



Bid Number/बोली क्रमांक (बिड संख्या):
GEM/2023/B/3203702
Dated/दिनांक : 01-03-2023

Bid Document/ बिड दस्तावेज़

Bid Details/बिड विवरण	
Bid End Date/Time/बिड बंद होने की तारीख/समय	13-03-2023 14:00:00
Bid Opening Date/Time/बिड खुलने की तारीख/समय	13-03-2023 14:30:00
Bid Offer Validity (From End Date)/बिड पेशकश वैधता (बंद होने की तारीख से)	80 (Days)
Ministry/State Name/मंत्रालय/राज्य का नाम	Ministry Of Heavy Industries And Public Enterprises
Department Name/विभाग का नाम	Department Of Heavy Industry
Organisation Name/संगठन का नाम	Bharat Heavy Electricals Limited (bhel)
Office Name/कार्यालय का नाम	10250020-pem, Noida
Total Quantity/कुल मात्रा	208
Item Category/मद केटेगरी	Poles -Type PS1-PAINTED , Poles -Type PS2-PAINTED , Poles -Type PS4-PAINTED , Poles -Type PF2-PAINTED , JUNCTION BOXES TYPE JB-S
BOQ Title/बीओक्यू शीर्षक	Poles and Mast for Panki Project
Years of Past Experience Required for same/similar service/उन्हीं/समान सेवाओं के लिए अपेक्षित विगत अनुभव के वर्ष	1 Year (s)
MSE Exemption for Years of Experience/अनुभव के वर्षों से एमएसई छूट/ and Turnover	No
Startup Exemption for Years of Experience/अनुभव के वर्षों से स्टार्टअप छूट/ and Turnover	No
Document required from seller/विक्रेता से मांगे गए दस्तावेज़	Experience Criteria,Past Performance,Certificate (Requested in ATC),Additional Doc 1 (Requested in ATC),Compliance of BoQ specification and supporting document *In case any bidder is seeking exemption from Experience / Turnover Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer
Past Performance/विगत प्रदर्शन	10 %
Bid to RA enabled/बिड से रिवर्स नीलामी सक्रिय किया	Yes
RA Qualification Rule	H1-Highest Priced Bid Elimination

Bid Details/बिड विवरण	
Type of Bid/बिड का प्रकार	Two Packet Bid
Primary product category	Poles -Type PS1-PAINTED
Time allowed for Technical Clarifications during technical evaluation/तकनीकी मूल्यांकन के दौरान तकनीकी स्पष्टीकरण हेतु अनुमत समय	7 Days
Payment Timelines	Payments shall be made to the Seller within 90 days of issue of consignee receipt-cum-acceptance certificate (CRAC) and on-line submission of bills (This is in supersession of 10 days time as provided in clause 12 of GeM GTC)
Evaluation Method/मूल्यांकन पद्धति	Total value wise evaluation

EMD Detail/ईएमडी विवरण

Required	No
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ePBG Detail/ईपीबीजी विवरण

Advisory Bank	State Bank of India
ePBG Percentage(%) / ईपीबीजी प्रतिशत (%)	5.00
Duration of ePBG required (Months) / ईपीबीजी की अपेक्षित अवधि (महीने).	26

(a). EMD & Performance security should be in favour of Beneficiary, wherever it is applicable./ईएमडी और संपादन जमानत राशि, जहां यह लागू होती है, लाभार्थी के पक्ष में होनी चाहिए।

Beneficiary/लाभार्थी :

Branch CAG II New Delhi
10250020-PEM, Noida, Department of Heavy Industry, Bharat Heavy Electricals Limited (BHEL), Ministry of Heavy Industries and Public Enterprises
(A/c No. 39922687394 Ifsc Sbin0017313)

Splitting/विभाजन

Bid splitting not applied.

Reserved for Make In India products

Reserved for Make In India products	Yes
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MSE Purchase Preference/एमएसई खरीद वरीयता

MSE Purchase Preference/एमएसई खरीद वरीयता	Yes
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1. Experience Criteria: In respect of the filter applied for experience criteria, the Bidder or its OEM {themselves or through reseller(s)} should have regularly, manufactured and supplied same or similar Category Products to any Central / State Govt Organization / PSU / Public Listed Company for number of Financial years as indicated above in the bid document before the bid opening date. Copies of relevant contracts to be submitted along with bid in support of having supplied some quantity during each of the Financial year. In case of bunch bids, the category of primary product having highest value should meet this criterion.

2. Bid reserved for Make In India products: : Procurement under this bid is reserved for purchase from Class 1 local supplier as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products. However, eligible micro and small enterprises will be allowed to participate. The minimum local content to qualify as a class 1 local supplier is denoted in the bid document. All bidders must upload a certificate from the OEM regarding the percentage of the local content and the details of locations at which the local value addition is made along with their bid, failing which the bid is liable to be rejected. In case the bid value is more than Rs 10 Crore, the declaration relating to percentage of local content shall be certified by the statutory auditor or cost auditor, if the OEM is a company and by a practicing cost accountant or a chartered accountant for OEMs other than companies as per the Public Procurement (preference to Make-in -India) order 2017 dated 04.06.2020 . In case Buyer has selected Purchase preference to Micro and Small Enterprises clause in the bid, the same will get precedence over this clause.

3. Purchase preference to Micro and Small Enterprises (MSEs): Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the bidder must be the manufacturer of the offered product in case of bid for supply of goods. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product or service. If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L-1+ 15% (Selected by Buyer) of margin of purchase preference /price band defined in relevant policy, such Seller shall be given opportunity to match L-1 price and contract will be awarded for 25%(selected by Buyer) percentage of total QUANTITY.

4. Estimated Bid Value indicated above is being declared solely for the purpose of guidance on EMD amount and for determining the Eligibility Criteria related to Turn Over, Past Performance and Project / Past Experience etc. This has no relevance or bearing on the price to be quoted by the bidders and is also not going to have any impact on bid participation. Also this is not going to be used as a criteria in determining reasonableness of quoted prices which would be determined by the buyer based on its own assessment of reasonableness and based on competitive prices received in Bid / RA process.

5. Past Performance: The Bidder or its OEM {themselves or through re-seller(s)} should have supplied same or similar Category Products for 10% of bid quantity, in at least one of the last three Financial years before the bid opening date to any Central / State Govt Organization / PSU / Public Listed Company. Copies of relevant contracts (proving supply of cumulative order quantity in any one financial year) to be submitted along with bid in support of quantity supplied in the relevant Financial year. In case of bunch bids, the category related to primary product having highest bid value should meet this criterion.

6. Reverse Auction would be conducted amongst all the technically qualified bidders except the Highest quoting bidder. The technically qualified Highest Quoting bidder will not be allowed to participate in RA. However, H-1 will also be allowed to participate in RA in following cases:

- i. If number of technically qualified bidders are only 2 or 3.
- ii. If Buyer has chosen to split the bid amongst N sellers, and H1 bid is coming within N.
- iii. In case Primary product of only one OEM is left in contention for participation in RA on elimination of H-1.
- iv. If L-1 is non-MSE and H-1 is eligible MSE and H-1 price is coming within price band of 15% of Non-MSE L-1
- v. If L-1 is non-MII and H-1 is eligible MII and H-1 price is coming within price band of 20% of Non-MII L-1

Poles -Type PS1-PAINTED

(Minimum 60% Local Content required for qualifying as Class 1 Local Supplier)

Brand Type/ब्रांड का प्रकार	Unbranded
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Technical Specifications/तकनीकी विशिष्टियाँ

Specification Document	View File
BOQ Detail Document	View File

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्र

S.No./क्र. सं.	Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी	Address/पता	Quantity/मात्र	Delivery Days/डिलीवरी के दिन
1	Dinesh Kumar Vaishy	208020,Construction Manager, Bharat Heavy Electricals Limited c/o Chief Engineer (Projects), UPRVUNL PANKI TPS EXTENSION Panki , Dist. Kanpur (U.P) Pin-208020 (Uttar Prades)h	59	999

Poles -Type PS2-PAINTED

(Minimum 60% Local Content required for qualifying as Class 1 Local Supplier)

Brand Type/ब्रांड का प्रकार	Unbranded
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Technical Specifications/तकनीकी विशिष्टियाँ

Specification Document	View File
BOQ Detail Document	View File

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्र

S.No./क्र. सं.	Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी	Address/पता	Quantity/मात्रा	Delivery Days/डिलीवरी के दिन
1	Dinesh Kumar Vaishy	208020, Construction Manager, Bharat Heavy Electricals Limited c/o Chief Engineer (Projects), UPRVUNL PANKI TPS EXTENSION Panki , Dist. Kanpur (U.P) Pin-208020 (Uttar Prades)h	25	999

Poles -Type PS4-PAINTED

(Minimum 60% Local Content required for qualifying as Class 1 Local Supplier)

Brand Type/ब्रांड का प्रकार	Unbranded
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Technical Specifications/तकनीकी विशिष्टियाँ

Specification Document	View File
BOQ Detail Document	View File

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा

S.No./क्र. सं.	Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी	Address/पता	Quantity/मात्रा	Delivery Days/डिलीवरी के दिन
1	Dinesh Kumar Vaishy	208020, Construction Manager, Bharat Heavy Electricals Limited c/o Chief Engineer (Projects), UPRVUNL PANKI TPS EXTENSION Panki , Dist. Kanpur (U.P) Pin-208020 (Uttar Prades)h	3	999

Poles -Type PF2-PAINTED

(Minimum 60% Local Content required for qualifying as Class 1 Local Supplier)

Brand Type/ब्रांड का प्रकार	Unbranded
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Technical Specifications/तकनीकी विशिष्टियाँ

Specification Document	View File
BOQ Detail Document	View File

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्र

S.No./क्र. सं.	Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी	Address/पता	Quantity/मात्र	Delivery Days/डिलीवरी के दिन
1	Dinesh Kumar Vaishy	208020,Construction Manager, Bharat Heavy Electricals Limited c/o Chief Engineer (Projects), UPRVUNL PANKI TPS EXTENSION Panki , Dist. Kanpur (U.P) Pin-208020 (Uttar Prades)h	17	999

JUNCTION BOXES TYPE JB-S

(Minimum 60% Local Content required for qualifying as Class 1 Local Supplier)

Brand Type/ब्रांड का प्रकार	Unbranded
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Technical Specifications/तकनीकी विशिष्टियाँ

Specification Document	View File
BOQ Detail Document	View File

Advisory-Please refer attached BOQ document for detailed consignee list and delivery period.

Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्र

S.No./क्र. सं.	Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी	Address/पता	Quantity/मात्रा	Delivery Days/डिलीवरी के दिन
1	Dinesh Kumar Vaishy	208020,Construction Manager, Bharat Heavy Electricals Limited c/o Chief Engineer (Projects), UPRVUNL PANKI TPS EXTENSION Panki , Dist. Kanpur (U.P) Pin-208020 (Uttar Prades)h	104	999

Buyer Added Bid Specific Terms and Conditions/क्रेता द्वारा जोड़ी गई बिड की विशेष शर्तें

1. Generic

OPTION CLAUSE: The Purchaser reserves the right to increase or decrease the quantity to be ordered up to 25 percent of bid quantity at the time of placement of contract. The purchaser also reserves the right to increase the ordered quantity by up to 25% of the contracted quantity during the currency of the contract at the contracted rates. Bidders are bound to accept the orders accordingly.

2. Buyer Added Bid Specific ATC

Buyer uploaded ATC document [Click here to view the file.](#)

3. Inspection

Nominated Inspection Agency: On behalf of the Buyer organization, any one of the following Inspection Agency would be conducting inspection of stores before acceptance:
Pre-dispatch Inspection at Seller Premises (applicable only if pre-dispatch inspection clause has been selected in ATC):

at vendor's works

Post Receipt Inspection at consignee site before acceptance of stores:
NA

4. Generic

Bidders are advised to check applicable GST on their own before quoting. Buyer will not take any responsibility in this regards. GST reimbursement will be as per actuals or as per applicable rates (whichever is lower), subject to the maximum of quoted GST %.

5. Generic

Data Sheet of the product(s) offered in the bid, are to be uploaded along with the bid documents. Buyers can match and verify the Data Sheet with the product specifications offered. In case of any unexplained mismatch of technical parameters, the bid is liable for rejection.

6. Generic

Supplier shall ensure that the Invoice is raised in the name of Consignee with GSTIN of Consignee only.

7. Generic

While generating invoice in GeM portal, the seller must upload scanned copy of GST invoice and the screenshot of GST portal confirming payment of GST.

Disclaimer/अस्वीकरण

The additional terms and conditions have been incorporated by the Buyer after approval of the Competent Authority in Buyer Organization, whereby Buyer organization is solely responsible for the impact of these clauses on the bidding process, its outcome, and consequences thereof including any eccentricity / restriction arising in the bidding process due to these ATCs and due to modification of technical specifications and / or terms and conditions governing the bid. Any clause(s) incorporated by the Buyer regarding following shall be treated as null and void and would not be considered as part of bid:-

1. Definition of Class I and Class II suppliers in the bid not in line with the extant Order / Office Memorandum issued by DPIIT in this regard.
2. Seeking EMD submission from bidder(s), including via Additional Terms & Conditions, in contravention to exemption provided to such sellers under GeM GTC.
3. Publishing Custom / BOQ bids for items for which regular GeM categories are available without any Category item bunched with it.
4. Creating BoQ bid for single item.
5. Mentioning specific Brand or Make or Model or Manufacturer or Dealer name.
6. Mandating submission of documents in physical form as a pre-requisite to qualify bidders.
7. Floating / creation of work contracts as Custom Bids in Services.
8. Seeking sample with bid or approval of samples during bid evaluation process.
9. Mandating foreign / international certifications even in case of existence of Indian Standards without specifying equivalent Indian Certification / standards.
10. Seeking experience from specific organization / department / institute only or from foreign / export experience.
11. Creating bid for items from irrelevant categories.
12. Incorporating any clause against the MSME policy and Preference to Make in India Policy.
13. Reference of conditions published on any external site or reference to external documents/clauses.
14. Asking for any Tender fee / Bid Participation fee / Auction fee in case of Bids / Forward Auction, as the case may be.

Further, if any seller has any objection/grievance against these additional clauses or otherwise on any aspect of this bid, they can raise their representation against the same by using the Representation window provided in the bid details field in Seller dashboard after logging in as a seller within 4 days of bid publication on GeM. Buyer is duty bound to reply to all such representations and would not be allowed to open bids if he fails to reply to such representations.

[This Bid is also governed by the General Terms and Conditions/ यह बिड सामान्य शर्तों के अंतर्गत भी शासित है](#)

In terms of GeM GTC clause 26 regarding Restrictions on procurement from a bidder of a country which shares a land border with India, any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. While participating in bid, Bidder has to undertake compliance of this and any false declaration and non-compliance of this would be a ground for immediate termination of the contract and further legal action in accordance with the laws./जेम की सामान्य शर्तों के खंड 26 के संदर्भ में भारत के साथ भूमि सीमा साझा करने वाले देश के बिडर से खरीद पर प्रतिबंध के संबंध में भारत के साथ भूमि सीमा साझा करने वाले देश का कोई भी बिडर इस निविदा में बिड देने के लिए तभी पात्र होगा जब वह बिड देने वाला सक्षम प्राधिकारी के पास पंजीकृत हो। बिड में भाग लेते समय बिडर को इसका अनुपालन करना होगा और कोई भी गलत घोषणा किए जाने व इसका अनुपालन न करने पर अनुबंध को तत्काल समाप्त करने और कानून के अनुसार आगे की कानूनी कार्रवाई का आधार होगा।

---Thank You/धन्यवाद---

Index of Annexures

GeM Tender Enquiry for Poles and Mast for 1x 660 MW Panki Project

Sl. No.	Description	Annexures
1.	Additional terms and conditions (ATC)	Annexure I
2.	BOQ	Annexure II
3.	Delivery Schedule	Annexure III
4.	Land border certificate	Annexure IV
5.	Certificate for local Content	Annexure V
6.	Technical PQR	-
7.	Technical Specification	-
8.	Price Variation Clause (PVC)	-

ANNEXURE –I (Poles Mast)

Additional Terms and Conditions (ATC)

Additional Terms and Conditions for subject Tender Enquiry to be complied by Bidders for Consideration in this tender:

1. Dispatch Markings: -

Each box shall be marked with Capital Letters in “Red” indicating the PEM supply (Main Supply/ Commissioning spare/ Mandatory Spare) for 1x 660 MW Panki Thermal Power Station Project. Each package delivered under the Contract shall be marked by Supplier and such marking must be distinct and in English Language (all previous irrelevant markings being carefully obliterated). Such marking shall show the description and quantity of contents, the name and address of consignee, the Gross weight and Net weight of the package, the name of the Supplier, PEM P.O. reference number, with a distinctive number of mark sufficient for purposes of identification. Besides above necessary, packing shall bear a special marking `TOP`, `BOTTOM`, `DO NOT TURN OVER`, “KEEP DRY”, “HANDLE WITH CARE”, etc.

IMPORTANT

- Two copies of respective standard manufacturer’s erection instruction/operation instruction manual shall be kept in each package / container for immediate reference by BHEL site and same shall be reflected in packing slip also
- The Packing list details for the consignment must be put inside the Box/Boxes.

Commissioning Spares: - The commissioning spares shall be properly packed separately in separate box and each spare shall be properly tagged giving details i.e. dispatch (to match the description given in the packing slip) to facilitate their proper identification. One Copy of Packing list must be put inside the Box.

Note:- Main Supply items and items for comm. spares must be packed separately.

2. Liquidated Damages: -

a) **Main Supply:-** Purchaser reserves the right to recover from the Seller/ Contractor, as agreed liquidated damages and not by way of penalty, a sum equivalent to half (½) percent and applicable GST thereon, of the total main supply & commissioning spares contract price excluding GST per week or part thereof, subject to a maximum of ten(10) percent of the total main supply & commissioning Spares contract price excluding GST, if the Seller/ Contractor fails to deliver any part of the ordered goods/stores within the period stipulated in the Order/ Contract.

NOTE:

i. LR/RR date for indigenous supplies (Bill of Lading/AWB for Foreign supplies) shall be treated as the date of dispatch for levying LD. However, if receipted LR date for indigenous supply is beyond 30 days for FTL/ 45 days for PTL from the date of LR (PTL to be clearly mentioned in LR), such excess period shall be considered for LD purpose irrespective of dispatch date. Import General Manifest (IGM)/Bill of entry date (whichever is earlier), for foreign supplies, is beyond 90 days from the date of Bill of Lading/AWB, such excess period shall be considered for LD purpose irrespective of dispatch date.

ii. In case of any amendment/ revision, LD shall be linked to the amended/ revised contract value and delivery date(s).

ANNEXURE –I (Poles Mast)

Additional Terms and Conditions (ATC)

iii. If Order/ Contract involves two or more Units/ Sets/ Lots/ Stages, then Liquidated Damages shall be levied on order/ contract value excluding GST of the delayed Unit/ Set/ Lot/ Stage, provided delivery stipulated in the Order/ Contract is Unit/ Set/ Lot/Stage wise, however total LD amount shall be limited to 10% of total order/ amended order value excluding GST of delayed Unit/ Set/ Lot/Stage. Any subsequent lot released (not envisaged in original contract) due to increase in quantity within permissible quantity variation shall be treated as separate lot for the purpose of LD.

iv. The sum specified above is not a penalty but a genuine pre-estimate of the loss/ damage which will be suffered by purchaser on account of delay on the part of the Contractor/Seller and the said amount will be deductible without proof of actual loss or damage caused by such delay.

3. Risk & Cost Purchase

BHEL reserves the right to terminate the contract or withdraw portion of work and get it done through other agency, at the risk and cost of the contractor after due notice of a period of 14 days' by BHEL in any of the following cases:

i) If the Seller/Contractor fails to deliver the goods or materials or any instalment thereof within the period(s) fixed for such delivery or the Seller's poor progress of the supply/ services vis-à-vis delivery/execution timeline as stipulated in the Contract, backlog attributable to seller including unexecuted portion of supply does not appear to be executable within balance available period;

ii) Delivers goods or materials not of the contracted quality and failing to adhere to the contract specifications;

iii) Withdrawal from or repudiation/ abandonment of the supply/ services by Seller before completion as per contract or if the Seller refuses or is unable to supply goods or materials covered by the Order/Contract either in whole or in part or otherwise fails to perform the Order/Contract;

iv) Non-supply by the Seller within scheduled completion/delivery period as per Contract or as extended from time to time, for the reasons attributable to the Seller;

v) Termination of Contract on account of any other reason (s) attributable to Seller.

vi) Assignment, transfer, subletting of Contract without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.

vii) If the Seller be an individual or a sole proprietorship Firm, in the event of the death or insanity of the Seller;

viii) If the Seller/Contractor being an individual or if a firm on a partnership thereof, shall at any time, be adjudged insolvent or shall have a receiving order for administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any assignment of the Order/Contract or enter into any arrangement or composition with his creditors or suspend payment or if the firm dissolved under the Partnership Act;

ix) If the Seller/Contractor being a company is wound up voluntarily or by order of a Court or a Receiver, Liquidator or Manager on behalf of the debenture holders and creditors is appointed or circumstances

ANNEXURE –I (Poles Mast)

Additional Terms and Conditions (ATC)

shall have arisen which entitles the Court of debenture holder and creditors to appoint a receiver, liquidator or manager;

x) Non-compliance to any contractual condition or any other default attributable to Seller.

Such defaulting vendor/Seller shall not be eligible to participate in re-tendering conducted on account of risk purchase made due to fault of such vendor/Seller.

3.1 Risk & Cost Amount against Balance Work:

Risk & Cost amount against balance work shall be calculated as follows:

$$\text{Risk \& Cost Amount} = [(A-B) + (A \times H/100)]$$

Where,

A= Value of Balance scope of Work (*) as per rates of new contract

B= Value of Balance scope of Work (*) as per rates of old contract being paid to the contractor at the time of termination of contract i.e. inclusive of PVC & ORC, if any.

H = Overhead Factor to be taken as 5

In case (A-B) is less than 0 (zero), value of (A-B) shall be taken as 0 (zero).

3.2 * Balance scope of work (in case of termination of contract):

Difference of Contract Quantities and Executed Quantities as on the date of issue of Letter for 'Termination of Contract', shall be taken as balance scope of Work for calculating risk & cost amount.

Contract quantities are the quantities as per original contract. If, Contract has been amended, quantities as per amended Contract shall be considered as Contract Quantities.

Items for which total quantities to be executed have exceeded the Contract Quantities based on drawings issued to contractor from time to time till issue of Termination letter, then for these items total Quantities as per issued drawings would be deemed to be contract quantities.

Substitute/ extra items whose rates have already been approved would form part of contract quantities for this purpose.

Substitute/ extra items which have been executed but rates have not been approved, would also form part of contract quantities for this purpose and rates of such items shall be determined in line with contractual provisions.

However, increase in quantities on account of additional scope in new tender shall not be considered for this purpose.

NOTE: In case portion of work is being withdrawn at risk & cost of contractor instead of termination of contract, contract

quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work' for calculating Risk & Cost amount.

ANNEXURE –I (Poles Mast)

Additional Terms and Conditions (ATC)

3.3 LD against delay in executed work in case of Termination of Contract:

LD against delay in executed work shall be calculated in line with above LD clause, for the delay attributable to contractor. For limiting the maximum value of LD, contract value shall be taken as Executed Value of work till termination of contract.

Method for calculation of LD against delay in executed work in case of termination of contract” is given below.

i. Let the time period from scheduled date of start of work till termination of contract excluding the period of

Hold (if any) not attributable to contractor = T1

ii. Let the value of executed work till the time of termination of contract = X

iii. Let the Total Executable Value of work for which inputs/fronts were made available to contractor and were

planned for execution till termination of contract = Y

iv. Delay in executed work attributable to contractor i.e. T2 = $[1-(X/Y)] \times T1$

v. LD shall be calculated in line with LD clause (clause 16) of the Contract for the delay attributable to contractor taking “X” as Contract Value and “T2” as period of delay attributable to contractor.

3.4 Recoveries arising out of Risk & Cost and LD or any other recoveries due from Contractor

Without prejudice to the other means of recovery of such dues from the Seller recoveries from the Seller on whom risk & cost has been invoked shall be made from the following:

a) Dues available in the form of Bills payable to seller, SD, BGs against the same contract.

b) Dues payable to seller against other contracts in the same Region/Unit/ Division of BHEL.

c) Dues payable to seller against other contracts in the different Region/Unit/ division of BHEL.

In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against contractor.

4. For recognition of dispatch, vendor to submit following documents to BHEL by e-mail/ fax immediately on dispatch: - GST compliant invoice, LR (indicating Invoice No., no. of boxes, PTL (if applicable) etc.), Packing List (Must be indicating No. of boxes, Packing size, Gross weight and net weight of each package, Contents of the package with cross reference to BoM item code no. or item serial no. and Quantity of each item separately), Insurance Intimation to underwriter through email/fax, Dispatch Clearance.

B. Following ATC available in GEM shall also be made part of NIT: -

i. Bidder's offer is liable to be rejected if they don't upload any of the certificates / documents sought in the Bid document, ATC and Corrigendum if any.

ANNEXURE –I (Poles Mast)

Additional Terms and Conditions (ATC)

- ii.** Bidders are advised to check applicable GST on their own before quoting. Buyer will not take any responsibility in this regards. GST reimbursement will be as per actuals or as per applicable rates (whichever is lower), subject to the maximum of quoted GST %.
- iii.** Data Sheet of the product(s) offered in the bid, are to be uploaded along with the bid documents. Buyers can match and verify the Data Sheet with the product specifications offered. In case of any unexplained mismatch of technical parameters, the bid is liable for rejection.
- iv.** The bidder is required to upload, along with the bid, all relevant certificates such as BIS license, type test certificate, approval certificates and other certificates as prescribed in the Product Specification given in the bid document.
- v.** While generating invoice in GeM portal, the seller must upload scanned copy of GST invoice and the screenshot of GST portal confirming payment of GST.

ANNEXURE –I (Poles Mast)

Additional Terms and Conditions (ATC)

Additional Terms and Conditions for subject Tender Enquiry to be complied by bidders for consideration in this tender:

- A. Bidders to ensure that Third party/Customer issued certificates being submitted as proof of PQR qualification should have verifiable details of document/certificate issuing authority such as name & designation of Issuing Authority and its organization contact number and E-mail Id. In case the same is found not available, BHEL has the right to reject such document from evaluation.
- B. "This item /package/system falls under the list of items defined in para 3 of ministry of finance guideline date 20.09.16 (procurement of items related to public safety, health, critical security operations and Equipment's etc.) & hence criteria of prior experience /turnover shall be same for all bidders including start up /MSME".
- C. **Guarantee & Warrantee** shall be as per Cl. No. 10 of GTC on GeM for the bid. However, Guarantee & Warrantee time period shall be 18 months from the date of last supply in the contract.
- D. Evaluation shall be on the basis of total all inclusive, landed price at consignee destination (Refer Cl. No. 6 of GTC on GEM).
- E. **Terms of Delivery:** FOR Dispatch Station Basis. However, Transit insurance shall be in the scope of seller and unloading of items (at delivery point) shall be in buyer scope. Further, w.r.t. Transit Insurance supplier has to inform the details of dispatches (such as Policy No., Consignee Name, Consignment Packing details, Project Name, Purchase Order No., LR No. & date, Invoice No. & date, Dispatch Origin & destination details etc.) to policy underwriter under intimation to BHEL.
- F. PQR criteria uploaded with Buyer uploaded Bid Specific document shall prevail value of Experience criteria and Past performance parameter mentioned in GeM bid.
- G. "Due to COVID-19 pandemic condition prevailing in the country BHEL/PEM may go for Remote Inspection of Offered items if required. Vendors are requested to be equipped with the facilities/gadgets as indicated in the guidelines available at : <https://pem.bhel.com/Documents/VendorSection/Vendor/Guidelines.pdf> to take up the inspection remotely.
- H. **Inspection call to be raised by bidder on BHEL CQIR portal** (details shall be shared at the of execution of order) and Inspection agency shall attend at the inspection within seven (07) days of the date on which the material is notified as being ready. In case of delay in witnessing of inspection beyond stipulated time (i.e. 7 days from the date on which the material is notified as being ready), by BHEL arising due to reasons not attributable to vendor, BHEL will extend the delivery period for such delay in carrying out inspection. If BHEL is not able to witness inspection up to 15 days then in addition to delay beyond stipulated period, extension in delivery time of 07 days for arranging fresh inspection will be given.

When the tests have been satisfactorily completed at Seller/ Contractor's works, the Inspection Agency shall issue an inspection report that effect within seven (07) days after completion of the tests, but if the tests were not witnessed by the Inspection Agency or his representative, the material acceptance report would be issued within seven (07) days after receipt of the test certificates by the Purchaser.

Purchaser will issue MDCC to the Seller/ Contractor within 7 days based on inspection report/ test certificates/Certificate of Conformance as applicable. In case of delay in issuance of MDCC beyond 7 days stipulated time (i.e. from the date of successful inspection report), by BHEL arising due to reasons not attributable to vendor, BHEL will extend the delivery period for such delay in issuing

ANNEXURE –I (Poles Mast)

Additional Terms and Conditions (ATC)

MDCC. If BHEL is not able to issue MDCC up to 15 days then in addition to delay beyond stipulated period, 7 days' additional time shall be given to vendor to facilitate the vendor for arranging logistics arrangements.

- I. All Bidders shall be required to submit applicable Freight % & GST % included in their prices during clarification stage of Tender.
- J. Performance Bank Guarantee: shall be as per Cl. No. 7 of GTC of GeM. Performance Security amount shall be @5% of the value of contract value.
- K. **Payment Terms:** As per clause no. 12 (i) of GTC on GeM. Payments shall be made to the Seller within 90 days (45 days for seller qualified and registered as Micro or small and 60 days for Medium enterprises as per MSMED Act.) of issue of consignee receipt-cum-acceptance certificate (CRAC) and on-line submission of bills (This is in supersession of 10 days' time as provided in clause 12 of GeM GTC).

Supplier has to provide Original Tax Invoice + 1 copy of Tax invoice, Packing List, LR/RR or AWB, CRAC, Insurance intimation, Guarantee Certificate, E-way bill (as applicable) for payment.

Further bidder to submit the final documents (O&M manual, final drgs & Inspection document) in 12 no.s of hard copies and 04 no.s of CD along with Invoice.

Provision of offline payment in GeM shall be utilized.

- L. **Bid reserved for Make in India products:** - Procurement under this bid is reserved for purchase from Class 1 local suppliers as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products. The minimum local content to qualify as a class 1 local supplier is denoted in the bid document as 60%. All bidders must upload a certificate from the OEM regarding the percentage of the local content and the details of locations at which the local value addition is made along with their bid, failing which the bid is liable to be rejected.

Regarding verification of local content, the local supplier at the time of tender, bidding or solicitation shall be required to provide certification (as per enclosed **Annexure-V**) as per para 9 of PP-MII order revision dated 16.09.2020.

- M. **This is conditional tender enquiry. Financial bid opening (Part-II) of a bidder shall be subjected to following:** -

- (i) Bidder should be BIS licensee as per IS 2713 with valid CML number
- (ii) Techno-Commercial evaluation/recommendation by BHEL.
- (iii) Qualification of Technical PQR
- (iv) Offered item should mandatorily conform to PP-MII order provisions.

- N. **Consignee Details** (for PRC - Provisional Receipt Certificate & CRAC - Consignee's Receipt cum Acceptance Certificate, as applicable) shall be as per Project Site official details.

- O. The Bidder has to declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/guidelines.

ANNEXURE –I (Poles Mast)

Additional Terms and Conditions (ATC)

P. Bidders to ensure the following: -

- Ensure compliance to Ministry of Power (MoP) Order No. 11/05/2018-Coord. dt. 28/07/2020, if applicable.
- Ensure compliance of Ministry of Finance (MoF) Order (Public Procurement No. 1 & 2) F. No. 6/18/2019/PPD dt. 23/07/2020.
- to submit “Model Certificate for Tenders” as per **Annexure-IV** of Ministry of Finance (MoF) Order (Public Procurement No. 1 & 2) F. No. 6/18/2019/PPD dt. 23/07/2020, 08/02/21,06/09/22 & 23.02.23. Bidder to submit the following undertaking on their letter head duly signed from the highest competent authority at your end (i.e Owner, partner, CMD, Director etc.)

Q. Delivery Period: As per attached Annexure-III. Delivery period for sake of GeM bid shall be chosen as 999 days from PO date. However, this period shall not be considered for Delivery and Delay analysis purpose.

R. For registration in BHEL PEM- Online registration portal is operational, Non-registered Vendors who wish to apply for registration in BHEL-PEM can apply through Online Registration Portal available at www.pem.bhel.com - vendor section - Online Supplier Registration. All credentials and/or documents duly signed and stamped related to registration can be uploaded on the website and submit the application for registration. However, registration of suppliers is not mandatory in case of open tender.

S. Quantity Variation clause of +/- 25% of GeM ATC shall be utilized using option clause.

T. CIF is not applicable for subject tender.

U. PVC shall be applicable for subject package as per enclosed PVC annexure. Price variation shall be limited to +20% and no limit on -ve price variation.

PVC shall be payable only for contractual delivery period (including delivery extensions if any) i.e no PVC shall be payable for delay in delivery attributed to vendor & in delayed delivery cases, PVC for contractual delivery date & actual delivery date shall be compared and whichever is found lower side shall be payable to vendor.

V. Integrity pact not applicable.

W. MSE Preference: - Being subject package is divisible and MSE preference (maximum 25%) shall be given. Purchase preference to Micro and Small Enterprises (MSEs): Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the bidder must be the manufacturer of the offered product in case of bid for supply of goods. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product or service. If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L 1 + 15% of margin of purchase preference /price band defined in relevant policy, such Seller(s) shall be given opportunity to match L-1 price and contract will be awarded for 25% percentage of total quantity.

a) If L1 bidder is MSE bidder, entire quantity will be given to such MSE bidder only.

ANNEXURE –I (Poles Mast)

Additional Terms and Conditions (ATC)

b) In case of more than one such MSE, within the price band of L1 +15%, the supply shall be shared proportionately, provided the available quantum can be split.

X. Bidder to note the following: -

A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of Procuring Entity's interests. The bidder found to have a conflict of interest shall be disqualified. A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:

- they have controlling partner (s) in common;' or
- they receive or have received any direct or indirect subsidy/ financial stake from any of them; or
- they have the same legal representative/agent for purposes of this bid; or
- they have relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder; or
- Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all bids in which the parties are involved. However, this does not limit the inclusion of the components/ sub-assembly/ Assemblies from one bidding manufacturer in more than one bid, or
- In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. One manufacturer can also authorize only one agent/dealer. There can be only one bid from the following:
 1. The principal manufacturer directly or through one Indian agent on his behalf; and
 2. Indian/foreign agent on behalf of only one principal,'or
- A Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid, or
- In case of a holding company having more than one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies. Bidders must proactively declare such sister/ common business/ management units in same/ similar line of business. "

Y. All other terms & conditions shall be as per GeM bid, selected Additional Terms & Conditions from GeM library and GTC on GeM 4.0 (version 1.18) available on GeM Portal on enquiry floating date shall be applicable.

1X660MW PANKI TPP**ANNEXURE -II TO BOQ CUM PRICE SCHEDULE FOR POLES & MAST**

Item No.		DESCRIPTION	UNIT	QTY.
	ITEM CODE	MAIN SUPPLY ITEMS		
1		Poles		
1.1	558-14011-A	Type PS1 (PAINTED)	Nos.	59
1.2	558-14012-A	Type PS2 (PAINTED)	Nos.	25
1.3	558-14013-A	Type PS4 (PAINTED)	Nos.	3
1.4	558-14010-A	Type PF2 (PAINTED)	Nos.	17
1.5	558-14026-A	JUNCTION BOXES TYPE JB-S	Nos.	104

Notes:- The junction box items at Sl no 1.5 are to be used for poles mentioned at Sl no 1.1 to 1.4.

Annexure III to Delivery Schedule

Sl. No.	Package name	BHEL Drawing No	Drawing Title	Primary/Secondary	BHEL Inputs	Drg Sch for Vendors	Standard Delivery Terms for Supply Portion
1	POLES & MASTS	PE-V0-426-558-E601	DATA SHEET OF POLES & MASTS	Primary		R-0 within 14 days from PO & subsequent revisions within 10 days of comments received from BHEL. BHEL shall furnish comments / approval on each submission within 18 days from receipt.	For Lot-1: Within Four (04) months from date of CAT-1 approval of Primary drawing/documents, subjected to drawing/document submission/re-submission schedule as stipulated, in case of any delay in submission/re-submission of Primary drawing/documents, then same shall be reduced from the given delivery period. For Subsequent Lots: Within 3 months from Lot clearance by BHEL
2	POLES & MASTS	PE-V0-426-558-E907	QUALITY PLAN OF POLES & MASTS	Primary			
3	POLES & MASTS	PE-V0-426-558-E602	GA DRAWING OF POLES & MASTS	Primary			
4	POLES & MASTS	PE-V0-426-558-E603	FIELD QUALITY PLAN OF POLES & MASTS	Secondary		R-0 within 30 days from PO & subsequent revisions within 10 days of comments received from BHEL. BHEL shall furnish comments / approval on each submission within 18 days from receipt.	
5	POLES & MASTS	PE-V0-426-558-E604	FOUNDATION DETAILS OF POLES & MASTS	Secondary			
6	POLES & MASTS	PE-V0-426-558-E605	INSTRUCTIONS FOR ERECTION OF POLES & MASTS	Secondary			

Notes:-

- (i) The end period specified is for completion of the deliveries. Deliveries to start progressively so as to meet the completion schedule.
- (ii) The delivery conditions specified are for contractual LD purposes, however BHEL may ask for early deliveries without any compensation thereof.
- (iii) Non-applicable drawings shall be decided during bid evaluation of the package.
- (iv) Wherever schedule of drawings/documents submission / re-submission is stipulated in the Technical Specifications, same shall be superseded by delivery specified in NIT.
- (v) Vendor to start manufacturing activities only after obtaining specific manufacturing clearance from BHEL Purchase group.
- (vi) In case BHEL manufacturing clearance date is later than the date of Cat-1 approval of Primary drawing/documents, then the contractual delivery period will be calculated by setting off the time gap between Cat-1 approval date of Primary drawing/documents and the manufacturing clearance date, from any delay by vendor in submission/re-submission of Primary drawing/documents
- (vii) In case -ve qty. variation not utilised till PO placement, Lot- I qty. shall be treated as PO qty.

Annexure IV

An undertaking regarding Model Clauses on company letter head only

(To be provided along with bid)

Reference: NIT No.-

Package: - Poles and Mast

Project: 1x 660 MW Panki TPS

TO WHOM SO IT MAY CONCERN

This is with reference to Ministry of Finance circular dated 23.07.20, 08.02.21, 06.09.22 & 23.02.23 reg. restriction under rule 144 (xi) of GFR.

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India. I hereby certify that M/s (bidder name) is not from such a country and is eligible to be considered/participate in tender enquiry for against aforesaid tender enquiry.

Sign & Signature (Not below Director/owner of the company)

Date:

Place:

ANNEXURE V
1x 660 MW PankiTPS
Poles and Mast
Letter head of Company

Ref.....

Date.....

To,
Bharat Heavy Electricals Limited
PEM, PPEI Building, Plot No 25,
Sector -16A, Noida (U.P) -201301

Subject: - Certification regarding local content

Reference: Tender Enquiry No.....

Name of Package: Poles and Mast

Dear Sir,

We hereby certify that items offered by us of Poles and Mast for 1x 660 MW Panki TPS(minimum % of local content) meets the requirement of minimum local content in line with applicable clause of Make In India and the Public Procurement (Preference to Make in India), Order 2017 dated-15.06.2017, 28.05.2018 & 29.05.2019, 04.06.20, 16.09.20 and subsequent order dated 16.11.21.

We further confirm that details of location at which the local value addition is made will be our registered works at(address of the works)

Yours very truly

..... (authorized signatory of company)

..... (firm name)

authorized signatory
of company

1x660MW PANKI TPS

VOLUME – II

TECHNICAL SPECIFICATION FOR
LIGHTING POLES & HIGH MASTS

SPECIFICATION NO: PE-TS-426-558-E004
REV-0



BHARAT HEAVY ELECTRICALS LIMITED
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA, UTTAR PRADESH, INDIA – 201301


1305819/2023/PS-PEM-EL


**TECHNICAL SPECIFICATION FOR
LIGHTING POLES & HIGH MASTS**
1X660MW PANKI TPS
SPECIFICATION NO. PE-TS-426-558-E004
VOLUME II
CONTENTS SHEET
REVISION 0
SHEET 1 OF 1
CONTENTS

S. NO.	DESCRIPTION	NO. OF SHEETS
01	SECTION - 'I'	
	COMPLIANCE CERTIFICATE	01
	SPECIFIC TECHNICAL REQUIREMENT	01
	DATA SHEET-A	04
	DATA SHEET-C	02
	SUB VENDOR'S LIST	02
02	SECTION - 'II'	
	GENERAL TECHNICAL REQUIRMENTS	09
	STANDARD QUALITY PLAN	04

Total number of sheets including cover & separator sheets: 27 SHEETS

1305819/2023/PS-PEM-EL

	TECHNICAL SPECIFICATION FOR LIGHTING POLES & HIGH MASTS	SPECIFICATION NO. PE-TS-426-558-E004
		VOLUME II
	1X660MW PANKI TPS	SECTION I
		REVISION 0
		SHEET 1 of 1

COMPLIANCE CERTIFICATE

The bidder shall confirm compliance to the following by signing/ stamping this compliance certificate and furnishing same with the offer.

1. The scope of supply, technical details, construction features, design parameters etc. shall be as per technical specification & there are no exclusion/ deviation with regard to same
2. There are no deviations with respect to specification other than those furnished in the 'schedule of deviations'
3. Only those technical submittals which are specifically asked for in NIT to be submitted at tender stage shall be considered as part of offer. Any other submission, even if made, shall not be considered as part of offer.
4. Any comments/ clarifications on technical/ inspection requirements furnished as part of bidder's covering letter shall not be considered by BHEL, and bidder's offer shall be construed to be in conformance with the specification.
5. Any changes made by the bidder in the price schedule with respect to the description/ quantities from those given in BOQ-Cum-Price schedule of the specification shall not be considered (i.e., technical description & quantities as per specification shall prevail).
6. The requirements mentioned in Section-I shall prevail and govern in case of conflict between the same and the corresponding requirements mentioned in the descriptive portion in Section-II

BIDDER'S STAMP & SIGNATURE

1305819/2023/PS-PEM-EL



**TECHNICAL SPECIFICATION FOR
LIGHTING POLES & HIGH MASTS**

1X660MW PANKI TPS

SPECIFICATION NO. PE-TS-426-558-E004

VOLUME II

SECTION - I

REVISION 0

SHEET 1 OF 2

SECTION – 'I'

SPECIFIC TECHNICAL REQUIREMENTS

1305819/2023/PS-PEM-EL


**TECHNICAL SPECIFICATION FOR
LIGHTING POLES & HIGH MASTS**
1X660MW PANKI TPS
SPECIFICATION NO. PE-TS-426-558-E004
VOLUME II
SECTION - I
REVISION 0
SHEET 2 OF 2
1.0 SCOPE OF ENQUIRY

- 1.1 Design, manufacture, assembly, inspection & testing at manufacturer's works, proper packing and delivery to site of POLES as mentioned in different sections of this specification, complete with all accessories for efficient and trouble-free operation.
- 1.2 Standard technical requirements of the POLES & HIGH MASTS are indicated in Section-II. Project specific requirements/changes are listed in Section-I.
- 1.3 **The requirements of Section-I shall prevail and govern in case of conflict between the corresponding requirements of Section-I and Section-II.**
- 1.4 Review of sub vendor's documents by the vendor shall not relieve the vendor from the responsibility of design and supply.
- 1.5 The documents shall be in English language and MKS system of units.

2.0 BILL OF QUANTITIES:

- 2.1 Quantity requirements shall be as per BOQ-cum-price schedule as part of NIT.

3.0 SPECIFIC TECHNICAL REQUIREMENTS

S.No.	Reference Clause No. of Section- II	Specific Requirement/ Change
1	General	4 X 16 mm ² cable shall be read as 3.5 X 25 mm ² cable.
2	QUALITY PLAN (ref.no. PE-QP-999-558-E004, REV.0)	Following clause is added: The approval on Quality plan shall be obtained from end customer after award of contract & shall be subjected to modification without any commercial implication to BHEL.
3	Sub-vendor list	Following clause is added: The approval on Sub-vendor list shall be obtained from end customer after award of contract & same shall be subjected to modification without any commercial implication to BHEL.
4	3.2.4 JB-M TYPE	Provided with four (4) way stud type terminals, each terminal suitable for terminating up to two nos. of 3.5Cx25 mm ² stranded aluminium conductors & tap off of 3 nos. 2C x 2.5 sq. mm. Cu cable.
5	9.0 (TOOLS & TACKLES)	Bidder to supply necessary accessories required for installation of its supplied equipment's without any cost implication to BHEL.

4.0 DOCUMENTATION

- 4.1 Documents required after award of LOI of respective projects shall be as per NIT.

SUB VENDOR LIST

ITEM CODE	ITEM/SERVICE DESCRIPTION	SL NO.	VENDOR C	VENDOR NAME	ADDRESS	PHONE	REMARKS
ES11	CABLE GLANDS	1	E1201	ALLIED TRADERS & EXPORTERS	C-124 A, SECTOR-2, NOIDA -201 301, UTTAR PRADESH, INDIA	Mr. Vijay Mohan Sood +(91)-(120)-2525694 +(91)-(120)-3052594 +(91)-(11)-23287156 vijay_mohansood@yahoo.com	
	CABLE GLANDS	2	E1017	ARUP ENGG & FOUNDRY WORKS	391/119,PRINCE ANWAR SHAH ROAD, CALCUTTA-700068	033 2473 0850	
	CABLE GLANDS	3	E1206	BALIGA LIGHTING EQPT.PVT.LTD.	63A, CP RAMASWAMY ROAD, ALWARPET,P.B.No 6910, CHENNAI-600018	44-24995505,22680990-4	
	CABLE GLANDS	4	E1036	COMMET BRASS PRODUCTS	NUTAN CHEMICAL COMPOUND, WALBHAT ROAD, GOREGAON, MUMBAI-400063	91-022-26852961/62/63 comet@vsnl.net	
	CABLE GLANDS	5	DW08	DOWELLS	M/S. DOWELLS ELECTRICALS 47/47A, SATGURU INDUSTRIAL ESTATE. OFF AAREY ROAD, GOREGOAN (EAST). MUMBAI 400 063.	CEO : Mr. Jayantibhai S. Patel TEL: 022-32504770./022-29270876/ 022-29270878.	
	CABLE GLANDS	6	E1044	ELECTROMAC INDUSTRIES	27/28AF NEW EMPIRE IND.ESTT., R.KRISHNA MANDIR RD.JB NGR ,ANDHERI(E),MUMBAI-400059	91-22-28324829 / 66919034 devang@electromacglands.com	
	CABLE GLANDS	7	I01	INCAB	HARE STREET,KOLKATA,WEST BENGAL-700001	91-33-2480161/62/63/64 Fax : 91-33-2485766	
ES12	CABLE LUGS	1	E1040	DOWELLS	M/S. DOWELLS ELECTRICALS 47/47A, SATGURU INDUSTRIAL ESTATE. OFF AAREY ROAD, GOREGOAN (EAST).	CEO : Mr. Jayantibhai S. Patel TEL: 022-32504770./022-29270876/ 022-29270878.	
	CABLE LUGS	2	E1149	UNIVERSAL MACHINES LTD.	4,B.B.D.BAG (EAST) 90,STEPHEN HOUSE,5TH FLR CALCUTTA-700001	033 2282 2540	
ES36	JUNCTION BOXES (NON FLAME PROOF)	1	J01	JASPER ENGINREES PVT. LTD.	A-23, SECTOR - 8, NOIDA-201301	0120-4033520/533	
	JUNCTION BOXES (NON FLAME PROOF)	2	EC05	Electro Controls & Devices	M/S ELECTRO CONTROLS & DEVICES, F-41, SITE-C, SURAJPUR INDUSTRIAL AREA GREATER NOIDA, UTTAR PRADESH :201308	Mr. Sanjay Sharma (Chief Promoter) 0120-2569487, 2560100,2560300	
	JUNCTION BOXES (NON FLAME PROOF)	3	SRC01	M/s Shrenik & Co.	39A/3, PANCHRATNA INDUSTRIAL ESTATE, SARKHEJ-BAVLA ROAD, CHANGODAR, AHMEDABAD – 382 213	020-026708100	
	JUNCTION BOXES (NON FLAME PROOF)	4	PME-01	M/s PHOENIX MECANO LTD.,	388 BHARE, TALUKA MULSHI, POST GHOTAWADE, PIRANGOOT, INDUSTRIAL AREA, PUNE-412115	Awasthi(09971119006) Tel: ++91 20 6674 5103, Mobile: +91 90499 95985, Fax: ++91 20 6674 5126 contact person : Vishwa bandhu	
	JUNCTION BOXES (NON FLAME PROOF)	5	ACE01	Adroit Control Engineers Pvt.Ltd.	M/S ADROIT CONTROL ENGINEERS PVT.LTD. PLOT-3, KRISHNA INDL. AREA, SECTOR-25 FARIDABAD – 121004	011-47600700, 0129-4251400	
	JUNCTION BOXES (NON FLAME PROOF)	6	PME-01	M/s PHOENIX MECANO LTD.,	388 BHARE, TALUKA MULSHI, POST GHOTAWADE, PIRANGOOT, INDUSTRIAL AREA, PUNE-412115	Tel: ++91 20 6674 5103, Mobile: +91 90499 95985, Fax: ++91 20 6674 5126 contact person : Vishwa bandhu E-mail:d.gupta@pmipl-online.com ;admin@pmipl-online.com	
	JUNCTION BOXES (NON FLAME PROOF)	7	MK01	MIKA ENGINEERS	BRANCH OFFICE : 'D'-101, DHEERAJ HERITAGE RESIDENCY II, SHASTRI NAGAR, SANTACRUZ (W), MUMBAI 400 054.	Director : Mr. Asgar Karimi Email: asgar@mikaengineers.com E-mail : mika@mtnl.net.inTelfax : 022- 26610081/82/83/84Tel : 02527- 249066/70 Cell : 099230 74373	TYPE-S ONLY
	JUNCTION BOXES (NON FLAME PROOF)	8	PME-01	M/s PHOENIX MECANO LTD.,	388 BHARE, TALUKA MULSHI, POST GHOTAWADE, PIRANGOOT, INDUSTRIAL AREA, PUNE-412115	TEL.- +912066745000 Awasthi(09971119006) Tel: ++91 20 6674 5103, Mobile: +91 90499 95985, Fax: ++91 20 6674 5126 contact person : Vishwa bandhu E-mail:d.gupta@pmipl-online.com ;admin@pmipl-online.com	
	JUNCTION BOXES (NON FLAME PROOF)	9	B05	BAJAJ ELECTRICALS	BAJAJ ELECTRICALS LTD. ENGINEERING & PROJECTS BU (NORTH) 3rd FLOOR, GULMOHARHOUSE, COMMUNITY CENTRE 161/B-4, GAUTAM NAGAR, YUSUF SARAI NEW DELHI – 110049	CONTACT PERSON : Mr. S. SREEMANY. SR. MANAGER (PROJECTS) CONTACT DETAILS : (+91) 9871025705. MAIL ID : srbans@bajajelectricals.com;	

1305819/2023/PS-PEM-EL

SUB VENDOR LIST

	JUNCTION BOXES (NON FLAME PROOF)	10	A03	AJMERA INDUSTRIES & ENGG. WORKS	AJMERA INDL. AND ENGG. WORKS. AJMERA HOUSE, A-61 / KHAIRANE MIDC. , TTC INDL. AREA, NAVI MUMBAI – 400705.	Tel : 022 27620299 / 97 / 96 mail@ajmera.net	
	JUNCTION BOXES (NON FLAME PROOF)	11	SB02	S.B. ELECTRICAL ENGINEERING CORPORATION	03, SARDAR GRIHA BUILDING, LOHAR CHAWAL, MUMBAI-400002	022- 22069831; 022-66637259	
	JUNCTION BOXES (NON FLAME PROOF)	12	RT13	RITTAL INDIA PVT. LTD.	Espire Building ,Level -1 A-41, Mohan Co-Operative Industrial Estate ,Mathura Road, New Delhi -110044	Amit Bansal Phone: 011-42004000, D: 011-42004033 · Mobile: +91 9717772245 · mailto:amit.b@rittal-india.com www.rittal-india.com	
	JUNCTION BOXES (NON FLAME PROOF)	13	HP08	HPL ELECTRIC AND POWER LTD.	Works Address: Village Shavella, PO:Jabli, Teh-Kasauli, Dist-Solan, Himachal Pradesh-173209	Mr. Ashwani Kumar mailto:'ashwani@hplindia.com' M:9971127370	
ESS1	MCB	1	E1088	MDS SWITCHGEAR LTD	314-317SHAH NAHAR ESTATE	011 - 25793021	
	MCB	2	E1068	INDO ASIAN	B-24, PHASE - II , NOIDA - 201305, U.P.	120-3042222	
	MCB	3	S03	SCHNEIDER ELECTRIC INDIA PVT. LTD.	9TH FLOOR, BLDG. NO. 10, TOWER-C, DLF CYBER CITY, PH-II, GURGAON-122002	0124-3940400	
	MCB	4	E1120	S&S POWER SWITCHGEAR LTD,	NEW NO. 67, OLD NO. 19, DR. RANGA ROAD, MYLAPORE, CHENNAI - 600004	044 - 24988056, 044 - 24988057, 044 - 24988058	
ES62	TERMINAL BLOCKS	1	C01	WAGO-CONTROLS	C 27, GREATER NOIDA, SECTOR 58, C BLOCK, SECTOR 58, NOIDA, UTTAR PRADESH 201307	0120-2580409/10	
	TERMINAL BLOCKS	2	E1038	CONNECT WELL	309A/4, 3RD FLOOR, KALKAJI, OKHLA IND AREA PH-2, GOVINDPURI, NEW DELHI, DL 110019	9811881085 09871419996 011-65908877	
	TERMINAL BLOCKS	3	E1047	ELMEX CONTROLS PVT. LTD.	12,G.I.D.C.ESTATE,MUKARPURA ROAD,VADODARA-390010	9374631074	
	TERMINAL BLOCKS	4	E1050	ESSEN DEINKI	FLAT NO. 502, SKYLINE HOUSE 85, NEHRU PLACE NEW DELHI	011-26217060	
	TERMINAL BLOCKS	5	E1142	TECHNOPLAST	OPP.J.M.INTER COLLEGE, BEGUM SARAI KHURD ROAD, AMROHA - 244221, U.P.	PH:- 05922 264006 CELL NO:- 9012676000, 9319520799, 9319582467	
	TERMINAL BLOCKS	6	PME-01	M/s PHOENIX MECANO LTD.,	388 BHARE, TALUKA MULSHI, POST GHOTAWADE, PIRANGOOT, INDUSTRIAL AREA, PUNE-412115	TEL.- +912066745000 Awasthi(09971119006) Tel: ++91 20 6674 5103, Mobile: +91 90499 95985, Fax: ++91 20 6674 5126 contact person : Vishwa bandhu E-mail:d.gupta@pmipl-online.com ;admin@pmipl-online.com	
	TERMINAL BLOCKS	7	E1050	ESSEN DEINKI	FLAT NO. 502, SKYLINE HOUSE 85, NEHRU PLACE NEW DELHI	011-26217060	

1305819/2023/PS-PEM-EL



**TECHNICAL SPECIFICATION FOR
LIGHTING POLES & HIGH MASTS**
DATASHEET-A

SPECIFICATION NO. PE-TS-426-558-E004

VOLUME II

SECTION I

REVISION: 0

SHEET 1 OF 4

1.0 APPLICABLE STANDARDS & CODES

[A] POLES

1.	Tubular steel poles for over head power lines	IS 2713
2.	Code and practice for design loads for structures	IS 875 Part III, 1787
3.	Code of practice for general construction in steel	IS 800
4.	European structural steel standard (Grade of M.S. plate)	BS-EN 10025/ DIN 17100
5.	Code of practice for phosphating of iron and steel	IS 6005
6.	Colour for ready mixed paints & enamels	IS 5
7.	Recommended practice for hot dip galvanising of iron & steel	IS 2629
8.	Method of testing uniformity of coating on zinc coated articles	IS 2603
8.	Method of sampling for steel pipes, tubes & fittings	IS 4711
10.	Method of chemical analysis of pig iron, cast iron and plain carbon & low alloy steel	IS 228
11.	Steel tubes for structural purposes	IS 1161
12.	Mechanical testing of metals-Tensile Testing	IS 1608
13.	Specification for hot dip zinc coatings on structural steel and allied products	IS 4759
14.	Method for testing uniformity of coating on zinc coated articles	IS 2633
15.	Specification for structural Steel	IS: 226
16.	Hot Rolled Medium and High Tensile. Structural Steel	IS 2062
17.	Method for Verification of Structural Design by Testing	BS 5649

1305819/2023/PS-PEM-EL



TECHNICAL SPECIFICATION FOR LIGHTING POLES & HIGH MASTS

DATASHEET-A

SPECIFICATION NO. PE-TS-426-558-E004

VOLUME II

SECTION I

REVISION: 0

SHEET 2 OF 4

18. Lighting columns. Design and verification. BS EN 40-3-2:2013

[B] ASSEMBLED EQUIPMENT AND COMPONENTS

- | | | |
|----|--|-----------|
| 1. | Low voltage switchgear and controlgear | IEC 60947 |
| 2. | General requirements for enclosures for accessories for household and similar fixed electrical installations | IS 14772 |
| 3. | Electrical accessories- Circuit breaker for overcurrent protection for household and similar installations | IEC 60898 |
| 4. | Low voltage Fuses for voltages not exceeding 1100V AC or 1500V DC | IS 13703 |
| 5. | Visual indicator lamps | IS 1901 |

[C] ADDITIONAL STANDARDS FOR MAST

- | | | |
|----|--|--------------------|
| 1. | Welding | BS 5135/AWS |
| 2. | Galvanizing | BS.ISO 1461 |
| 3. | UK Specification for Mast & Foundation | TR No. 7200 of ILE |

1305819/2023/PS-PEM-EL



**TECHNICAL SPECIFICATION FOR
LIGHTING POLES & HIGH MASTS**
DATASHEET-A

SPECIFICATION NO. PE-TS-426-558-E004

VOLUME II

SECTION I

REVISION: 0

SHEET 3 OF 4

2.0 TECHNICAL DETAILS

S. No.	Description	Unit	Value
1.0	System Design Data		
a	Rated voltage	V	415
b	Rated frequency	Hz	50
c	Voltage and frequency variation (permissible)	%	Voltage: $\pm 10\%$ Frequency: $\pm 5\%$
d	Combined voltage & frequency variation (permissible)	%	10% absolute
e	System fault level & duration	kA, sec	50kA for 1 sec
(A)	Lighting Poles		Swaged As per IS-2713
2.1	Type of Pole		
a	PS-1 (11m), Refer 3.1.9 Section-II		410SP51 as per IS-2713
b	PS-2 (13 m), Refer 3.1.9 Section-II		410SP67 as per IS-2713
c	PS-4 (13 m), Refer 3.1.9 Section-II		410SP67 as per IS-2713
d	PF-1 (11m), Refer 3.1.9 Section-II		410SP51 as per IS-2713
e	PF-2 (11m), Refer 3.1.9 Section-II		410SP51 as per IS-2713
2.2	Material		MS
2.3	Tensile Strength	MPa	[<input checked="" type="checkbox"/>] 410
2.4	Mounting arrangement		[<input checked="" type="checkbox"/>] PCC foundation [] Base plate
2.6	Surface Treatment		[<input checked="" type="checkbox"/>] Painted [] Galvanized
3.0	PAINTING details for poles		
a	Paint shade as per IS:5		Poles shall be painted with bituminous preservative paint on inside as well as embedded outside surface. The exposed surface shall be coated with two coats of metal primer. (Comprising of red oxide and zinc chromate in synthetic medium). Poles shall be painted with two coats of Aluminium paint after

1305819/2023/PS-PEM-EL



**TECHNICAL SPECIFICATION FOR
LIGHTING POLES & HIGH MASTS**
DATASHEET-A

SPECIFICATION NO. PE-TS-426-558-E004

VOLUME II

SECTION I

REVISION: 0

SHEET 4 OF 4

			completion of installation.								
b	Paint Thickness	Microns	During detailed engineering								
4.0	Street Light Junction Box										
a	Enclosure material		[] FRP [✓] CRCA Sheet.								
b	Enclosure thickness	mm	1.6								
c	Galvanisation details										
i)	Process		Hot dip								
ii)	Min weight of zinc coating	gm/m ²	460								
iii)	Avg. thickness of zinc coating	Microns	70								
d	Degree of protection		IP-55								
5.0	Cable Glands		By vendor for all incoming and outgoing cables at Pole JB								
a	Type		[✓] Double compression [] Single compression								
b	Material		Brass								
c	Nickel Plating provided		[✓] Yes [] No								
d	Size		Cable Gland shall be suitable for following cable sizes : - <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Cable Size</th> <th>Cable Dia. under armour</th> <th>Cable Dia over armour</th> <th>Overall dia of cable</th> </tr> </thead> <tbody> <tr> <td>3.5C-25sqmm</td> <td>18.7 (±1.5mm)</td> <td>21.8 (±1.5mm)</td> <td>24.9 (±1.5mm)</td> </tr> </tbody> </table>	Cable Size	Cable Dia. under armour	Cable Dia over armour	Overall dia of cable	3.5C-25sqmm	18.7 (±1.5mm)	21.8 (±1.5mm)	24.9 (±1.5mm)
Cable Size	Cable Dia. under armour	Cable Dia over armour	Overall dia of cable								
3.5C-25sqmm	18.7 (±1.5mm)	21.8 (±1.5mm)	24.9 (±1.5mm)								
6.0	Cable Lugs		By vendor for all incoming and outgoing cables at Pole JB								
a	Type		[✓] Crimping type [] Ring type								
b	Material		Tinned copper								
c	Size		Suitable for Cable sizes: 3.5C-25sqmm armoured cable.								

1305819/2023/PS-PEM-EL



**TECHNICAL SPECIFICATION FOR
LIGHTING POLES & HIGH MASTS
DATASHEET-C**

SPECIFICATION NO. PE-SS-426-558-E004

VOLUME II

SECTION II

REVISION: 0

SHEET 1 OF 2

S. No.	Description	Unit	Value
1.0	System Design Data		
a	Rated voltage	V	
b	Rated frequency	Hz	
c	Voltage and frequency variation (permissible)	%	
d	Combined voltage & frequency variation (permissible)	%	
e	System fault level & duration	kA, sec	
2.0	Lighting Poles		
2.1	Type of Pole		
a	PS-1 (11m), Refer 3.1.9 Section-II		
b	PS-2 (12 m), Refer 3.1.9 Section-II		
c	PS-4 (13 m), Refer 3.1.9 Section-II		
d	PF-1 (11m), Refer 3.1.9 Section-II		
e	PF-2 (11m), Refer 3.1.9 Section-II		
2.2	Material		
2.3	Tensile Strength	MPa	
2.4	Mounting arrangement		
2.5	Grade of concrete		
2.6	Surface Treatment		
2.7	PAINTING details for poles (if applicable)		
a	Paint shade as per IS:5		
b	Paint Thickness	Microns	

1305819/2023/PS-PEM-EL



**TECHNICAL SPECIFICATION FOR
LIGHTING POLES & HIGH MASTS**
DATASHEET-C

SPECIFICATION NO. PE-SS-426-558-E004

VOLUME II

SECTION II

REVISION: 0

SHEET 2 OF 2

2.8	GALVANISATION details for poles (if applicable)		
a	Process		
b	Min weight of zinc coating	gm/m2	
c	Avg thickness of zinc coating	Microns	
Note:	Exterior Aluminium paint specified at 2.7 above is not in vendor's scope and is to be carried out at site after installation. It is specified only for completeness of datasheet. However, black bituminous paint & red oxide primer to be applied by vendor as per clause 3.12 of section II.		
3.0	Street Light Junction Box		
a	Enclosure material		
b	Enclosure thickness	mm	
c	Galvanisation details		
i)	Process		
ii)	Min weight of zinc coating	gm/m2	
iii)	Avg. thickness of zinc coating	Microns	
d	Degree of protection		
4.0	Cable Glands		By vendor for all incoming and outgoing cables at Pole JB
a	Type		
b	Material		
c	Nickel Plating provided		
d	Size		
5.0	Cable Lugs		By vendor for all incoming and outgoing cables at Pole JB
a	Type		
b	Material		
c	Size		

1305819/2023/PS-PEM-EL

**TECHNICAL SPECIFICATION FOR
LIGHTING POLES & HIGH MASTS**

SPECIFICATION NO. PE-SS-999-558-E004

VOLUME II

SECTION II

REVISION: 0

SHEET 1 OF 10

SECTION-II**GENERAL REQUIREMENTS**

1305819/2023/PS-PEM-EL



TECHNICAL SPECIFICATION FOR LIGHTING POLES & HIGH MASTS

SPECIFICATION NO. PE-SS-999-558-E004

VOLUME II

SECTION II

REVISION: 0

SHEET 2 OF 10

1.0 INTENT OF SPECIFICATION

- 1.1 The requirement of this specification shall be fully complied with.
- 1.2 The "design" shall broadly cover the selection of components, materials, sizes etc. for the equipment of supply in vendor's scope. Complete responsibility of establishing the correctness of equipment design rests with the vendor.
- 1.3 It is not the intent to specify here all the details of design and manufacture. However, the equipment shall conform in all respects to high standards of design, engineering and workmanship, and shall be capable of performing the required duties in a manner acceptable to Engineer / purchaser, who will interpret the meaning of drawings and specifications and shall be entitled to reject any work or material, which in his judgement is not in full accordance herewith.
- 1.4 Make of all equipment and components shall be as per sub vendor list (Section I) and subjected to the approval of BHEL/BHEL's customer without any commercial implication.

2.0 CODES & STANDARDS

- 2.1 The material shall comply with all currently applicable safety codes and statutory regulations of India as well of the locality where the material is to be installed.
- 2.2 The material, construction, manufacture, inspection and testing shall conform to the latest revisions of standards as specified in Datasheet-A.
- 2.3 In case of conflict between the applicable reference standard and this specification, stringent requirement shall govern.

3 DESIGN REQUIREMENTS

3.1 LIGHTING POLES

- 3.1.1 Lighting poles as required for street lighting and flood lighting shall be of swaged/stepped tubular steel of swan neck construction as per applicable standard.
- 3.1.2 Where painted type of poles is specified (to be done at vendor's works);
- The poles shall be coated with black bituminous paint, conforming to applicable standard, throughout on the inside surface and on the outside surface up to the level which is embedded in ground.
 - Exposed outside surface shall be painted with two coats of red oxide and zinc chromate in synthetic compound primer.
 - Final painting shall be done at site after installation. Same is not in vendor's scope.
- 3.1.3 Where galvanization of poles is specified;
- All inside and outside surfaces of the pole and base plate shall be hot dip galvanised as per manufacturer's practice.
 - Base plate shall be galvanised after welding to the pole base.
 - Weight and thickness of zinc coating shall be as per Datasheet-A.

1305819/2023/PS-PEM-EL



TECHNICAL SPECIFICATION FOR LIGHTING POLES & HIGH MASTS

SPECIFICATION NO. PE-SS-999-558-E004

VOLUME II

SECTION II

REVISION: 0

SHEET 3 OF 10

- 3.1.4 Each street lighting pole shall be supplied with necessary pipe-reducer / fixing-bracket for fixing the luminaire.
- 3.1.5 Each street lighting pole shall be suitably provided with weather proof, galvanised steel junction box and two numbers fixing brackets suiting the diameter of the pole. The requirements of junction box are stipulated elsewhere. The fixing brackets shall be supplied loose.
- 3.1.6 Street lighting pole shall be provided with wiring hole. The location shall be coordinated with mounting position of street lighting pole JB. The diameter of hole shall be 20 mm. The hole shall be provided with a rubber / PVC grommet.
- 3.1.7 Flood lighting pole shall be provided with painted MS plate and shall be suitable for the number of flood lighting luminaires and controlgear boxes.
- 3.1.8 Provision for earthing shall be provided for flood / street lighting poles at a height 1 metre above the ground (MS flat size shall be informed during detailed engineering). The pole shall be earthed at two points.
- 3.1.9 Types of Lighting Poles

Exact type and designation of lighting pole is as given in Data Sheet A. Basic types are as follows:

- a) PS1 - Street Lighting Pole for one luminaire with 1200mm bracket arm.
- b) PS2 - Street Lighting Pole for one luminaire with 1800mm bracket arm.
- c) PS4 - Street Lighting Pole for two luminaires with 1800mm bracket arm each.
- d) PF1 - Flood Lighting Pole for one luminaire.
- e) PF2 - Flood Lighting Pole for two luminaires.

Details of luminaire shall be provided during detailed engineering.

3.2 POLE JUNCTION BOXES JB(S)

- 3.2.1 Junction boxes with terminals shall be supplied for branching and terminating lighting wires/cables.
- 3.2.2 Construction Features
- (a) The junction boxes shall be fabricated out of material specified in Datasheet-A and shall be of rectangular shape. The cover shall be hinged or bolted with captive nuts and bolts and shall be provided with neoprene gasket lining all over.
 - (b) The junction boxes shall be provided with suitable knock outs/ gland plates for conduit/ cable connection. The conduit connection shall be properly sealed. The junction boxes meant for cable connection shall be complete with removable gland plates, glands and cable lugs, as required. The junction boxes shall be provided with two earthing terminals suitable for 14SWG GI earthing wires.

1305819/2023/PS-PEM-EL



TECHNICAL SPECIFICATION FOR LIGHTING POLES & HIGH MASTS

SPECIFICATION NO. PE-SS-999-558-E004

VOLUME II

SECTION II

REVISION: 0

SHEET 4 OF 10

- (c) The junction boxes shall be weather proof type conforming to IP-55 of IS:2147. Junction boxes for street light poles and lighting/lightning masts shall be provided with hinged doors and allen keys with bolts as locking arrangement.
- (d) The boxes and cover shall be hot dip galvanised.
- (e) The junction boxes shall be suitable for mounting on lighting poles, mast etc. The brackets, bolts, nuts, screws and any other erection accessories required for erection shall be provided along with the junction box.

3.2.3 Terminals

- (a) Multiway terminal blocks of approved type and make complete with galvanised screws, nuts, washers and marking strips shall be furnished for terminating the lighting wires.
- (b) All the terminals blocks shall be of 650V grade one piece construction with insulating barriers. These terminals shall be made of copper alloy and shall be stud type. Each terminal provided on junction box shall be suitable for terminating two numbers of aluminium conductors of the size as specified without any damage to the conductors or looseness.

3.2.4 The junction boxes shall be of following types:

Type	Description
JB-S	Provided with four (4) way stud type terminals, each terminal suitable for terminating upto two nos. of 3.5Cx50 mm ² stranded aluminium conductors & with one no.6A HRC fuse and link.
JB-M	Provided with four (4) way stud type terminals, each terminal suitable for terminating upto two nos. of 4Cx16 mm ² stranded aluminium conductors & tap off of 3 nos. 2C x 2.5 sq. mm. Cu cable.

4.0 LIGHTING MASTS

4.1.1 Lighting mast shall be continuously tapered polygonal cross section hot dip galvanised. The Mast shall be of height as specified in Datasheet-A with lantern carriage to enable raising/lowering for ease of maintenance, including the Head Frame, Double Drum Winch, continuous stainless steel wire rope, in built power tool, aviation warning light, lightning protection arrangement along with necessary power cables within the mast. The mast shall be delivered only in three sections & shall be joined together by slip stressed fit method without carrying out any welding or bolting of joints at site. Lantern carriage shall be suitable for mounting flood light fixtures, numbers as specified in Datasheet-A (fixture details shall be provided during detailed engineering). Carriage shall be provided with JB type M to facilitate interconnection to lighting fixtures.

4.1.2 Permissible design parameters should be according to relevant standard. The deflection under the maximum wind pressure of 150 kg/sq.m shall not exceed 1 in 360. The Mast together with the fixtures shall be capable of withstanding the appropriate wind loads as per IS: 875 Part III.

1305819/2023/PS-PEM-EL



TECHNICAL SPECIFICATION FOR LIGHTING POLES & HIGH MASTS

SPECIFICATION NO. PE-SS-999-558-E004

VOLUME II

SECTION II

REVISION: 0

SHEET 5 OF 10

4.1.3 The Mast shall be fabricated from special steel plates conforming to BS-EN10-025 and folded to form a polygonal section.

4.1.4 A suitable winch arrangement shall be provided to lower & raise the Lantern Carriage Assembly. Winch shall be of completely self-sustaining type without the need for brake shoe, springs or clutches. The min. working load shall not be less than 750 kg. The winch drum shall be grooved to ensure perfect seat for stable and tidy rope lay with no chances for slippage. Winch shall be operated by an internally mounted three phase motor/power tool with necessary reduction gear mechanism. A handle for manual operation of winch shall also be provided. An adequate door opening shall be provided at the base of the Mast.

4.1.5 All surfaces (inside & outside) of steel sections, members and hardware used shall be hot dip galvanised as per applicable standard.

4.1.6 Necessary mounting facilities for mounting of luminaires and control gear boxes shall be provided at top platform. This shall include provision of holes in the fixing bracket for movable fixing plate. Adequate number of movable plates affixed to the bracket shall also be provided. Size of movable plates and the position of holes shall match with the luminaire fixing arrangement.

4.1.7 Mast shall be provided with 1200mm long air termination for the lightning protection (at top of the mast as per IS-2309). Suitable arrangement for connection of down conductor (not in the scope of vendor) shall be provided. Provision of earth connection of GI strip shall also be kept at a height of one metre from the ground (conductor size shall be informed during detailed engineering).

4.1.8 Types of Lighting Masts

- a) LM20 - Lighting Mast with 20 m height
- b) LM25 - Lighting Mast with 25 m height
- c) LM30 - Lighting Mast with 30 m height

5.0 COMPONENTS OF MAST FEEDER PANEL

Lighting mast shall be complete in all respect and shall be provided with feeder panel complete with power/control circuit along with 63A TPN MCB, contactors, timers, photocell, MCB's, motor protections (O/L & single phase), start/stop PB with indication lamps. Feeder pillar shall have provision of receiving 4Cx16 sq mm. cable. All necessary cables between feeder panel & JB-M and between JB-M & fixtures are also included in the scope of mast and same shall be of proven design.

5.1 SWITCH-FUSE UNITS

5.1.1 These units shall preferably comprise of switches having integral fuses, called composite units. Alternatively, combination units of separate switch and fuse may also be acceptable.

5.1.2 These units shall be provided for general purpose i.e. incoming or outgoing units.

5.1.3 The units shall be of the air break air insulated type and designed to ensure safety to operating personnel.

1305819/2023/PS-PEM-EL



TECHNICAL SPECIFICATION FOR LIGHTING POLES & HIGH MASTS

SPECIFICATION NO. PE-SS-999-558-E004

VOLUME II

SECTION II

REVISION: 0

SHEET 6 OF 10

- 5.1.4 Composite units shall have integral fuses i.e. fuse carrier with fuse link (fuse link forming the moving contact). The design shall ensure that the moving contact is not live when switch is open i.e. in OFF position, so as to facilitate removal of fuse.
- 5.1.5 The switch shall be capable making and carrying the system prospective fault current, but limited in magnitude and duration by the cut off characteristics of the largest HRC fuse link that may be fitted to that unit.
- 5.1.6 The fixed contact shall be so shrouded that maintenance of the unit can be carried out in safety with the busbars live.
- 5.1.7 Where one isolating switch is used as the incoming device, the incoming side fixed contacts shall be shrouded to ensure that maintenance can be carried out with the remote fuse and switch closed.
- 5.1.8 Composite switch-fuse or the combination of switch and fuse shall meet the requirements of its components as follows:
- 5.1.8.1 Isolating Switch
- Switches shall be air-break, quick make, and quick break heavy duty type conforming to applicable standard.
 - All switches shall have visible ON / OFF position indication and shall be padlockable in any (ON / OFF) position.
 - Switches shall be door interlocked such that it shall not be possible to gain access to inside the unit unless the isolating switch is in OFF position.
 - The switches shall be suitable for independent manual operation.
 - The switch contacts shall be of silver alloy or silver plated copper and springs of non-corrosive material.
- 5.1.8.2 Inter-phase barriers shall be provided to prevent possibilities of phase to phase fault in the switch. The switch shall also be shrouded from all sides to prevent access to live parts on the switch after opening the unit door. The barriers and shrouding shall extend upto the height of switch to fully enclose both side terminals of the device. The arrangement shall permit easy maintenance. High Rupturing Capacity (HRC) Fuses
- The fuse serving as the short-circuit protective device in isolating fuse-switch units shall be of HRC cartridge, current limiting and plug-in non-deteriorating type.
 - The fuse carriers shall be easily withdrawable for replacement of fuse. Insulated fuse pullers shall be provided where fuses are not mounted in insulating carriers to remove and replace fuses in live conditions.
 - Fuses shall preferably be fitted with a device to indicate operation (i.e. when the fuse has blown).
 - Live terminals of fuse bases shall be shrouded to prevent contact with personnel where fuse links are not mounted in carriers and are directly plugged into the fuse base. Inter-phase barriers extending throughout the length of the fuse base shall be provided to prevent inter-phase short circuit. They shall be shrouded from all sides to prevent accidental contact.
 - Fuse carriers and bases shall be of good quality moulded insulating material. Porcelain fuse bases and carriers will not be accepted.
 - The rating and characteristics of fuse links shall be chosen appropriately for short circuit protection of circuits down stream.

1305819/2023/PS-PEM-EL



TECHNICAL SPECIFICATION FOR LIGHTING POLES & HIGH MASTS

SPECIFICATION NO. PE-SS-999-558-E004

VOLUME II

SECTION II

REVISION: 0

SHEET 7 OF 10

5.2 CONTACTORS

- 5.2.1 Contactors shall be of the air break type fitted with arc shields.
- 5.2.2 The operating coil shall be suitable for satisfactory operation in the range of 85% - 110% of nominal voltage, as specified in Datasheet-A. The coil shall be tropicalized having insulation not less than class 'E'.
- 5.2.3 Electrically independent auxiliary contacts not less than 2NO + 2NC for interlocking and indication shall be fitted to individual power contactor.
- 5.2.4 All springs shall be made out of a corrosion proof material.

5.3 MINIATURE CIRCUIT BREAKERS

- 5.3.1 The use of miniature circuit breakers (MCBs) combining thermal overload and magnetic short circuit protection shall be application for the outgoing circuits.
- 5.3.2 MCBs shall have suitable rating but not less than 20A, 10kA.
- 5.3.3 MCBs shall be suitable for housing in the panel and for connection of copper link bus bar at the incoming and copper lugs at the outgoing ends.
- 5.3.4 The terminals of MCB and ON / OFF positions shall be clearly and indelibly marked.

5.4 SELECTOR SWITCHES

- 5.4.1 The rating and other features of the switches shall be suitable for the application. The number of positions and the number of contacts required for each switch shall be as required.
- 5.4.2 Selector switches shall be stay put type, provided with properly designated escutcheon plates clearly marked to show operating position.
- 5.4.3 Terminals carrying potential above 120 Volts shall be shrouded to prevent accidental contact with personnel.
- 5.4.4 Ammeter selector switches shall have make before break contacts.
- 5.4.5 The switches shall be suitable for semi-flush mounting with the front plate and operating handle projecting out. All connection to the switches shall be from the back.
- 5.4.6 The arrangement for front mounting of these devices shall be such as to make them reasonably dust free so as not to interfere with normal operation.

5.5 INDICATION LAMPS

- 5.5.1 Indication lamps shall be complete with lens covers and holders.
- 5.5.2 Each lamp shall be fitted with a durable resistance integrally wired in series with the lamp. Alternatively, lamps with built in transformers are acceptable.
- 5.5.3 The lamp cover (lens) shall be translucent of appropriate colour.
- 5.5.4 Bulbs and covers shall be interchangeable, easily replaceable from the front without the need for any special means.
- 5.5.5 Terminals having potential above 120V shall be shrouded to prevent contact with personnel.

5.6 PUSH BUTTONS

1305819/2023/PS-PEM-EL



TECHNICAL SPECIFICATION FOR LIGHTING POLES & HIGH MASTS

SPECIFICATION NO. PE-SS-999-558-E004

VOLUME II

SECTION II

REVISION: 0

SHEET 8 OF 10

- 5.6.1 Push button shall be heavy duty, flush mounted suitable for the application.
- 5.6.2 Push button shall be provided with integral escutcheon plates marked with its function identified as per schemes.
- 5.6.3 Colour shall be appropriate to the function.
- 5.6.4 Minimum number of contacts shall be 1 NO + 1 NC or as per the requirements of control scheme.
- 5.7 TERMINALS
- 5.7.1 Terminals shall be stud type of copper material.
- 5.7.2 Terminals shall be provided with transparent cover(s).
- 5.7.3 Separate terminals shall be available for each termination of loop-in and loop-out power connections.
- 5.7.4 Terminals shall be suitable for ring type copper cable lugs of size depending upon the circuit rating.
- 6.0 CABLE GLANDS
- 6.1.1 Whether specifically mentioned or not, cable glands of suitable sizes shall be supplied along with each equipment for power and control cables.
- 6.1.2 Rubber components used in the gland shall be of neoprene.
- 6.1.3 Name / trade name of manufacturer, type no. and applicable range of outer diameter of cable shall be engraved / indelibly printed on the cable gland.
- 6.2 CABLE LUGS
- 6.2.1 All equipment shall be supplied with the power and control cable lugs of suitable size, whether specifically mentioned or not.
- 6.2.2 Name / trade name and size of lug shall be engraved/ indelibly printed on each cable lug.
- 6.3 TIMERS
- 6.3.1 Time Switch
- (a) Time switch shall be suitable for automatic switching ON and OFF of street lighting / flood lighting circuits.
- b) Time switch have 00 - 24 hrs clock base.
- c) Time switch shall indicate actual time and shall permit accurate time setting.
- d) Time switch shall be rugged, independent of normal fluctuations of voltage / frequency and free from maintenance.
- e) Contact rating, clock accuracy, rated voltage rating and frequency rating of timer shall be suitable to its application.
- f) Time switch shall be provided with Ni-Cd battery.
- g) Time switch shall be suitable for mounting inside the panel.

1305819/2023/PS-PEM-EL



TECHNICAL SPECIFICATION FOR LIGHTING POLES & HIGH MASTS

SPECIFICATION NO. PE-SS-999-558-E004

VOLUME II

SECTION II

REVISION: 0

SHEET 9 OF 10

6.3.2 On Delay Timer

- (a) Timer shall be fully static and suitable for operation on normal frequency and system voltage.
- (b) Timer shall have high setting accuracy, high repeat accuracy, low reset time and low power consumption.
- (c) Timer shall have the time setting range of 24 - 240 seconds, unless mentioned otherwise in Data Sheet A.
- (d) Timer shall be suitable for mounting inside the panel.

6.4 CIRCUIT DIAGRAM / DIRECTORY PLATE

- 6.4.1 A diagram is to be prepared for fixing to the inside cover of every mast feeder panel giving details of the points controlled by each circuit.

6.5 SURFACE TREATMENT FOR PANEL

- 6.5.1 All metal parts and the surfaces (exterior & interior) of equipment shall be degreased by dipping in hot alkaline solution and rubbed with wire brush to remove oil & scale from them & then rinsed in water. Alternatively, they may be shot / sand blasted.
- 6.5.2 Parts shall be pickled by dipping in hydrochloric acid tank to remove the rust from the surfaces formed during storage of sheets & then rinsed to remove traces of the acid. The cleaning and pretreatment of all metal parts shall be as per applicable standard.
- 6.5.3 The surfaces to be painted shall then be prepared by phosphatizing to protect them from further rusting & to create a good bond with the paint. The pretreatment shall conform to the applicable standard.
- 6.5.4 All parts shall then be subjected to a coat of red oxide primer paint.
- 6.5.5 All inside and outside surfaces of panel shall be spray painted with synthetic enamel of the shade as per Data Sheet A.
- 6.5.6 Electrostatic or powder coating painting shall be done as specified in Data Sheet A.
- 6.5.7 Wherever possible, finished parts shall be coated with peelable compound by spraying method to protect the finished product from scratches, grease, dirty and oily spots during handling and transportation.

7.0 PACKING

- 7.1 Loose items shall be packed, duly labelled in a box and sealed properly to avoid damage during transportation. Packing list shall be pasted on every box, listing the contents of the box.

8.0 INSPECTION & TESTING

- 8.1 Bidder shall confirm compliance with the BHEL Standard Quality Plan (PE-QP-999-558-E004) without any deviations. At contract stage, the successful bidder shall submit the same QP for BHEL/ ultimate customer's approval. In case bidder has reference QP agreed with ultimate customer, same can be submitted for specific project after award of contract for BHEL/ ultimate customer's approval. There shall be no commercial implication to BHEL on account of any changes in QP during contract stage.

1305819/2023/PS-PEM-EL



TECHNICAL SPECIFICATION FOR LIGHTING POLES & HIGH MASTS

SPECIFICATION NO. PE-SS-999-558-E004


VOLUME II

SECTION II

REVISION: 0

SHEET 10 OF 10

- 8.2 All the components and completely assembled equipment shall be tested as per the latest edition of standards. Any charges for these shall be deemed to be included in equipment price.
- 8.3 All the specified tests shall be carried out to verify the rating and performance of the equipment.
- 8.4 All manufacturing processes viz. machining, sheet forming, electroplating, wire routing, cleating & crimping, assembly, surface preparation shall conform to good manufacturing practices.
- 9.0 TOOLS AND TACKLE
- 9.1 Tools & tackle which are essential to facilitate assembly, adjustments, erection, maintenance & dismantling of equipment shall be provided as part of equipment supplied.
- 9.2 The above tools shall be supplied along with the initial consignment of equipment so as to be available prior to erection but may not be used for erection purposes.
- 9.3 Vendor shall also submit a list of recommended tools and tackle. Acceptance of these tools and tackle shall not be a binding on the purchaser.
- 9.4 Schedule of tools & tackle shall be filled up by bidder.
- 10.0 SPARES
- 10.1 Mandatory spares (if applicable) are indicated in BOQ-cum-price schedule.
- 10.2 Erection & commissioning spares are included in the bidder's scope of supply. Bidder to furnish list of E&C spares in the relevant schedules of the Bid Form and Price Schedules.

		STANDARD QUALITY PLAN				SPEC. NO : PE-RC-999-558-E004, R0		DATE:
		MANUFACTURER / BIDDER / SUPPLIER NAME & ADDRESS		CUSTOMER :		QP NO.: PE-QP-999-558-E004, REV.01		DATE: 20.03.2021
PROJECT:		ITEM: POLE (SWAGED/STEPPED)		SYSTEM: POLES & MAST		PO NO.:		DATE:
						SECTION:		SHEET 1 OF 4

SL NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY				REMARKS
					M	C/N				D	M	C	N	
1	2	3	4	5	6	C/N	7	8	9	*	**			



1.0 RAW MATERIAL

1.1	Steel Tube	(a) Chemical composition	Major	Chemical Analysis	Sample: IS-4711, Annex-A	same as 6M	IS-2713, IS:228	IS-2713, IS:228	INSPN REPORT, TEST CERTIFICA TES	√	P	V	V	COLD BEND TEST NEED NOT BE CARRIED OUT
1.2		(b) Physical Properties	Major	Physical tests	Sample: IS 4711, Table-2	same as 6M	IS-2713, IS:1161 & IS : 1608	IS-2713, IS : 1161 & IS : 1608	INSPN REPORT, TEST CERTIFICA TES	√	P	V	V	

2.0 IN PROCESS INSPECTION

2.1	Galvanization	Temperature of bath	Major	Measurement	Continu ous	-	IS-2629	IS-2629	QC Record		P/ V	-	-	
2.2		Dross	Major	Visual	Periodic	-	-	IS-2629	IS-2629	QC Record		P/ V	-	-
2.3	Galvanization	Rate of immersion	Major	Visual	100%	-	IS-2629	IS-2629	QC Record		P/ V	-	-	
2.4		Surface finish	Major	Visual	100%	-	-	IS-2629	IS-2629	QC Record		P/ V	-	-

BHEL


ENGINEERING		QUALITY			
Sign & Date	Name	Checked By:	Sign & Date	Name	
	Hari Chand	Suman Nakwal	Suman Nakwal	Suman Nakwal	
	Praveen Dutta	Ritesh Kumar Jaiswal	Ritesh Kumar Jaiswal	Ritesh Kumar Jaiswal	

BIDDER/ SUPPLIER

Sign & Date	
Seal	

FOR CUSTOMER REVIEW & APPROVAL







Doc No:	
Reviewed by:	Sign & Date
Approved by:	Name
	Seal

		STANDARD QUALITY PLAN				SPEC. NO : PE-RC-999-558-E004, R0	DATE:
		MANUFACTURER / BIDDER / SUPPLIER NAME & ADDRESS				QP NO.: PE-QP-999-558-E004, REV.01	DATE: 20.03.2021
		PROJECT:				PO NO.:	DATE:
		ITEM: POLE (SWAGED/STEPPED)				SYSTEM: POLES & MAST	SECTION:

SL NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY				REMARKS
					M	C/N				D	M	C	N	
1	2	3	4	5	6	7	8	9	*	**				


3.0 FINAL INSPECTION

3.1	Lighting Pole	Workmanship & Finish	Major	Visual	Sample: 20%	same as 6M	BHEL Approved Drawing/ IS:2713, IS 1161	BHEL Approved Drawing/ IS:2713, IS 1161	Inspection Report	√	P	W	W
3.2		Dimensions	Major	Visual & Measurement	Sample: 20%	same as 6M	BHEL Approved Drawing/ APPD DRG/ APPD DATASHEET/ IS-2713	BHEL Approved Drawing/ APPD DRG/ APPD DATASHEET/ IS-2713	Inspection Report	√	P	W	W
3.3		Weight	Major	Visual & Measurement	Sample: 20%	same as 6M	BHEL Approved Drawing/ APPD DRG/ APPD DATASHEET/ IS-2713	BHEL Approved Drawing/ APPD DRG/ APPD DATASHEET/ IS-2713	Inspection Report	√	P	W	W
3.4		Tests as per IS-2713 Cl. No 10.0 a) Tensile test and chemical analysis for	Critical	Physical Tests	Sample: IS-2713	same as 6M	IS-2713	IS-2713	Inspection Report	√	P	W	W

ENGINEERING				QUALITY			
Sign & Date	Name	Checked By:	Sign & Date	Name	Checked By:	Reviewed By:	Reviewed By:
	HARI CHAND	HARI CHAND		Suman Nakwal	Suman Nakwal		Praveen Dutta
	PRAVEN DUTTA	PRAVEN DUTTA		Ritesh Kumar Jaiswal	Ritesh Kumar Jaiswal		Ritesh Kumar Jaiswal


BIDDER/ SUPPLIER		
Sign & Date	Seal	
Sign & Date	Seal	

FOR CUSTOMER REVIEW & APPROVAL			
Doc No:			
Reviewed by:	Sign & Date	Name	Seal
Approved by:			

	STANDARD QUALITY PLAN	SPEC. NO : PE-RC-999-558-E004, R0	DATE:
MANUFACTURER / BIDDER / SUPPLIER NAME & ADDRESS		QP NO.: PE-QP-999-558-E004, REV.01	DATE: 20.03.2021
PROJECT:		PO NO.:	DATE:
ITEM: POLE (SWAGED/STEPPED)		SECTION:	
SYSTEM: POLES & MAST		SHEET 3 OF 4	

SL NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY				REMARKS
					M	C/N				D	M	C	N	
1	2	3	4	5	6	7	8	9	*	**				
		Sulphur and phosphorus, b) Deflection test, c) Permanent set test, and d) Drop test.												
3.5		Galvanizing (as applicable)	Major	Measurement	Sample: IS4759 (Table-2)	Random	BHEL Approved Drawing/ data sheet/IS2629,2633,4759	BHEL Approved Drawing/ data sheet/IS2629,2633,4759	Inspection Report	✓	P	W	W	
3.6		a. Paint shade (painting as applicable) b. Painting thickness (painting as applicable)	Major	Visual	Sample: 20%	same as 6M	BHEL Specification	BHEL Specification	Inspection Report	✓	P	W	W	
3.7		Marking	Major	Visual	Sample: 20%	same as 6M	IS 2713 Cl. 13	IS 2713 Cl.13	Inspection Report	✓	P	W	W	
4.0	Accessories (including Steel Pole Junction boxes, MS plate, fixing brackets, pipe reducer, Cable glands,	Physical	MA	Visual	1 Lot	--	Approved datasheet/ Dwg.	Approved datasheet/ Dwg.	Inspection Report	✓	P	V	-	Witness of Quantity as per BOQ

BHEL			
ENGINEERING		QUALITY	
Prepared by:	HARI CHAND	Checked By:	Suman Nakwal
Reviewed by:	PRAVEN DUTTA	Reviewed By:	Ritesh Kumar Jaiswal
Sign & Date		Sign & Date	
Seal		Seal	
FOR CUSTOMER REVIEW & APPROVAL			
Doc No:		Name	
Reviewed by:		Seal	
Approved by:			

		STANDARD QUALITY PLAN				SPEC. NO : PE-RC-999-558-E004, R0 DATE:
		MANUFACTURER / BIDDER / SUPPLIER NAME & ADDRESS				QP NO.: PE-QP-999-558-E004, REV.01 DATE: 20.03.2021
		PROJECT:				PO NO.: DATE:
		ITEM: POLE (SWAGED/STEPPED) SYSTEM: POLES & MAST				SECTION: SHEET 4 OF 4



SL NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY				REMARKS
					M	C/N				D	M	C	N	
1	2	3	4	5	6	C/N	7	8	9	*	**			
	cable lugs, gland plates, Foundation bolts, PVC grommet & rubber for wiring hole, nuts, bolts, screws etc.													
5.0	Packing	Soundness of packing & Labelling with packing list.	MA	Visual	100%	100%	BHEL Spec	BHEL Spec	Log book/ Packing list	√	P	W	Applicable for all accessories items supplied as loose items.	

Notes:

- BHEL reserves the right for conducting repeat test, if required.
- In case of foreign supplier, all test certificates shall be furnished by the supplier, duly witnessed/ verified by supplier's TPI.
- Project specific Quality Plan to be developed based on customer requirement.
- Latest revision/ year of issue of all the standards (IS/ ASME/ IEC etc.) indicated in QP shall be referred.
- Material shall be packed suitably in order to avoid damage during transit and also during storage at site in tropical climate conditions.
- For export job, packing shall be as per BHEL seaworthy packing specification.
- Photographs of items duly placed inside the box just before the final packing and photographs of the box just before dispatch to be sent to BHEL purchase group for review before issuing MDCC.

LEGENDS:

*RECORDS, IDENTIFIED WITH "TICK"(√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION,
 ** M: SUPPLIER/MANUFACTURER/SUB-SUPPLIER, C: MAIN SUPPLIER/ BHEL/ THIRD PARTY INSPECTION AGENCY, N: CUSTOMER,
 P: PERFORM, W: WITNESS, V: VERIFICATION, AS APPROPRIATE
 MA: MAJOR, MI: MINOR, CR: CRITICAL

ENGINEERING		QUALITY	
Sign & Date	Name	Sign & Date	Name
	Hari Chand		Suman Nakwal
Prepared by: PRAVEEN DUTTA	Checked By: Praveen Dutta	Reviewed By: Ritesh Kumar Jaiswal	Reviewed by: Ritesh Kumar Jaiswal

BIDDER/ SUPPLIER	
Sign & Date	Seal

FOR CUSTOMER REVIEW & APPROVAL			
Doc No:	Sign & Date	Name	Seal
Reviewed by:			
Approved by:			

ITEMS: Poles**SCOPE:**

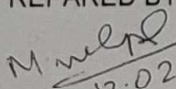
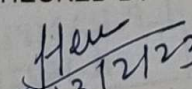
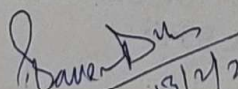
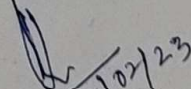
Supply: YES

Erection & Commissioning: No

1	Vendor should be a manufacturer of lighting poles as per relevant IS. In case vendor is not a manufacturer, the vendor to furnish following documents: a) Undertaking/agreement from OEM of offered make for support in design, manufacture, inspection & testing of poles. b) Credentials of the manufacturer of offered make to meet the PQR requirements of S. No. 2 to 4 below. c) Vendor's credentials to meet S. No. 5.
2	Availability of test reports of lighting poles conducted at Govt. lab/ Govt. approved independent lab or witnessed by third party as per relevant IS.
3	Capacity of manufacturing 50 lighting poles per month.
4	Manufactured and supplied at least 100 lighting poles in one or more orders.
5	Minimum two (2) nos. purchase orders for lighting poles shall be submitted which should not be more than five (5) years old from date of techno-commercial bid opening for establishing continuity in business.

Notes:

1. Consideration of offer shall be subject to customer's approval of bidder, if applicable.
2. Bidder to submit all supporting documents in English. If documents submitted by bidder are in language other than English, a self-attested English translated document should also be submitted.
3. Notwithstanding anything stated above, BHEL reserves the right to access the capabilities and capacity of the bidder/collaborator to perform the contract, should the circumstances warrant such assessment in the overall interest of BHEL.
4. Any satisfactory fulfilment of all the above criteria/ requirement, offer shall be considered for further evaluation as per NIT and all the other terms of tender.

PREPARED BY  13.02.23 MANMOHAN MAHAPATRA (MGR.)	CHECKED BY  13/2/23 HEMA KUSHWAHA (SR. MGR)	REVIEWED BY  13/2/23 PRAVEEN DUTTA (AGM)	APPROVED BY  13/2/23 DEBASIS RATH (DH-ELECT)
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Cir. No. 10/PVC/T & D Project/05

25 May 2022

To Members of T & D Project Division, SEBs and other listed purchasing bodies.

Sub: New PV formulae for Steel Tubular Pole and Polygonal Pole

Currently Steel poles are increasingly used in distribution network especially in hilly area due to sturdiness and ease of transportation. And in the wake of upcoming scheme of Revamped Distribution network strengthening scheme (RDSS); members of IEEMA T & D project division decided to evolve PV formula for Steel Tubular Poles and Polygonal Poles.

IEEMA has collected costing data, lead time for manufacturing etc. from major manufacturers of poles and in consultation with division arrived at the draft Price Variation Clauses for Steel Tubular Poles and Polygonal Poles and circulated to all stakeholders vide circular no. **14/PVC/T & D Project/05 dated 9 Mar 22** for their comments.

After incorporating changes suggested by the industry stakeholders on the **Steel Tubular Pole and Polygonal Pole** PV formulae; we are making the Price Variation formulae operational from 1st April 2022.

We have enclosed PV clauses applicable for **Steel Tubular Pole and Polygonal Pole** which are effective from 1st April 2022.

Although, the PV clause is made effective from 1st April 2022, practically it can be incorporated in all the current new tenders/contracts starting from 1st May 2022.

We request and recommend all the users & stakeholders including Utilities, PSUs etc. to incorporate the above PV formulae in all the new tenders/contracts henceforth.

Director



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IEEMA/PVC/Poles/2022

Effective from: 1st Apr 2022

PRICE VARIATION CLAUSE FOR POLES

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) Steel Tubular Poles

$$P = \frac{P_0}{100} \left(7 + 70 \frac{IS}{IS_0} + 13 \frac{Zn}{Zn_0} + 10 \frac{W}{W_0} \right)$$

(B) Polygonal Poles

$$P = \frac{P_0}{100} \left(9 + 64 \frac{IS}{IS_0} + 13 \frac{Zn}{Zn_0} + 14 \frac{W}{W_0} \right)$$

Wherein,

- P = Price payable as adjusted in accordance with the above formula.
- P₀ = Price quoted/confirmed.
- IS₀ = Price of HR Coil of 3.15 mm thickness (refer notes)
This price is as applicable for the month, **ONE** month prior to the date of tendering.
- Zn₀ = 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.
- W₀ = All India average consumer price index number for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India (Base: 2016 = 100) (Refer notes)
This index number is as applicable for the month, **THREE** months prior to the date of tendering.

IEEMA/PVC/Poles/2022/Page 2 of 3



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IEEMA/PVC/Poles/2022

Effective from: 1st Apr 2022

For example, if date of tendering falls in May 2022, the applicable prices of HR Coil (IS₀) should be for the month March 2022, Zinc (Zn₀) should be for the month April 2022 and all India average consumer price index number (W₀) should be for the month of February 2022.

The above prices and indices are as published by IEEMA vide circular reference number IEEMA (PVC)/TLT-2014 (R-1)/_/ _ **ONE** month prior to the date of tendering.

- IS = Price of HR Coil of 3.15 mm thickness (refer notes)
 This price is as applicable for the month, **FOUR** month 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, **ONE** month prior to the date of delivery.
- W = All India average consumer price index number for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India (Base: 2016 = 100) (Refer notes)
 This index number is as applicable on the first working day of the month, **THREE** months prior to the date of delivery.

For example, if date of delivery falls in December 2022, the applicable prices of HR Coil (IS) should be for August 2022 and Zinc (Zn) should be for the month November 2022 and all India average consumer price index number (W) should be for the month of September 2022.

The date of delivery is the date on which Poles 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 GST and any other central, state or local taxes etc.
- (b) The details of prices are as under:
1. Price of steel is the average retail price of HR Coil 3.15 mm thickness as published by Joint Plant Committee (JPC) in Rs./MT.
 2. The price of Electrolytic high grade zinc (in Rs/MT) is ex-works price as quoted by a primary producer.


 Director

IEEMA/PVC/Poles/2022/Page 2 of 3