

**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 TLT 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: - Freight and Transit Insurance is to be quoted on per MT per KM basis. The evaluation shall be done considering distance 1000 kms. It is only for evaluation purpose and actual distance for individual consignment may vary. - 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. - 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. c) 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.

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	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 (c) 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 (c) 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 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

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	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 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 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

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	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. 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.

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	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 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

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	• 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 requirement mentioned in the Activity Schedule. Note : 1.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. 2. Please note that If inputs for supply of lattice structure are issued in more than one Lot in any purchase order(s)., delivery date for that lot quantity will be arrived at considering the quantity of that particular lot irrespective of quantities of other inputs already given /given subsequent to that for that particular purchase order or other purchase orders.
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 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 :

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	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

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	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: The Integrity Pact shall be issued as part of the bidding documents and shall be returned by the bidder along with the techno-commercial bid, duly signed by the authorized official of the bidder/ vendor/ contractor and authorized official of BHEL will form part of the Purchase order/ contract. 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. Name of Independent External monitor to be considered (IEM): Sh. D.R.S Chaudhary (IAS (Retd.)) Flat No. –L-202 & L-203 (1ST Floor) Ansal lake View Enclave, Shamla Hills Bhopal-462013 Phone- 0755-4050495 Email – dilip.chaudhary@icloud.com
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

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	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 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

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	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, 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.

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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 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-xxx-618-002 Rev 05 shall be applicable.							
50.	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 LATTICE TYPE GALVANISED STEEL STRUCTURE 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 LATTICE TYPE GALVANISED STEEL STRUCTURE to be submitted (Purchase Order, Receipted LR, Material dispatch clearance certificate or any other document acceptable to BHEL)</td></tr></table>		SL. No.	PQR Description	Supporting Document to be attached	a)	The bidder should have successfully fabricated and supplied the LATTICE TYPE GALVANISED STEEL STRUCTURE 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 LATTICE TYPE GALVANISED STEEL STRUCTURE to be submitted (Purchase Order, Receipted LR, Material dispatch clearance certificate or any other document acceptable to BHEL)
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	2.The Financial Parameters for PRE QUALIFYING CRITERIA shall be : (a) Vendors should have a minimum average audited annual Turnover of 17 Crore 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. (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

ENQUIRY NO. 257R116

SL. NO.	ACTIVITY	TIME ALLOTTED [in weeks]	CUMULATIVE TIME FROM RECEIPT OF INPUTS FROM BHEL [in weeks]	SCOPE (RESPONSIBILITY)
1.	ASSEMBLY OF PROTO	3	3	BY SUPPLIER
2.	PROTO INSPECTION	1	4	BHEL SCOPE
3.	PROTO CORRECTED DRAWINGS SUBMISSION & BOM'S FOR APPROVAL	1	5	BY SUPPLIER
4.	APPROVAL OF PROTO CORRECTED DRAWINGS & BOM'S	2	7	BHEL SCOPE
5.	MASS PRODUCTION	6	13	BY SUPPLIER
6.	INSPECTION	1	14	BHEL SCOPE
7.	ISSUE OF MICC	1	15	BHEL SCOPE
8.	DESPATCH	1	16	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:

ACTIVITY SCHEDULE FOR SUPPLY OF LATTICE STRUCTURE WHERE INPUTS ISSUED BY BHEL UNDER LOT WERE GREATER THAN 250 MT BUT UP TO 500 MT

ENQUIRY NO.257R116

SL. NO.	ACTIVITY	TIME ALLOTTED [in weeks]	CUMULATIVE TIME FROM RECEIPT OF INPUTS FROM BHEL [in weeks]	SCOPE (RESPONSIBILITY)
1.	ASSEMBLY OF PROTO	3	3	BY SUPPLIER
2.	PROTO INSPECTION	1	4	BHEL SCOPE
3.	PROTO CORRECTED DRAWINGS SUBMISSION & BOM'S FOR APPROVAL	1	5	BY SUPPLIER
4.	APPROVAL OF PROTO CORRECTED DRAWINGS & BOM'S	2	7	BHEL SCOPE
5.	MASS PRODUCTION	9	16	BY SUPPLIER
6.	INSPECTION	1	17	BHEL SCOPE
7.	ISSUE OF MICC	1	18	BHEL SCOPE
8.	DESPATCH	2	20	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:

**ACTIVITY SCHEDULE FOR SUPPLY OF LATTICE STRUCTURE WHERE INPUTS ISSUED BY BHEL UNDER LOT
WERE GREATER THAN 500 MT BUT UP TO 1000 MT**

ENQUIRY NO.257R116

SL. NO.	ACTIVITY	TIME ALLOTTED [in weeks]	CUMULATIVE TIME FROM RECEIPT OF INPUTS FROM BHEL [in weeks]	SCOPE (RESPONSIBILITY)
1.	ASSEMBLY OF PROTO	4	4	BY SUPPLIER
2.	PROTO INSPECTION	1	5	BHEL SCOPE
3.	PROTO CORRECTED DRAWINGS SUBMISSION & BOM'S FOR APPROVAL	1	6	BY SUPPLIER
4.	APPROVAL OF PROTO CORRECTED DRAWINGS & BOM'S	2	8	BHEL SCOPE
5.	MASS PRODUCTION	12	20	BY SUPPLIER
6.	INSPECTION	1	21	BHEL SCOPE
7.	ISSUE OF MICC	1	22	BHEL SCOPE
8.	DESPATCH	3	25	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:

**ACTIVITY SCHEDULE FOR SUPPLY OF LATTICE STRUCTURE WHERE INPUTS ISSUED BY BHEL UNDER LOT
WERE GREATER THAN 1000 MT**

ENQUIRY NO.257R116

SL. NO.	ACTIVITY	TIME ALLOTTED [in weeks]	CUMULATIVE TIME FROM RECEIPT OF INPUTS FROM BHEL [in weeks]	SCOPE (RESPONSIBILITY)
1.	ASSEMBLY OF PROTO	6	6	BY SUPPLIER
2.	PROTO INSPECTION	1	7	BHEL SCOPE
3.	PROTO CORRECTED DRAWINGS SUBMISSION & BOM'S FOR APPROVAL	1	8	BY SUPPLIER
4.	APPROVAL OF PROTO CORRECTED DRAWINGS & BOM'S	2	10	BHEL SCOPE
5.	MASS PRODUCTION	16	26	BY SUPPLIER
6.	INSPECTION	1	27	BHEL SCOPE
7.	ISSUE OF MICC	1	28	BHEL SCOPE
8.	DESPATCH	4	32	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:

INTEGRITY PACT

Between

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

and

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

Preamble

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

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

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

Section 1 – Commitments of the Principal

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
 - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

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

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
 - 2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved

in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

- 2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/ PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4 The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

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

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

Section 4 – Compensation for Damages

- 4.1 If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent Earnest Money Deposit/Bid Security.
- 4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/Performance Bank Guarantee, whichever is higher.

Section 5 – Previous Transgression

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 – Equal treatment of all Bidders/ Contractors/ Sub-contractors

- 6.1 The Bidder(s)/ Contractor(s) undertake(s) to obtain from all subcontractors a commitment consistent with this Integrity Pact and report Compliance to the Principal. This commitment shall be taken only from those sub-contractors whose contract value is more than 20 % of Bidder's/ Contractor's contract value with the Principal. The Bidder(s)/ Contractor(s) shall continue to remain responsible for any default by his Sub-contractor(s).
- 6.2 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.
- 6.3 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

Section 7 – Criminal Charges against violating Bidders/ Contractors /Sub-contractors

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

Section 8 –Independent External Monitor(s)

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractor(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/ Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Sub-contractor(s) with confidentiality.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- 8.5 As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or heal the situation, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
- 8.6 The Monitor will submit a written report to the CMD, BHEL within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
- 8.7 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.8 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant IPC / PC Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the

Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

8.9 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.

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

Section 9 – Pact Duration

9.1 This Pact begins and shall be binding on and from the submission of bid(s) by bidder(s). It expires for the Contractor 12 months after the last payment under the respective contract and for all other Bidders 6 months after the contract has been awarded.

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

Section 10 – Other Provisions

10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.

10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

10.3 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

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

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

For & On behalf of the Principal

(Office Seal)

For & On behalf of the Bidder/ Contractor

(Office Seal)

Place-----

Date-----

Witness: _____

(Name & Address) _____

Witness: _____

(Name & Address) _____

BHARAT HEAVY ELECTRICALS LTD.
TRANSMISSION BUSINESS GROUP - MATERIAL MANAGEMENT

PROJECT : RATE CONTRACT OF LATTICE STRUCTURE FOR NON-PGCIL PROJECTS UP TO 765 KV
ITEM : LATTICE STRUCTURE
ENQUIRY NO.: 257R116
ENQUIRY DATE : 14.08.2017

SCHEDULE OF PRICES

Sr. No.	LATTICE STRUCTURE as per Technical Specification No. TB-xxx-618-002 Rev 05.	HSN CODE	Unit	Qty.	Unit Rate (Rs.)	Total Price (Rs.)
			1	2	3	4 (Col. 2x3)
A.1	Ex-Works Price of LATTICE STRUCTURE -MILD STEEL (Zinc Coating 610 gms/sqm)		MT	5000		
A.2	Ex-Works Price of LATTICE STRUCTURE - HIGH TENSILE STEEL (Zinc Coating 610 gms/sqm)		MT	800		
B	Rates for additional zinc coating of 100 gms/sqm each or part thereof for 1000 MT		MT	1000		
C	Total Ex-Works Price (A.1+A.2+B)					
D	GST applicable on "Total Ex-Works Price (A.1+A.2+B)"		%	-----		
E	Freight & Insurance for 5800 MT of Lattice Structure for 1000 Kms. Distance		MT/KM	5800000		
F	GST applicable on "Freight & Insurance for 5800 MT of Lattice Structure for 1000 Kms. Distance"		%	-----		
G	Sea worthy Export Packing Charges for 290 MT of Lattice Structure		MT	290		
H	GST applicable on "Sea worthy Packing Charges for 290 MT of Lattice Structure (If applicable)"		%	-----		
I	TOTAL PRICE in Rs. (C+D+E+F+G+H)					

Annexure - I



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India

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IEEMA/PVC/TLT/2010 (R-1)

Effective from: 1st April 2014

PRICE VARIATION CLAUSE FOR TRANSMISSION LINE TOWERS

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 Tower with both Heavy and Light angles

$$P = \frac{P_0}{100} \left(11 + 32 \frac{SBLR}{SBLR_0} + 25 \frac{SBIR}{SBIR_0} + 09 \frac{Z_n}{Z_{n_0}} + 23 \frac{W}{W_0} \right) \text{ --- Applicable}$$

(B) Transmission Line Tower with only Heavy angles

$$P = \frac{P_0}{100} \left(11 + 57 \frac{SBLR}{SBLR_0} + 09 \frac{Z_n}{Z_{n_0}} + 23 \frac{W}{W_0} \right)$$

(C) Transmission Line Tower with only Light angles

$$P = \frac{P_0}{100} \left(11 + 57 \frac{SBIR}{SBIR_0} + 09 \frac{Z_n}{Z_{n_0}} + 23 \frac{W}{W_0} \right)$$

Wherein,

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

P₀ = Price quoted/confirmed.

SBLR₀ = Price of Steel Blooms- Retail (refer notes)

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.

IEEMA/PVC/TLT/2010/Page 1 of 3

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Zn_0 = Price of Electrolytic high grade zinc (refer notes)

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

W_0 = 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) (Refer notes)

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 May 2014, the applicable prices of Steel Bloom-Retail ($SBLR_0$), Steel Billets-Retail ($SBIR_0$) and Zinc (Zn_0) should be for the month April 2014 and all India average consumer price index number (W_0) should be for the month of February 2014.

The above prices and indices are as published by IEEMA vide circular reference number IEEMA (PVC)/TLT-2014/_/_ one month prior to the date of tendering.

$SBLR$ = Price of Steel Bloom-Retail (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.

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.

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) (refer notes)

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 December 2014, the applicable prices of Steel Bloom-Retail ($SBLR$), Steel Billets-Retail ($SBIR$) and Zinc (Zn) should be for the month October 2014 and all India average consumer price index number (W) should be for the month of August 2014.

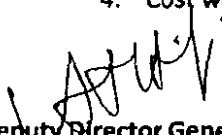
The date of delivery is the date on which Transmission line towers are notified as being ready for inspection/dispatch (in the absence of such notification, the date of manufacturer's dispatch note is to be considered as the date of delivery) or the contracted delivery date (including any agreed extension 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 prices of Steel Bloom-Retail are the average Retail price of Blooms of size 150 x 150 mm of all cities in Rs/MT; as published by Joint Plant Committee (JPC), Kolkata. Heavy angles of size above 110mm x 110mm are deemed to be related to this price.
2. 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. Light angles of size below & including 110mm x 110mm are deemed to be related to this price.
3. The price of Electrolytic high grade zinc (in Rs/MT) is ex-works price as quoted by a primary producer.
4. Cost weightage of re-rolling/conversion charges is included in Labour cost weightage (W)



Deputy Director General

SCHEDULE OF COMMERCIAL DEVIATION

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

ENQ. 257R116

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/LS / RATE-CONTRACT/ NON PGCIL PROJECTS

ENQ. 257R116

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 PROJECTS ENGINEERING MANAGEMENT
NEW DELHI

DOCUMENT No.	TB xxx 618 002	Rev 05	Prepared	Checked	Appd
TYPE OF DOC.	TECHNICAL SPECIFICATION	NAME	BVG	PLK	RMS
TITLE SPECIFICATION FOR GALVANISED STEEL STRUCTURES (LATTICE & PIPE)		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	02
SECTION-2	STANDARD SPECIFICATION	08
SECTION-3	PROJECT DETAILS AND GENERAL SPECIFICATION	02
SECTION-4	GUARANTEED TECHNICAL PARTICULARS (Not Applicable)	
SECTION-5	MANUFACTURING QUALITY PLANS	
SECTION-6	CHECK LIST	01

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05	05.12.16	BVG	PLK	NSR	General Revision
04	16.02.15	AA	PLK	NSR	General Revision
Rev	Date	Altered	Checked	Approved	
Distribution				To	
				Copies	

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 fabrication, galvanising, inspection, supply of galvanized steel structures up to 765kV class, preparation of detailed fabrication drawings (structure assembly drawings), proto assembly etc. for projects being executed by BHEL on turnkey basis for NTPC, PGCIL, SEBs and other Customers.

The detailed scope of work is preparation, submission and approval of detailed fabrication drawings (structure assembly drawings), fabrication, galvanizing and supply of all towers, beams, lighting/lightning masts, platform structures made of channels, beams, angles, etc., equipment supporting structures (lattice & pipe type), platform ladders, gratings/grills, base plates, stiffener plates, fixtures for supporting and operating mechanism boxes, control cabinets and other such items required to complete the job excluding all fixtures, such as nuts, bolts, step bolts and washers. However, detailed and accurate bill of quantities for nuts, bolts, step bolts and washers shall be given by the supplier in the drawings submitted by him. The detailed structure assembly drawing shall be prepared based on input/line sketches provided by BHEL (**For lattice structures fabrication drawings shall be provided by BHEL**) after award of work. However, in certain cases drawings for lattice structures are required to be prepared by bidder based on PDF/hard copies of structure drawings provided by BHEL. Submission of 1 set of shop drawings in Auto Cad format for reference is also in the scope.

1.2 SPECIFIC TECHNICAL REQUIREMENTS

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

1.3 QUANTITIES

The quantities indicated are tentative & it may change to the order of +/- 30% during detailed engineering at contract stage.

S.No.	Description	Quantity in MT
1	Supply of lattice type galvanized Steel structures including all material, labour, fabrication, galvanization, inspection, preparation of shop drawings based on fabrication drawings provided by BHEL, proto assembly, submission of proto corrected drawings/BOMs etc. (Zinc coating 610 gms/sqm)	
1 a.	Mild Steel	
1 b.	High Tensile Steel	
2	Supply of pipe type galvanized Steel structures including all material, labour, fabrication, galvanization, inspection, preparation of fabrication drawings based on inputs provided by BHEL, preparation of shop drawings based on approved	

GI STRUCTURES

	fabrication drawings, proto assembly, submission of proto corrected drawings/BOMs etc. (Zinc coating 610 gms/sqm)	
2 a.	Mild Steel	
2 b.	High Tensile Steel	
3	Add extra on above for providing additional zinc coating of 100gms/sqm each or part thereof.	

SECTION - 2

2.0 GENERAL

This section covers the standard technical specification for GI Structures.

2.1 STEEL MATERIAL

Steel materials shall conform to IS: 2062-latest revision (Hot rolled Medium and High Tensile structural steel) with **Yield Stress E250 for mild steel and Yield Stress E350 for High Tensile steel** and all other relevant IS codes.

For tubular type equipment support structures, ERW pipes conforming to IS: 1161-latest revision shall be used.

STRUCTURAL STEEL SECTIONS:

For designing/supply of structures, preferably rationalized steel sections have been used. However during execution of the project, if any particular section is not available, the same shall be substituted by higher section. Any cost on account of the same shall be borne by the Supplier.

The design approval for such substitution shall be obtained from the Owner before any substitution and records of such substitutions shall be maintained by the Supplier.

Steel shall not be pitted and should be free from scales and rust. If the rolled section and plates are bent or distorted, bend or distortion shall normally be removed by the cold treatment. Straightening under hot stage shall be resorted to only under specific permission from BHEL. If any rolling defects viz., laminations, cracks etc. are discovered in the steel during the processing, it is to be rejected.

TOLERANCE:

The dimensional and weight tolerances for rolled shapes shall be in accordance with IS: 1852-latest revision.

No rolled or fabricated member shall deviate from straightness by more than 1/1000 of the axial length or 10mm whichever is smaller.

2.2 FABRICATION

GENERAL:

All the workmanship and finish shall be of the best quality and shall conform to the best approved method of fabrication. All materials shall be finished straight and shall be machined true and square where so specified. All holes and edges shall be free of burrs. Shearing and chipping shall be neatly and accurately done and all portions of work exposed to view shall be neatly finished. Material at the shops shall be kept clean and protected from weather.

The fabrication of galvanized steel structures shall be carried out generally in accordance with IS:802 part. II, IS:800. All materials shall be completely shop fabricated. Normally, butt splices shall be used. The components constituting the joint shall have a total strength greater than the heavier of the members connected. Lap splices may be used for connecting members of unequal sizes. The inside angle of lap splice shall be grounded at the heel to fit the fillet of the outside angle. The splices shall develop full strength of the members connected through bolts. Butt as well as lap splices shall be made as close to the main panel points as possible.

Joints shall be so designed and detailed as to avoid eccentricity as far as possible. However, where joints are such that the elimination of gusset plates would result into eccentric joints, gusset plates and spacer plates may be used in conformity with modern practices. The thickness of gusset plates shall not be less than 6mm. Where a gusset plate is required to transmit stress; its thickness shall not be less than the thickness of the thickest plate plus 2mm.

The use of filler in the connections shall be avoided as far as possible. The diagonal members in tension may be connected entirely to the gusset plate where necessary to avoid the use of fillers. Each diagonal shall be in one piece without splices or center gussets, and it shall be connected at the point of intersection by one or more bolts.

The gap between the ends of two connected members in butt joints shall not be more than 6 mm and less than 4mm.

The switchyard structure members shall be accurately fabricated to bolt together easily at site without any undue strain on them or the bolts.

Drain holes shall be provided at all points where pockets or depressions are likely to hold water.

Pipe supports shall be fabricated from single un-jointed pipe and no welded joint shall be allowed along the length of the structure.

STRAIGHTENING:

For rolled steel material, if straightening or flattening is necessary, it shall be done by methods that will not injure the materials.

CUTTING:

Cutting may be affected by chopping, cropping, sawing or machine flame cutting. Sheared or cropped edges shall be dressed to a neat workmanlike finish and shall be free from distortion and burrs.

PUNCHING AND DRILLING:

Holes in members may be punched full size through material not over 12mm thick. Holes must be cleaned of burrs and ragged edges. Drilled holes shall be preferred. Holes made by drilling shall also be cleaned of burrs and ragged

edges. Where several parts are to be drilled, they shall be first assembled, tightly clamped together and drilled through.

Punched holes must be square with plates and the walls of the holes shall be parallel. The following maximum allowance in accuracy of punched holes is permissible:

- i) Holes must be perfectly circular and no tolerance in this respect is permissible.
- ii) The maximum allowable difference in diameter of the holes on the two sides of plates or angle is 0.8 mm, i.e. the allowable taper in punched holes should not exceed 0.8 mm in diameter.
- iii) Holes must be square with the plates. Holes at angle or slant shall not be permitted.

The minimum spacing of bolts and edge distances shall be as given below:

Bolt Diameter	Minimum Bolt Spacing	Minimum edge distance	
		Hole center To rolled Edge (mm)	Hole center to cut/ flame edge (mm)
(mm)	(mm)		
16	40	20	23

WELDING:

The work shall be done as per approved fabrication drawings, qualified welding procedure specifications (WPS) and by qualified welders. Procedure qualification records (PQR) shall be maintained. Electrodes for shielded arc manual welds shall comply with the requirements of IS:814 – latest revision. All welds shall be free from defects like blow holes, slag inclusions, lack of penetration, under cutting, cracks etc. All welds shall be cleaned of all slag or flux before galvanizing.

MARKING OF MEMBERS FOR IDENTIFICATION.

All members shall be marked for identification during erection. This mark shall correspond to distinguishing marks on approved erection drawings and shall be legibly painted and stamped on. The erection mark shall be stamped with a metal dye with figures at least 16 mm high and to such optimum depth as to be clearly visible, even after a member is galvanized. All erection marks shall be on outer surface of all sections and near one end, but clear of bolt holes. Marking shall be so stamped that they are easily discernible when sorting out members. The stamped marking shall be encircled boldly by a distinguishable paint to facilitate easy location.

Erection marks on like pieces shall be in identical locations. Members having lengths of 3.0 M or more shall have the erection mark at both ends.

PROTOTYPE ASSEMBLY:

Towers, beams, equipment structures, etc. shall be trial assembled at shop before galvanizing i.e. prototype assembly keeping in view the actual site condition prior to dispatch to erection site. The prototype assembly of each structure shall be got approved from BHEL/Customer as directed. Necessary match marks shall be made on each components before dismantling the prototype assembly and galvanizing. Any error shall be rectified at the expense of the contractor.

No extra charge on account of erecting the assemblies or getting them inspected will be permissible. It is however to be mentioned that the responsibility for proper fitting of various members for the erection of the structure in the field will rest with the supplier and any discrepancy found at the time of erection will have to be rectified by the contractor at his cost.

2.3 GALVANISING:

All structural steel works and single pipe supports shall be hot dip galvanized after fabrication. Galvanizing of each member shall be carried out in one complete immersion and double dipping shall not be permitted.

Zinc required for galvanizing will have to be arranged for by the Contractor. Purity of zinc to be used for galvanizing shall be 99.5% as per IS:209-latest revision.

All burrs and irregular edges shall be ground smooth before galvanizing.

After all shop work is complete, all structural materials shall be punched with the Erection Mark and be hot dip galvanized. Before galvanizing the steel section shall thoroughly be cleaned of any paint, grease, rust, scale, acid/alkali or such other foreign matters as are likely to interfere with the galvanizing process or with the quality and durability of the zinc coating. Pickling shall be carefully done and shall be proper.

Minimum weight of zinc coating shall be 610gms/sqm. However, higher coating may be provided as per requirement.

The galvanized surface shall consist of a continuous and uniformly thick coating of zinc, firmly adhering to the surface of steel. The finished surface shall be clean and smooth and shall be free from defects like discolored patches, bare spots, unevenness of coating, spelter which is loosely attached to the steel, globules, spiky deposits, blistered surface flaking or peeling off, etc. The presence of any of these defects noticed on visual or microscopic inspection shall render the material liable to rejection.

There shall be no flaking or loosening when struck squarely with a chisel faced hammer. The galvanized steel member shall withstand minimum four one minute dips in copper sulphate solution as per IS: 2633 – latest revision.

When the steel section is removed from the galvanizing kettle excess spelter shall be removed by 'bumping'. The processes known as 'wiping' or 'scrapping' shall not be used for this purpose.

Defects in certain members indicating presence of impurities in the galvanizing bath in quantities larger than that permitted by the specification, or lack of quality control in any manner in the galvanizing plant shall render the entire production in the relevant shift liable to rejection.

All the galvanized structural steel members and accessories shall be treated with sodium dichromate or an approved equivalent solution after galvanizing, so as to prevent white storage stains.

If the galvanizing of any member is damaged, BHEL shall be shown of the extent of damage and if so directed the galvanizing may have to be redone in the similar manner as stated above at no extra cost.

Contractor shall also furnish sufficient quantity of appropriate paint, free of cost, for repairing galvanized surfaces damaged in transit, and minor modifications done at site during erection.

Galvanizing tests shall be made from time to time on as many samples as may be considered necessary. The supplier shall supply all samples and equipment and carry out the tests without any extra cost.

2.4 INSPECTION OF MATERIALS

GENERAL:

Contractor shall give notice to BHEL in advance for inspection of materials. All rejected material shall be promptly removed from the shop and replaced with new material for BHEL approval/ inspection. The fact that certain material has been accepted at Contractor's shop shall not invalidate final rejection at site by BHEL if it fails to be in proper condition or has fabrication inaccuracies which prevents proper assembly. No materials shall be painted, galvanized or dispatched to site without the inspection and approval by BHEL unless such inspection is waived off in writing by BHEL.

Shop inspection by BHEL, for submission of test certificates and acceptance there of by BHEL shall not relieve contractor from the responsibility of furnishing material conforming to the requirements of these specifications, nor shall it invalidate any claim which BHEL may make because of defective or unsatisfactory material and workmanship.

Contractor shall provide all the testing and inspection services and facilities for shop work. For fabrication work carried out in the field the standard of supervision and quality control shall be maintained as in shop fabricated work. The inspection and testing shall be conducted in a manner satisfactory to BHEL.

The inspection and tests shall be as given below and the minimum requirement shall be as per quality plan attached. The final Quality plan shall be decided between Supplier, BHEL and Customer/ Owner.

MATERIAL TESTING

If mill test reports are not available for any steel materials the same shall be got tested by the contractor and demonstrate conformity with the relevant specification to the full satisfaction of BHEL. The cost of such tests shall be borne by the contractor.

DIMENSIONS AND WORKMANSHIP:

The Structural Steel members shall be inspected at all stages of fabrication and assembly to verify that dimensions, tolerances, alignment and surface finish, are in accordance with the requirements shown in Contractor's approved shop drawings.

INSPECTION OF TEST FAILURE:

In the event of any failure of structural steel members to meet an inspection or test requirement, contractor shall inform BHEL and must obtain permission from the BHEL before repair is undertaken. The quality control procedures to be allowed to ensure satisfactory repair shall be subject to approval by BHEL.

2.5 PACKING TRANSPORTATION AND DELIVERY

After completion of final inspection and marking, the fabricated galvanized structural items shall be packed and loaded for transportation.

Packing must be adequate to protect items against bending and any mechanical injuries and damage to galvanized film during loading and unloading. As far as possible, like member should be bundled together and tied.

Proper lifting devices shall be used for loading at shop and unloading at site in order to protect items against bending, mechanical injuries and damage to galvanized film.

Loading, transporting and unloading shall be done in compliance with transportation rules.

Slender and projected parts shall be braced properly with additional spacer steel bars, spacer wood etc, before loading for transportation, to protect against bending or any other damages during transportation.

If certain parts cannot be transported in the lengths stipulated in the design drawing, the position and type of additional splice joints shall be got approved from BHEL.

Items must be carefully loaded and tied up properly to prevent bending, falling etc. during transportation.

The small parts such as plates, gussets, cleats etc. shall be securely tied with the wire, and packed in double gunny bags and cased as per the actual requirements..

As far as possible the delivery of fabricated galvanized structural steel shall be as per the order stipulated by BHEL and to suit the erection sequence.

Contractor shall make good/ replace at his own cost any damage occurred during loading, transporting, unloading and stacking of fabricated galvanized steel structures as directed by BHEL. No extra payment on this account shall be entertained under any circumstances.

2.6 APPLICABLE STANDARDS

All applicable standards, codes of practice etc., shall be latest edition including official amendments and revisions. List of some of the applicable standards, in original codes and references is as given below

- | | | |
|-----|---|---|
| 1. | IS : 209 | - Zinc Ingot. |
| 2. | IS : 228 | - Method of chemical analysis of pig iron, cast iron, plain carbon and low alloy steel. |
| 3. | IS : 406 | - Methods of analysis of zinc (Spelter). |
| 4. | IS : 800 | - Code of practice for general construction. |
| 5. | IS : 802 - Part 1
- Part 1/Sec.2
- Part 2
- Part 3 | - Code of Practice for use of structural in over head Transmission line towers. |
| 6. | IS : 806 | - Code of practice for use of steel tubes in general building construction. |
| 7. | IS : 808 | - Dimensions for hot rolled steel beam, column, channel and angle sections. |
| 8. | IS : 814 | - Covered electrodes for manual metal arc welding of carbon and carbon manganese steel. |
| 9. | IS : 816 | - Code of Practice for use of metal arc welding for general construction in mild steel. |
| 10. | IS : 817 | - Code of practice for training & testing of Metal Arc welders. |
| 11. | IS : 1161 | - Steel tubes for structural purposes. |
| 12. | IS : 1599 | - Method of bend test |

- | | | |
|-----|-----------|--|
| 13. | IS : 1608 | - Method of tensile testing of steel products. |
| 14. | IS : 1852 | - Rolling and cutting tolerances for hot rolled steel products. |
| 15. | IS : 1978 | - Line pipe |
| 16. | IS : 2062 | - Steel for general structural purposes. |
| 17. | IS : 2074 | - Ready Mixed Paint, air drying red oxide zinc, chrome, priming. |
| 18. | IS : 2629 | - Recommended practice for hot dipped galvanising on Iron & Steel. |
| 19 | IS : 2633 | - Methods for testing uniformity of coating on zinc coated articles. |
| 20. | IS : 3502 | - Steel chequered plates. |
| 21. | IS : 4759 | - Hot dip zinc coating on structural steel and other allied products. |
| 22. | IS : 6745 | - Method for determination of mass of zinc coating on zinc coated iron and steel articles. |

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.

The provisions under this section are intended to supplement general requirements for the materials, equipment and services covered under other sections and is not exclusive. However in case of conflict between the requirements specified in this section and requirements specified under other sections, the requirements specified under respective sections shall hold good.

3.1 QUALIFYING REQUIREMENT

The contractor shall have adequate galvanizing facilities to galvanize the longest single steel member of 6.5m length in one dip.

All structural assembly drawings shall be prepared in Auto Cad (2004 or better).

3.2 SITE INFORMATION

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

3.3 STANDARDS

All materials shall comply in all respect with the requirement of the latest edition of the relevant codes as listed in Section2.

3.4 UNIT

Metric (System International) units of measurements shall be used in all drawings.

3.5 DRAWINGS, BILL OF MATERIALS AND CDs

At each stage following set of fabrication drawings/Bill of materials shall be submitted.

- | | | |
|-----|----------------------|----------|
| i) | Fabrication Drawings | : 4 sets |
| ii) | Bill of Materials | : 4 sets |

After final approval of proto –type assembly of structures, the drawings shall be updated as per proto and marked “PROTO CORRECTED”. The following sets of

fabrication drawings/shop drawings/bill of materials/CDs shall be submitted for distribution:

- | | | |
|------|---------------------------------|----------|
| i) | Fabrication Drawings (Auto Cad) | : 4 set |
| ii) | Shop Drawings (Auto Cad) | : 1 set |
| ii) | Bill Of Materials | : 4 set |
| iii) | CDs containing i, ii, iii above | : 2 sets |

3.6 CATEGORIES OF APPROVAL

CATEGORY I This means that the documents/drawings is approved.

CATEGORY II This means that the document/drawing is approved with comments i.e, some corrections are required but the contractor can go ahead with the manufacture after incorporating comments.

CATEGORY III This means that the document/drawing is not approved i.e major revisions are required and the contractor can not proceed with the manufacture.

3.7 ERRORS

Any error in fabrication work preventing proper assembly and fitting up of parts in the field shall be classified as defective workmanship. All changes incurred by BHEL either directly or indirectly because of this shall be deducted from the amount due to the contractor.

3.8 PURCHASE ORDER NUMBER

The P.O No. shall be mentioned on all documents and drawings.

SECTION – 5

MANUFACTURING QUALITY PLAN

- 5.1** The minimum inspection and test requirements for lattice & pipe type structures shall be as per attached quality plans.

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)