
- Fig- 5 : Detailed joining of pkg shookes with battens
- Fig- 6 : Lifting of packed case
- Fig- 7 : Mechanical Latching clamps
- Fig 8 & 9 : CLW Railway panel packing
- Fig 10 to 13: Packing of panels and spares packing cases.
- Fig 14 : All Units supplying Initial and O & M spares
(Recommendations from Corporate Systems & IT)

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Additional points to be taken care for :

Easy spares [Initial and O&M] Traceability and Identification at units and as well as at sites:

(Recommendations from Corporate Systems & IT)

Sl	Activity
1	All Initial and O&M spares preferably supplied in one lot to site and progressive inventory till all spares are accumulated could be kept at units.
2	Spares (Initial and O&M) should be supplied in separate Boxes / Containers and not mixed in main supply boxes.
3	i) Initial spares Box / Container to be labeled as "INITIAL SPARES " in RED. Ref fig: 14 (Page-26). ii) O & M spares Box /Container to be labeled as" O&M SPARES " in GREEN. Ref fig: 14 (Page-26).
4	iii) Initial Spares Box to have red Color strip as per diagram. Ref fig: 14 (Page-26). iv) Majority of spares (initial and O&M) are for indoor storage at site. v) O&M spares box to have green Color strip as per diagram. Ref fig: 14 (Page-26).
5	vi) Spares (Initial and O&M) Packing list kept inside the boxes and affixed securely outside the box to contain vii) Custom name viii) Project / Power station Name ix) Customer PO No and date x) Sl no of customer PO. xi) Quantity total & dispatched. xii) Unit work order number xiii) All above to be developed from Unit IT System
6	xiv) All spares (Initial and O&M) items to have tags (wono, item customer order no, customer item.description)
7	xv) Supply of spares by Vendor should also be instructed for following point 2,3,4,5,6 mentioned above.

Action By : Sites on arrival of spares (Initial and O&M) Receipt .

Activity
Material utilized if any from Initial and O&M spares , should have prior written approval of concerned MUs. Such MUs shall also confirm replacement dates which should be entered in the system for creation of repository.



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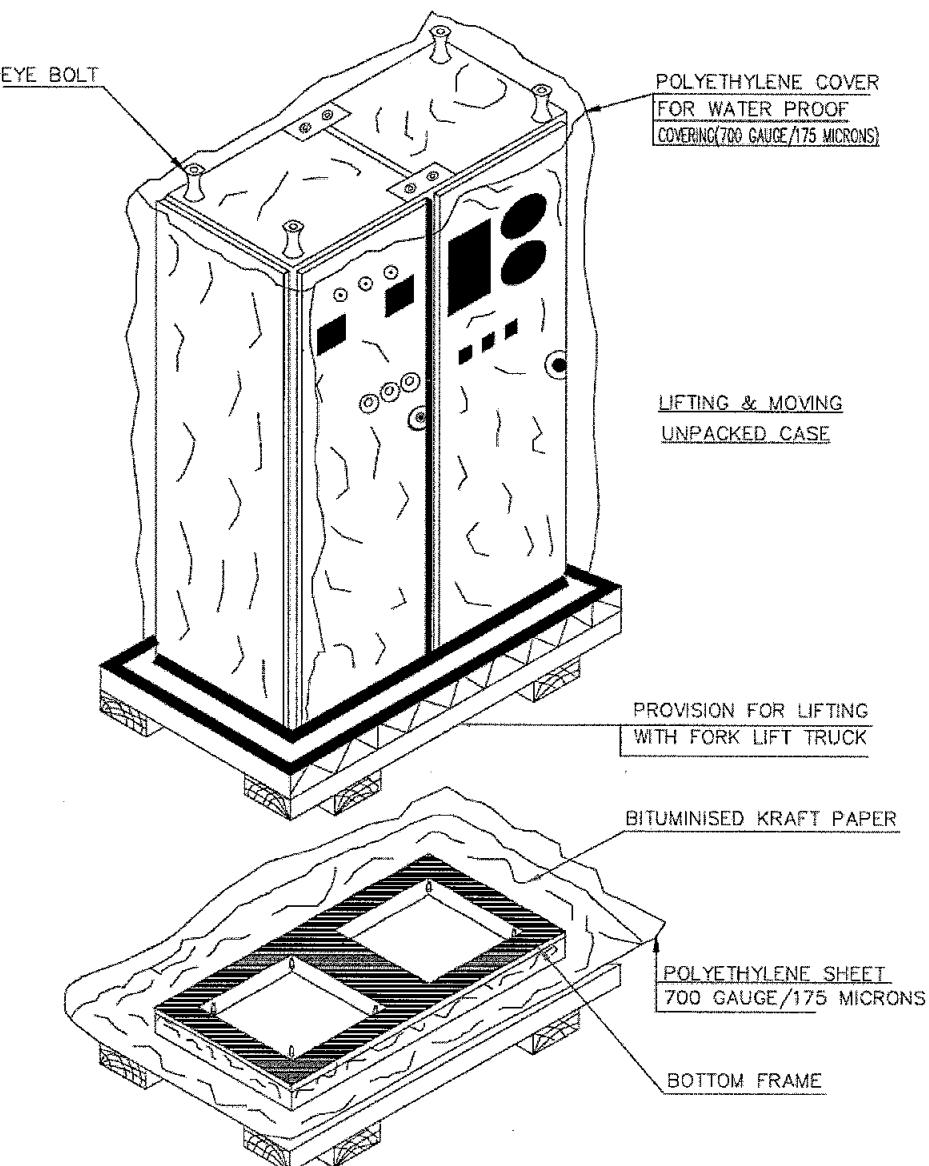


FIGURE-1



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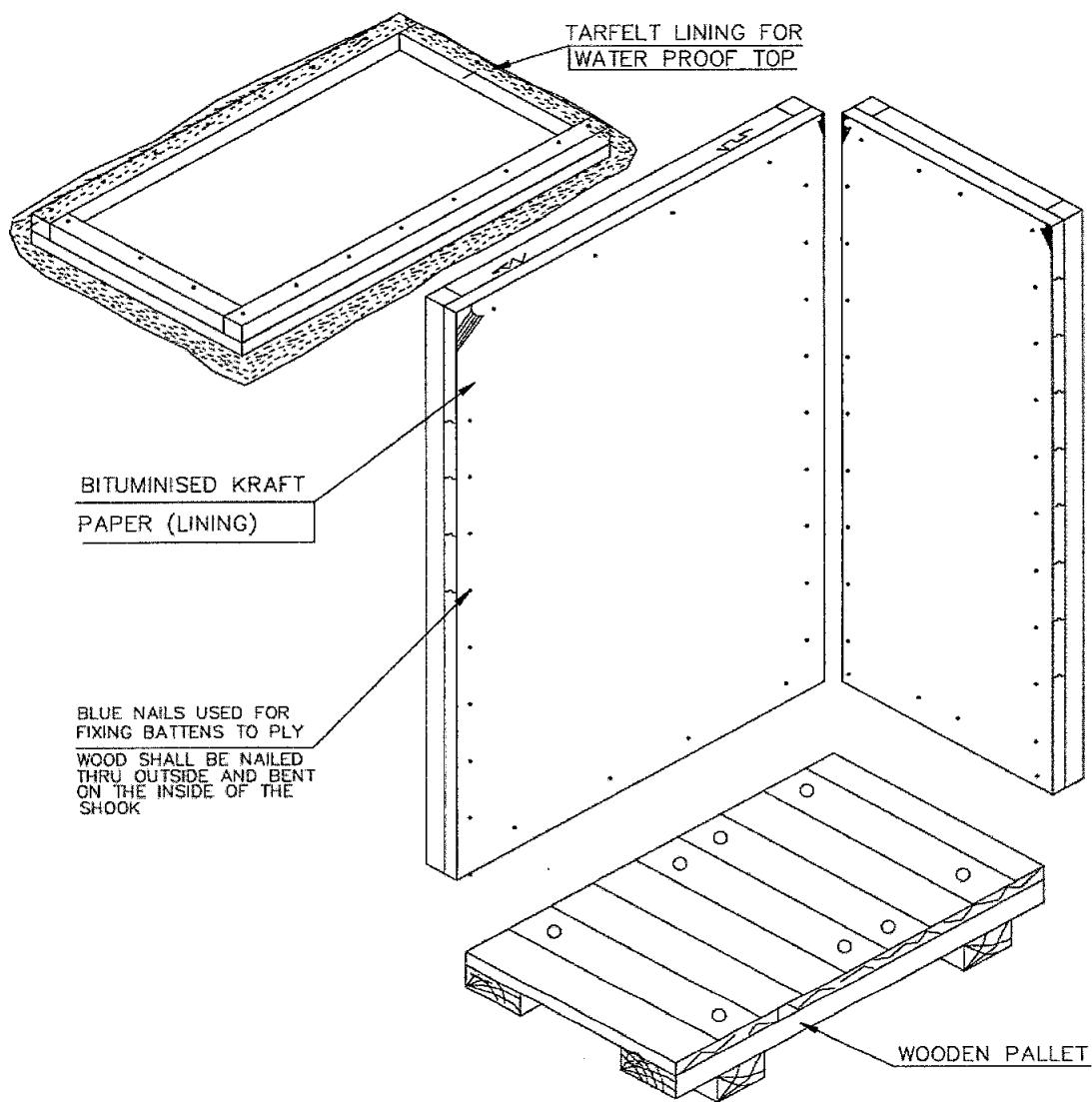


FIGURE-2



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REF	BHEL - EDN - BANGALORE - 26		
CONSIGNEE			
MATERIAL			
CUSTOMER REF.		MO. NO.	
DISPATCH ADVICE NOTE NO.		CASE NO.	
DIMENSIONS(MM) LXBXH		NET WT - KGS	GROSS WT - KGS
SPECIAL INSTRUCTIONS	HANDLE WITH CARE - KEEP DRY DO NOT DROP - DO NOT TILT		

FIG-3 : MARKING PLATE



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PLYWOOD SHOOKS BOLT TYPE WITH SILVER OAK BATTONS

FRONT VIEW

SIDE VIEW

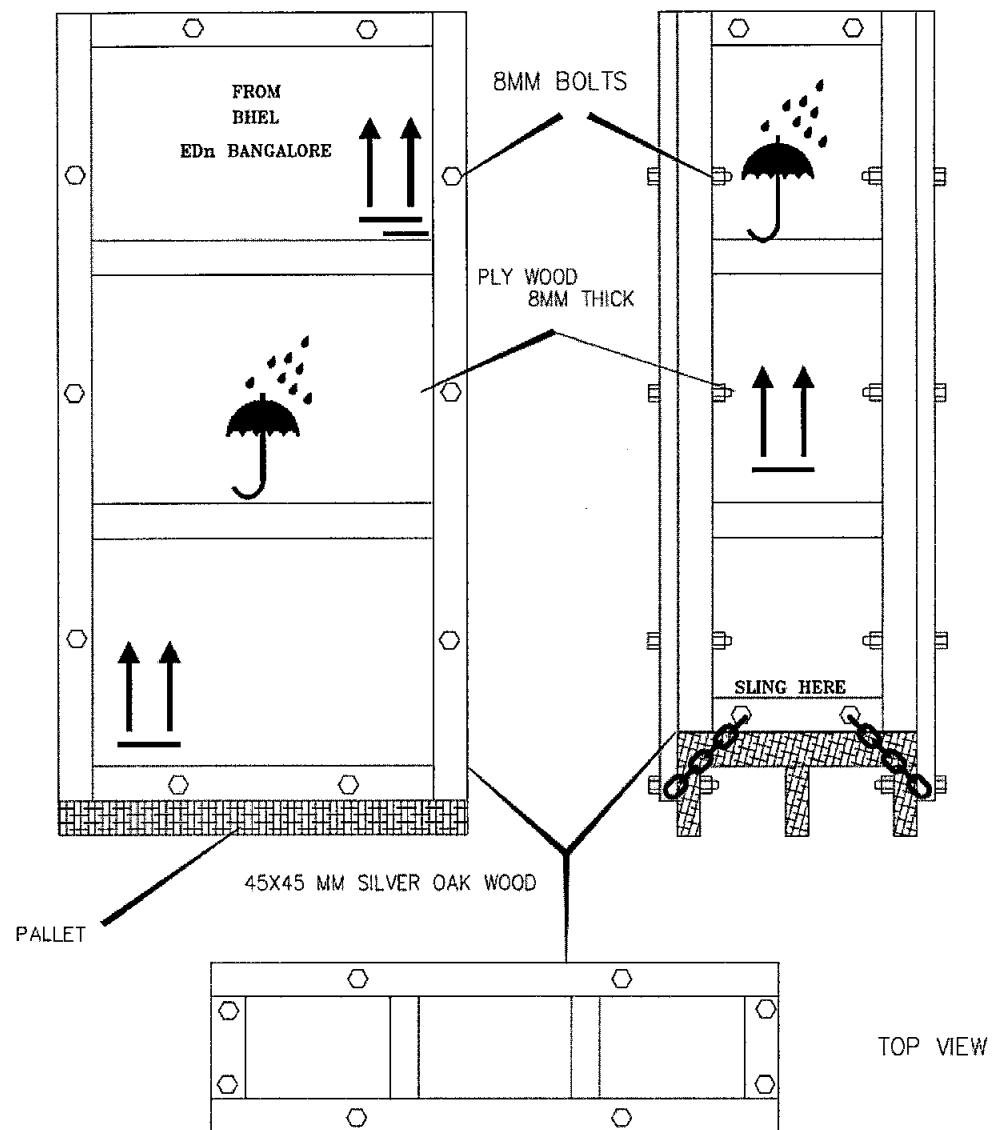


FIG-4



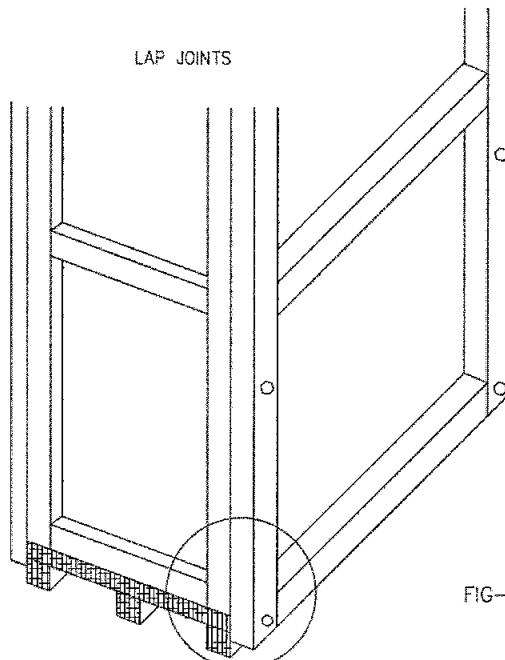
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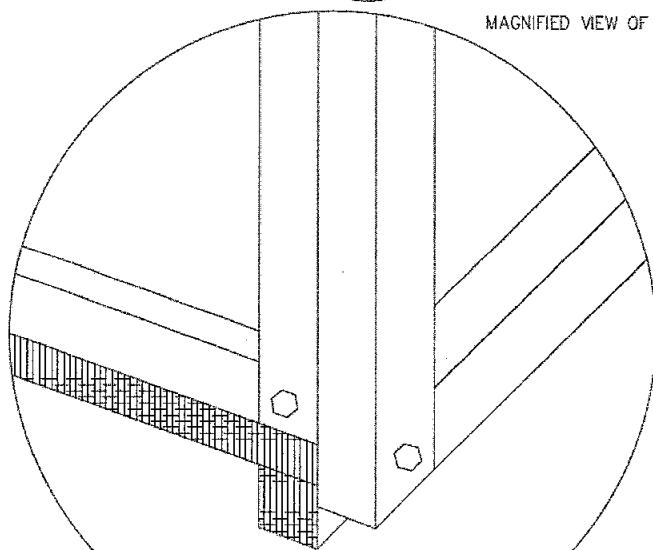
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MAGNIFIED VIEW OF THE LAP JOINT





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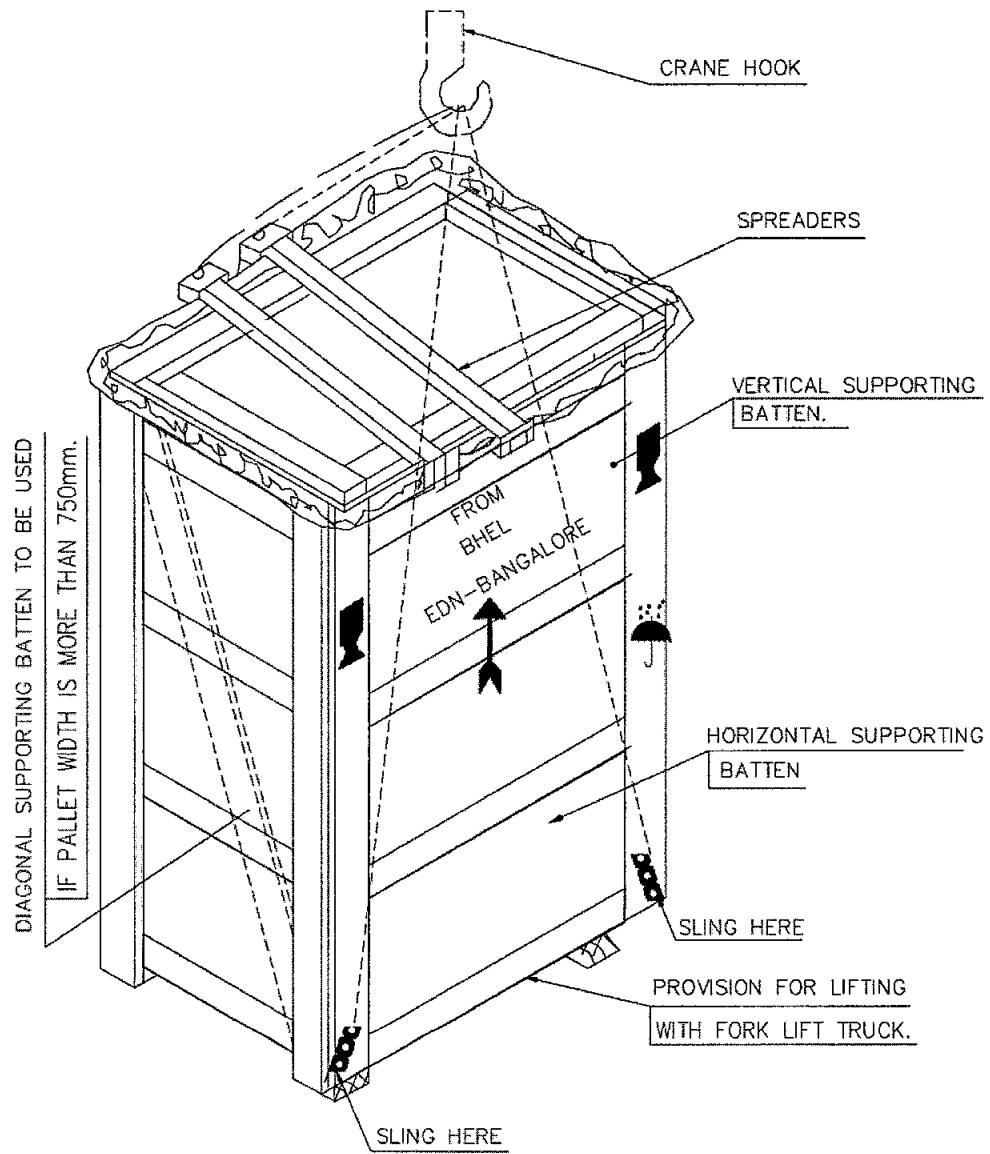


FIG-6 : LIFTING OF PACKED CASE



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Fig- 7 : Mechanical Latching Clamp



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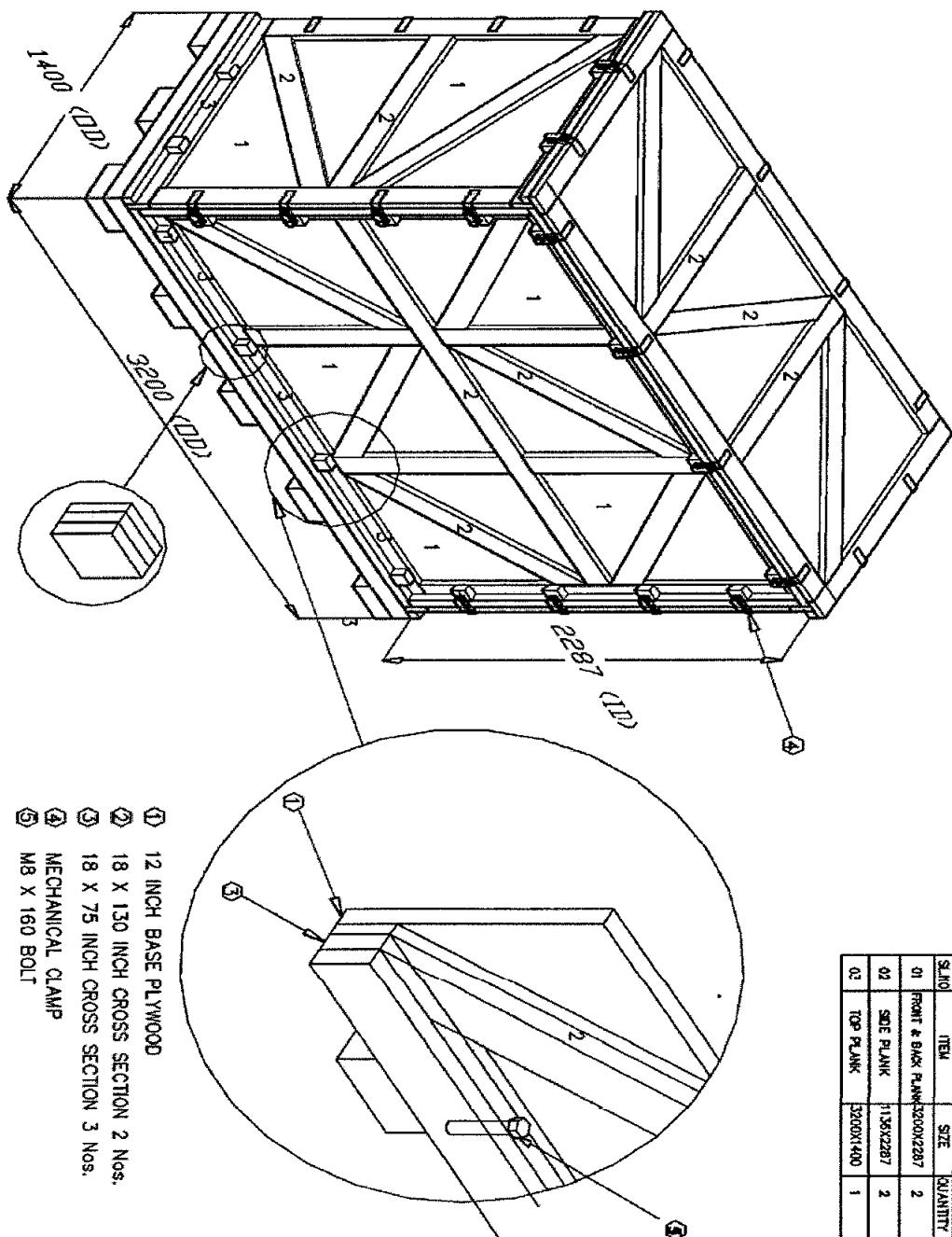


Fig - 8 : CLW Railway Panel Packing with Plywood & Plywood Support Battens



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SUBJECTS CONTAIN DETAILS

01 - AS X AS mm cross section

02 - 12 the base plinth and street

03 - 100 x 75 mm cross section for Jointing of glass and used

NOTE

1. PACKING AS PER STANDARD ED 049 00 92.
2. ALL CORNERS & PALLET FIXING ARE BOLTED TYPE
3. I want 2 SUPPORT BATTEN (Silverlink word)
4. Suitable size & cross section
to be used
5. BOLT & NUTS fixings

CUSTOMER: - C.I.W. CHITTARAJAN,
PROJECT: - WAGA AC 341000 8 ENTRIES

A technical line drawing of a geodesic dome, likely a 20-sided structure (icosahedron). The dome is shown from an isometric perspective, highlighting its internal trussing and triangular facets. Numbered vertices are marked with circled numbers: '5' at the top left, '10' at the top center, '11' at the top right, '12' at the bottom left, '13' at the bottom center, and '14' at the bottom right. The drawing is annotated with the number '2922' at the top center and '160' at the bottom right.

SUGAR WORKS MURKIA					
KEY	DATE ISSUED	DATE ISSUED	REV	DATE APPROVED	DATE APPROVED
APPROVED		00		APPROVED	
C. L. J. P. M. + S. V. S. + P. G. B. + X					
FIRST ISSUE					
PACKING BOX FOR WAG 93					
POWER CONVERTER					
REV. NO.	DATE ISSUED	DATE ISSUED	REV	DATE APPROVED	DATE APPROVED
APPROVED		00		APPROVED	
C. L. J. P. M. + S. V. S. + P. G. B. + X					
FIRST ISSUE					
PACKING BOX FOR WAG 93					
POWER CONVERTER					

Fig – 9 : CLW Railways Panel Packing with Plywood & Silver Oak Battens



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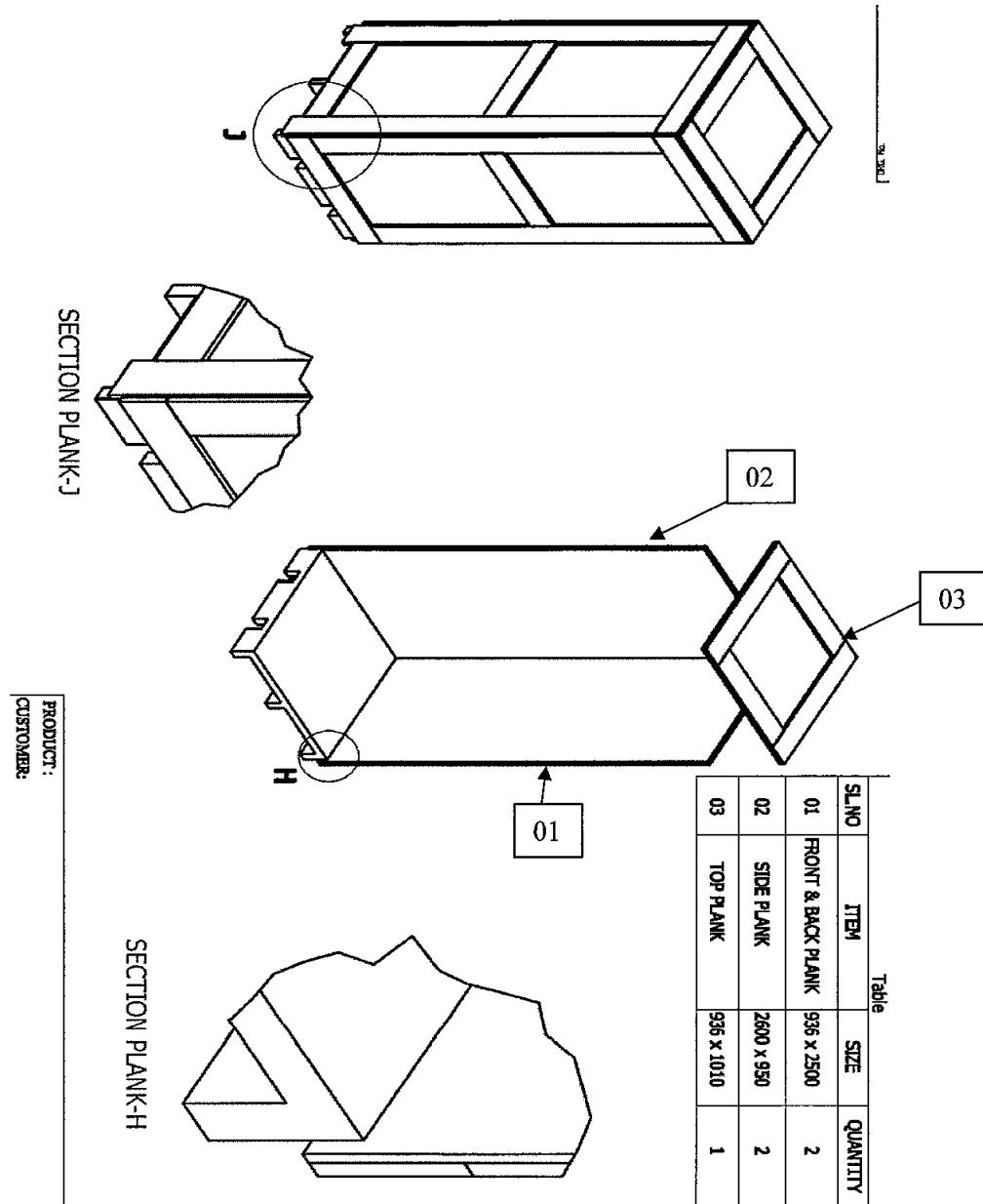


Fig-10 : Plywood Packing for Single Suit Panel.



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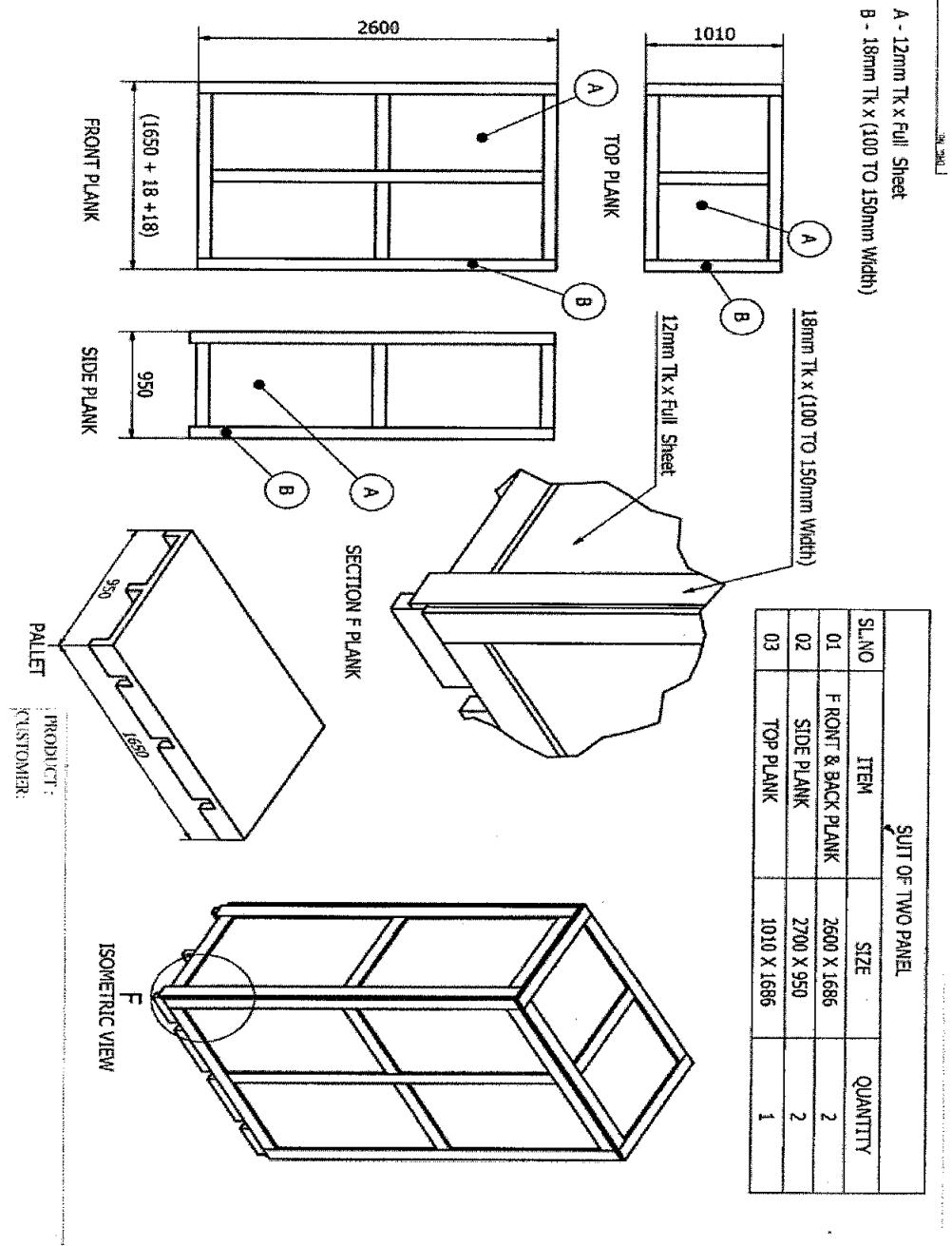


Fig - 11 : Plywood Packing for 2suit panel.



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Fig – 12 : Three Suit Panel Packing



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REV. DATE ALTERED CHECKED APPROVED		REV. DATE ALTERED CHECKED APPROVED		NAME DRAWN NATURE APPROVED DISTRIBUTION OF PRINTS		SIGN P. RAJU NATURE APPROVED NATURE DEPT. CODE		DATE 11/7/99 NATURE APPROVED NATURE DEPT. CODE		CADD CODE BHARAT HEAVY ELECTRICALS LIMITED, ELECTRONICS DIVISION, BANGALORE		SHEET NO. 01 NO. OF SHEETS 03 SHEET NO. 01 REV.		ITEM F&B SIDE TOP Pallet		SIZE 1170x560 660x560 1170x660 18 thk plywood sheet with suitable support battens		QTY 2 2 1 1	
1		2		3		4		5		6		7		8					
1		2		3		4		5		6		7		8					

FRONT & BACK PLANK

SIDE PLANK

SECTION VIEW (B)

SAMPLE PLYWOOD BOX WITH PALLET

SL NO	ITEM	SIZE	QTY
01	F&B	1170x560	2
02	SIDE	660x560	2
03	TOP	1170x660	1
04	Pallet	18 thk plywood sheet with suitable support battens	1

Fig - 13 : Plywood small case with Pallet

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Easy spares [Initial and O&M] Traceability and Identification at units and as well as at sites:

Fig: 14

