

**BHARAT HEAVY ELECTRICALS LTD.
(TRANSMISSION BUSINESS GROUP)**

GENERAL TERMS AND CONDITIONS FOR TENDER ENQUIRY / CONTRACT

This is to be submitted duly signed by bidder in original. Clause-wise deviations and / or additional conditions / clarifications, if any, are to be brought out clearly in “Schedule of Commercial Deviation”. Deviations and / or additional conditions / clarifications, if any, mentioned elsewhere in the bid / offer, shall not be considered.

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1.	INSTRUCTION TO BIDDERS : 1.1 Sealed bids are invited for the items mentioned in the tender enquiry conforming to the NIT including Technical Specifications. Bids should be typed and free from overwriting and erasures. Corrections or additions / deletions, if any, must be clearly written and attested, otherwise offer may be rejected. 1.2 Bidder must ensure that their bid is submitted / dropped in the tender box on or before 14-00 Hrs. IST on the due date of opening, unless otherwise specified in the NIT, at the address as follows :- Tender Box, Materials Management, Transmission Business Group, Bharat Heavy Electricals Limited, 5th Floor, Tower-A, Advant Navis IT Business Park, Plot-7, Sector-142, Noida Expressway, Noida, Dist. G. B. Nagar, U. P. – 201305 1.3 In case tender enquiry is floated through the e-procurement system, offer / bid has to be submitted through the e-procurement system ONLY as per instructions given in the e-procurement portal (https://bheleps.buyjunction.in). 1.4 The bids shall be opened at 14-30 Hrs. IST on the due date of opening, in the presence of participating bidders who may like to be present, unless otherwise specified in the NIT. Bids received late are liable for rejection. Bidders sending bids by courier or post will have to ensure that it is timely delivered at the above address. 1.5 Bids are to be submitted duly signed with seal in two parts :- a) Techno-commercial Bid (Part-I) – To be submitted in 2 sets (original + copy). A copy of Price Bid (Part-II) clearly mentioning all the necessary information as per format without prices “Un-Priced Bid” is also to be enclosed in Part-I Bid. b) Price Bid (Part-II) – To be submitted only in one set in a separate sealed envelope. This should not contain any Technical and / or Commercial Terms and Conditions. The rates should be quoted both in figures and words.

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	1.6 The Part-I and Part-II Bids are to be sealed in separate envelopes and marked as “Techno-commercial Bid (Part-I)” and “Price Bid (Part-II)” respectively. Both the envelopes are to be kept in another common envelope and marked as “BID”. Each envelope should be sealed and superscribed with tender enquiry no., item / package name, project name and due date of opening. Bidder’s name and address shall also be mentioned on each envelope. 1.7 For any technical clarification please contact: Sh. B.V. Gautam, Sr. Manager (TBEM), Email : gautambv@bhel.in Tel No 0120-6748550. 1.8 For any commercial clarification please contact: Shashi Kapoor Rai, Dy. Manager (TBMM), Email: shashirai@bhel.in Tel No 0120-6748473. 1.9 Price bid (Part-II) should not contain any additional information / description other than given in “Un-Priced Bid” submitted with “Techno-commercial Bid (Part-I)” except prices, otherwise bid is liable for rejection. 1.10 Price Bid submitted along with the bid shall remain valid up to validity of offer. Any discount / revised offer submitted by the bidder on its own shall be accepted provided it is received 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 including optional items, if any, unless specified otherwise by the bidder. Discount offered shall be valid for full duration of validity of the offer including extension of validity, if any. Unsolicited Supplementary / Revised Price Bid submitted after the due date and time of offer submission (i.e. Part-I Bid), during validity period of offer, unless asked by BHEL, shall not be considered. Withdrawal of quotation by the bidder, at any stage after its opening, may entail suitable action against such bidder by BHEL. 1.11 The consultants / firm (and any of its affiliates) shall not be eligible to participate against tender enquiry for the related goods or works or services for the same project, if they were engaged by BHEL-TBG for the consultancy services. 1.12 In case any Foreign OEM / Foreign 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 the manufacturer / supplier and the agent, bid received from the agent shall be ignored. 1.13 Non-conformities / errors / discrepancies in quoted prices in price bids shall be dealt as follows :- 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 BHEL 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.

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	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 as mentioned in (a), (b) & (c) above, 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 BHEL, the bid is liable to be ignored. 1.14 Taxes and Duties payable extra as per Clause No. 2.3 in NIT, if not specified/quoted clearly as extra shall be considered as included in Ex-works Price and therefore shall not be reimbursed. Taxes and duties not payable extra as per NIT shall be deemed to be included in Ex-works Price. 1.15 If the rates for taxes and duties in respect of the quoted materials and / or services assumed by the Supplier are less than the tariff prevailing at the time of tendering, Supplier will be responsible for such under quotations. However if the rates assumed are higher than the correct rates prevailing at the time tendering, the difference will be to the credit of BHEL. Note : Representative / official deputed by the bidder to witness tender opening must produce authorization letter for the same.
2.	PRICES : 2.1 Prices shall be on PVC basis as per latest IEEMA Formula (Annexure-I) for TLA &H with ceiling of $\pm 30\%$. The base indices in the formula shall be of first notification of IEEMA of the Month, one Month prior to Initial (i.e. First) Scheduled Techno – Commercial Bid opening. The date of delivery shall be P. O. Delivery Date or Date of Actual Dispatch, whichever is earlier. Documentary evidence for price variation is required to be submitted along with claim. Even in case of extension in Techno Commercial Bid Opening date, base indices of first notification of IEEMA of the Month, one Month prior to Initial (i.e. First) Scheduled Techno – Commercial Bid opening shall be applicable. 2.2 Unless specifically indicated in the NIT, the prices shall be on INR basis. 2.3 Unless specifically indicated in the NIT, the prices are to be quoted on FOR (Site / Destination) basis excluding GST. The break-up of prices shall be as under :- a) Ex-works Price: Ex-works price including packing & forwarding charges. b) Freight & Insurance: 1. Freight and Transit Insurance for door delivery up to destination/store is to be quoted on per MT per KM basis. 2. Uniform rate of freight & insurance will be paid for project situated anywhere in India i.e. irrespective of destination at hilly or non-hilly area. 3. The distance for the purpose of freight admissibility while placing purchase orders under rate contract shall be taken as the least of distance between vendor's works and destination place, as reflected on following websites: www.mapmyindia.com/ or www.maps.google.com 4. Vendor should quote the F&I charges in Rs/MT/km for the following category:- Up to 1 MT (approx.- 10 MT) Greater than 1 MT and up to 5 MT (approx-25 MT) Above 5 MT (approx-315 MT) The approximate quantity in weight to be procured under each category is

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	mentioned in above brackets above. It is for only evaluation purpose only and actual ordered quantity in weight under each category may vary. The evaluation shall be done considering 1000 kms for each category. It is only for evaluation purpose and actual distance for individual consignment may vary. d) EXPORT/ Sea worthy Packing Rates: For export project charges of Export/sea worthy packing as per BHEL specification, is to be quoted as Rs/MT.5% of total rate contract qty shall be considered for export sea worthy packing for evaluation purpose. Note: The purchase orders shall be placed on Ex-works basis. 2.4 GST rates along with HSN/SAC code as applicable on Sr No (a) to (d) above is to be mentioned separately in percentage in both un-priced bid and price bid. Note : i) Unless otherwise specified in the NIT, the purchase order shall be placed on Ex-works basis for Indian bidders. ii) Prices quoted by Indian bidders shall be in Indian Rupees only. iii) Unless otherwise specified in the NIT, Unloading at Site / Destination shall not be in the scope of the supplier. iv) Prices in respect of Sr No (a) to Sr No (d) of Clause 2.3 above are to be quoted inclusive of all taxes & Duties, charges. Levies , royalty etc if any, excluding GST.
3.	TERMS OF PAYMENT : 3.1 For Supply only in scope of the supplier 100% of payment within 60 days from the date of receipt of complete invoice along with documents in 3 sets (original + 2 copies) as follows : • LR / GR duly endorsed by BHEL Site Official. • Material Receipt Certificate issued by BHEL Site Official. • GST Compliant Tax Invoice • Packing List (Case-wise) • Copy of Transit Insurance Certificate from underwriters. • Material Inspection Clearance Certificate (MICC) issued by BHEL Quality Management • Guarantee Certificate • Copy of Performance Bank Guarantee (PBG) • Certificate of acceptance of Type Test Reports issued by BHEL Engineering Management wherever specifically mentioned in the Purchase Order. Note : i) Supplier has to submit invoice(s) as per PO or approved billing break-up of prices (if applicable as per NIT). ii) In case of supplies for overseas project, Material Receipt Certificate issued by BHEL Authorized Representative shall also be acceptable. iii) In case of Transit Insurance under Open Insurance Policy, Intimation / Declaration of Transit Insurance as per terms of the relevant Open Insurance

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	Policy along with copy of Open Insurance Policy from underwriters shall also be acceptable. iv) Supplier has to ensure commencement of transit insurance from the date not later than LR / GR date. v) Supplier has to submit Tax Invoice(s). Supplier should ensure that Tax Invoice should comply all statutory requirements under GST Law to enable BHEL to avail input credit vi) MSMED Act, 2006 and the rules made thereunder as amended from time to time shall be applicable for release of payment to suppliers qualified & registered as Micro & Small Enterprises based on documents mentioned in the NIT for MSME. vii) Supplier has to submit PBG (as per BHEL format) & Guarantee Certificate as per PO terms. viii) In case any shortages and / or damages in supplies, an amount calculated based on comments against Material Receipt Certificate issued by the BHEL Site Official shall be withheld from the supply payment against 3.1(a) or 3.2(a) above to be deemed fit by BHEL subject to a minimum of 10% of the total ex-works value of the invoice corresponding to the LR / GR against which any shortages and / or damages are reported. The withheld amount shall be released after the shortages and / or damages in supplies are supplied / replenished against Certification by BHEL Site Official. ix) Payment of GST component shall be made only if vendor has deposited the Tax and credit for the same is reflected in GSTN (GST Network). In case credit of the same is not reflected in GSTN , vendor may alternatively furnish BG of GST Amount for a period valid for not less than 1 month .In case of disallowance of credit /non reflection of credit in GSTN , amount will be recovered from supplier along with applicable Interest , penalty etc from any of his dues. x) If GST is payable by BHEL on reverse Charge Mechanism basis, vendor should ensure the submission of GST compliant Tax invoice immediately on dispatch/ performance of service. In case of non-compliance any additional charges towards interest , penalty etc , will be to vendors account. xi) TDS under GST Act, if applicable, shall be deducted unless Exemption Certificate If applicable, from the appropriate authority is furnished to BHEL along with Invoice.
4.	INTEREST LIABILITY : In case of any delay in payment due to any reason, BHEL shall not pay any interest on delayed payment. Also, no interest shall be payable by BHEL on the bank guarantee / deposit amount or balance payment or any other money which may become due owing to difference or misunderstanding or any dispute before any quasi judicial authority between BHEL and the Supplier / Contractor.
5.	GUARANTEE : The equipment / material supplied and services rendered (if applicable) shall be guaranteed to be free from all defects and faults in design & engineering, material, workmanship & manufacture and in full conformity with the Purchase Order / Contract, Technical Specifications & approved drawings / data sheets, if any, for 18 months from the date of last delivery or 12 months from the date of

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	commissioning, whichever is earlier. Wherever Erection, Testing & Commissioning at Site are also in the scope of the Supplier, the guarantee period shall be 18 months from the date of last delivery or 12 months from the date of commissioning, whichever is later. The defective equipment / material / component shall be replaced free of cost at site. Freight & Insurance during transit shall also be in the scope of the supplier / contractor. Any expenditure for dismantling and re-erection of the replaced equipment / material / component shall be to supplier's / contractor's account. All replacements during the guarantee period shall be delivered at site promptly and satisfactorily within a period not more than 45 days from the date of reporting the defect / rejection etc. In the event of the supplier / contractor failing to replace the defective equipment / material / component within the time period mentioned above, BHEL may proceed to undertake the replacement of such defective equipment / material / component at the risk and cost of the supplier / contractor without prejudice to any other rights under the contract and recover the same from PBG / other dues of this Purchase Order / Contract or any other Purchase Order / Contract executed by the supplier / contractor. Note : i) In case of Illumination System, items viz. Lamps, Tubes, Ballast, Starters, Capacitors & Fuses will not be under Guarantee after commissioning. ii) In addition to the above guarantee period, Extended Guarantee / Warranty, if any, shall be as per NIT / Technical Specifications. iii) In case offer of agent of Foreign OEM / Foreign Principal is considered, as per Clause No. 1.12 above, Guarantee as mentioned above has to be provided by the Foreign OEM / Foreign Principal also.
6.	LATENT DEFECT : Liability for latent defects shall be for defects inherently lying within material or arising out of design deficiency which does not manifest itself during guarantee period but later and shall be limited to five years from the expiry of the guarantee period.
7.	PERFORMANCE BANK GUARANTEE (PBG) : A Contract Performance Bank Guarantee amounting equal to the value of 5% (Ex-work) of rate contract value shall be taken from the vendors who enter into rate contract against this Enquiry and the Contract Performance Bank Guarantee shall be submitted by vendor which should be valid till 21 (18 months +3 months claim period) month from the date of last dispatch of PO under Rate Contract. This BG have to be submitted within 30days from the date of award of Rate Contract. In case of non-submission of said BG, an amount equal to BG shall be withheld from the invoices of the vendor and will be released after 21 months from the date of last dispatch of PO under Rate Contract. In case of non-submission of said BG, an amount equal to BG shall be withheld from the invoices of the vendor and will be released after 21 months from the date of last dispatch of PO under Rate Contract. Note : i) The Bank Guarantee shall be from any bank as per Annexure for List of Banks (32 Nos.). The original PBG should be sent by issuing Bank directly to AGM (Finance), TBG, BHEL, Noida.

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	ii) Extension of validity of the PBG in original, as per above clause, should be sent by issuing Bank directly to AGM (Finance), TBG, BHEL, Noida at least 45 days before expiry of validity of the PBG. iii) Unless otherwise specified in the NIT, deviation taken for non-submission of PBG / Deposit, as applicable, shall not be accepted. iv) In case of non-submission PBG / Deposit, as applicable, BHEL reserve the right for Risk Purchase as per terms of the NIT and impose Suspension of Business Dealings with the Supplier / Contractor. v) BHEL reserve the right to encash the Bank Guarantee and forfeit the amount in the event of any default, failure or neglect on part of the Supplier in fulfilment of performance of the Purchase Order. vi) Value of the Bank Guarantee (at the time of submission) shall remain unchanged for any subsequent variations in Purchase Order value up to $\pm 20\%$. Beyond this variation of $\pm 20\%$, the Supplier shall arrange to enhance or may reduce the value of the Bank Guarantee accordingly for the total variation promptly. vii) Vendor to ensure submission of Certificate of Final Documentation /Confirmation regarding Non applicability of Final Documentation, as the case may be, as referred in clause No 9 regarding Final Documentation. BG shall be released only after submission of the same to BHEL TBMM.
8.	SUBMISSION OF DRAWINGS / DOCUMENTS FOR APPROVAL : Supplier shall submit the master document list within 7 days from date of Purchase Order / Contract, unless otherwise specified in the NIT, with planned dates for submission which shall be in line with activity schedule as per Purchase Order / Contract and shall be finalized with BHEL Engineering Management. Date of first submission of drawings / documents shall be certified by BHEL Engineering Management after the receipt of applicable drawings / documents (e.g. project specific cover sheet, GTP, OGA drawings, schemes, type test reports etc.) by BHEL. During detailed engineering stage, necessary hard copies of the engineering drawings / documents shall also be submitted by the supplier as per the Purchase Order / Contract requirement. The supplier shall also submit the packing drawings as per technical specifications. In case item(s) offered require any interface details of other item (not in the scope of supplier & required for operating the equipment), the supplier has to submit interfaces schedule along with submission of engineering drawings / documents. It shall be responsibility of the supplier to get the details of the interfaced item from BHEL before manufacturing to avoid any mismatch at site.
9.	FINAL DOCUMENTATION : Final documentation as called in the Technical /contract specification is to be submitted within 3 months from the date of first delivery of respective equipment, item/material. After submission of Final Documentation, BHEL Engineering Management (TBEM) will issue a Certificate of Completion of Final Documentation. Wherever Final Documentation is not applicable, BHEL Engineering Management (TBEM) will issue confirmation regarding the same, Vendor to submit the Certificate of Final Documentation /Confirmation regarding Non applicability of Final Documentation, as the case may be, to BHEL TBMM. In case of Non Submission of Certificate of Final Documentation /Confirmation regarding Non applicability of Final Documentation, BG will be liable for encashment.
10.	INSPECTION : BHEL / customer / third party shall inspect equipment / material before despatch. Stage inspection during manufacturing may also be carried out. Material to be despatched only after getting Material Despatch Clearance Certificate (MDCC) / MICC issued by BHEL. Supplier shall send inspection call on prescribed format / web site only, with an

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	advance notice of 15 days. Supplier to ensure submission of all routine / acceptance test reports, inspection reports and all other documents related to inspection, immediately to BHEL. BHEL representative is authorised to carry out audits along with Third Party Inspection Agency at vendor's / supplier's works before clearing the items for despatch.
11.	DESPATCH DOCUMENTS : Despatch documents to be immediately sent to BHEL on despatch are as follows :- • Copy of Invoice • Copy of LR / GR in case of Indian suppliers or BL / AWB in case of foreign suppliers • Copy of Packing List (Case-wise) • Copy of Transit Insurance Certificate from underwriters • Copy of Guarantee Certificate
12.	DELIVERY PERIOD : Delivery / Completion requirement shall be mentioned in the NIT. Bidder to specify best delivery / completion period possible in weeks from the date of LOI / PO as per activity schedule for consideration by BHEL. Time required for type test, if applicable, is to be separately indicated. Note : LR / GR date or invoice date (whichever is later) for indigenous supplies and BL / AWB date for FOB / CIF (if applicable) contracts shall be considered as delivery date.
13.	LIQUIDATED DAMAGES FOR DELAYED DELIVERY: In case of delay in execution of Purchase Order beyond the contractual delivery time, an amount of 0.5% of the total Purchase Order value for supply (incl. taxes and duties, GST, freight & insurance as applicable) per week of delay or part thereof subject to a maximum of 10% of the total Purchase Order value for supply (incl. taxes and duties, GST, freight & insurance as applicable) shall be deducted as Liquidated Damages (LD) along with applicable GST (if any) on LD. However, in case of staggered (lot-wise) contractual delivery schedule, an amount of 0.5% of the total Purchase Order value for supply (incl. taxes, duties, GST, freight & insurance as applicable) of delayed lot per week of delay or part thereof subject to maximum of 10% of the total Purchase Order value.(Incl taxes, duties, GST, Freight & Insurance as applicable) shall be deducted as Liquidated Damages (LD) along with applicable GST (if any) on LD. Note : i) In case of any amendment / revision in P.O./WO, the LD shall be linked to the amended / revised Purchase Order / Contract value and delivery / completion time / schedule, if applicable. ii) LR / GR date or invoice date (whichever is later) for indigenous supplies and BL / AWB date for FOB / CIF (if applicable) for imported supplies shall be treated as the date of dispatch for levying LD as above. iii) However, for indigenous supply, if time period between date of receipt of material at site / destination by Site Official & the date of LR / GR or invoice (whichever is later) is more than 30 days, where distance from place of despatch as per LR / GR is upto 1000 Kms or if time period between date of receipt of material at site / destination by Site Official & the date of LR / GR or invoice (whichever is later) is more than 45 days, where distance from place of despatch as per LR / GR is more than 1000 Kms, such excess period shall also be considered for LD

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	purpose. iv) If, as per supplier, delay is not attributable to the supplier, delay analysis with documentary evidence may be submitted by the supplier at the earliest but not later than six months from the end of the financial year in which the payment is withheld. Based on the above details / documents submitted by the supplier, BHEL shall take final decision and if considered appropriate by BHEL, withheld amount (full or part as the case may be) shall be released, otherwise, full or balance withheld amount shall be treated as deduction of Liquidated Damages (LD) towards delayed delivery.
14.	VALIDITY OF OFFER : The offer shall be valid for 120 days from the due date of opening of tender (i.e. techno-commercial bid unless otherwise specified in the NIT). Prices of Spares, wherever they optional items, shall be valid till two years from the date of placement of PO.
15.	ACCEPTANCE / REJECTION OF TENDER : BHEL reserve the right to reject in full or part, any or all tender without assigning any reason thereof. BHEL also reserve right to vary the quantities as mentioned in the NIT. Acceptance of offer is subject to vendor approval by customer before opening of price bid. BHEL shall not be bound by any power of attorney granted by tenderer or by changes in composition of the firm made subsequent to award of order / contract. BHEL may however recognize such power of attorney and changes after obtaining proper legal advice, cost of which will be chargeable to the seller / contractor concerned. If the tenderer deliberately gives wrong information, BHEL reserves the right to reject such an offer at any stage or cancel the order / contract, if awarded, and forfeit the security deposit and bank guarantee.
16.	DEVIATION : The bids having deviation(s) w.r.t. tender are liable for rejection. However, BHEL, at its discretion, may load the prices for evaluation of offer with prior intimation to bidder. Clause-wise deviations and / or additional conditions / clarifications, if any, are to be brought out clearly in "Schedule of Commercial Deviation" If any. Deviations and / or additional conditions / clarifications, if any, mentioned elsewhere in the bid / offer, shall not be considered.
17.	TENDER EVALUATION : Comparative statement shall be prepared based on overall quantity basis unless otherwise indicated in the enquiry. Evaluation of offers shall be done on the basis of delivered cost to BHEL, Considering Ex-Works Price, GST, F & I for 1000 Kms Distance and Export/Seaworthy packing charges. GST input credit available to BHEL shall be reduced from prices while determining L1 status. In case of foreign bidders, Exchange Rate (TT selling rate of State Bank of India) as on date of tender opening (Part-I Bid in case of two part bid) shall be considered. If the relevant day happens to be a bank holiday, then the forex rate as on the previous bank (SBI) working day shall be taken for tender evaluation.
18.	LOADING CRITERIA : List of permissible deviations & loading criteria thereof are as follows :- a) Payment Terms Base rate of SBI (as applicable on the date of bid opening / techno-commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidder(s) against terms of payment in the NIT. b) Liquidated Damages (LD) for Delayed Delivery Loading on LD clause shall be to the extent to which it is not agreed to by the bidder (at offered value). Note: Additional deviations (if considered acceptable by BHEL) & the loading criteria shall be communicated to all the qualified bidders before price bid opening.

19.	ARBITRATION : In the event of any dispute emanating from and relating to this contract, the matter shall be referred to the sole arbitration of the person appointed by the competent authority of BHEL. Subject to aforesaid, the provisions of “The Arbitration and Conciliation Act, 1996” and the rules made thereunder as amended from time to time in India shall apply to the arbitration proceedings. The venue of arbitration shall be in New Delhi. Further there shall be no claim for any pre-reference or pendente-lite interest on the claims and any claim for such interest made shall be void. However, in case of contract with Public Sector Enterprise / Undertaking (PSE/PSU) or Govt. Dept., the extant guidelines of Govt. of India shall be followed.
20.	LEGAL SETTLEMENT : Indian Courts at New Delhi / Delhi shall have exclusive jurisdiction to decide the dispute, if any, arising out of or in respect of the contract(s) to which these conditions are applicable. Contract, including all matters connected with contract, shall be governed by the Indian Law, both substantive and procedural, for the time being in force including modification thereto.
21.	SUB-CONTRACTING : In case further subcontracting of BHEL Purchase Order / Contract or part thereof is envisaged by supplier, the same can be done after written permission is obtained from BHEL. However it shall not absolve the Supplier / Contractor of the responsibility of fulfilling BHEL Purchase Order / Contract requirements. In case of subcontracting of Purchase Order / Contract awarded by BHEL or part thereof without such permission, BHEL reserve the right to cancel the Purchase Order / Contract and source such material / component / equipment / system from any other agency at the risk and cost of the Supplier / Contractor. If Supplier / Contractor is an individual or proprietary concern and the individual or the proprietor dies or the partnership is dissolved or substantially affected, then unless BHEL is satisfied that legal representative of individual Supplier / Contractor or proprietor of proprietary concern and surviving partners of partnership firm are capable of carrying out and completing the Purchase Order / Contract, BHEL shall be entitled to cancel the Purchase Order / Contract as to its incomplete portion and without being in any way liable to payment of any compensation to legal representative of Supplier / Contractor and / or to surviving partners of Supplier's / Contractor's firm on account of cancellation of the Purchase Order / Contract. Decision of BHEL that legal representatives of deceased Supplier / Contractor or surviving partners of the Supplier's / Contractor's firm cannot carry out and complete the Purchase Order / Contract shall be final and binding on the parties hereto. Terms and Conditions shall not get affected in case of de-merger / amalgamation / taking-over / re-constitution etc.
22.	RISK PURCHASE : In case the Supplier / Contractor fails to supply or fails to comply with terms & conditions of the Purchase Order / Contract or delivers equipment / material not of the contracted quality or fails to adhere to the contract specifications or fails to perform as per the activity schedule and there are sufficient reasons even before expiry of the delivery / completion period to justify that supplies shall be inordinately delayed beyond contractual delivery / completion period, BHEL reserve the right to cancel the Purchase Order / Contract either in whole or in part thereof without compensation to Supplier / Contractor and if BHEL so desires, may procure such equipment / material / items not delivered or others of similar description where equipment / material / items exactly complying with particulars are not readily procurable in the opinion of BHEL which is final and in such manner as deemed appropriate, at the risk and cost of the Supplier / Contractor and the Supplier / Contractor shall be liable to BHEL for any excess cost to BHEL. However, the Supplier / Contractor shall continue execution of the Purchase Order / Contract to

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	the extent not cancelled under the provisions of this clause. Recovery amount on account of purchases made by BHEL at the risk and cost of Supplier / Contractor shall be the difference of total value of new Purchase Order (PO) value and total value of old Purchase Order for applicable items, where the total value of new PO is more than total value of old PO for applicable items, plus additional 15% of the total ex-works value of new PO as overheads. The Supplier / Contractor shall on no account be entitled to any gain on such risk & cost purchase. In case the purchase order (PO) value of the new PO is less than the PO value of the old PO, 15% of the total ex-works value of the new PO shall be recovered as overheads and the difference between the PO value of the old PO and the new PO shall not be considered for calculation of the recovery amount.
23.	ADJUSTMENT OF RECOVERY : Any amount payable by the Supplier / Contractor under any of the condition of this contract shall be liable to be adjusted against any amount payable to the Supplier / Contractor under any other Purchase Order / Contract awarded to him by any BHEL unit. This is without prejudice to any other action, as may be deemed fit, by BHEL.
24.	FORCE MAJEURE CONDITION : If by reason of war, civil commotion, act of god, Government restrictions, strike, lockout which are not in control of Supplier / Contractor the deliveries / services are delayed, Supplier / Contractor shall not be held responsible. If at any time during the continuance of the Purchase Order / Contract, the performance in whole or in part by either party of any obligations under the Purchase Order / Contract is prevented or delayed by reason of any war hostilities, acts of the public enemy, restrictions by Govt. of India, civil commotion, sabotage, fires, floods, explosion, epidemics, quarantine restrictions, strike, lock-outs or acts of God (hereinafter referred to as "event"), which are not in control of Supplier / Contractor or BHEL, then provided notice of the happening of such event is given by either party to the other within fifteen (15) days from the date of occurrence thereof, neither party shall by reason of such event be entitled to terminate the Purchase Order / Contract nor shall have any claim for damages against each other in respect of such non-performance and delay in performance. Performance under the Purchase Order / Contract shall be resumed immediately after such event has come to an end or ceased to exist and decision of BHEL as to whether the deliveries have to be resumed or not shall be final, conclusive and binding on the parties hereto. In the event of the parties hereto not able to agree that a force majeure event has occurred, the parties shall submit the disputes for resolution pursuant to the provisions hereunder, provided that the burden of proof as to whether a force majeure event has occurred shall be upon the party claiming such an event. Notwithstanding above provisions, BHEL shall reserve the right to cancel the Purchase Order / Contract, wholly or partly, in order to meet the overall project schedule and make alternative arrangements for completion of delivery and other schedules.
25.	MANUFACTURING QUALITY PLAN (MQP) : Supplier to submit approved MQP in line with requirement of BHEL/customer.
26.	SUPPLIER PERFORMANCE MONITORING AND RATING SYSTEM : BHEL reserve the right for evaluation of Supplier Performance Rating as per Supplier Performance Monitoring and Rating System of BHEL for necessary action. Details are available at BHEL Website www.bhel.com for reference.
27.	DEALING WITH BANNED SUPPLIERS / CONTRACTORS IN BHEL : Offers of the bidders, who are on the banned list, as also the offers of the bidders who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL website www.bhel.com for reference.
28.	PACKING :

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	Packing shall be in conformity with specifications and shall be such as to ensure prevention of damages, corrosion, deterioration, shortages, pilferage and loss in transit or storage. In case of shipment by sea or air, the packing shall be sea-worthy or air-worthy respectively and of international standards. Different types of spares i.e. start-up / commissioning spares and initial spares (mandatory spares and recommended O&M spares) are to be packed separately. Packing List shall be submitted as per standard format along with advance set of documents for claiming payment which shall also indicate :- - Case / Packing size (as applicable). - Gross weight and net weight of each package. - Detailed contents of the package with quantity of each item separately. Project, Item / Package Description, BHEL's PO No. with date & Case / Packing Mark should also be clearly mentioned on the Case / Packing and Packing List for identification. Also, Packing List must be duly signed & should include respective Invoice No. & LR No.
29.	COLOUR CODING : Aluminium stickers are required to be attached to large components but plastic sheet tags should be tied with small components, giving details like purchase order, description of the component, quantity etc. Tags should be of the colour as follows :- - Main equipment : Yellow or White tag - Start-up / Commissioning spares : Blue tag - Mandatory spares : Pink or Red tag - Recommended / O&M spares : Green tag
30.	MICRO, SMALL & MEDIUM ENTERPRISES (MSME) : MSMED Act 2006 as amended from time to time & extant regulations of Govt. of India for MSME will be applicable. Micro & Small Enterprises (MSE) can avail the intended benefits only if they submit along with the offer / bid, attested copies of either Acknowledgement of Entrepreneur Memorandum Part-II (EM-II certificate) having deemed validity (five years from the date of issue of acknowledgement in EM-II) or valid NSIC certificate or EM-II certificate along with attested copy of a CA certificate (As per BHEL format where deemed validity of EM-II certificate of five years have expired) applicable for the relevant financial year (latest audited). Date to be reckoned for determining the deemed validity will be the date of opening (for Techno-commercial Bid : Part-I in case of two part bid). Non-submission of such documents will lead to consideration of their bid at par with other bidders. No benefit shall be applicable for this enquiry if any deficiency in the above required documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or arrested (in original) by a Gazetted officer. Copy of Udyog Aadhaar Memorandum with Acknowledgement of Ministry of Micro, Small & Medium Enterprises should also be furnished.
31.	BUSINESS ETHICS / SUSPENSION OF BUSINESS DEALINGS WITH SUPPLIERS / CONTRACTORS : If any bidder / supplier / contractor during pre-tendering / tendering / post tendering / award / execution / post-execution, indulges in malpractices cheating, bribery, fraud or other misconduct or formation of cartel so as to influence the bidding process or influences the price or fails to perform or is in default without any reasonable cause etc or performs any act considered objectionable as per extant guidelines, action may be taken against such bidders/supplier/contractor as per extant "Guidelines for Suspension of Business Dealings with Suppliers/Contractors". Abridged version of

Sr. No.	
	same is available at BHEL website (www.bhel.com) on "Supplier Registration" Page.
32.	REVERSE AUCTION : BHEL reserve the right to go for Reverse Auction (RA) instead of opening the sealed envelope price bid, submitted by the bidder or price bid submitted by the bidder through e-procurement system. This will be decided after techno-commercial evaluation. All bidders to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides to go for RA. In case BHEL decides to go for Reverse Auction, only those bidders who have given their unconditional acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit "online sealed bid" in the Reverse Auction. Non-submission of "online sealed bid" by the bidder will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue. General Terms and Conditions of RA are available at Annexure. Business Rules for RA shall be sent to the bidders before conducting RA. Abridged Version of "Common Guidelines for Conducting Reverse Auction" may also be seen at BHEL website (www.bhel.com) on "Supplier Registration" Page & "Tender Notifications" Page.
33.	INTEGRITY PACT : Bidders shall have to enter into Integrity Pact with BHEL, duly signed with seal in original, if specified in NIT / RFQ failing which bidder's offer shall be liable for rejection.
34.	TERMINATION OF CONTRACT : BHEL shall have the right to cancel the Purchase Order / Contract without any financial implication to BHEL if vendor approval by end user / customer is withdrawn or in case of Suspension of Business Dealings with the Suppliers / Contractors by BHEL. BHEL shall have the right to cancel Purchase Order / Contract, wholly or in part, in case they are obliged to do so on account of any decline, diminution, curtailment or stoppage of their business and in that event, the Supplier's / Contractor' compensation claim shall be settled mutually. In case of cancellation of Purchase Order / Contract for main supply, all other associated Purchase Orders / Contracts like those for Mandatory Spares / Recommended Spares / Erection, Testing & Commissioning (ETC) / Supervision of ETC, if any, would also get cancelled.
35.	SHELF LIFE : Supplier has to inform the list of the items / sub-items which have limited shelf life like consumables or those required for the first fill and shall indicate the corresponding shelf life period in the offer. Such items / sub-items shall be manufactured / despatched only after getting formal clearance from BHEL.
36.	LIMITATION OF LIABILITY : Notwithstanding any other provisions, except in cases of wilful misconduct and / or criminal negligence / acts, a) Neither the Supplier / Contractor nor BHEL shall be liable to the other, whether in Purchase Order / Contract, tort, or otherwise, for any consequential loss or damage, loss of use, loss of production or loss of profits or interest costs, provided however that this exclusion shall not apply to any obligation of the Supplier / Contractor to pay Liquidated Damages to the BHEL and b) Notwithstanding any other provisions incorporated elsewhere in the contract, the aggregate liability of the Contractor in respect of this contract, whether under the Contract, in tort or otherwise, shall not exceed total Contract Price, provided

Sr. No.	
	however that this limitation shall not apply to any obligation of the Vendor to indemnify BHEL with respect to Patent Infringement or Intellectual Property Rights.
37.	SHORTAGES / DAMAGES : Any shortages and / or damages in supplies shall be supplied / replenished free of cost by the supplier as early as possible but not later than 30 days from the date of intimation by BHEL to the supplier. Note: There shall not be any extension in the contractual delivery time / schedule due to any shortages and / or damages in supplies.
38.	VARIATION OF CONTRACT VALUE / QUANTITY VARIATION : BHEL shall have the right to variation in quantities of items within $\pm 30\%$ of the total Purchase Order / Contract value at the time of placement of PO or award of Contract on overall basis for all amendments together within two years from the date of original Purchase Order / Contract or completion of execution of the Purchase Order / Contract whichever is earlier but quantities of individual items may vary to any extent or may get deleted unless otherwise specified in the technical specifications. No compensation is payable due to variation in the quantities and the Supplier / Contractor shall be bound to accept the same the contracted prices / rates without any escalation. However, if the Purchase Order / Contract is on "Lumpsum" basis, no variation of Purchase Order / Contract value shall be admissible to the Supplier / Contractor within the scope of Purchase Order / Contract, as long as the inputs remain unchanged.
39.	STATUTORY VARIATION : GST rates prevailing at the time of dispatch of goods/ completion of services shall be payable by BHEL. All other taxes, duties, charges, royalty, cess, other levies shall be deemed to be included in the Ex Works Prices / Charges quoted by bidders and no variations shall be payable in respect thereof. No other variations such as on customs duty, exchange rate, minimum wages, prices of controlled commodities, any other input etc. shall be payable by the BHEL. Notwithstanding anything above, where the actual completion of the supply / services occurs beyond the period stipulated in the Purchase Order / Contract or any extension thereof, variations referred to above, will be limited to the rates prevailing on the dates of such agreed completion periods only. For variations after the agreed completion periods, the Supplier / Contractor alone shall bear the impact for the upward revisions and for downward revisions BHEL shall be given the benefit of reduction in applicable taxes / GST. This will be without prejudice to the levy of liquidated damages for delay in delivery / completion. If new tax is introduced by Central/ State Govt/ Municipality becomes directly applicable on items specified in Bill of Quantities/Purchase Order/Contract, full reimbursements shall be made provided it becomes applicable on items specified in Bill of Quantities. However, any additional tax implication due to delay in delivery, beyond the Contractual Delivery, attributable to supplier shall be borne by supplier.
40.	MODE OF PAYMENT : Payment shall be made directly to the Supplier / Contractor by BHEL through NEFT / RTGS.
41.	CONFIDENTIALITY : Supplier / Contractor shall, at all times, undertake to maintain complete confidentiality of all data, information, software, drawings & documents etc. belonging to BHEL and also of systems, procedures, reports, input documents,

Sr. No.	
	manuals, results and any other BHEL documents discussed and / or finalized during the course of execution of Purchase Order / Contract.
42.	INDEMNIFICATION : The Supplier / Contractor shall indemnify and keep indemnified and hold harmless BHEL and its employees and officers from and against any and all claims, suits, actions or administrative proceedings, demands, losses, damages, costs and expenses and any other claim of whatsoever nature in respect of the death or injury of any person or loss of or damage to any property arising during the course and out of the execution of the Purchase Order / Contract.
43.	TITLE OF GOODS : a) Ownership of the equipment / material procured in India, shall be transferred to BHEL upon loading on to the mode of transport to be used for transportation of the said equipment / material from the works to the site / destination and upon endorsement of the dispatch documents in favour of BHEL. b) Ownership of the equipment / material to be imported into the country where the site is located, if not procured in India, shall be transferred to BHEL upon loading on the mode of transport to be used for transportation of the equipment / material from the country of origin to that country / destination and upon endorsement of despatch document in favour of BHEL. c) Notwithstanding the transfer of ownership of the equipment / material, the responsibility for care and safe custody thereof together with the risk of loss or damage thereto for whatsoever reason shall remain with the Supplier.
44.	COMPLIANCE OF STATUTORY REQUIREMENTS : The vendor shall comply with all State and Central Laws / Acts, Statutory Rules, Regulations etc., as may be enacted by the Government during the tenure of the Purchase Order / Contract and having in force and applicable to the Purchase Order / Contract and nothing shall be done by the Supplier / Contractor in contravention of any Law / Act and / or Rules / Regulations, thereunder or any amendment thereof. The Supplier / Contractor shall pay all taxes, fees, licence charges / deposits, duties, tolls, royalty, commissions or other charges which may be levied on account of any of his operations connected with the Purchase Order / Contract. In case BHEL is constrained to make any of such payments, BHEL shall recover the same from the Supplier / Contractor either from moneys due to him or otherwise as deemed fit.
45.	ACCEPTANCE OF ORDER : Supplier should acknowledge and accept the Letter of Award / Purchase Order issued by BHEL within 7 days of the issue of Letter of Award / Purchase Order. In case of any discrepancy / typographical error in issue of Purchase Order / Contract, the agreed terms & conditions, scope of work, rates / prices for placement of PO / award of contract shall be applicable and BHEL reserves the right to issue amendment(s) to PO / Contract for correction of discrepancies / typographical errors in the PO / Contract at a later date.
46.	FRAUD PREVENTION POLICY : The Bidder along with its associate / collaborators / sub-contractors / sub-vendors / consultants / service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website http://www.bhel.com and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.
47.	IMPORTANT INSTRUCTIONS: For Deemed Export/Export Projects / Projects where GST exemption is applicable and exemption certificate is applicable BHEL/Customer will provide exemption certificate in lieu of GST else GST shall be applicable .
48.	RATE CONTRACT VALIDITY /CONDITIONS : a) The Rate Contract shall be Valid for 24 Months from the Date of award of the Rate Contract. All orders placed within the Rate contract Validity period have to be

Sr. No.										
	executed. b) Allotment of job to any Vendor would be sole prerogative of TBG, BHEL & no representation in this regard shall be entertained. However, generally the allotment will be based on following : i) Capability of vendor in meeting delivery schedule of BHEL. ii) Delivery performance of Vendor. iii) Delivery Capacity as available at the time of allotment. iv) Vendor approval by customer v) L – 1 Vendor will be given preference. However, BHEL, TBG reserves its right of allotment to any Vendor, with whom Rate Contract is entered, to meet its delivery requirement. c) The Rate Contract is proposed to be entered with Two [02] Nos. of Vendors with the quantity distribution in the ratio of 70 & 30. 70 % quantity shall be awarded to original L1 vendor. The rates of Original L1 vendor shall be sequentially counter-offered to L2, L3, L4 and so on... in that sequence. The balance 30 % quantity shall be awarded to the L2 or L3 or L4 and so on, bidder whoever accepts the rate of the original L1 bidder in that sequence. In case the other bidders do not accept the business at L1 rates, then order for 100 % business will be placed with the original L1 bidder. d) However, In case of award of Rate Contract ,any actual distribution pattern cannot be committed as evaluation will be done among bidders with rate contract is entered , when the delivery location becomes known. Evaluation for each destination shall be done on ‘total cost to BHEL’ basis and purchase order shall be placed accordingly on L1 vendor for the specific requirement.									
49.	TECHNICAL SPECIFICATION: TB-STD.FBOLTS-618-002b Rev 03 shall be applicable.									
49.	PRE QUALIFYING CRITERIA FOR OPEN TENDER : 1. The Technical Pre-Qualification criteria: <table><tr><th>SL. No.</th><th>PQR Description</th><th>Supporting Document to be attached</th></tr><tr><td>a)</td><td>The bidder should have successfully fabricated and supplied the foundation bolts for switchyard, Power House, Industrial Building, factories to any public sector enterprises or state government utility or multinational company.</td><td>Copy of proof of supply of foundation bolts to be submitted (Purchase Order, Receipted LR, Material dispatch clearance certificate or any other document acceptable to BHEL)</td></tr><tr><td>b)</td><td>Bidder must have manufacturing capacity to manufacture Foundation Bolts up to 80mm diameter</td><td>Submit copy of WO for supply of 80mm dia foundation bolt supplied in last 5 years or Certificate stating that bidder having machinery to manufacture foundation bolt up to 80mm dia.</td></tr></table> Note: Nuts, Lock Nuts and washers can be manufactured in house or out sourced meeting Technical specification. 2.The Financial Parameters for PRE QUALIFYING CRITERIA shall be : (a) Vendors should have a minimum average audited annual Turnover of 110 lacs for last two financial years (2014-15 & 2015-16 or 2015-2016 & 2016-17) and should submit audited balance sheet and Profit and Loss account statement for the same.	SL. No.	PQR Description	Supporting Document to be attached	a)	The bidder should have successfully fabricated and supplied the foundation bolts for switchyard, Power House, Industrial Building, factories to any public sector enterprises or state government utility or multinational company.	Copy of proof of supply of foundation bolts to be submitted (Purchase Order, Receipted LR, Material dispatch clearance certificate or any other document acceptable to BHEL)	b)	Bidder must have manufacturing capacity to manufacture Foundation Bolts up to 80mm diameter	Submit copy of WO for supply of 80mm dia foundation bolt supplied in last 5 years or Certificate stating that bidder having machinery to manufacture foundation bolt up to 80mm dia.
SL. No.	PQR Description	Supporting Document to be attached								
a)	The bidder should have successfully fabricated and supplied the foundation bolts for switchyard, Power House, Industrial Building, factories to any public sector enterprises or state government utility or multinational company.	Copy of proof of supply of foundation bolts to be submitted (Purchase Order, Receipted LR, Material dispatch clearance certificate or any other document acceptable to BHEL)								
b)	Bidder must have manufacturing capacity to manufacture Foundation Bolts up to 80mm diameter	Submit copy of WO for supply of 80mm dia foundation bolt supplied in last 5 years or Certificate stating that bidder having machinery to manufacture foundation bolt up to 80mm dia.								

Sr. No.	
	(b) Vendors should have earned profit in at least one year during the last two years for which turnover has been considered. 3. REGISTRATION OF Non TBG – PMD Vendors : (a.) Bidders, not registered with BHEL TBG, need to submit application for Assessment of Registration through Online supplier registration portal at: www.bhel.com under supplier registration either before Date of Tender Opening or within One Week of Date of Tender Opening. PLEASE NOTE THAT UNLESS ONLINE VENDOR REGISTRATION IS APPLIED WITH IN PERIOD MENTIONED IN THIS CLAUSE, BIDS WILL NOT BE PROCESSED FURTHER. (b) In case of bidders referred to point no (a) above, please note that price bids of only those bidders will be opened who are registered under permanent code by BHEL TRANSMISSION GROUP(BHEL-TBG) (c) BHEL reserves the right to reject the offer even though bidder meets the prequalification criteria but is considered not qualified for grant of registration of permanent code by BHEL. Decision of BHEL will be final in this regards and shall be binding on the bidders. In case any clarifications are required by BHEL TBG, it should be furnished properly at the earliest but not later than 15 days from the date of clarification is sought by BHEL. In case of non-reply/improper reply, BHEL reserves the right to complete the Assessment based on available documents and decide acceptance or rejection of bid accordingly. Supplier Evaluation team may also visit Works of Bidder for Assessment of Works.

Signature of Bidder (Authorized Signatory) with Date & Seal

ACTIVITY SCHEDULE ENQ. NO. 257R102 dated 26.07.2017

SL. NO.	ACTIVITY	TIME ALLOTTED [in weeks]	CUMULATIVE TIME FROM RECEIPT OF INPUTS FROM BHEL [in weeks]	SCOPE
1.	Submission of Documents necessary for getting manufacturing clearance like drawings, Data sheet	NA	NA	NA
2.	Approval of documents from BHEL/Customer	NA	NA	NA
3.	Manufacturing Time			BY SUPPLIER
4.	Inspection call			BY SUPPLIER
5.	Inspection by BHEL/Customer			BHEL SCOPE
6.	Issue of Dispatch clearance			BHEL SCOPE
7.	Dispatch			BY SUPPLIER

1. Inspection call to be issued 2 weeks in advance.
2. Supplier must ensure the completeness and correctness of the requisite documents before submission for approval. Delay in approval on account of incomplete / inadequate information shall be the responsibility of supplier.
3. Inspection call should be given in the prescribed format only. Inspection calls not in the prescribed format shall not be entertained.
4. Qty to be offered for inspection should be in accordance within Delivery-schedule – lot. BHEL reserves the right not to entertain multiple inspection calls for a Delivery – lot and delay on this account shall be the responsibility of Supplier.

Signature & Seal of

Supplier

Date:

IEEMA/PVC/TL-A&H/2001 (R-3)

Effective from: 1st April 2014

PRICE VARIATION CLAUSE FOR TRANSMISSION LINE ACCESSORIES AND HARDWARE

CONTAINING: (A) BOTH ALUMINIUM AND STEEL, (B) ONLY ALUMINIUM, (C) ONLY STEEL

The price quoted/confirmed is based on the input cost of raw materials/components and labour cost as on the date of quotation and the same is deemed to be related to prices of raw materials and all India average consumer price index number for industrial workers as specified in the price variation clause given below. In case of any variation in these prices and index numbers, the price payable shall be subject to adjustment, up or down in accordance with the following formula:

- (A) Transmission line accessories and hardware containing both Aluminium and Steel:

$$P = \frac{P_0}{100} \left(20 + 40 \frac{AL}{AL_0} + 5 \frac{Zn}{Zn_0} + 20 \frac{SBIR}{SBIR_0} + 15 \frac{W}{W_0} \right)$$

- (B) Transmission line accessories and hardware containing only Aluminium:

$$P = \frac{P_0}{100} \left(20 + 65 \frac{AL}{AL_0} + 15 \frac{W}{W_0} \right)$$

- ✓ (C) Transmission line accessories and hardware containing only Steel:

$$P = \frac{P_0}{100} \left(20 + 58 \frac{SBIR}{SBIR_0} + 7 \frac{Zn}{Zn_0} + 15 \frac{W}{W_0} \right) \text{ shall be applicable.}$$

Wherein,

P = Price payable as adjusted in accordance with the above formula.

P₀ = Price quoted/confirmed.

AL₀ = Price of EC Grade Aluminium Ingots (refer notes)
This price is as applicable on the 1st working day of the month, one month prior to the date of tendering.

Zn₀ = Price of Electrolytic high grade zinc (refer notes)

IEEMA/PVC/TL-A&H/2001(R-2) Page 1 of 3

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W www.ieema.org

This price is as applicable on the 1st working day of the month, one month prior to the date of tendering.

SBIR₀ = Price of Steel Billets-Retail (refer notes)
This price is as applicable on the 1st working day of the month, one month prior to the date of tendering.

W₀ = All India average consumer price index number for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India (Base: 2001 = 100)
This index number is as applicable on the first working day of the month, three months prior to the date of tendering.

For example, if date of tendering falls in October 2014, the applicable prices of Aluminium (AL₀), Zinc (Zn₀) and Steel Billets-Retail (SBIR₀) should be for the month September 2014 and all India average consumer price index number (W₀) should be for the month of July 2014.

The above prices & indices are as published by IEEMA vide circular reference no. IEEMA (PVC)/TLA&H (R-3)/__ prevailing as on first working day of the month i.e., one month prior to the date of tendering.

AL = Price of EC Grade Aluminium Ingots (refer notes)
This price is as applicable on the 1st working day of the month, two months prior to the date of delivery.

Zn = Price of Electrolytic high grade zinc (refer notes)
This price is as applicable on the 1st working day of the month, two months prior to the date of delivery.

SBIR = Price of Steel Billets-Retail (refer notes)
This price is as applicable on the 1st working day of the month, two months prior to the date of delivery.

W = All India average consumer price index number for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India (Base: 2001 = 100)
This index number is as applicable on the first working day of the month, four months prior to the date of delivery.

For example, if date of delivery falls in July 2015, the applicable prices of Aluminium (AL), Zinc (Zn) and Steel Billets-Retail (SBIR) should be for the month May 2015 and all India average consumer price index number (W) should be for the month of March 2015.

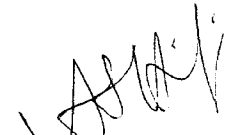
The date of delivery is the date on which the instrument transformer is notified as being ready for inspection/dispatch (in the absence of such notification, the date of manufacturer's dispatch note is to be considered as the date of delivery) or the contracted delivery date (including any agreed extension thereto), whichever is earlier.

Notes: (a) All prices of raw materials are exclusive of modvatable excise/CV duty amount and exclusive of any other central, state or local taxes; octroi etc.

(b) All prices are as on first working day of the month.

(c) The details of prices are as under:

1. The price of Aluminium (in Rs./MT) is the average price of EC grade Aluminium ingots as quoted by three primary producers of Aluminium as per IS: 4026-1987
2. The price of Electrolytic high grade zinc (in Rs./MT) is ex-works price as quoted by a primary producer of zinc.
3. The prices of Steel Billet-Retail are the average Retail price of Billets of size 100 mm of all cities in Rs/MT; as published by Joint Plant Committee (JPC), Kolkata.



Deputy Director General



BHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION BUSINESSS GROUP
MATERIAL RECEIPT CERTIFICATE

- a) Site:
b) LR No. with date:
c) Vehicle no.:
d) Date of receipt of material at site:
e) Supplier:
f) Material details (as mentioned below):

S.no.	Item Description	Type of Packages	Unit (MT/KM/ NO.)	Qty as per packing list	Qty Received	Remarks

Other Remarks:

Signature with date: _____

Name & Designation: _____
(With Seal)

BHARAT HEAVY ELECTRICALS LTD.
TRANSMISSION BUSINESS GROUP - MATERIAL MANAGEMENT

PROJECT : RATE CONTRACT FOR NON-PGCIL PROJECTS
ITEM : FOUNDATION BOLTS
ENQUIRY NO.: 257R012
ENQUIRY DATE : 26.07.2017

SCHEDULE OF PRICES

Sr. No.	Foundation Bolts as per Technical Specification No. TB-STD.FBOLTS-618-002b Rev. 03	HSN CODE	Unit	Qty.	Unit Rate (Rs.)	Total Price (Rs.)
			1	2	3	4 (Col. 2x3)
A	Ex-Works Price of Foundation Bolts		MT	350		
B	GST applicable on "Total Ex-Works Price"		%	-----		
C	Freight & Insurance for 350 MT of Foundation Bolts for 1000 Kms. Distance					
C.1	Up to 1 MT (Approx. 10 MT)		MT/KM	10000		
C.2	Greater than 1 MT and up to 5 MT (Quantity- Approx. 25 MT)		MT/KM	25000		
C.3	Above 5 MT (Approx. 315 MT)		MT/KM	315000		
D	GST applicable on "Freight & Insurance for 350 MT of Foundation Bolts for 1000 Kms. Distance"		%	-----		
E	Sea worthy Export Packing Charges for 35 MT of Foundation Bolts		MT	35		
F	GST applicable on "Sea worthy Export Packing Charges for 35 MT of Foundation Bolts (If applicable)"		%	-----		
G	TOTAL PRICE in Rs. (A+B+C.1+C.2+C.3+D+E+F)					

SCHEDULE OF COMMERCIAL DEVIATION

Ref: TBMM/FB / RATE-CONTRACT/ NON PGCIL PROJECTS

ENQ. 257R102

This Format is to be submitted in original duly signed by bidder.

The following are the deviations/variations/exceptions from the Terms and Conditions :-

SL. NO.	CLAUSE NO. OF TERMS AND CONDITIONS	STATEMENT OF DEVIATION

In case, this schedule is not submitted, it will be presumed that the equipment /material to be supplied under this contract is deemed to be in compliance with the Terms and Conditions.

If there is NIL deviation,even then the format to be filled as NIL DEVIATION.

Note : Continuation Sheets of like size and format may be used as per the Bidder's Requirement and shall be annexed to this schedule.

Place :
Date :

Signature of the authorised representative of

Bidder's name :.....
Designation:.....
Company Seal:.....

SCHEDULE OF TECHNICAL DEVIATION

Ref: TBMM/FB / RATE-CONTRACT/ NON PGCIL PROJECTS

ENQ. 257R102

This Format is to be submitted in original duly signed by bidder.

The following are the deviations/variations/exceptions from the Terms and Conditions :-

SL. NO.	CLAUSE NO. OF TERMS AND CONDITIONS	STATEMENT OF DEVIATION

In case, this schedule is not submitted, it will be presumed that the equipment /material to be supplied under this contract is deemed to be in compliance with the Terms and Conditions.

If there is NIL deviation,even then the format to be filled as NIL DEVIATION.

Note : Continuation Sheets of like size and format may be used as per the Bidder's Requirement and shall be annexed to this schedule.

Place :

Date :

Signature of the authorised representative of

Bidder's name :.....

Designation:.....

Company Seal:.....



BHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION BUSINESS ENGINEERING MANAGEMENT
NOIDA

DOCUMENT No.	TB-STD.FBOLTS-618-002b	Rev 03	Prepared	Checked	Appd
TYPE OF DOC.	TECHNICAL SPECIFICATION	NAME	BVG	PLK	RMS
TITLE STANDARD TECHNICAL SPECIFICATION FOR GI FOUNDATION BOLTS	SIGN		-SD-	-SD-	-SD-
	DATE				
	GROUP		TBEM		
	W.O. No				

**CUSTOMER/
CONSULTANT**

PROJECT

Contents:

Section No.	Description	No of Pages
SECTION-1	SCOPE, SPECIFIC TECHNICAL REQUIREMENTS AND QUANTITIES	01
SECTION-2	STANDARD TECHNICAL SPECIFICATION	03
SECTION-3	PROJECT DETAILS AND GENERAL SPECIFICATION	01
SECTION-4	GUARANTEED TECHNICAL PARTICULARS (Not Applicable)	
SECTION-5	MANUFACTURING QUALITY PLAN (Not Applicable)	
SECTION-6	CHECK LIST	01

03	16.12.15				DETAILS FOR 80MM DIA FDN BOLTS MENTIONED in cl 2.2.8
Rev	Date	Altered	Checked	Approved	
Distribution				To	
				Copies	

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This must not be used directly or indirectly in anyway detrimental to the interest of the company.

SECTION - 1

SCOPE, SPECIFIC TECHNICAL REQUIREMENTS & QUANTITIES

1.1 SCOPE

The scope of this specification is to specify all details required by a supplier for supply of galvanized foundation bolts for projects being executed by BHEL on turnkey basis for NTPC, PGCIL, SEBs and other Customers.

1.2 SPECIFIC TECHNICAL REQUIREMENTS

The specific technical requirements shall be as per Standard Technical Specification (Refer Section 2).

1.3 QUANTITIES

The quantities shall be as per Purchase Indent.

SECTION – 2

STANDARD TECHNICAL SPECIFICATION

2.0 FOUNDATION BOLTS (including nuts and washer):

This section covers the standard technical specification for GI Foundation Bolts.

- 2.1 Following standard drawing is attached for reference based on which supplies shall be made as per BHEL's requirement.

1- BHEL Dwg No.: TB-3-STD. FBOLTS-618-501 Details of Standard GI foundation bolts

However, there may be certain cases where supplies may be required to be made as per Customer's specific technical requirements. Drawings for such non-standard cases shall be provided separately.

- 2.2 All foundation bolts including nuts and washers shall be supplied based on the following specifications.

2.2.1 All foundation bolts shall conform to IS: 5624 but the material including anchor plate shall be MS conforming to IS: 2062 (Grade A).

2.2.2 All foundation bolts shall be of property class 4.6 conforming to IS: 1367.

2.2.3 All foundation bolts shall be fully galvanized so as to achieve 0.61kg/sqm of zinc coating as per relevant IS. However, if different coating is required or partial galvanizing is required, it shall be indicated separately.

2.2.4 The pitch of threads shall be 5.5mm as per IS 4218 Part-II for 56mm dia bolt.

2.2.5 The threads of bolts shall be undercut to suit standard matching nut.

2.2.6 All corresponding hexagonal nuts shall be of property class 4 conforming to IS:1367/IS:1363/IS:6639.

2.2.7 All plain washers shall conform to IS: 2016.

2.2.8 For purpose of payment, the unit weight of standard bolts including nuts & washers as indicated in table below shall be considered. Where supply is for non-standard bolts, payment shall be made based on unit weights worked out considering theoretical dimensions & density of steel as 7850kg/cum.

Diameter of non-standard foundation bolts can go up to 80mm and length can go up to 2500mm with matching nuts and washers as per drawing.

UNIT WEIGHT OF STANDARD GI FOUNDATION BOLTS I/C NUTS & WASHERS:
BHEL DWG NO. – TB-3-STD.FBOLTS-618-501

S. NO.	TYPE	SIZE OF BOLTS	TOTAL WT (KG)
1	56A	56 ϕ X 2000 LG	43.33
2	56B	56 ϕ X 1800 LG	39.46
3	56C	56 ϕ X 1600 LG	35.60
4	56D	56 ϕ X 1400 LG	31.73
5	56E	56 ϕ X 1250 LG	28.83
6	48C	48 ϕ X 1600 LG	26.17
7	48D	48 ϕ X 1400 LG	23.33
8	48E	48 ϕ X 1250 LG	21.20
9	48F	48 ϕ X 1000 LG	17.65
10	40E	40 ϕ X 1250 LG	14.51
11	40F	40 ϕ X 1000 LG	12.05
12	40G	40 ϕ X 800 LG	10.08
13	32E	32 ϕ X 1250 LG	9.21
14	32F	32 ϕ X 1000 LG	7.63
15	32G	32 ϕ X 800 LG	6.37
16	28E	28 ϕ X 1250 LG	6.93
17	28F	28 ϕ X 1000 LG	5.72
18	28G	28 ϕ X 800 LG	4.76
19	24F	24 ϕ X 1000 LG	4.32
20	24G	24 ϕ X 800 LG	3.61
21	24H	24 ϕ X 600 LG	2.90
22	20G	20 ϕ X 800 LG	2.60
23	20H	20 ϕ X 600 LG	2.11
24	20I	20 ϕ X 400 LG	1.62

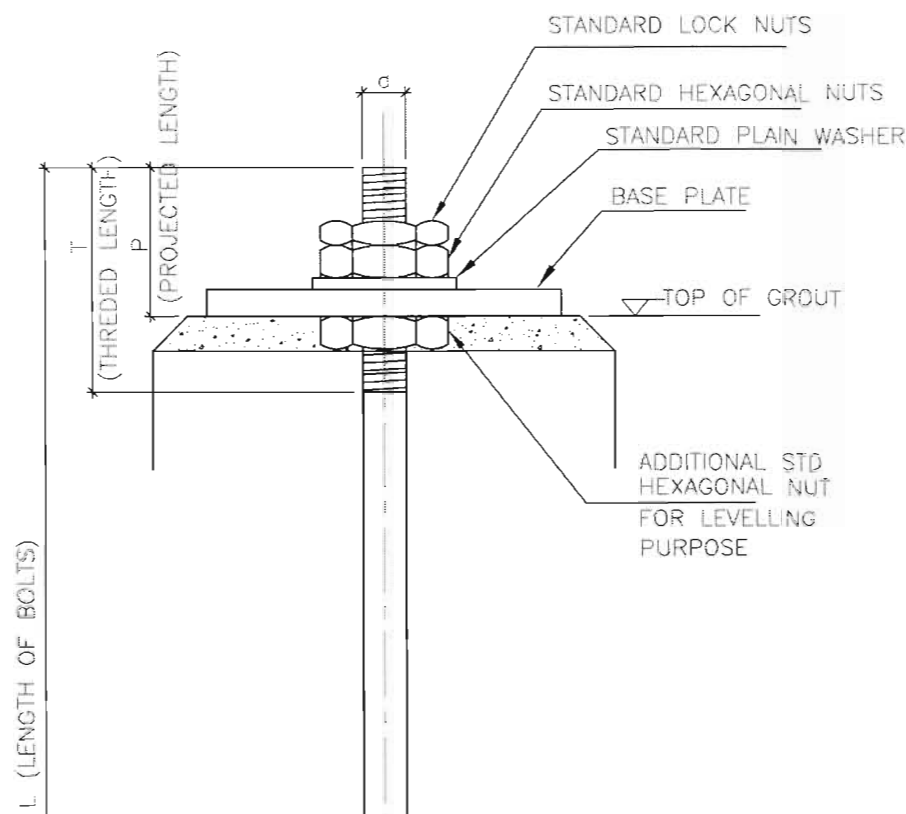
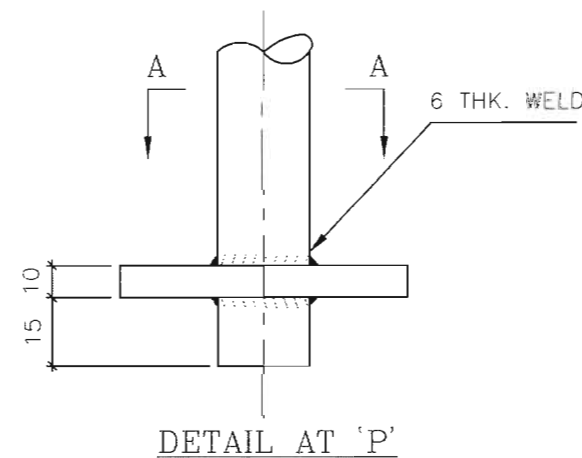
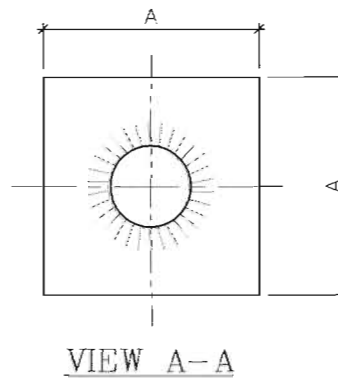
DRG. NO. TB-3-STD.FBOLTS-618-501

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it must not be used directly or indirectly in anyway detrimental to the interest of the company.

COMPUTER DRG. PATH NAME :

SIGN & DATE

INVENTORY NO.

TYPICAL DETAIL OF
FOUNDATION BOLT

S.No.	BOLT TYPE	DIA OF BOLTS (d) MM	TOTAL LENGTH OF BOLT (L) MM	THREADED LENGTH OF BOLT (T) MM	PROJECTED LENGTH OF BOLT (P) MM	(A) MM
1	56A	56	2000	220	160	100
2	56B	56	1800	220	160	100
3	56C	56	1600	220	160	100
4	56D	56	1400	220	160	100
5	56E	56	1250	220	160	100
6	48C	48	1800	200	150	100
7	48D	48	1400	200	150	100
8	48E	48	1250	200	150	100
9	48F	48	1000	200	150	100
10	40E	40	1250	160	110	100
11	40F	40	1000	160	110	100
12	40G	40	800	160	110	100
13	32E	32	1250	150	110	75
14	32F	32	1000	150	110	75
15	32G	32	800	150	110	75
16	28E	28	1250	140	100	75
17	28F	28	1000	140	100	75
18	28G	28	800	140	100	75
19	24F	24	1000	120	90	75
20	24G	24	800	120	90	75
21	24H	24	600	120	90	75
22	20G	20	800	110	75	75
23	20H	20	600	110	75	75
24	20I	20	400	110	75	75

NOTES:

- ALL DIMENSIONS ARE IN MM.
- ALL BOLTS, NUTS, WASHERS & ANCHOR PLATES SHALL CONFORM TO STANDARD TECHNICAL SPECIFICATION NO. TB-STD.FBOLTS-618-002b (REV03).

NAME OF CUSTOMER:

NAME OF PROJECT:

BHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION PROJECTS DIVISION

CARD CODE

TITLE:-

DETAILS OF STANDARD GI FOUNDATION BOLTS

NEXT SHEET

SHEET No.

01
REV. 00

DEPT. CODE
TBEM 422

SCALE 1:60 W.O. No.

DRG. No. TB-3-STD.FBOLTS-618-501

SECTION - 3

PROJECT DETAILS AND GENERAL SPECIFICATIONS

3.0 GENERAL

This section stipulates the General Technical Requirements under the contract and will form an integral part of the Technical Specification.

3.1 SITE INFORMATION

SL.NO.	DESCRIPTION	
3.1.1	PROJECT INFORMATION	
	a) Customer	
	b) Project	
	c) Project location	
	d) Transport facilities Nearest Railway Station/Gauge Distance from Railway Station	
	e) Access roads	

3.2 STANDARDS

All materials shall comply in all respect with the requirement of the latest edition of the relevant codes as listed in Section 2.

SECTION-6

CHECK LIST FOR INFORMATION TO BE FURNISHED WITH OFFER RETURN THIS CHECKLIST AS PART OF THE OFFER DULY SIGNED

The offer may not be considered if the following information and this Checklist are not enclosed with the Offer.

BHEL ENQUIRY. NO:

BIDDER:OFFER REFERENCE:

6.1 Deviations

Tick

YES

NO

If yes,

S.No.	Deviation	Clause No.
1		
2		
3		
4		

(Signature & Seal of Bidder)

SEA WORTHY PACKING FOR EXPORT JOBS

1.0 SCOPE:

For export jobs, sea worthy packing capable of performing all necessary functions like prevention of damage to the contents, sufficient to support frequent handling and lengthy periods of outdoor storage in adverse weather conditions are required. Workmanship and material used shall meet the technical requirements and be in accordance with best commercial export packing practices. Vendor shall be responsible for the packing, however, it shall meet the minimum requirements specified herein. Equivalent or better packing methods may be deployed subject to approval of the purchaser. Vendor shall submit the packing procedure for its equipment for purchaser's approval during detailed engineering.

2.0 TECHNICAL SPECIFICATION OF WOOD:

The wood shall be Fir, Chir, Silver Oak (*Grevillea Robusta*) or chemically treated mango with moisture content not exceeding 50 %. The wood shall have flexural & compressive strength, stiffness, shock absorption and nail retention properties. The wood shall be free from common defects such as warp, bow, twist, knot, cracks, splits, end splits, bend, visible sign of infection and any kind of decay caused by insects, fungus etc. Surface cracks with a maximum depth of 3 mm are permissible. A continuous crack of any depth all along the length is not allowed.

The wood shall be chemically treated to provide protection against deterioration due to fungi and attack by termites, borers, marine organism and any other kind of infection. It shall be treated only after final processing like cutting, planing, joint grooving etc.

3.0 TYPE, DESIGN & DIMENSION OF WOODEN PACKING CASES:

3.1 PACKING OF EQUIPMENTS:

Various mechanical, electrical and C&I equipment e.g. pumps, motors, equipment skids, heat exchangers, control panels, switch gears, transformers, GI hardware, GI lattice & pipe structures, GI foundation bolts etc. shall be wrapped in weather proof packing and then secured in wooden packing cases. The construction of wooden packing cases shall be as per details given below and also in figures 1 to 11.

3.1.1 BOTTOM FRAME:

The construction of bottom frame shall be as per fig. 2. The number of slides/runners for bottom frames shall be selected depending upon the weight and overall dimension of the load to be carried. The equipment shall be secured by fixing their base frame/plate with the help of bolt & nuts etc to the bottom frame of the wooden packing cases. The equipment not provided with the base frame/plate like cylindrical vessels etc. to be secured to the bottom frame of the wooden case with 'C' clamps fabricated from steel channels/ angle irons.

3.1.2 TOP FRAME:

The construction of top frame shall be as per fig. 3.

3.1.3 END PANELS:

The dimensions of the end and lateral panels shall be calculated according to overall dimensions of the items to be packed.

Diagonal braces shall be used for packing cases having height exceeding 500 mm. Detail of bracing shall be as per figure 5 to 8.

3.1.4 SLING PLATE:

To facilitate lifting of cases, longitudinal under slide boards shall be fixed. To avoid damage to the

box while lifting sling plates shall be provided. Refer fig. 11.

3.1.5 ANGLE IRON CLEATS :

Angle iron cleats shall be used for strengthening the joints as indicated in fig. 10.

3.1.6 OTHER REQUIREMENTS:

The thickness of planks for top, bottom, side and end panels shall be atleast 25 mm. Planks used for this purpose shall be joined with each other by tongue & groove joint. The groove dimension shall be such that tongue fits tightly into groove to make good joint.

Runners/slides, traverse bars etc. shall be of single length i.e. without any joint. Planks for sheathing, diagonal bracing etc shall also be of single length upto 2400 mm. For sizes larger than 2400 mm, proper jointing is permitted for planks for sheathing and diagonal bracing.

Each equipment to be individually covered with double polyethylene petticoat. Sheet thickness of polyethylene sheet shall not be less than 0.175 mm (175 microns). The sealing shall be such so as not to allow moisture inside.

The inner surface of 4 sides of shooks shall be nailed with bituminised water proof kraft paper. Wherever 2 pieces of kraft paper are used, the joint shall have an overlap of minimum 20mm.

All the inner sides of the box shall be nailed with bitumen coated hessian polyethylene kraft paper. For top frame it shall project on all sides by 100mm and shall be nailed on sides. Wherever 2 pieces of kraft paper are used, the joint shall have an overlap of minimum 20mm.

For delicate equipment like control panels, switchgears etc suitable cushioning material like rubberized coir shall be provided on their bottom support. The thickness of coir shall be 50 mm (minimum) and width 100 mm (minimum).

For control panels and switchgears, the gap between the panel and casing shall be filled with rubberized coir with distance between consecutive supports less than 500 mm (reffig 15). For other equipment suitable support from sides of the casing to be provided.

Switchgear cubicles, control panels and control desks shall be packed and shipped in separate convenient sections. The components e.g. circuit breakers relays and instruments etc. which are removed from panels for shipping purpose shall be separately packed and shipped as per packing instructions in clause 3.2.

Packing case for control panels & switchgear panels shall be finally covered with GI sheet of minimum thickness of 0.4 mm.

Packing cases shall be bound at edges by nailing MS clamps/brackets at sufficient intervals. Further, heavier boxes shall be strapped with 'C' clamps (ref fig 4) fabricated from steel channels/angles and lighter boxes shall be strapped with hoop iron strips.

3.1.7 ALTERNATIVE PACKING CASES FOR CONTROL PANELS AND SWITCHGEARS

If required, for control and switchgear panels, construction of wooden packing cases may be provided as per fig 14 & 15 and as detailed below:

Thickness of planks for all sides, binding and jointing battens shall be atleast 25 mm. Width of planks shall be at least 125mm and that of binding and jointing planks shall be at least 100 mm.

Top frame shall be suitable so that it does not collapse due to sandwiching between slings while lifting. Longitudnal and traverse bars for the bottom wooden pallet to be suitably selected.

Diagonal bracings shall be as per clause 3.1.3 and All other requirements shall be as per clauses 3.1.4 to 3.1.6.

3.2 PACKING OF LOOSE ITEMS:

Loose mechanical, electrical and C&I items eg valves, fittings, pressure/temperature gauges/switches, circuit breakers, relays etc shall be individually wrapped using polyethylene sheets/U foam/thermocole sheets/air bubbled sheets depending upon the item and then packed in wooden boxes. The left out spaces and top of the boxes shall be filled with rubberized coir to get proper cushioning effect. Special attention is to be paid to relays, instruments etc for arresting the movement of their operating mechanisms during transportation.

The construction of wooden packing case shall be as per clause 3.1 retaining its all features concerning strength of box. The construction of wooden packing case for loose electrical and C&I items shall be as per fig. 16.

Inner surface of 6 sides of the box shall be lined with Bitumen coated hessian polyethylene kraft paper. Rubberized coir of min. 25 mm thickness and 100 mm width shall be nailed to inner surfaces of bottom and 4 sides of the box.

Loose items such as Galvanised Steel Structure, GI Foundation bolts, Cable support racks, Cable Trays and GI Pipes etc. shall be individually wrapped using polyethylene sheets and further lots may be wrapped in Bitumen coated hessian cloth.

4.0 MOISTURE ABSORBER:

Silica gel is used for this purpose to protect contents over sufficiently long time from corrosion. Silica gel shall be of indicating type conforming to IS-304-1979 packed in cotton bags placed at different positions inside the packing for absorbing moisture and shall not come directly into contact with the equipment / material inside the package. The quantity of silica gel shall be enough for storage period of one (1) year, however, it shall not be less than 4 gms per litre volume of case subject to minimum of 400 gms per case.

5.0 INDICATION MARKS ON THE BOXES:

Markings shall be provided on the boxes indicating position of boxes for handling, storage and nature of consignment. For guidelines refer figure 12. The ink used for this purpose as well as for marking despatch instruction shall be indelible/nonwashable marking ink.

6.0 DESPATCH DETAILS:

External front and rear sides of the boxes to be planed for writing instructions.

Dispatch details such as consignor / consignee address, contract and case details, country of origin , port of delivery, stacking instructions shall be written on one of the side of boxes. An anodised aluminium plate shall be provided on one side of the boxes.

One copy of packing slip wrapped in polyethylene bag covered with aluminium packing slip holder to be nailed on the external surface of the box. One more copy of the packing slip wrapped in polyethylene bag to be kept inside the box at the prominent place.

7.0 INSPECTION:

There shall be a Customer Hold Point (CHP) for inspection of final assembly of packing. During above inspection, the records for Chemical Treatment shall be reviewed.

-- X X --

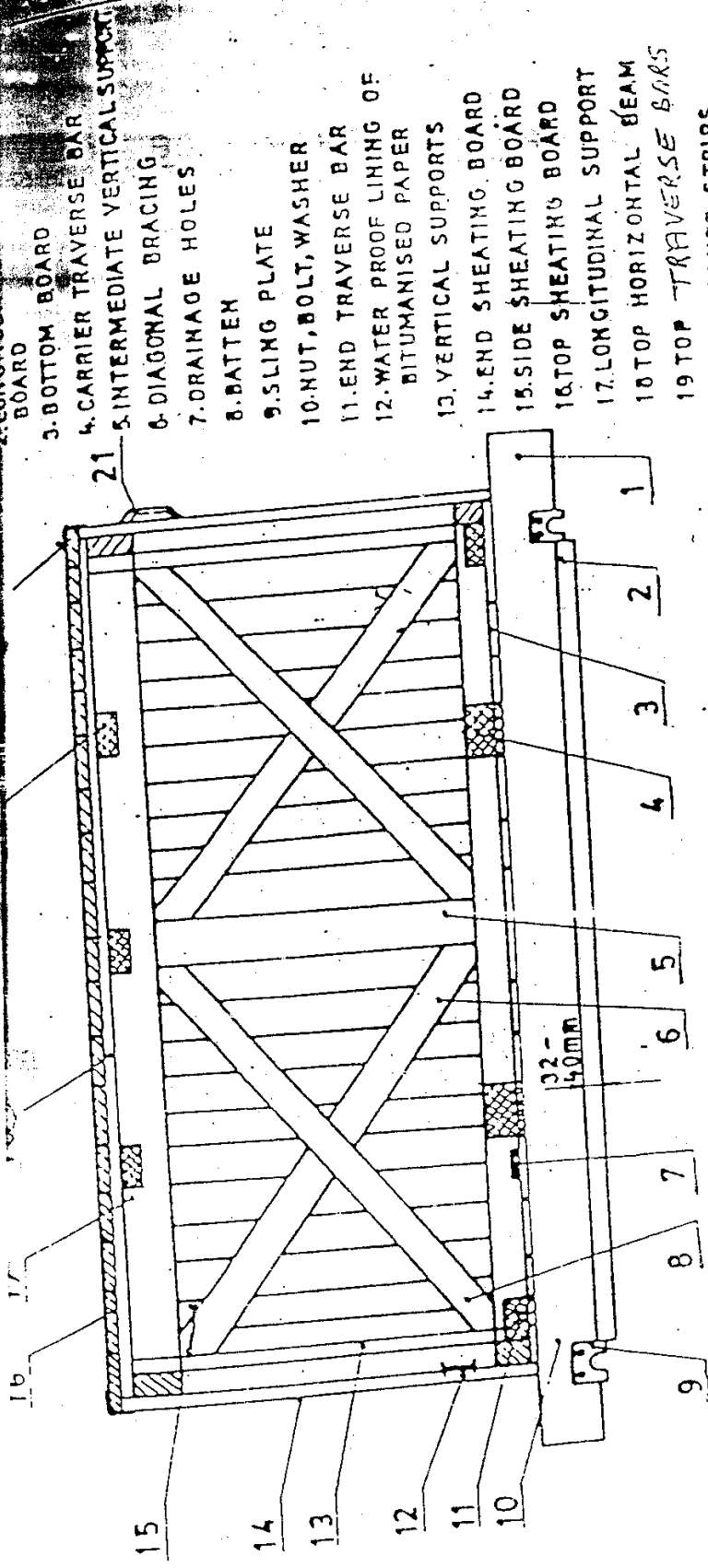


FIG. 1

NOMENCLATURE OF PARTS OF PACKING

CASIS

FIG. -1

BOTTOM FRAME ARRANGEMENTS

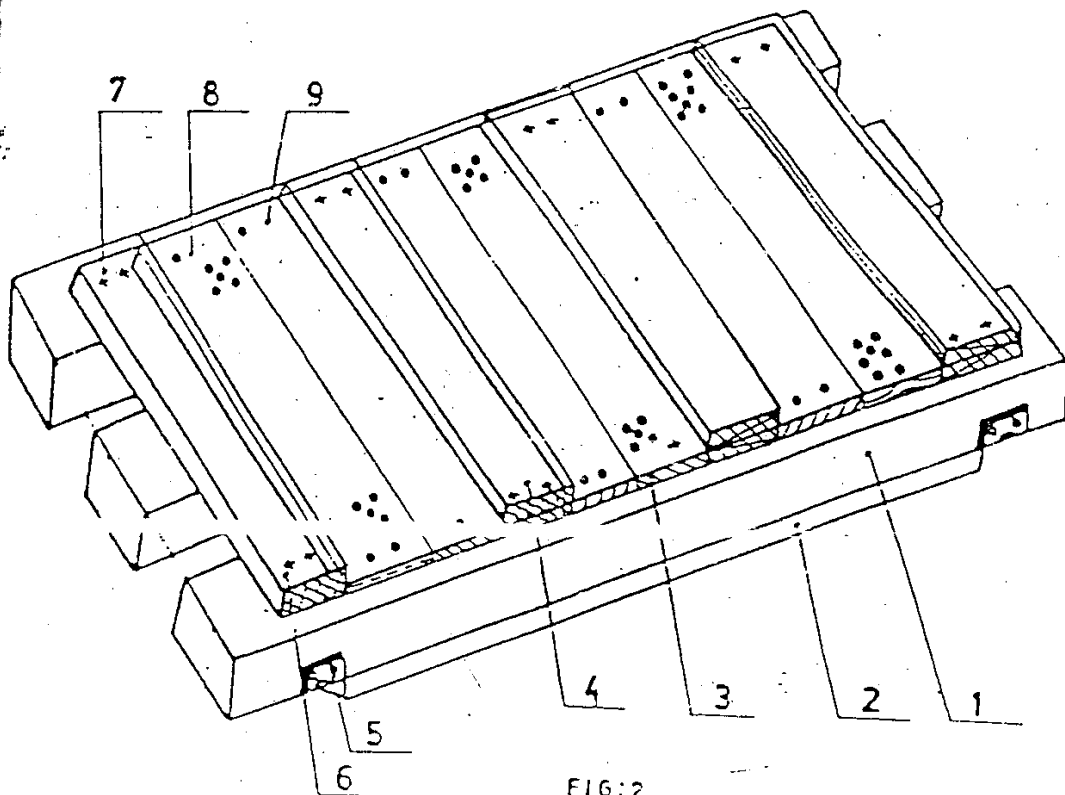


FIG:2

Nos. of slides : Minimum 2 Nos.

For length more than 1800 mm or
load more than 1000kg, Nos. of
slides shall be minimum 3 Nos.

For dimensions of slides, refer Table I

Cross section of end traverse bar; 100 X 100 mm.
(minimum)

1. SLIDE
2. UNDER SLIDE BOARD
3. BOTTOM BOARD
4. CARRIER TRAVERSE BAR
5. SLING PLATE
6. TRAVERSE BAR
7. BOLT, NUT & WASHER
8. DRAINAGE HOLES
9. NAILS

TOP FRAME ARRANGEMENT

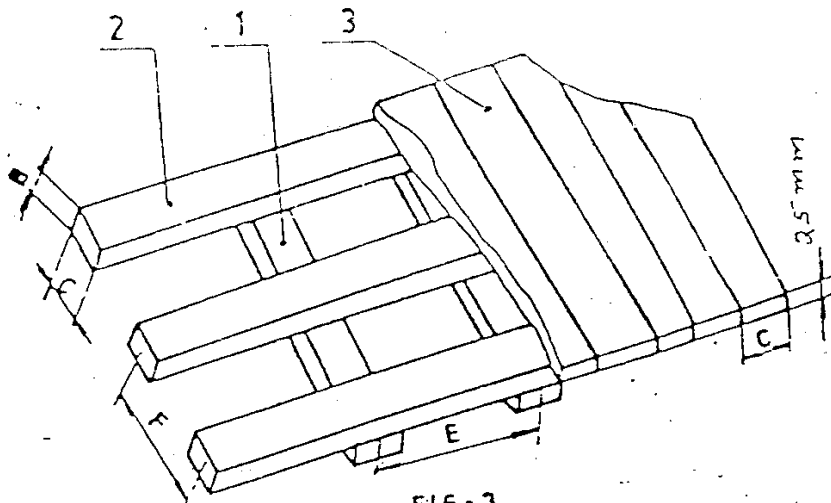


FIG-3

Dim F : 700 to 1000 mm
 Dim E : 500 to 900 mm
 B x C : 30 x 100 mm.

- 1 - Traverse Bars
- 2 - Horizontal Soans
- 3 - Top Board

ARRANGEMENT OF C-CLAMPS AROUND CASES

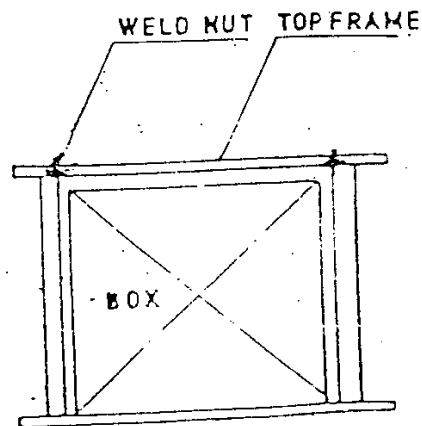
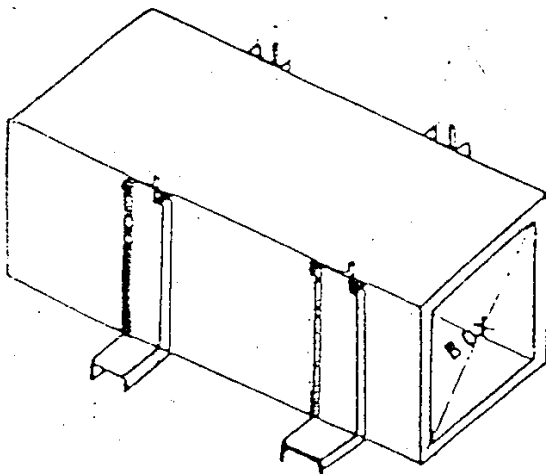


FIG: 4

ARRANGEMENT OF DIAGONAL BRACING AND HORIZONTAL SUPPORT

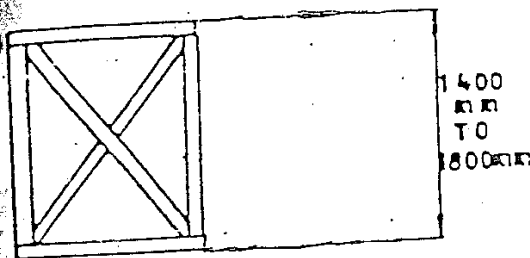


FIG:6

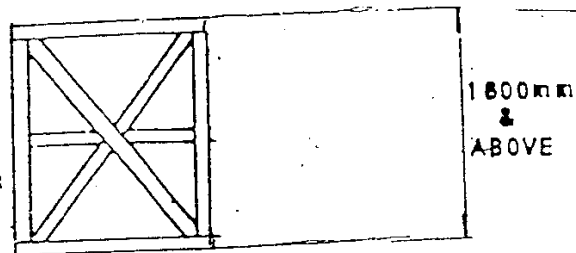


FIG:8

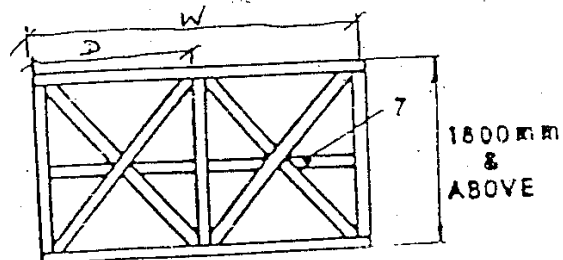


FIG:9

7- Middle Horizontal Support

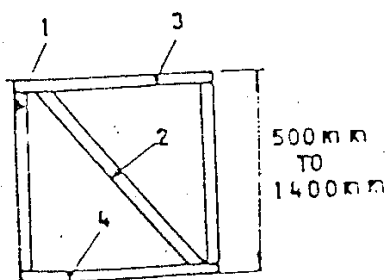


FIG:5

- 1- Vertical Support
- 2- Diagonal Bracing
- 3- Upper Horizontal Support
- 4- Lower Horizontal Support

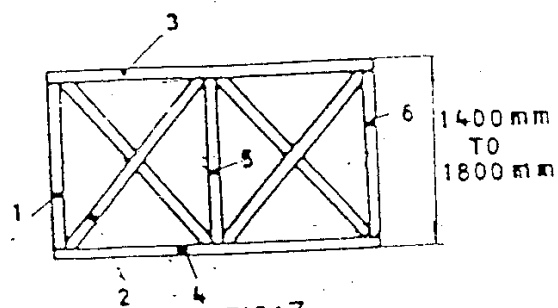
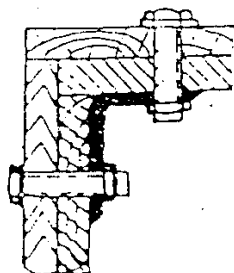
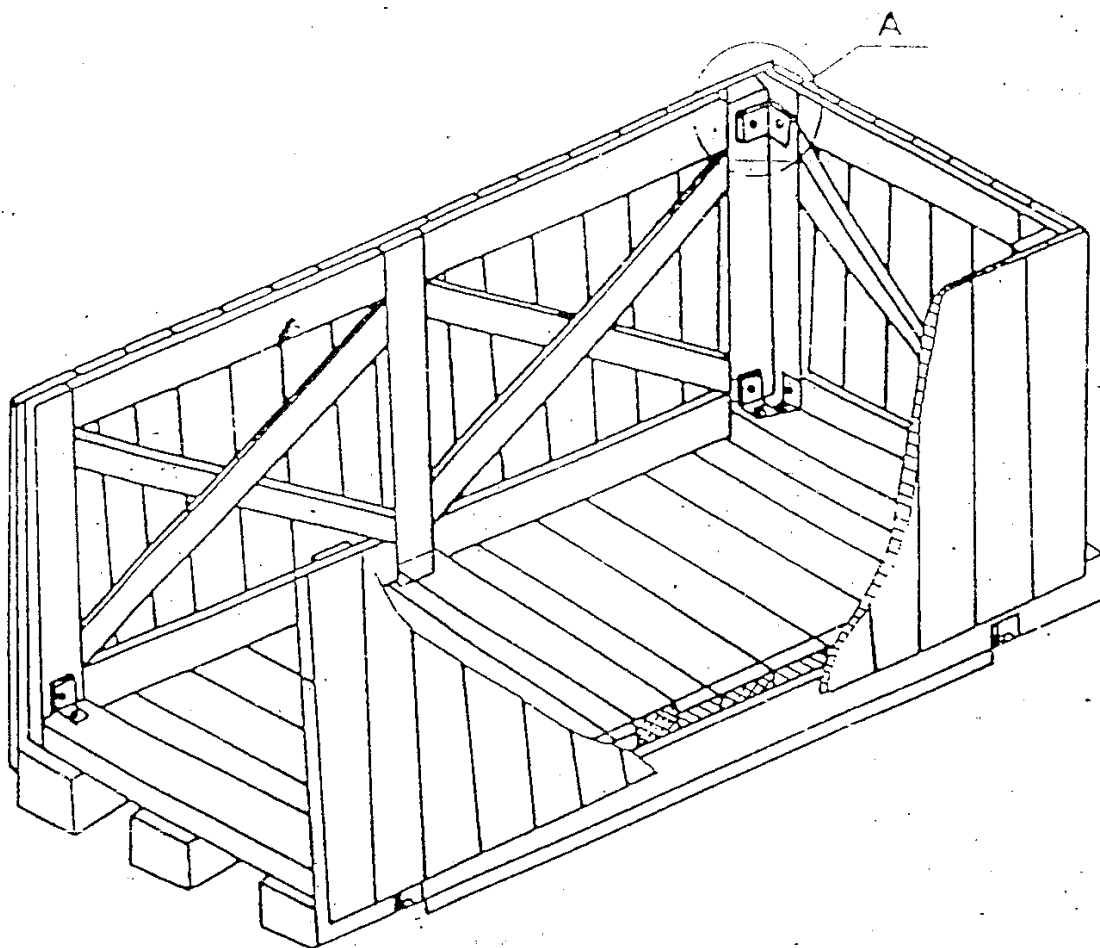


FIG:7

- 1, 5, 6 - Vertical Support
- 2 - Diagonal Bracing
- 3 - Upper Horizontal Support
- 4 - Lower Horizontal Support

The dimensions of various items shall be as Table-2

ARRANGEMENT OF PACKING CASE



DETAIL-A

HOLE DIAMETER
MUST CONFORM
TO BOLT DIA

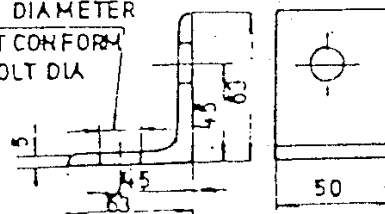


FIG:10

ARRANGEMENT OF SLING - PLATE ON
CASES

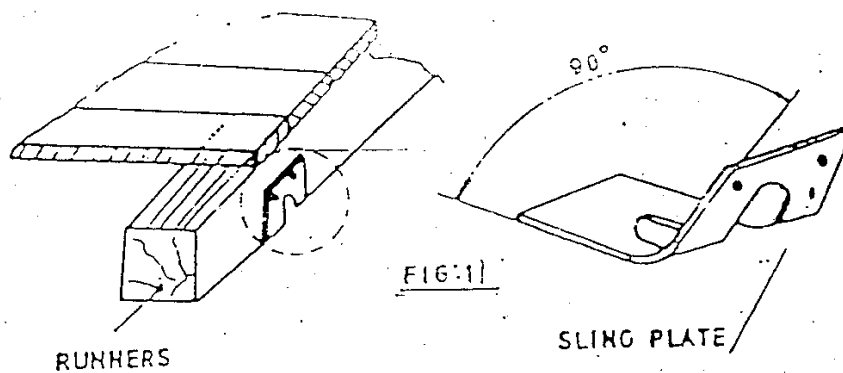


Table 1

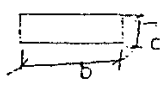
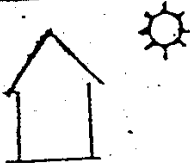
load	Length of Slides						
	600	800	1000	1200	1300	1500	2000
	Cross Section b x c						
							
500	50 x 100	50 x 100	50 x 100	50 x 100	75 x 100	75 x 100	100 x 100
800	50 x 100	50 x 100	75 x 100	75 x 100	75 x 100	75 x 100	100 x 100
1000	75 x 100	75 x 100	75 x 100	100 x 100	100 x 100	100 x 110	100 x 150
1500	75 x 100	75 x 100	100 x 100	100 x 100	100 x 100	100 x 150	100 x 150
2000	75 x 100	100 x 100	100 x 100	100 x 150	100 x 150	100 x 150	150 x 150
2500	75 x 100	100 x 100	100 x 150	100 x 150	100 x 150	150 x 150	150 x 150
3000	100 x 100	100 x 150	150 x 150	150 x 150	150 x 150	150 x 150	

Table 2

End and side Panels	Width of the panel W	Distance between longitudinal support DIM 'D'						
		600	800	1000	1200	1400	1600	1800
		Cross section (b : c)						
Fig 5 to Fig 9	600 to 1200	30 x 100	30 x 100	30 x 100	30 x 130	30 x 130	30 x 130	30 x 130
	1201 to 1600	30 x 130	30 x 130	30 x 130	30 x 130	30 x 130	30 x 130	30 x 130
	1601 to 2000	30 x 130	30 x 130	30 x 130	30 x 130	30 x 130	30 x 130	30 x 130
	2001 to 3000	30 x 130	30 x 130	30 x 130	30 x 130	30 x 130	30 x 130	40 x 150
	3001 to 4000	30 x 130	30 x 130	40 x 150	40 x 150	40 x 150	40 x 150	40 x 150

INDICATION MARKS ON CASES

SL. NO.	INDICATION MARK	MEANING
1		TOP SIDE
2		KEEP AWAY FROM HEAT
3		SLINGING POSITION
4		FRAGILE MATERIALS TO BE HANDLED WITH CARE
5		CENTRE OF GRAVITY
6		KEEP DRY

BHEL-PREM-DELHI-INDIA					
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-13: MARKING PLATE.

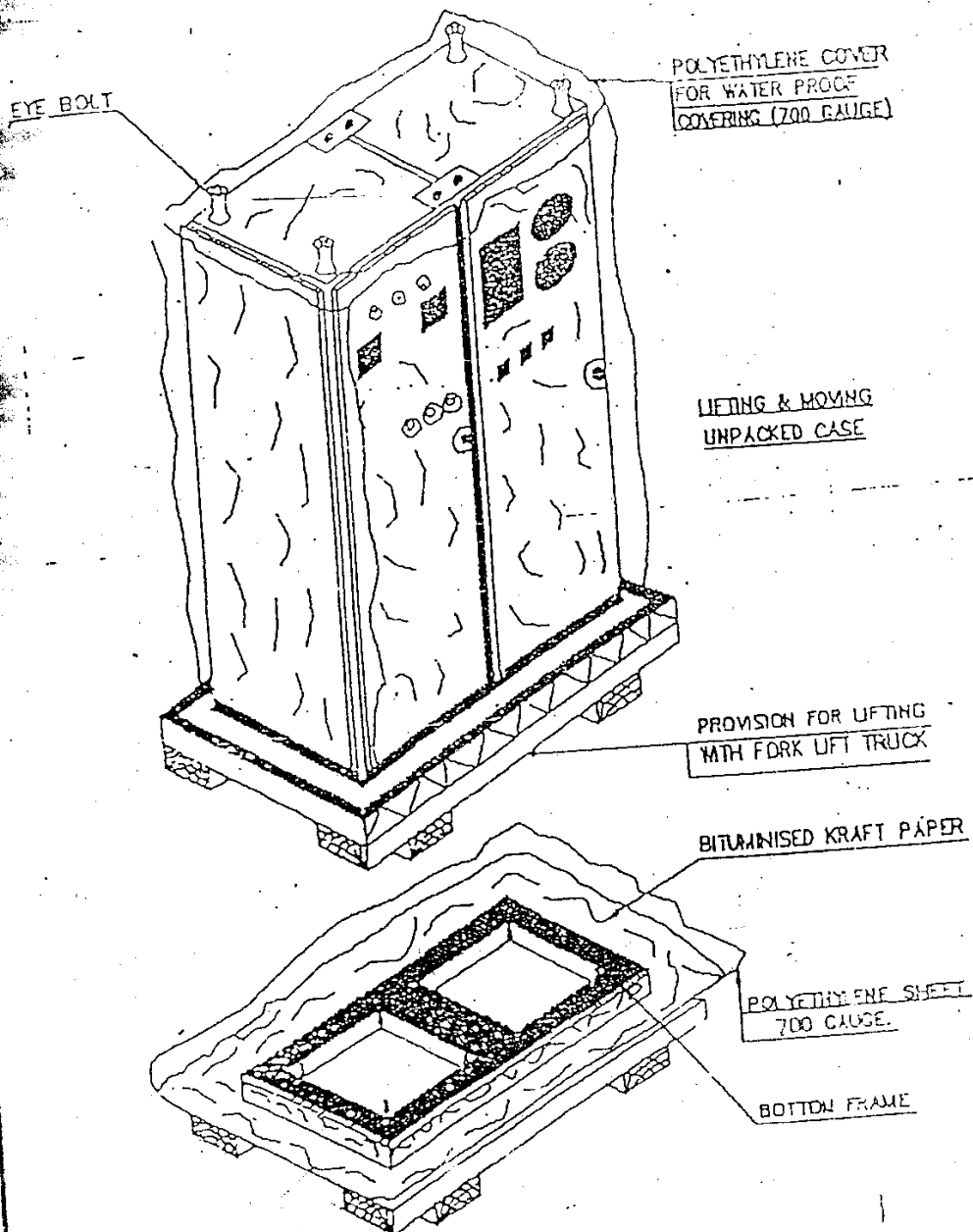


FIGURE-14

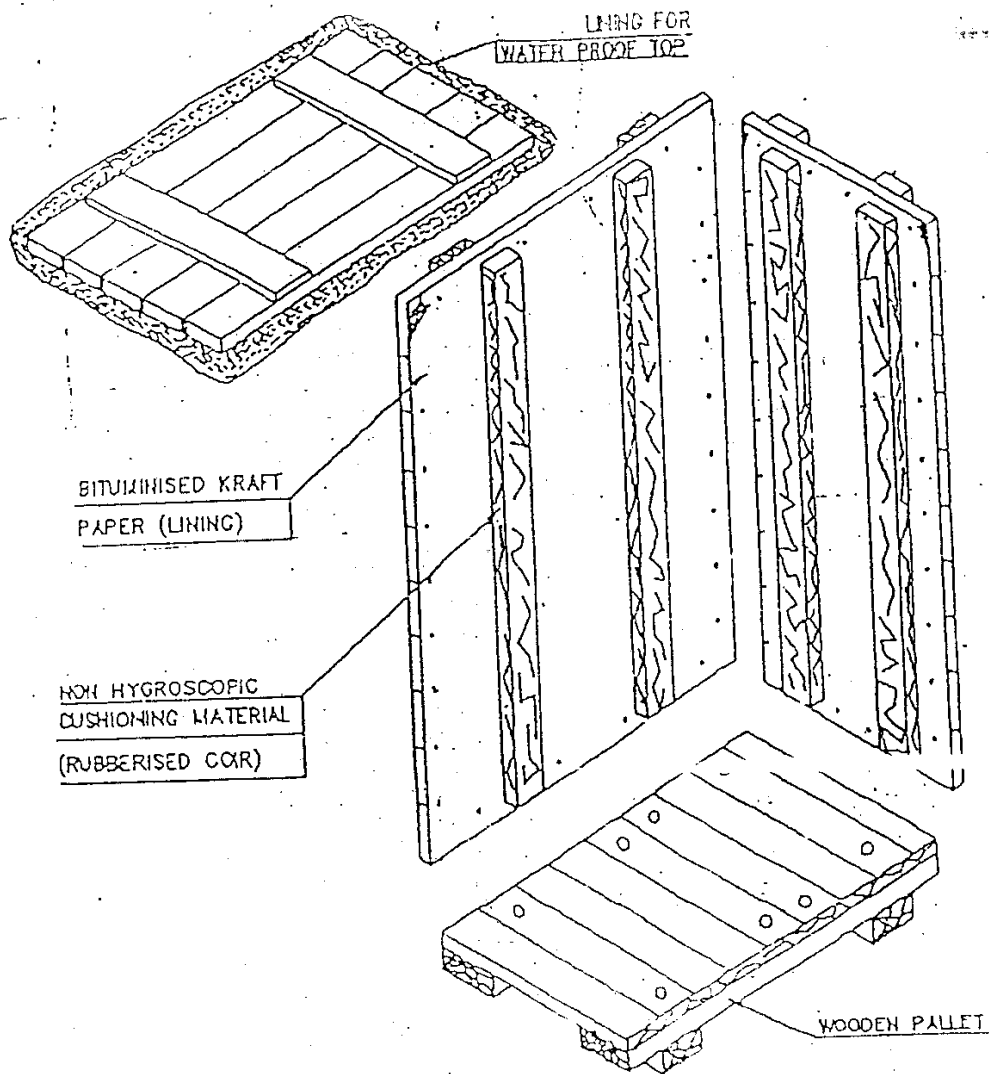


FIGURE-15

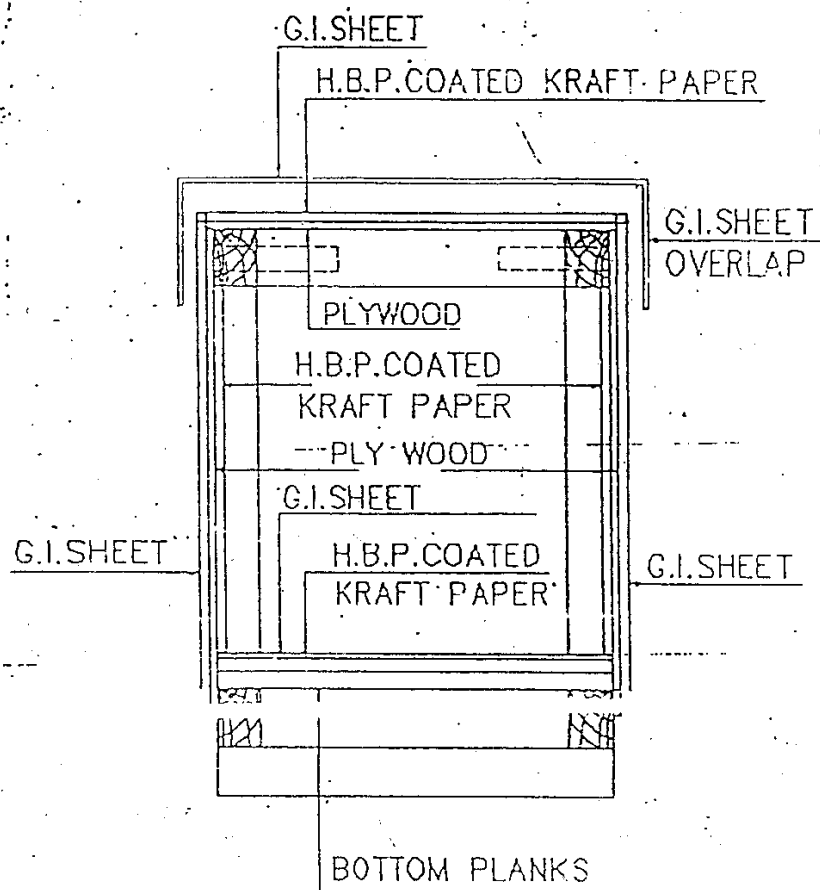


FIG-16 : CLOSED PACKING CASE WITH G.I. SHEET
SHOWING LAYERS OF PACKING MATERIALS.